LIBRARIES
UNIVERSITY OF WISCONSIN–MADISON

# Appendix 3.6-D to 3.6-H. Volume 5 1989

Green Bay, Wisconsin: Foth and Van Dyke, 1989

https://digital.library.wisc.edu/1711.dl/BROHLT4W7HLTV82

http://rightsstatements.org/vocab/InC/1.0/

For information on re-use see:
http://digital.library.wisc.edu/1711.dl/Copyright

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

728 State Street | Madison, Wisconsin 53706 | library.wisc.edu

# Foth & Van Dyke

REPORT

# Environmental Impact Report for the Kennecott Flambeau Project

Scope I.D.: 87K10

## Volume V - Appendix 3.6-D to 3.6-H

*Kennecott Minerals Company*
*Ladysmith, Wisconsin*

April 1989

TD
194.66
.W62
F61
1989
v.5

UNIVERSITY LIBRARY,
UW-STEVENS POINT

# VOLUME 5
# APPENDIX 3.6-D TO 3.6-H
# ENVIRONMENTAL IMPACT REPORT
# FOR THE
# KENNECOTT FLAMBEAU PROJECT

Prepared for:

KENNECOTT MINERALS COMPANY

Prepared by:

FOTH & VAN DYKE and Associates Inc.
and Contributors
2737 S. Ridge Road
P. O. Box 19012
Green Bay, Wisconsin 54307-9012

APRIL 1989

**Foth & Van Dyke**
2737 S. Ridge Road
P. O. Box 19012
Green Bay, Wisconsin 54307-9012
414/497-2500

# APPENDIX 3.6-D

## River Stage/Well Level Fluctuation Study

# Measurements of River and Groundwater Level Fluctuations

September 6 to 8, 1988

# Foth & Van Dyke

Client: Kennecott — Scope I.D.: 87K10
Project: River / Groundwater — Page:
Prepared by: MJH, CLW — Date: 9/6/88
Checked by: BJS — Date: 1/27/89

Measured water levels, river levels and barometric pressure. Water levels recorded on strip charts for the following wells and the river (sand point)

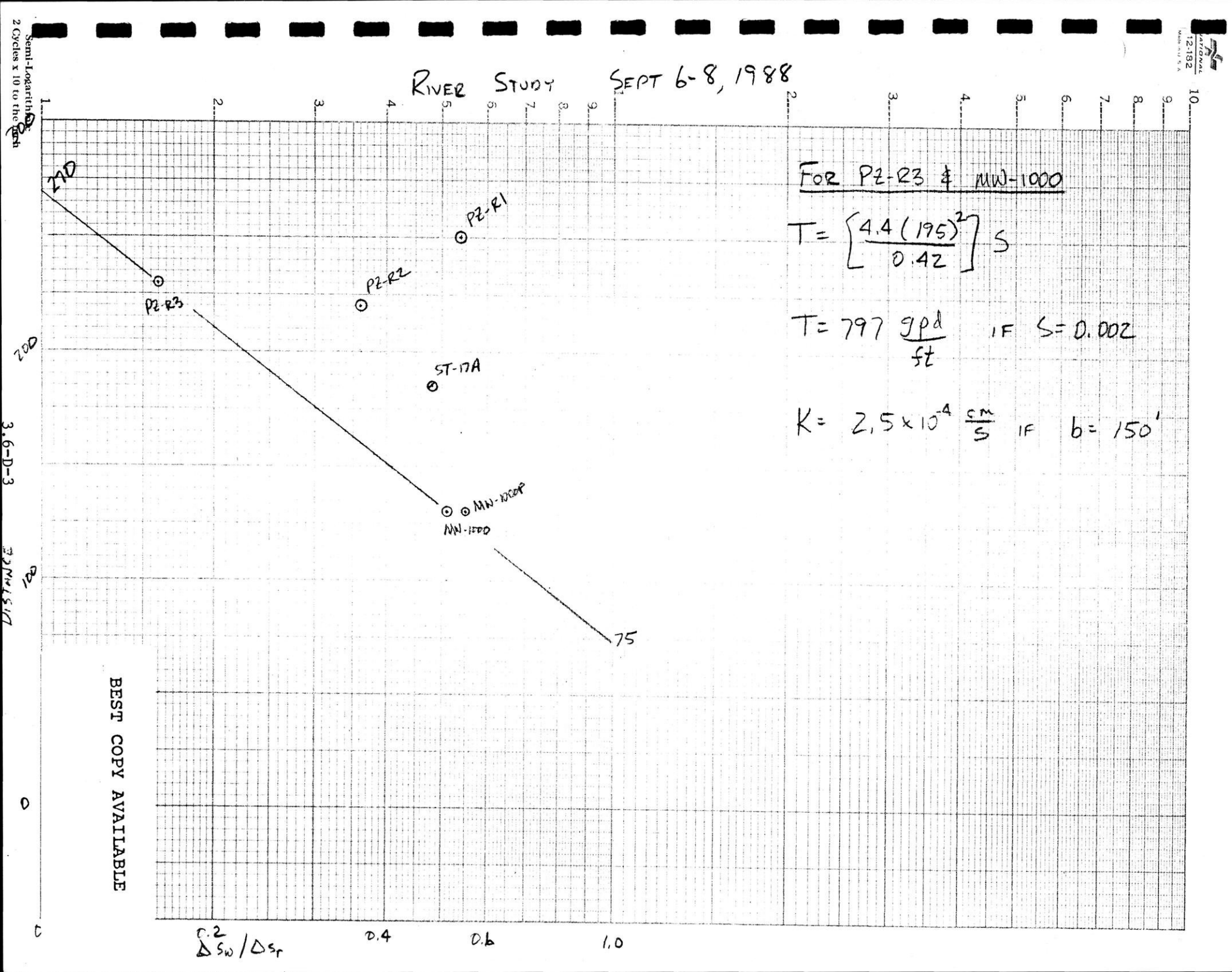
PZ-R1 TW-K2 MW-1000 ST-17A Sand point
PZ-R2 MW-1000P
PZ-R3

Barometric pressure in inches of Mercury.

| PZ-S1 | | | TW-K1 | | | PZ-S2 | | | ST-29A | | | TW-K4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Bar.Pr. | DTW | Time | Bar. | DTW | Time | Bar. | DTW | Time | Bar. | DTW | Time | Bar. | DTW |
| 2:30 | 30.00 | 10.27 | 2:32 | 30.00 | 11.97 | 2:35 | 30.00 | 15.56 | | | | | | |
| 3:02 | 30.00 | 10.27 | 3:00 | 30.00 | 11.97 | 3:05 | 30.00 | 15.58 | | | | | | |
| 3:32 | 30.00 | 10.27 | 3:30 | 30.00 | 11.97 | 3:35 | 30.00 | 15.60 | 3:37 | 30.00 | Dry | | | |
| 4:02 | 29.94 | 10.28 | 4:00 | 29.94 | 11.97 | 4:05 | 29.94 | 15.62 | 4:07 | 29.94 | " | | | |
| 4:32 | 29.95 | 10.28 | 4:30 | 29.95 | 11.97 | 4:35 | 29.95 | 15.65 | 4:37 | 29.95 | " | | | |
| 5:02 | 29.95 | 10.28 | 5:00 | 29.95 | 11.97 | 5:05 | 29.95 | 15.65 | 5:07 | 29.95 | " | | | |
| 7:08 | 29.98 | 10.28 | 7:10 | 29.98 | 11.95 | 7:02 | 29.98 | 15.62 | 7:00 | 29.98 | " | | | |

No data

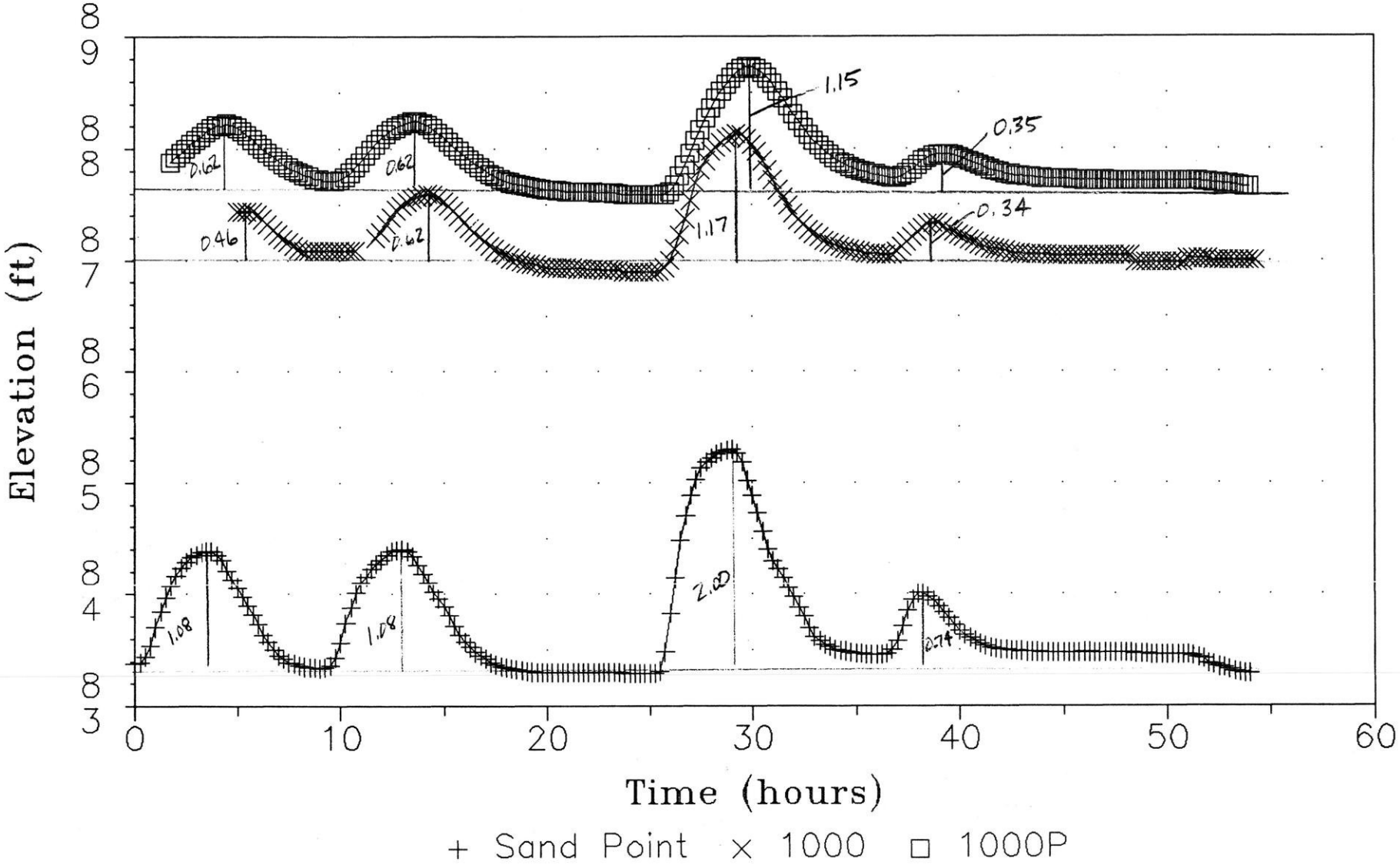
BEST COPY AVAILABLE


RIVER STUDY SEPT 6-8, 1988
Semi-Logarithmic
2 Cycles x 10 to the inch
PZ-R3
PZ-R1
PZ-R2
ST-17A
MW-1000P
MW-1000
200
100
0
0.2
0.4
0.6
1.0
$\Delta s_w / \Delta s_r$
For PZ-R3 & MW-1000
$T = \left[\frac{4.4(195)^2}{0.42}\right] S$
$T = 797 \frac{gpd}{ft}$ IF $S = 0.002$
$K = 2.5 \times 10^{-4} \frac{cm}{s}$ IF $b = 150'$
3.6-D-3
BEST COPY AVAILABLE

BEST COPY AVAILABLE

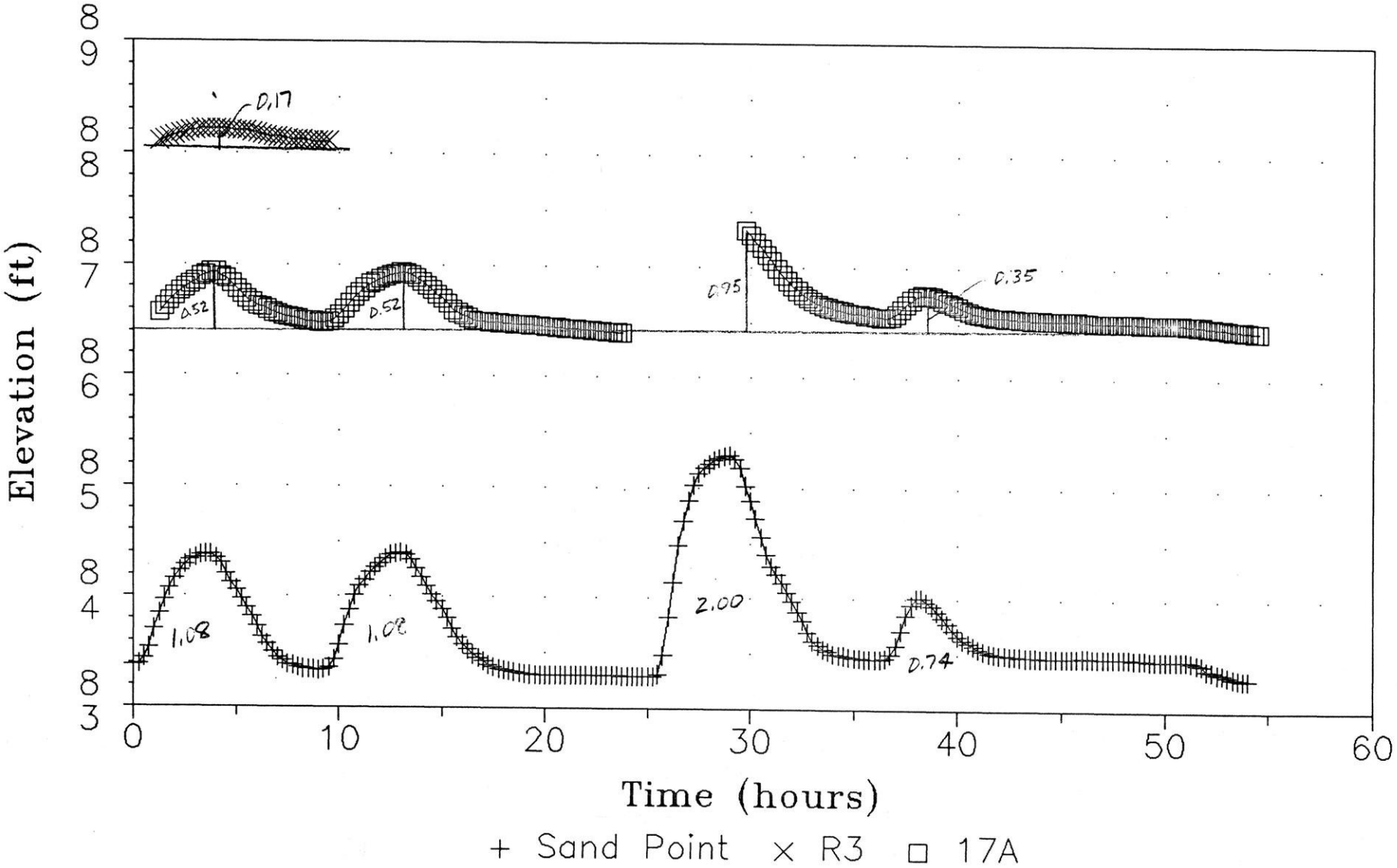
# Groundwater Elevation vs. Time

## Sand Point, MW-1000, and MW-1000P




Add 1000 ft for MSL

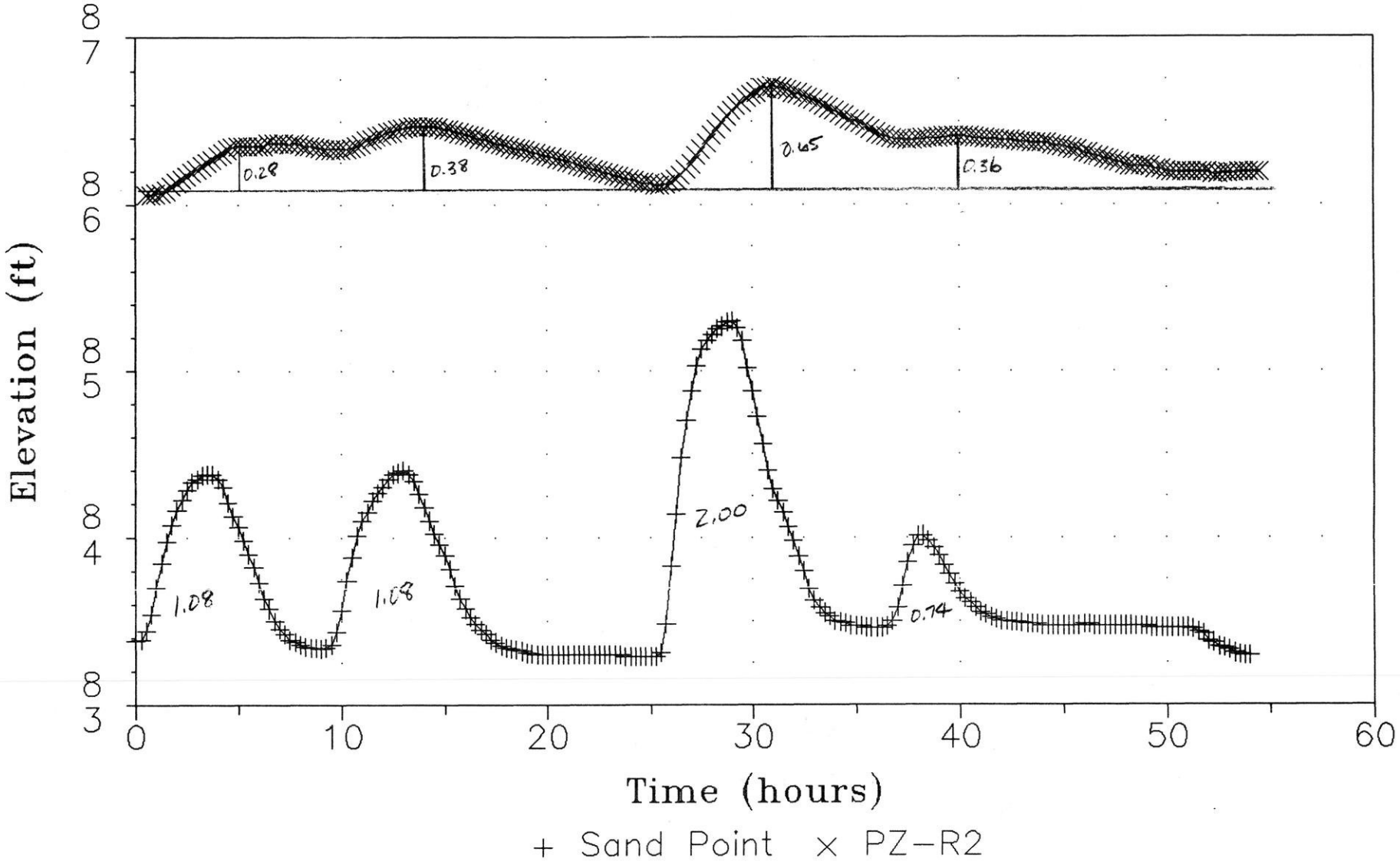
# Groundwater Elevation vs. Time
## Sand Point, R3, and ST-17A




Add 1000 ft for MSL

# Groundwater Elevation vs. Time

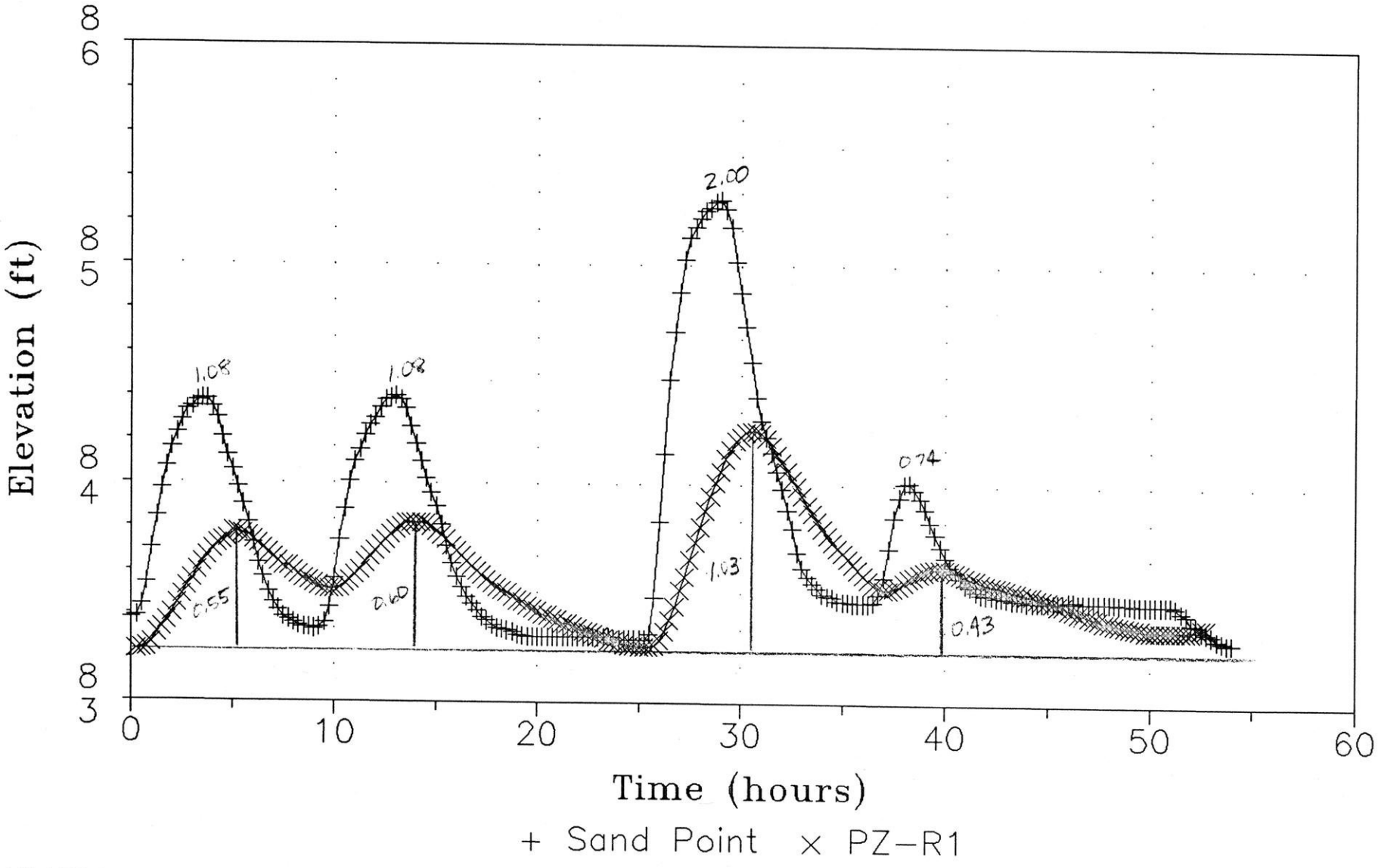
## Sand Point and PZ-R2




Add 1000 ft for MSL

# Groundwater Elevation vs. Time

Sand Point and PZ-R1




Add 1000 ft for MSL

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 3/14/89
Checked by: Date:

# STUDY OF 9/6-8/88

## SUMMARY TABLE OF RESULTS

| WELL | PEAK $\Delta S_w$ | | $\Delta S_w / \Delta S_r$ | DISTANCE TO RIVER | STRATA |
|---|---|---|---|---|---|
| SANDPOINT (RIVER) | 1.08 | | — | — | — |
| | 1.08 | | — | — | — |
| | 2.00 | | — | — | — |
| | 0.74 | | — | — | — |
| MW-1000 | 0.46 | | 0.42 | 130 | TILL, pE |
| | 0.62 | AVE | 0.57 | | |
| | 1.17 | 0.51 | 0.56 | | |
| | 0.34 | | 0.46 | | |
| MW-1000P | 0.62 | | 0.57 | 130 | pE |
| | 0.62 | AVE | 0.57 | | |
| | 1.15 | 0.55 | 0.58 | | |
| | 0.35 | | 0.47 | | |
| PZ-R3 | 0.17 | | 0.16 | 230 | pE |
| ST-7-17A | 0.52 | | 0.48 | 185 | S&G |
| | 0.52 | AVE | 0.48 | | |
| | 0.95 | 0.48 | 0.48 | | |
| | 0.35 | | 0.47 | | |
| PZ-R2 | 0.28 | | 0.26 | 220 | pE |
| | 0.38 | AVE | 0.35 | | |
| | 0.65 | 0.36 | 0.32 | | |
| | 0.36 | | 0.49 | | |
| PZ-R1 | 0.55 | | 0.51 | 250 | pE |
| | 0.60 | AVE | 0.56 | | |
| | 1.03 | 0.54 | 0.52 | | |
| | 0.43 | | 0.58 | | |

BEST COPY AVAILABLE

Measurements of River and Groundwater
Level Fluctuations

September 15, 1988

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 9/15/88
Checked by: FJD Date: 3/27/89

# WATER LEVEL MEASUREMENTS

## ST-26

| TIME | DTW (ft) |
|---|---|
| 10:12 | 23.09 |
| 10:52 | 23.08 |
| 11:14 | 23.075 |
| 11:42 | 23.07 |
| 12:21 | 23.065 |
| 1:03 | 23.05 |
| 1:46 | 23.05 |
| 3:09 | 23.05 |

## TW-K1

| TIME | DTW (ft) |
|---|---|
| 9:39 | 12.08 |
| 9:48 | 12.10 |
| 10:24 | 12.08 |
| 10:59 | 12.08 |
| 11:34 | 12.075 |
| 12:02 | 12.07 |
| 12:27 | 12.07 |
| 1:08 | 12.065 |
| 1:32 | 12.065 |
| 2:34 | 12.07 |

## PZ-S1

| TIME | DTW (ft) |
|---|---|
| 9:37 | 10.43 |
| 9:47 | 10.42 |
| 10:23 | 10.42 |
| 10:58 | 10.42 |
| 11:33 | 10.41 |
| 12:01 | 10.40 |
| 12:26 | 10.40 |
| 1:07 | 10.40 |
| 1:31 | 10.40 |
| 2:32 | 10.40 |

## PZ-R1

| TIME | DTW (ft) |
|---|---|
| 9:36 | 19.81 |
| 9:46 | 19.79 |
| 10:22 | 19.75 |
| 10:57 | 19.69 |
| 11:32 | 19.62 |
| 12:08 | 19.58 |
| 12:25 | 19.56 |
| 1:06 | 19.56 |
| 1:29 | 19.57 |
| 2:31 | 19.58 |

## ST-17A

| TIME | DTW (ft) |
|---|---|
| 8:36 | 14.37 |
| 9:41 | 14.33 |
| 9:50 | 14.31 |
| 10:26 | 14.20 |
| 11:01 | 14.12 |
| 11:36 | 14.09 |
| 12:05 | 14.10 |
| 12:29 | 14.13 |
| 1:10 | 14.17 |
| 1:34 | 14.18 |
| 2:38 | 14.22 |

## PZ-R3

| TIME | DTW (ft) |
|---|---|
| 9:43 | 14.06 |
| 9:53 | 14.05 |
| 10:29 | 14.01 |
| 11:04 | 13.98 |
| 11:39 | 13.94 |
| 12:33 | 13.945 |
| 1:14 | 13.955 |
| 2:47 | 14.00 |

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 9/15/88
Checked by: FJD Date: 3/27/89

# WATER LEVEL MEASUREMENTS

## PZ-R2

| TIME | DTW (ft) |
|---|---|
| 9:57 | 17.94 |
| 10:06 | 17.93 |
| 10:41 | 17.90 |
| 11:28 | 17.87 |
| 11:54 | 17.85 |
| 12:18 | 17.84 |
| 12:45 | 17.84 |
| 1:26 | 17.83 |
| 2:04 | 17.83 |
| 3:05 | 17.84 |

## MW-1000

| TIME | DTW (ft) |
|---|---|
| 8:28 | 15.28 |
| 9:19 | 15.06 |
| 9:28 | 15.04 |
| 10:01 | 14.97 |
| 10:36 | 14.85 |
| 11:22 | 14.72 |
| 11:47 | 14.69 |
| 12:12 | 14.69 |
| 12:39 | 14.74 |
| 1:21 | 14.78 |
| 1:54 | 14.83 |
| 2:53 | 14.89 |

## SAND POINT

| TIME | DTW (ft) |
|---|---|
| 8:09 | 5.72 |
| 8:24 | 5.71 |
| 8:41 | 5.71 |
| 8:57 | 5.71 |
| 9:02 | 5.70 |
| 9:08 | 5.71 |
| 9:12 | 5.70 |
| 9:16 | 5.68 |
| 9:25 | 5.66 |
| 9:59 | 5.41 |
| 10:33 | 5.13 |
| 11:18 | 5.02 |
| 11:45 | 5.07 |
| 12:09 | 5.14 |
| 12:37 | 5.24 |
| 1:18 | 5.35 |
| 1:51 | 5.40 |
| 2:51 | 5.49 |

## TW-K2

| TIME | DTW (ft) |
|---|---|
| 8:17 | 16.15 |
| 9:21 | 16.14 |
| 10:03 | 16.05 |
| 10:38 | 15.93 |
| 11:23 | 15.84 |
| 11:50 | 15.85 |
| 12:13 | 15.86 |
| 12:41 | 15.89 |
| 1:23 | 15.95 |
| 1:55 | 15.98 |
| 3:00 | 16.02 |

## PZ-S2

| TIME | DTW (ft) |
|---|---|
| 8:21 | 15.80 |
| 9:23 | 15.80 |
| 10:24 | 15.77 |
| 10:39 | 15.77 |
| 11:26 | 15.72 |
| 11:52 | 15.69 |
| 12:15 | 15.69 |
| 12:43 | 15.69 |
| 1:24 | 15.70 |
| 2:02 | 15.71 |
| 3:02 | 15.73 |

## MW-1001G

| TIME | DTW (ft) |
|---|---|
| 8:51 | 32.04 |
| 10:16 | 32.05 |
| 11:11 | 32.05 |
| 12:52 | 32.02 |
| 1:43 | 32.00 |
| 3:13 | 32.01 |

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 9/15/88
Checked by: FJD Date: 3/27/89

# WATER LEVEL MEASUREMENTS

## MW-1001P

| TIME | DTW (ft) |
|---|---|
| 8:49 | 31.50 |
| 10:14 | 31.50 |
| 11:09 | 31.50 |
| 12:51 | 31.49 |
| 1:41 | 31.49 |
| 3:12 | 31.49 |

## TW-K4

| TIME | DTW (ft) |
|---|---|
| 8:59 | 27.45 |
| 9:35 | 27.45 |
| 10:09 | 27.44 |
| 10:38 | 27.44 |
| 11:11 | 27.44 |
| 11:39 | 27.44 |
| 12:07 | 27.44 |
| 1:36 | 27.43 |

## MW-1003P

| TIME | DTW (ft) |
|---|---|
| 8:42 | 35.78 |
| 9:27 | 35.78 |
| 10:02 | 35.78 |
| 10:32 | 35.78 |
| 11:03 | 35.78 |
| 11:32 | 35.78 |
| 12:01 | 35.77 |
| 1:23 | 35.77 |

## ST-19

| TIME | DTW (ft) |
|---|---|
| 8:08 | 16.28 |
| 9:17 | 16.28 |
| 9:50 | 16.30 |
| 10:22 | 16.30 |
| 10:54 | 16.30 |
| 11:23 | 16.30 |
| 11:51 | 16.30 |
| 1:08 | 16.30 |

## PZ-R5

| TIME | DTW (ft) |
|---|---|
| 9:09 | 17.19 |
| 9:43 | 17.18 |
| 10:16 | 17.18 |
| 10:45 | 17.18 |
| 11:17 | 17.18 |
| 11:45 | 17.18 |
| 12:13 | 17.18 |
| 1:45 | 17.18 |

## TW-K6R

| TIME | DTW (ft) |
|---|---|
| 8:13 | 12.99 |
| 9:14 | 12.99 |
| 9:48 | 12.99 |
| 10:20 | 12.99 |
| 10:52 | 12.99 |
| 11:21 | 12.99 |
| 11:49 | 12.99 |
| 1:05 | 12.99 |

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 9/15/88
Checked by: FJD Date: 3/27/89

# WATER LEVEL MEASUREMENTS

## PZ-S4

| TIME | DTW (ft) |
|---|---|
| 9:01 | 28.37 |
| 9:37 | 28.35 |
| 10:11 | 28.35 |
| 10:40 | 28.35 |
| 11:12 | 28.35 |
| 11:40 | 28.35 |
| 12:08 | 28.35 |
| 1:38 | 28.33 |

## TW-K3

| TIME | DTW (ft) |
|---|---|
| 9:07 | 15.55 |
| 9:42 | 15.53 |
| 10:15 | 15.54 |
| 10:44 | 15.54 |
| 11:16 | 15.54 |
| 11:44 | 15.54 |
| 12:12 | 15.54 |
| 1:43 | 15.53 |

## PZ-R7

| TIME | DTW (ft) |
|---|---|
| 8:55 | 33.64 |
| 9:33 | 33.63 |
| 10:06 | 33.63 |
| 10:36 | 33.63 |
| 11:08 | 33.63 |
| 11:37 | 33.65 |
| 12:05 | 33.63 |
| 1:33 | 33.62 |

## TW-K5

| TIME | DTW (ft) |
|---|---|
| 8:48 | 32.46 |
| 9:31 | 32.46 |
| 10:05 | 32.48 |
| 10:35 | 32.48 |
| 11:06 | 32.48 |
| 11:35 | 32.48 |
| 12:03 | 32.48 |
| 1:29 | 32.46 |

## PZ-S3

| TIME | DTW (ft) |
|---|---|
| 9:11 | 19.30 |
| 9:45 | 19.29 |
| 10:18 | 19.29 |
| 10:50 | 19.29 |
| 11:18 | 19.29 |
| 11:47 | 19.28 |
| 12:14 | 19.28 |
| 1:47 | 19.27 |

## ST-24

| TIME | DTW (ft) |
|---|---|
| 9:04 | 17.34 |
| 9:40 | 17.34 |
| 10:13 | 17.34 |
| 10:42 | 17.34 |
| 11:14 | 17.34 |
| 11:42 | 17.34 |
| 12:10 | 17.34 |
| 1:41 | 17.32 |

## MW-1004

| TIME | DTW (ft) |
|---|---|
| 8:31 | 18.62 |
| 9:22 | 18.64 |
| 9:56 | 18.64 |
| 10:27 | 18.65 |
| 10:59 | 18.65 |
| 11:28 | 18.65 |
| 11:56 | 18.65 |
| 1:15 | 18.65 |

## MW-1004S

| TIME | DTW (ft) |
|---|---|
| 8:32 | 18.37 |
| 9:23 | 18.38 |
| 9:57 | 18.38 |
| 10:28 | 18.38 |
| 10:59 | 18.38 |
| 11:29 | 18.38 |
| 11:57 | 18.38 |
| 1:16 | 18.38 |

## MW-1004P

| TIME | DTW (ft) |
|---|---|
| 8:33 | 21.23 |
| 9:24 | 21.23 |
| 9:58 | 21.23 |
| 10:29 | 21.23 |
| 11:30 | 21.23 |
| 11:58 | 21.23 |
| 1:17 | 21.23 |

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: KENNECOTT Scope I.D.:
Project: RIVER STUDY Page:
Prepared by: FJD Date: 9/15/88
Checked by: FJD Date: 3/27/89

# WATER LEVEL MEASUREMENTS

## PZ-1A

| TIME | DTW (ft) |
|---|---|
| 8:24 | 8.19 |
| 9:19 | 8.19 |
| 9:53 | 8.19 |
| 10:24 | 8.20 |
| 10:56 | 8.19 |
| 11:25 | 8.19 |
| 11:53 | 8.19 |
| 1:11 | 8.20 |

## MW-1003

| TIME | DTW (ft) |
|---|---|
| 9:27 | 35.74 |
| 10:01 | 35.74 |
| 10:31 | 35.74 |
| 11:03 | 35.74 |
| 11:32 | 35.74 |
| 12:00 | 35.74 |
| 1:21 | 35.73 |

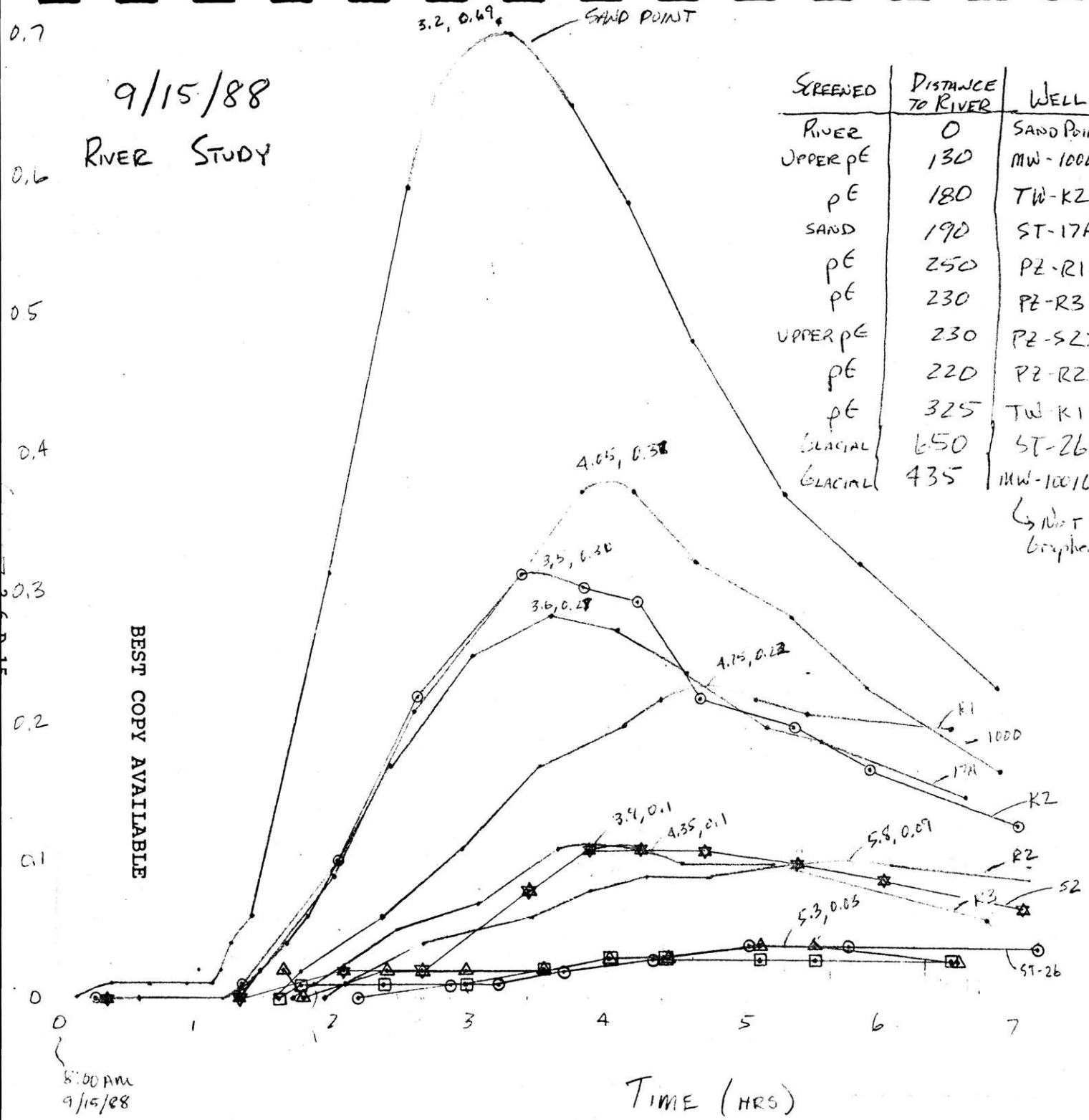
## PZ-1B

| TIME | DTW (ft) |
|---|---|
| 8:24 | 5.53 |
| 9:19 | 5.52 |
| 9:54 | 5.52 |
| 10:25 | 5.52 |
| 10:57 | 5.52 |
| 11:26 | 5.52 |
| 11:54 | 5.52 |
| 1:12 | 5.52 |

BEST COPY AVAILABLE

9/15/88

RIVER STUDY



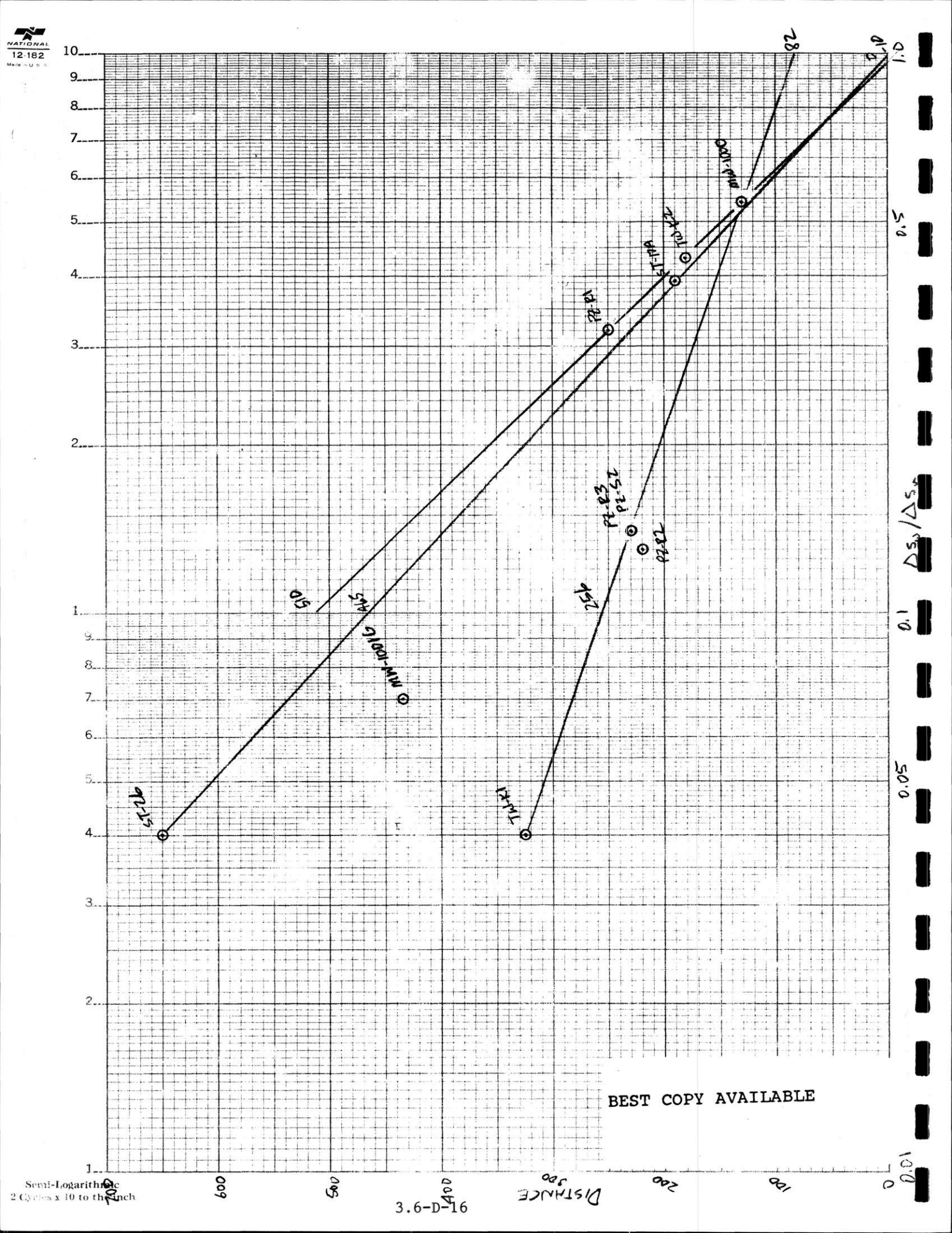

BEST COPY AVAILABLE

| SCREENED | DISTANCE TO RIVER | WELL | TIME | PEAK $\Delta s$ | $\frac{\Delta s_w}{\Delta s_{SP}}$ |
|---|---|---|---|---|---|
| RIVER | 0 | SAND POINT | 3.2 | 0.69 | ~~0.54~~ |
| UPPER pE | 130 | MW-1000X | 4.05 | 0.37 | 0.54 |
| pE | 180 | TW-K2X | 3.5 | 0.30 | 0.43 |
| SAND | 190 | ST-17A | 3.6 | 0.27 | 0.39 |
| pE | 250 | PZ-R1 | 4.75 | 0.22 | 0.32 |
| pE | 230 | PZ-R3 | 3.9 | 0.10 | 0.14 |
| UPPER pE | 230 | PZ-S2X | 4.35 | 0.10 | 0.14 |
| pE | 220 | PZ-R2 | 5.8 | 0.09 | 0.13 |
| pE | 325 | TW-K1 | 5.3 | 0.03 | 0.04 |
| GLACIAL | 650 | ST-26 | ~6 | 0.03 | 0.04 |
| GLACIAL | 435 | MW-1001C | 5.7 | ~~0.03~~ | ~~0.04~~ |
| | | ↳ Not graphed | | 0.05 | 0.07 |

$t_{1/2}$ = 10 hrs

= 0.42 days

1000
- SAND POINT, R1, 17A, ?
- ST-26, K2
- TW-K1,
- PZ-S1
- PZ-S2


NATIONAL
12-182
Made in U.S.A.
Semi-Logarithmic
2 Cycles x 10 to the Inch
DISTANCE
Δs_w/Δs_s
MW-100D
MW-100S
TW4-21
BEST COPY AVAILABLE

| Foth & Van Dyke | Client: KENNECOTT Scope I.D.: |
|---|---|
| | Project: RIVER STUDY 9/15/88 Page: |
| | Prepared by: FJD Date: 3/15/89 |
| | Checked by: Date: |

TW-K1, PZ-R3, PZ-S2, MW-1000

$$T = \left[\frac{4.4\,(256-82)^2}{0.42}\right] S$$

$T = 634 \ \frac{gpd}{ft}$ IF $S = 0.002$

$K = 2.0 \times 10^{-4} \ \frac{cm}{s}$ IF $b = 150'$

ST-26, ST-17A

$$T = \left[\frac{4.4\,(465-0)^2}{0.42}\right] S$$

$T = 453{,}043 \ \frac{gpd}{ft^2}$ IF $S = 0.2$

$K = 0.53 \ cm/s$ IF $b = 40'$

PZ-R1, TW-K2, MW-1000

$$T = \left[\frac{4.4\,(510-(-10))^2}{0.42}\right] S$$

BEST COPY AVAILABLE

$T = 5665 \ gpd/ft$ IF $S = 0.002$

$K = 1.8 \times 10^{-3} \ cm/s$ IF $b = 150'$

Measurements of River and Groundwater
Level Fluctuations

September 22, 1988

# Foth & Van Dyke

Client: Kennecott — Scope I.D.: 87 K 10
Project: River / G W — Page: 1 of 3
Prepared by: BJS — Date: 9-22-88
Checked by: BJS — Date: 1-27-89

Measured water levels in wells and sandpoint

| PZ-K8 | | River | | MW-1000 | | MW-1000P | |
|---|---|---|---|---|---|---|---|
| Time | DTW (ft) | Time | DTW (ft) | Time | DTW (ft) | Time | DTW (ft) |
| 7:38 | 11.52 | 8:15 | 5.51 | | | | |
| 8:48 | 11.42 | 8:37 | 5.38 | 8:40 | 14.98 | 8:41 | 14.14 |
| 9:08 | 11.38 | 9:00 | 4.98 | 9:02 | 14.86 | 9:03 | 14.09 |
| 9:28 | 11.35 | 9:20 | 4.67 | 9:22 | 14.73 | 9:23 | 13.99 |
| 9:51 | 11.27 | 9:42 | 4.25 | 9:44 | 14.55 | 9:45 | 13.85 |
| 10:18 | 11.22 | 10:06 | 4.00 | 10:09 | 14.32 | 10:10 | 13.68 |
| 10:41 | 11.17 | 10:31 | 3.83 | 10:36 | 14.10 | 10:35 | 13.55 |
| 10:55 | 11.14 | 10:49 | 3.71 | 10:53 | 14.00 | 10:52 | 13.41 |
| 11:22 | 11.09 | 11:11 | 3.51 | 11:12 | 13.90 | 11:13 | 13.29 |
| 11:47 | 11.03 | 11:32 | 3.34 | 11:34 | 13.77 | 11:36 | 13.16 |
| 12:04 | 11.00 | 11:56 | 3.18 | 11:58 | 13.66 | 11:59 | 13.03 |
| 12:22 | 10.98 | 12:14 | 3.18 | 12:16 | 13.58 | 12:17 | 12.94 |
| 12:41 | 10.96 | 12:32 | 3.36 | 12:34 | 13.59 | 12:35 | 12.87 |
| 12:59 | 10.97 | 12:51 | 3.62 | 12:53 | 13.66 | 12:54 | 12.84 |
| 1:18 | 11.01 | 1:09 | 3.87 | 1:11 | 13.75 | 1:12 | 12.86 |
| 1:44 | 11.04 | 1:28 | 4.07 | 1:31 | 13.87 | 1:32 | 12.90 |
| 2:07 | 11.08 | 1:55 | 4.25 | 1:57 | 14.07 | 1:59 | 13.00 |

$\Delta h = 0.46'$ $\Delta h = 2.33'$ $\Delta h = 1.40'$ $\Delta h = 1.30'$

River DTW

5.51' at 5:38 am
5.51 at 7:36 am

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: Kennecott — Scope I.D.: 87K10
Project: River / G.W — Page: 2 of 3
Prepared by: BJS — Date: 9-22-88
Checked by: BJS — Date: 1-27-89

Measured water levels in wells and sandpoint.

| TW-K2 | | TW-K17B | | TW-K7 | | PZ-R1 | |
|---|---|---|---|---|---|---|---|
| Time | DTW | Time | DTW | Time | DTW | Time | DTW |
| | | 8:04 | 16.71 | 7:33 | 13.55 | | |
| | | 8:19 | 16.68 | 7:41 | 13.46 | | |
| 8:43 | 16.06 | 8:52 | 16.50 | 7:52 | 13.38 | | |
| 9:04 | 15.93 | 9:12 | 16.35 | 8:07 | 13.37 | | |
| 9:25 | 15.75 | 9:32 | 16.19 | 8:20 | 13.25 | | |
| 9:47 | 15.58 | 9:56 | 16.01 | 8:50 | 13.11 | 8:53 | 19.98 |
| 10:13 | 15.42 | 10:24 | 15.87 | 9:10 | 13.00 | 9:14 | 19.90 |
| 10:38 | 15.30 | 10:43 | 15.76 | 9:30 | 12.88 | 9:36 | 19.80 |
| 10:54 | 15.25 | 11:01 | 15.70 | 9:55 | 12.70 | 9:58 | 19.67 |
| 11:16 | 15.18 | 11:26 | 15.56 | 10:21 | 12.57 | 10:26 | 19.50 |
| 11:38 | 15.06 | 11:50 | 15.42 | 10:42 | 12.49 | 10:44 | 19.40 |
| 12:01 | 14.96 | 12:08 | 15.36 | 10:59 | 12.40 | 11:03 | 19.28 |
| 12:19 | 14.94 | 12:26 | 15.32 | 11:25 | 12.28 | 11:28 | 19.12 |
| 12:37 | 14.94 | 12:45 | 15.35 | 11:49 | 12.17 | 11:52 | 18.96 |
| 12:55 | 15.01 | 1:03 | 15.38 | 12:06 | 12.10 | 12:10 | 18.88 |
| 1:14 | 15.10 | 1:22 | 15.50 | 12:24 | 12.06 | 12:28 | 18.78 |
| 1:34 | 15.22 | 1:48 | 15.62 | 12:43 | 12.07 | 12:47 | 18.72 |
| 2:02 | 15.40 | 2:12 | 15.75 | 1:01 | 12.11 | 1:05 | 18.67 |
| | | | | 1:20 | 12.18 | 1:24 | 18.66 |
| | | | | 1:47 | 12.31 | 1:50 | 18.67 |
| | | | | 2:09 | 12.40 | 2:14 | 18.70 |

$\Delta h = 1.12'$ $\Delta h = 1.39'$ $\Delta h = 1.31'$ $\Delta h = 1.32'$

BEST COPY AVAILABLE

**Foth & Van Dyke**

Client: Kennecott — Scope I.D.: 871C10
Project: River / GW — Page: 3 of 3
Prepared by: RJS — Date: 9-22-88
Checked by: BJS — Date: 1-27-89

Measured water levels in wells and sandpoint.

PZ-S2

| Time | DTW (ft) |
|---|---|
| 8:45 | 15.77 |
| 9:06 | 15.73 |
| 9:26 | 15.70 |
| 9:49 | 15.63 |
| 10:15 | 15.60 |
| 11:20 | 15.44 |
| 11:39 | 15.39 |
| 12:02 | 15.34 |
| 12:20 | 15.32 |
| 12:39 | 15.29 |
| 12:57 | 15.27 |
| 1:16 | 15.27 |
| 1:35 | 15.30 |
| 2:04 | 15.32 |

$\Delta h = 0.5'$

PZ-S1

| Time | DTW (ft) |
|---|---|
| 8:55 | 10.35 |
| 9:15 | 10.35 |
| 9:37 | 10.35 |
| 10:00 | 10.35 |
| 11:04 | 10.35 |

$\Delta h = 0.0'$

TW-K1

| Time | DTW (ft) |
|---|---|
| 8:56 | 12.04 |
| 9:16 | 12.04 |
| 9:39 | 12.04 |
| 10:01 | 12.04 |
| 11:06 | 12.04 |

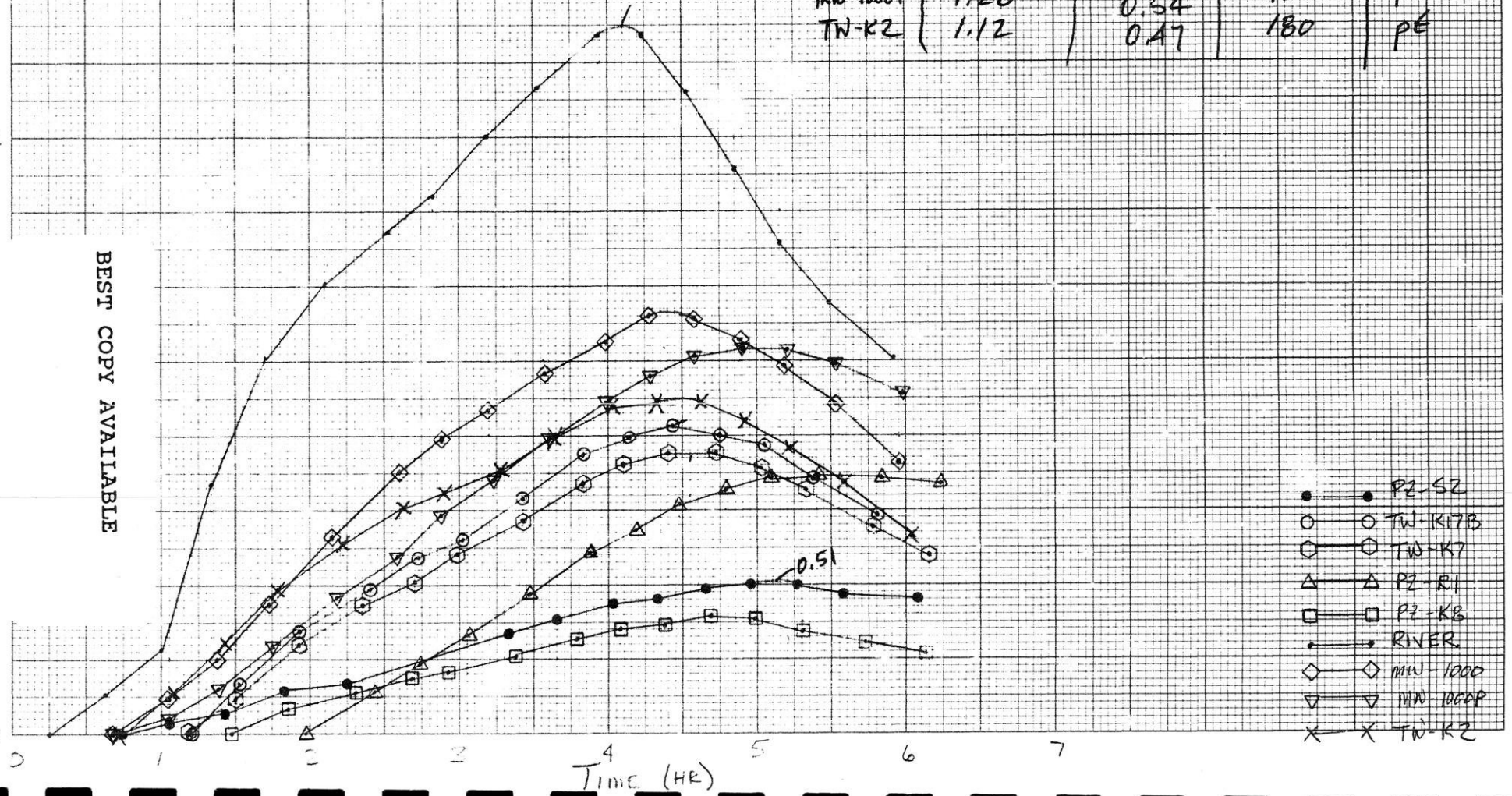
$\Delta h = 0.0'$

BEST COPY AVAILABLE

20 Squares to the Inch
NATIONAL 12-282 Made in U.S.A.

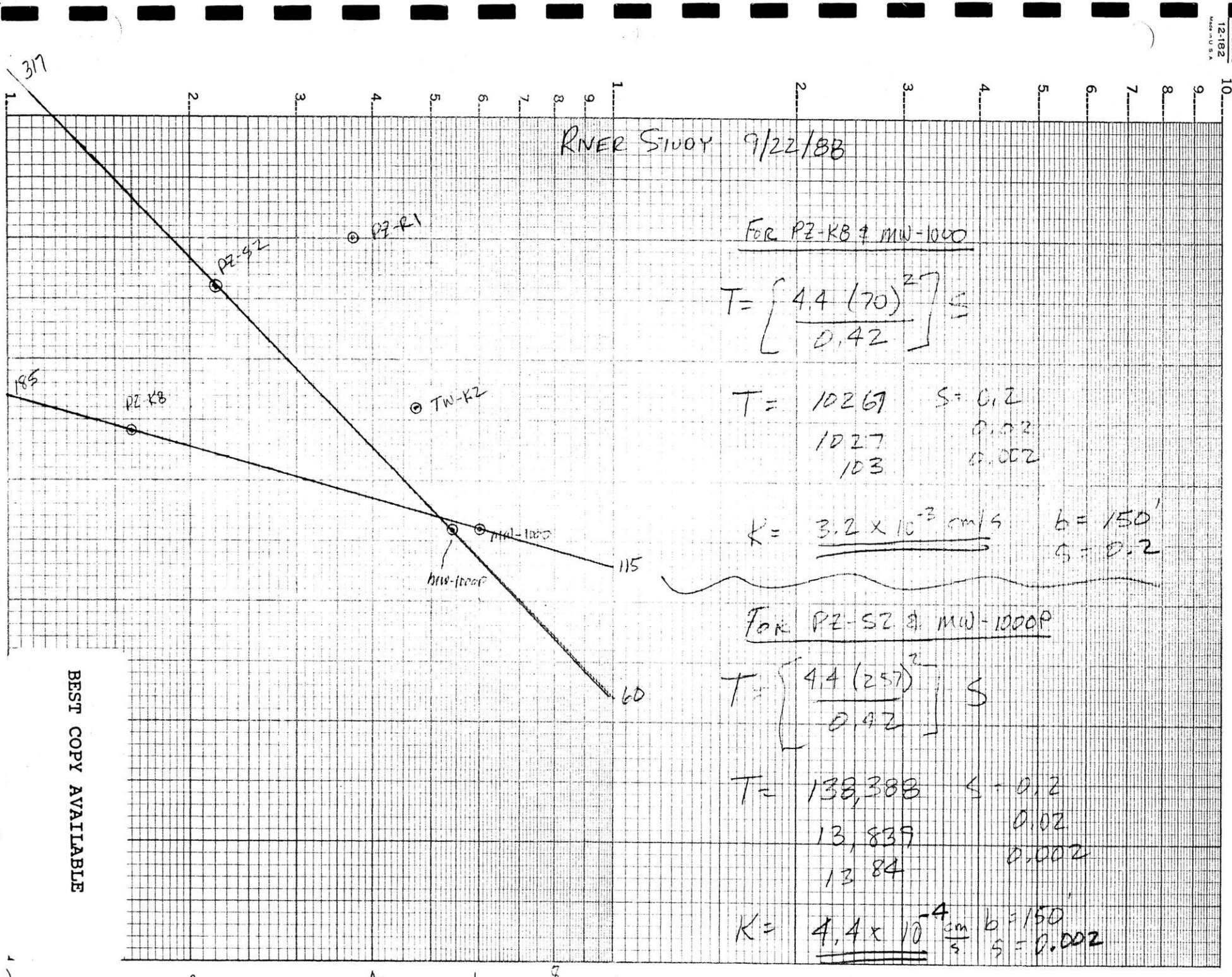
# RIVER STUDY 9/22/83

| WELL | PEAK $\Delta s_w$ | $\Delta s_w / \Delta s_R$ | DISTANCE TO RIVER | SCREENED |
|---|---|---|---|---|
| SAND POINT | 2.37 | — | 0 | RIVER |
| PZ-S2 | 0.51 | 0.22 | 230 | PE |
| TW-K17B | 1.03 | 0.43 | 185 | S&G |
| TW-K7 | 0.93 | 0.39 | 185 | S&G |
| PZ-R1 | 0.87 | 0.37 | 250 | PE |
| PZ-K8 | 0.39 | 0.16 | 170 | PE |
| MW-1000 | 1.42 | 0.60 | 130 | PE |
| MW-1000P | 1.28 | 0.54 | 130 | PE |
| TW-K2 | 1.12 | 0.47 | 180 | PE |




BEST COPY AVAILABLE

3.6-D-22




3.6-D-23

BEST COPY AVAILABLE

# Measurements of River and Groundwater Level Fluctuations

October 18 to 20, 1988

# Foth & Van Dyke

CLIENT: Kennecott DATE: 10-18 to 10-20-88

PROJECT: BY:

PROJECT NO.: PAGE NO.: OF

COMPUTED BY: DATE: REVIEWED BY: DATE:

CHECKED BY: DATE: APPROVED BY: DATE:

## Sandpoint 1088.99

10/18/88

| TIME | D.G.W. |
|---|---|
| 7:45 A | 5.52' |
| 9:00 A | 5.19' |
| 9:32 A | 5.08' |
| 11:25 A | 5.00' |
| 1:30 P | 5.16' |
| 2:55 P | 5.20' |
| 4:32 P | 5.23' |
| 10/19/88 | |
| 7:00 A | 5.36' |
| 9:55 A | 5.22' |
| 11:41 A | 5.18' |
| 12:50 P | 5.39' |
| 3:45 P | 5.58' |
| 10/20/88 | |
| 8:15 A | 5.38' |

## R-1 1103.55

10/18/88

| TIME | D6.W. |
|---|---|
| 8:05A | 19.82' |
| 9:05A | 19.80' |
| 11:43A | 19.55' |
| 1:42P | 19.47' |
| 2:56P | 19.50' |
| 4:37P | 19.54' |
| 10/19/88 | |
| 7:10A | 19.78' |
| 8:12A | 19.78' |
| 10:02A | 19.71' |
| 10:30A | 19.71' |
| 10:45A | 19.67' |
| 11:05A | 19.65' |
| 11:23A | 19.64' |
| 11:42A | 19.63' |
| 11:55A | 19.62' |
| 12:33P | 19.61' |
| 1:02P | 19.61' |
| 1:36P | 19.62' |
| 1:45P | 19.64' |
| 2:05P | 19.66' |
| 2:28P | 19.68' |
| 2:50P | 19.70' |
| 3:10P | 19.72' |
| 3:33P | 19.74' |
| 10/20/88 | |
| 8:00 | 19.78 |

## R-2 1105.51

10/18/88

| TIME | D.G.W |
|---|---|
| 7:52A | 18.10' |
| 9:02A | 18.07' |
| 9:33A | 18.04' |
| 11:30A | 17.90' |
| 1:30P | 17.83' |
| 4:29P | 17.83' |
| 10/19/88 | |
| 7:00A | 18.08' |
| 9:52A | 18.05' |
| 11:42A | 17.97' |
| 2:19P | 17.94' |
| 3:41P | 17.98' |
| 10/20/88 | |
| | 18.05' |

## R-3 1104.04

10/18/88

| TIME | D6.W. |
|---|---|
| 8:40A | 14.28' |
| 9:05A | 14.29' |
| 11:43A | 14.17' |
| 1:36P | 14.18' |
| 2:55P | 14.18' |
| 4:34P | 14.19' |
| 10/19/88 | |
| 7:10A | 14.28' |
| 10:00A | 14.25' |
| 11:39A | 14.22' |
| 12:54P | 14.26' |
| 2:21P | 14.29' |
| 3:35P | 14.31' |
| 10/20/88 | |
| 7:15A | 14.31 |

BEST COPY AVAILABLE

# Foth & Van Dyke

CLIENT: _____ DATE: 10/18 to 10/19/88

PROJECT: Kennecott BY: Craig Wen

PROJECT NO.: _____ PAGE NO.: _____ OF _____

COMPUTED BY: _____ DATE: _____ REVIEWED BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____

1143.32

1001

10/18/88

| TIME | D.6.W |
|---|---|
| 10:10A | 32.30 |
| 10:30A | 32.32 |
| 11:00A | 32.33 |
| 11:20A | 32.34 |
| 12:30P | 32.15 |
| 1:56P | 31.90 |
| 2:07P | 31.88 |
| 2:20P | 31.86 |
| 3:00P | 31.80 |
| 3:11P | 31.79 |
| 3:26P | 31.76 |
| 3:43P | 31.75 |
| 3:55P | 31.73 |
| 4:09P | 31.71 |
| 4:24P | 31.69 |
| 4:42P | 31.68 |
| 5:07P | 31.66 |
| 5:15P | 31.63 |
| 10/19/88 | |
| 7:15A | 31.50 |
| 7:30A | 31.50 |
| 8:18A | 31.50 |
| 9:46A | 31.50 |
| 11:02A | 31.50 |
| 11:59A | 31.50 |
| 12:30P | 31.50 |
| 1:09P | 31.50 |
| 1:41P | 31.52 |
| 2:15P | 31.52 |
| 3:20P | 31.50 |
| 3:50P | 31.49 |
| 4:42P | 31.48 |
| 10/20/88 | |
| 7:32A | 31.46 |

1143.47

10016

10/18/88

| TIME | D.6.W |
|---|---|
| 8:49A | 32.28 |
| 9:13A | 32.29 |
| 11:00A | 32.27 |
| 11:22A | 32.27 |
| 1:48P | 32.22 |
| 3:09P | 32.22 |
| 4:21P | 32.22 |
| 10/19/88 | |
| 7:15A | 32.31 |
| 8:15A | 32.31 |
| 9:47A | 32.31 |
| 11:00A | 32.30 |
| 11:57A | 32.28 |
| 12:29P | 32.28 |
| 1:08P | 32.27 |
| 1:40P | 32.28 |
| 2:16P | 32.28 |
| 3:47P | 32.28 |
| 4:54P | 32.27 |
| 10/20/88 | |
| 7:05A | 32.22 |

1143.20

1001P

10/18/88

| TIME | D.6.W |
|---|---|
| 8:37A | 31.69 |
| 9:10A | 31.71 |
| 10:10A | 31.71 |
| 11:00A | 31.71 |
| 11:25A | 31.71 |
| 1:47P | 31.71 |
| 3:10P | 31.70 |
| 4:11P | 31.70 |
| 10/19/88 | |
| 7:13A | 31.76 |
| 9:48A | 31.76 |
| 12:00N | 31.76 |
| 1:44P | 31.84 |
| 3:50P | 31.76 |
| 4:32P | 31.76 |
| 10/20/88 | |
| 8:20A | [redacted] 31.73 |

1102.12

TW-KB

10/18/88

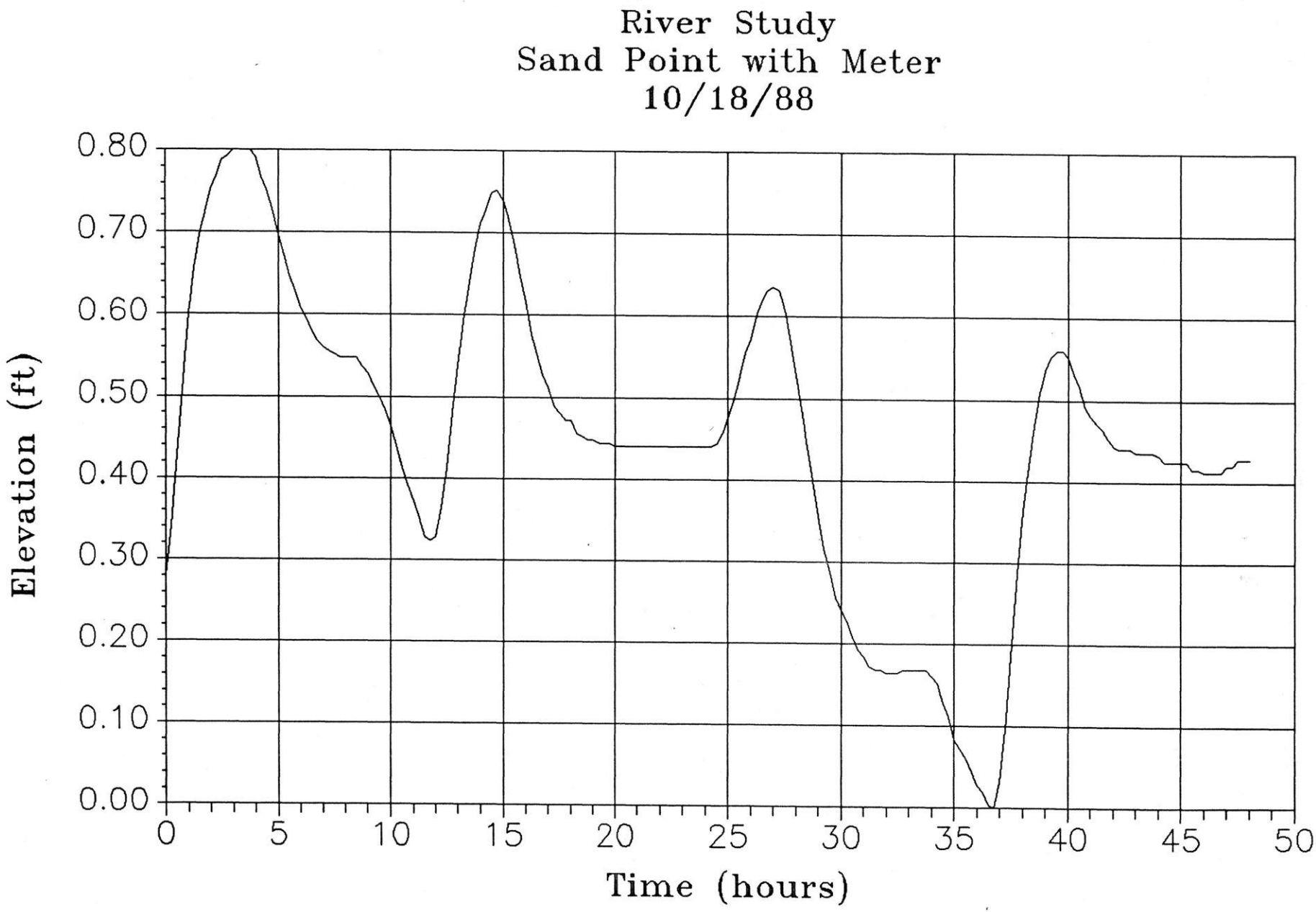
| TIME | D.6.W |
|---|---|
| 9:00A | 11.60 |
| 9:19A | 11.57 |
| 9:26A | 11.57 |
| 9:33A | 11.57 |
| 10:04A | 11.56 |
| 10:30A | 11.54 |
| 11:00A | 11.52 |
| 11:29A | 11.51 |
| 11:38A | 11.51 |
| 12:14P | 11.51 |
| 1:00P | 11.51 |
| 1:33P | 11.51 |
| 2:23P | 11.52 |
| 3:48P | 11.54 |
| 3:25P | 11.54 |
| 4:05P | 11.54 |
| 4:36P | 11.54 |
| 10/19/88 | |
| 6:50A | 11.60 |
| 7:31A | 11.60 |
| 8:10A | 11.60 |
| 9:00A | 11.59 |
| 10:00A | 11.58 |
| 10:29A | 11.57 |
| 10:55A | 11.55 |
| 11:40A | 11.55 |
| 12:36P | 11.56 |
| 12:45P | 11.57 |
| 12:58P | 11.58 |
| 2:17P | 11.60 |
| 3:12P | 11.62 |

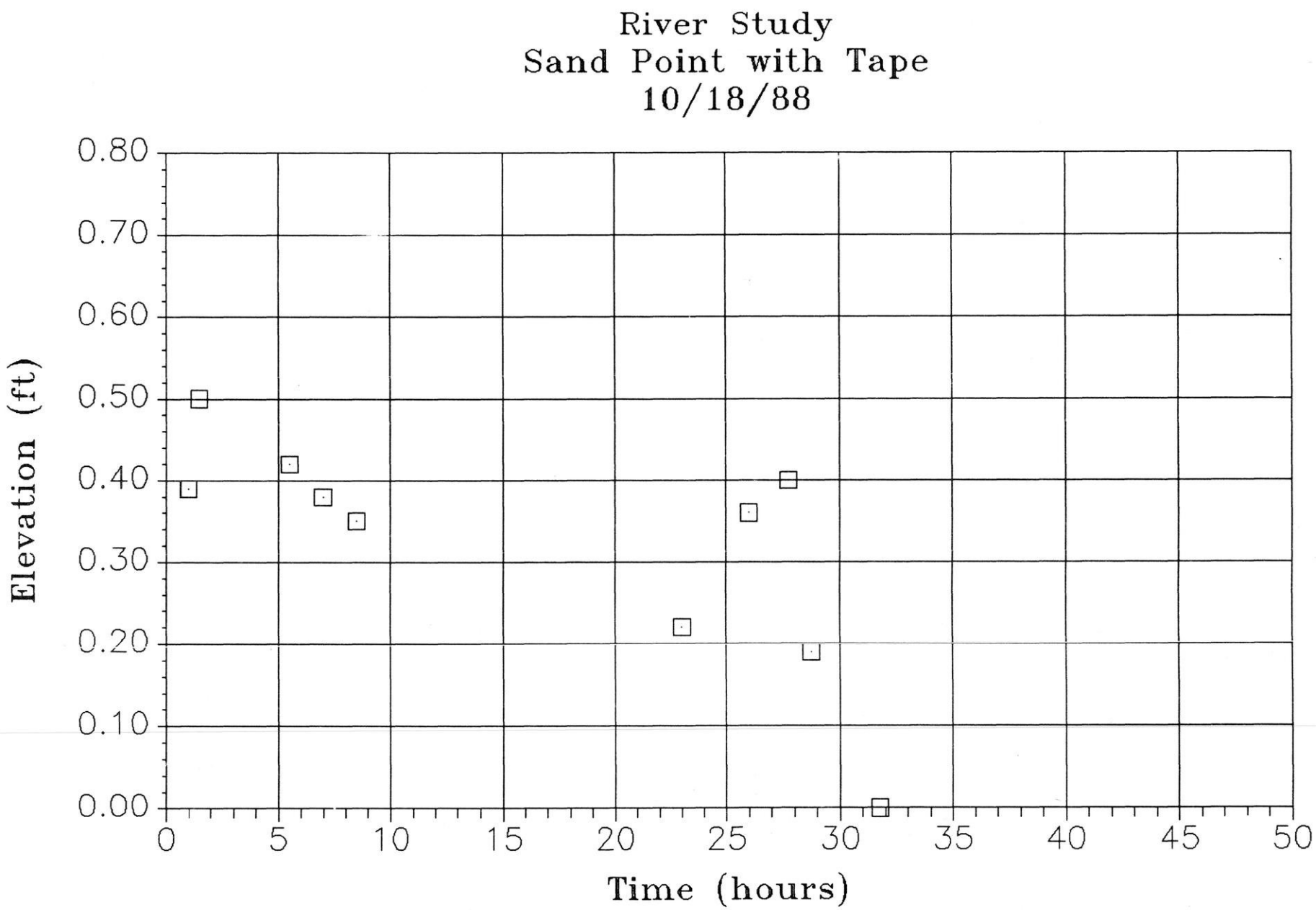
TW-KB

10/19/88

| TIME | D6.W |
|---|---|
| 3:39P | 11.63 |
| 4:00P | 11.63 |
| 4:38P | 11.63 |
| 5:05P | 11.63 |
| 10/20/88 | |
| 6:52A | 11.64 |

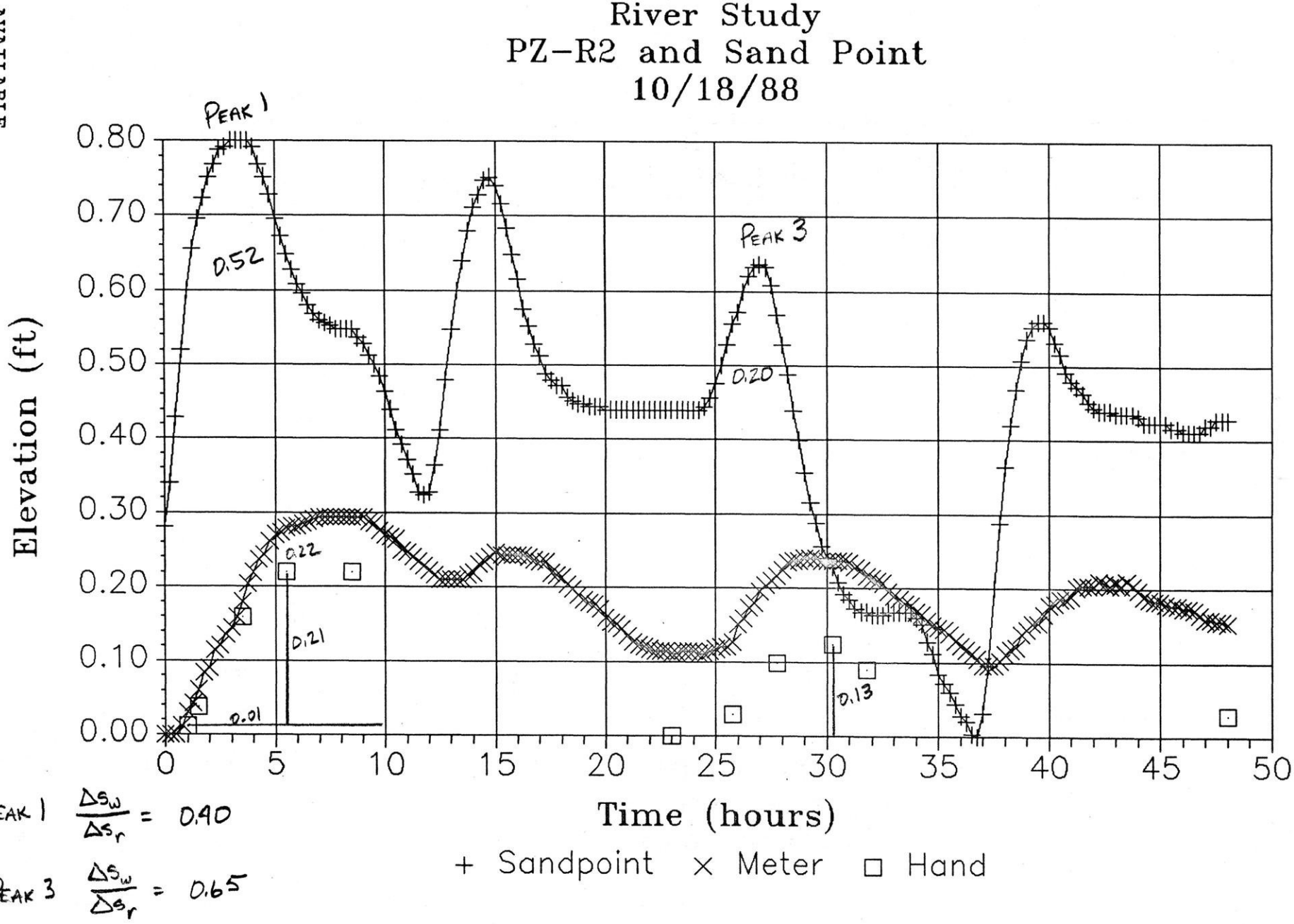
BEST COPY AVAILABLE


River Study
Sand Point with Meter
10/18/88
Elevation (ft)
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0
5
10
15
20
25
30
35
40
45
50
Time (hours)


River Study
Sand Point with Tape
10/18/88
Elevation (ft)
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0
5
10
15
20
25
30
35
40
45
50
Time (hours)

BEST COPY AVAILABLE



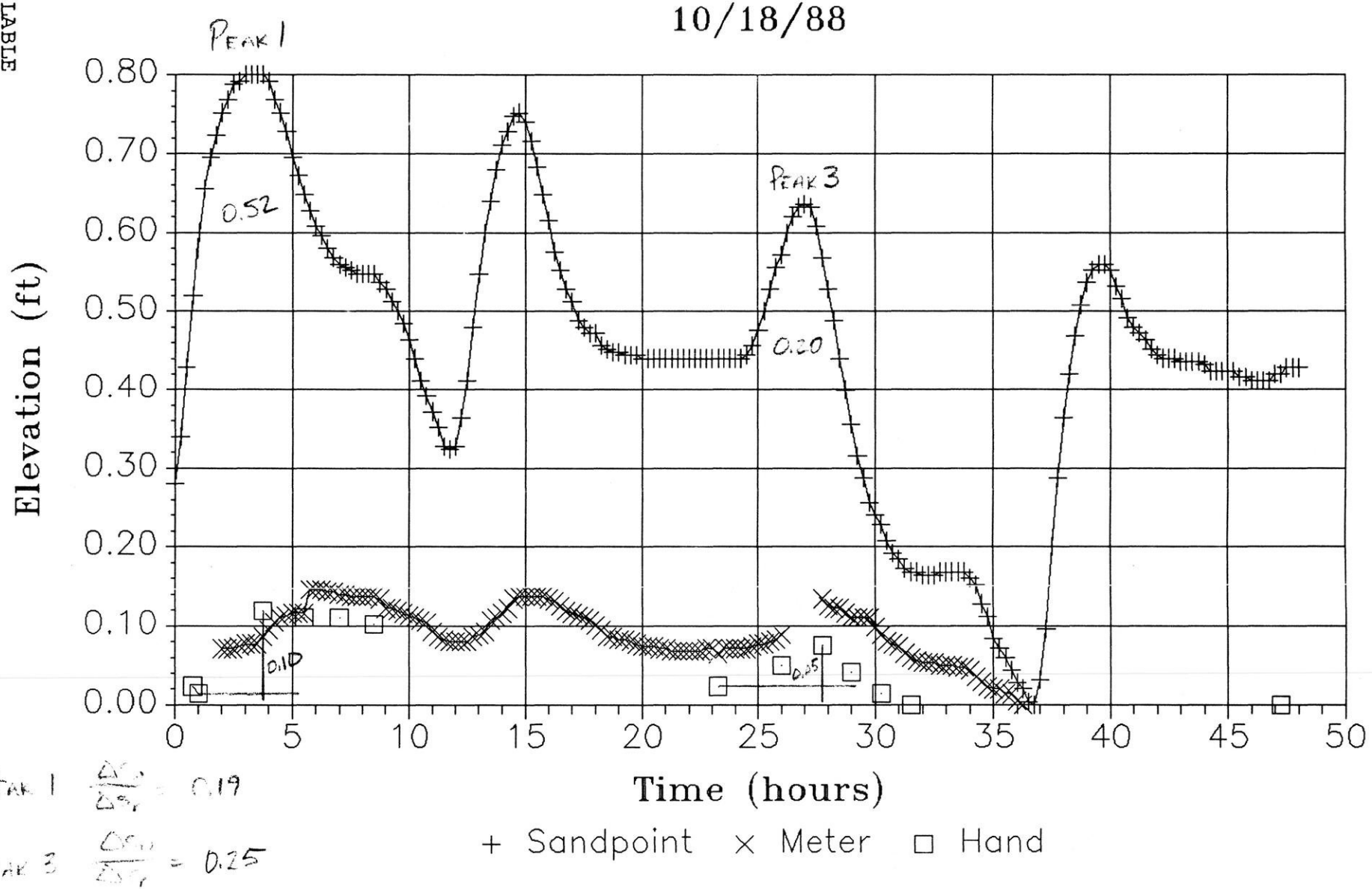



PEAK 1 $\frac{\Delta s_w}{\Delta s_r} = 0.40$

PEAK 3 $\frac{\Delta s_w}{\Delta s_r} = 0.65$

BEST COPY AVAILABLE

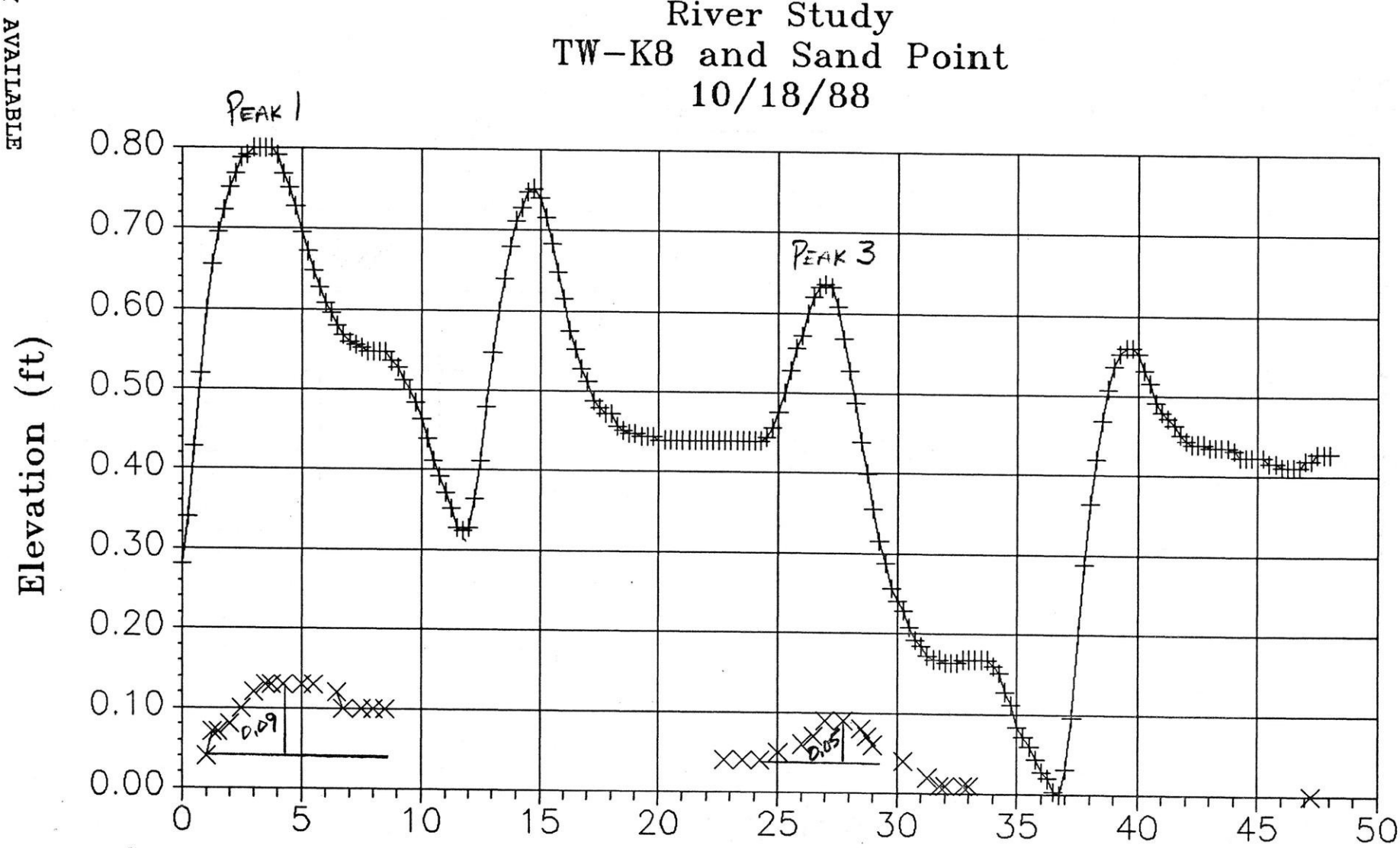





PEAK 1 $\frac{\Delta h}{\Delta h_r} = 0.19$

PEAK 3 $\frac{\Delta h}{\Delta h_r} = 0.25$

BEST COPY AVAILABLE

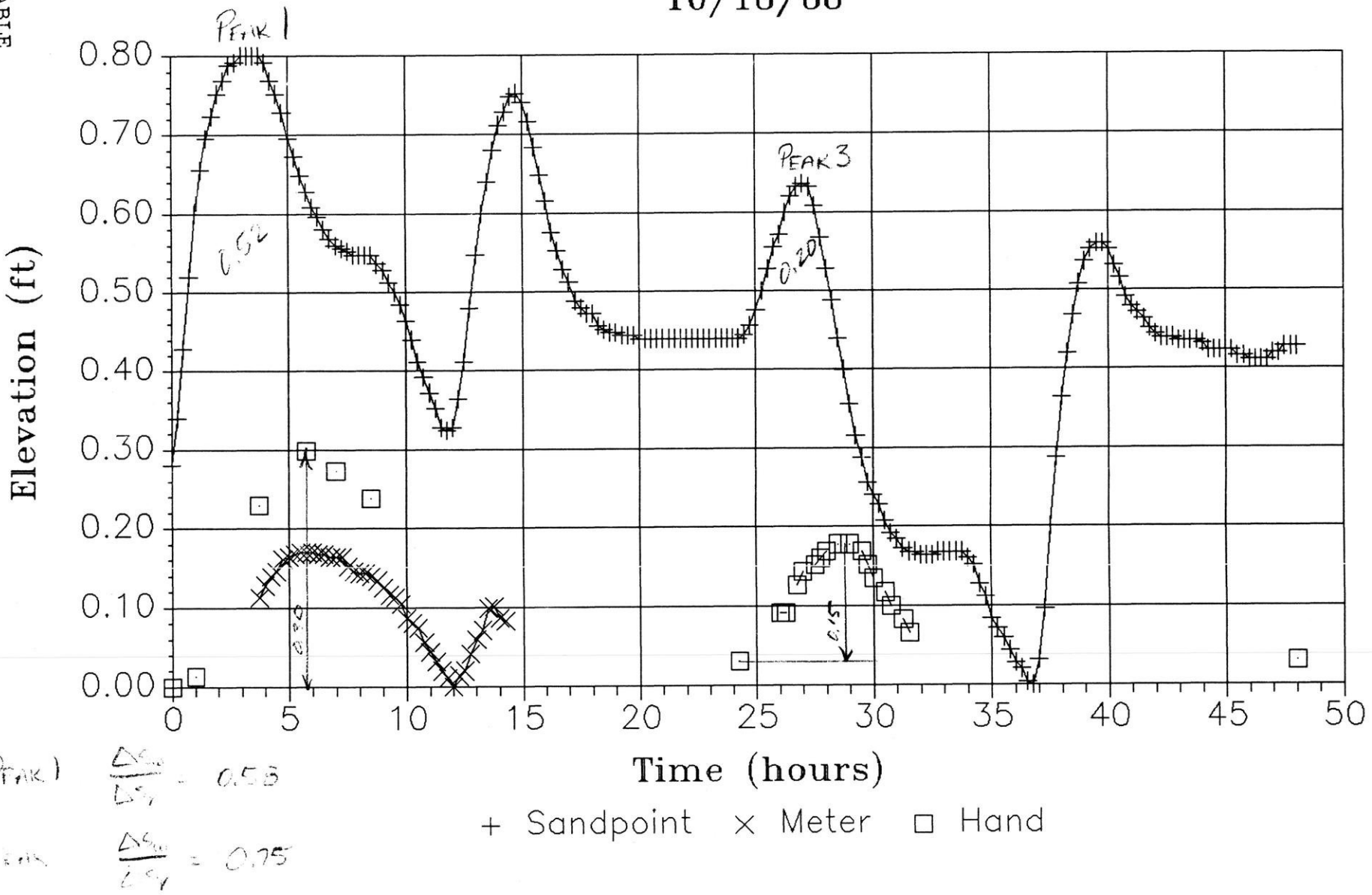



PEAK 1 $\frac{\Delta s_w}{\Delta s_r} = 0.17$

PEAK 3 $\frac{\Delta s_w}{\Delta s_r} = 0.25$

BEST COPY AVAILABLE



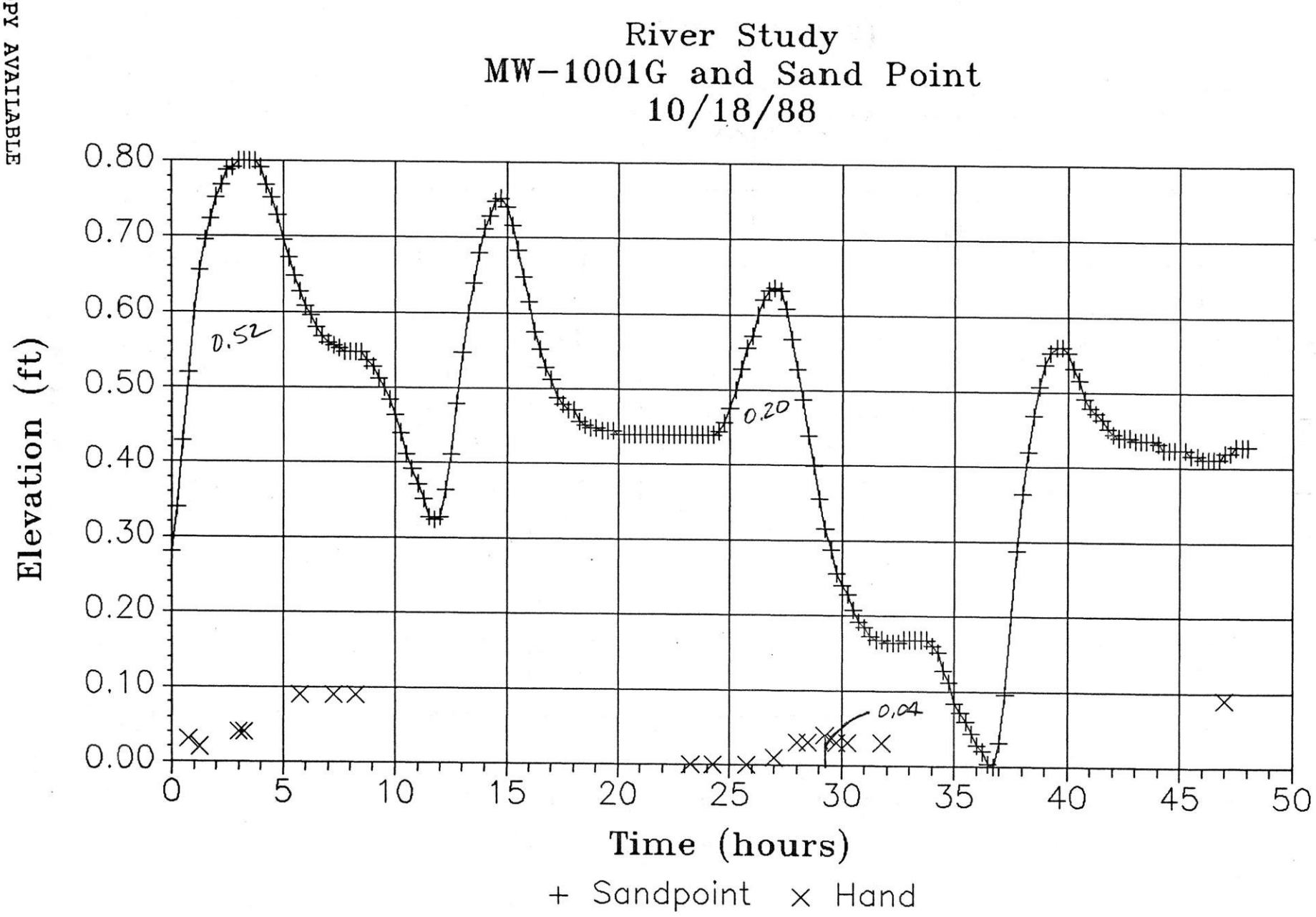



PEAK 1 $\frac{\Delta S_{30}}{\Delta S_1} = 0.58$

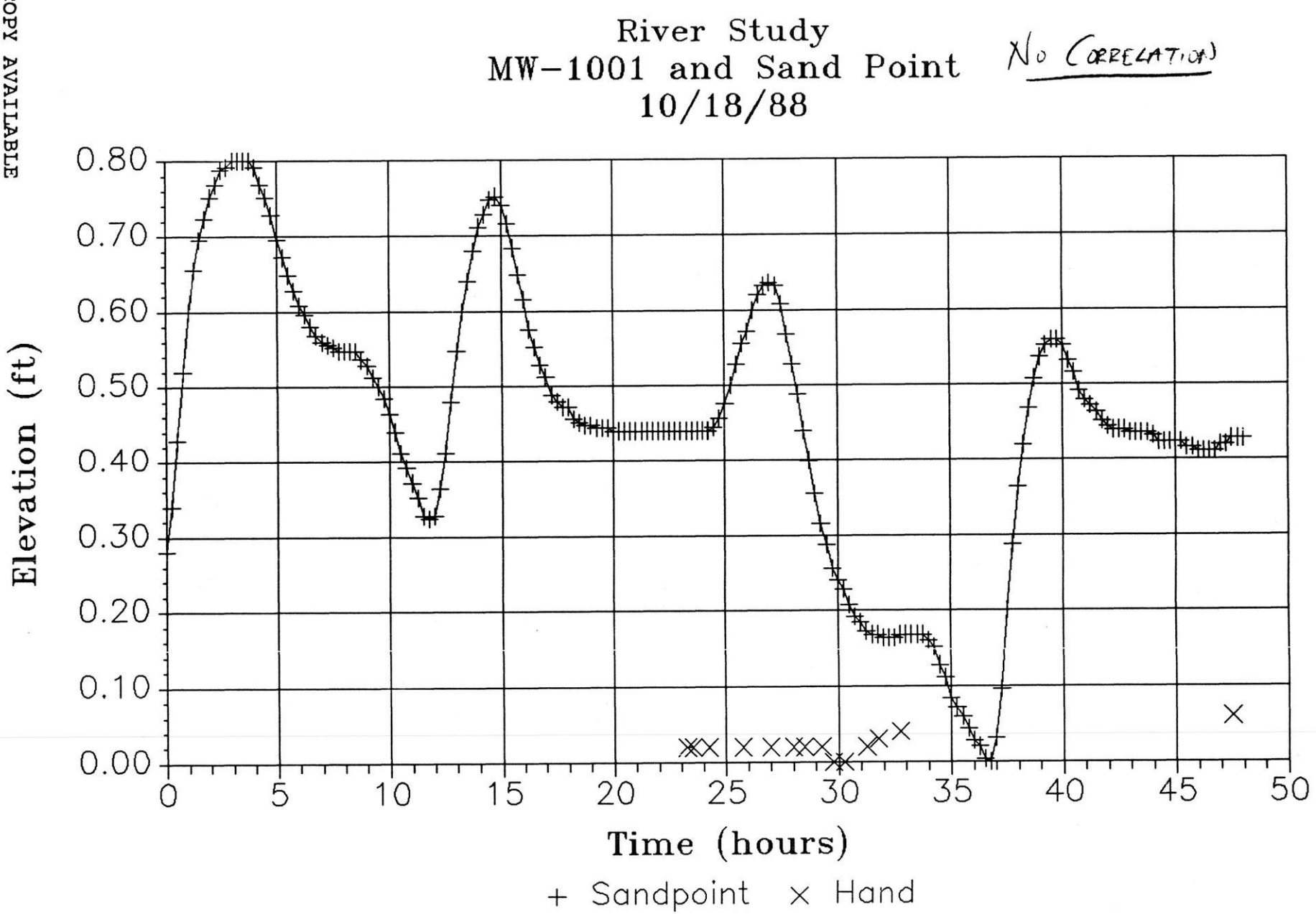
PEAK $\frac{\Delta S_{30}}{\Delta S_1} = 0.75$

BEST COPY AVAILABLE



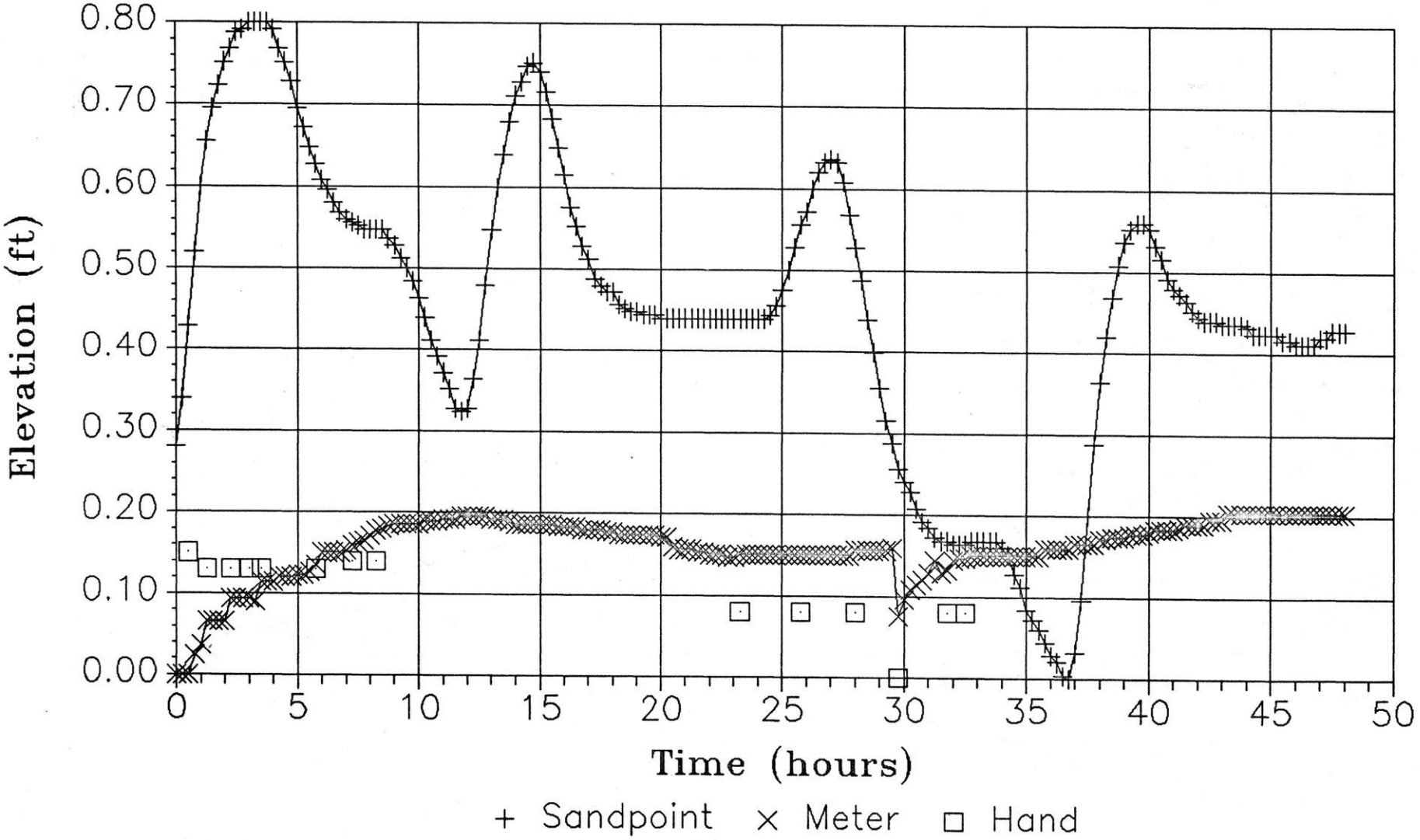


BEST COPY AVAILABLE

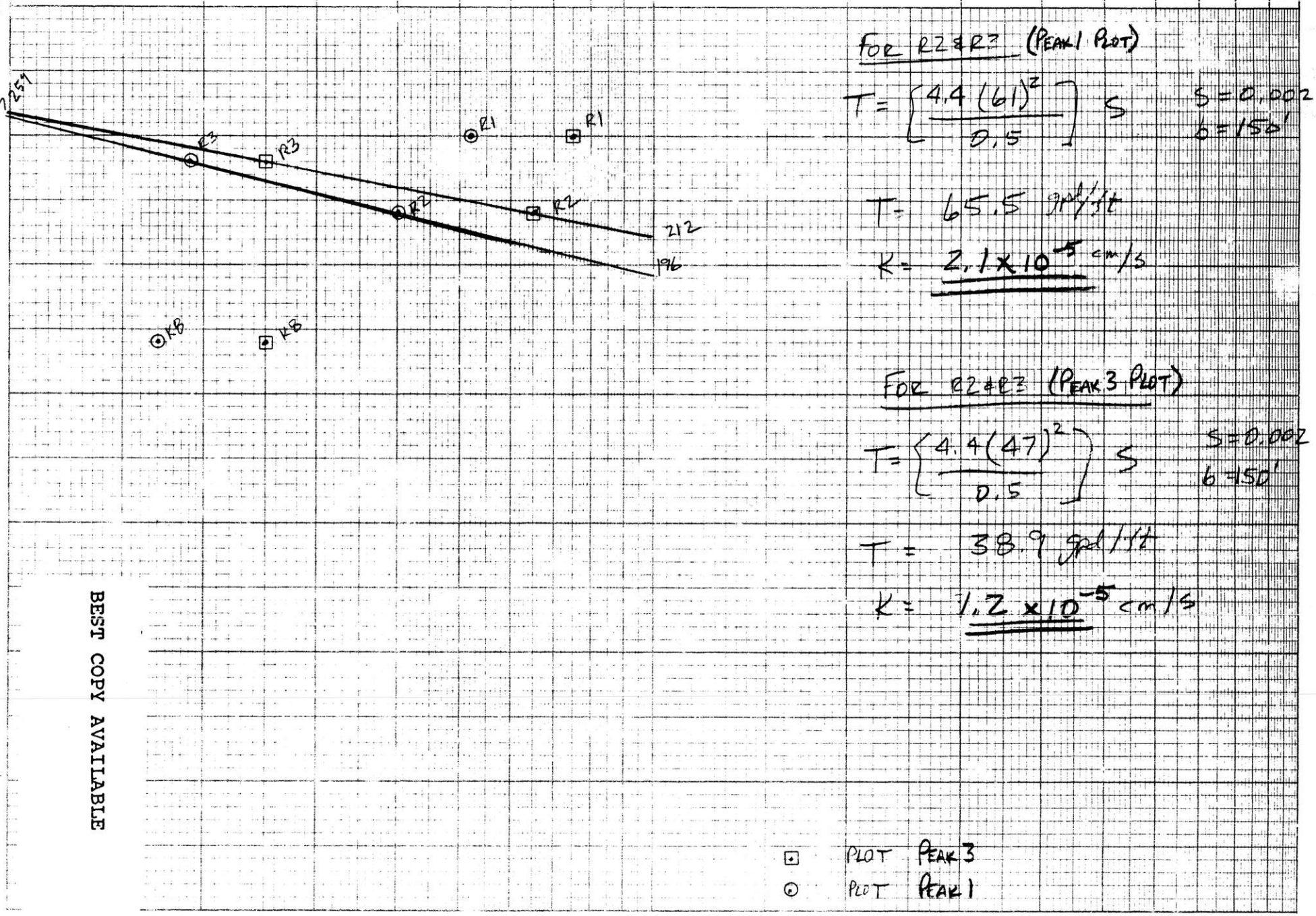


No Correlation

# River Study
# MW-1001P and Sand Point
# 10/18/88



# RIVER STUDY WEEK OF 10/18/88




FOR R2 & R3 (PEAK 1 PLOT)

$$T = \left[\frac{4.4\,(61)^2}{0.5}\right] S$$

S = 0.002
b = 150'

T = 65.5 gpd/ft

K = $2.1 \times 10^{-5}$ cm/s

FOR R2 & R3 (PEAK 3 PLOT)

$$T = \left[\frac{4.4\,(47)^2}{0.5}\right] S$$

S = 0.002
b = 150'

T = 38.9 gpd/ft

K = $1.2 \times 10^{-5}$ cm/s

Semi-Logarithmic
2 Cycles x 10 to the Inch

3.6-D-36

BEST COPY AVAILABLE

# APPENDIX 3.6-E

## Flambeau Hydrograph Analysis

MEMORANDUM

DA: January 20, 1989
TO: BNP
FR: GKM
RE: Flambeau Project, Flambeau River Hydrology

Checked: FJD 3/28/89

I. DRAINAGE BASIN AREA

A. Total Flambeau River drainage basin above gauge station #05360500 is:

1860 square miles

Reference: USGS Water Resources Data - Wisconsin

B. Drainage basin area above gauge station to Kennecott site:

21.8 square miles

Using planimeter - area was 1.40 $in^2$ @ 15.569 $mi^2$ per $in^2$ on 1:250,000 scale map

THEREFORE: 21.8/1860 * 100% = 1.17% of the drainage basin is below the site

and, 98.83% of the drainage basin is above the site

II. STREAM LENGTH

A. Total Flambeau stream course (including Flambeau River, North Fork, South Fork, and Major tributaries) is:

299.2 miles

B. Total mileage between gauge station and project site is:

9.6 miles

C. Additional mileage for other minor streams and creeks is:

544 miles

Flambeau River Hydrology
Memo to BNP
January 20, 1989

THEREFORE: Percent stream length (major tributaries) between gauge station and project site is:

9.6/299.2 * 100% = 3.2%

Percent stream length (all tributaries) between gauge station and project site is:

9.6/843 * 100% = 1.14%

III. FLAMBEAU RIVER DISCHARGE @ GAUGE STATION

References: USGS Water Resources Data - Wisconsin 1988 & RECHARGE program (local Minima)

A. Total Discharge

| | 1988 | Ave. Historical | |
|---|---|---|---|
| Max. | 4290 cfs | 17,400 cfs | (15 year) |
| Min. | 330 | 100 | (15 year) |
| Mean | 993.8 | 1857 | (34 year) |

Average discharge for year is:

- 31,340,390,400 $ft^3$/year
- 234,457,460,600 gal/year
- 7.25 in./year

B. Average daily discharge is:

- 85,864,083 $ft^3$/day
- 642,349,207 gpd

C. Average discharge per mile of stream :

1. Using major tributaries (299.2 miles)

642,349,207 gpd/299.2 mile = 2,146,889 gpd/mile or 1491 gpm/mile

2. Using all tributaries (843 miles)

642,349,207 gpd/843 mile = 761,980 gpd/mile or 529 gpm/mile

D. Average groundwater discharge per mile of stream

Percent groundwater runoff to total discharge is 70.34%

1. Flambeau plus major tributaries (299.2 miles):

2,146,889 gpd/mile * 70.34% = 1,510,217 gpd/mile

2. Flambeau plus all tributaries (843 miles):

761,980 gpd/mile * 70.34% = 536,012 gpd/mile

E. Recharge/Discharge in inches per year
(Local Minima method of RECHARGE program)

1. Total Discharge is 7.25 inches

2. Total Groundwater Discharge is:

7.25 in. * 70.34% = 5.10 inches

3. Recharge rate:

242,000 gpd/$mi^2$ = 5.08 inches/year

IV. WATER BUDGET FOR FLAMBEAU BASIN

Reference: Hydrologic Atlas HA-386
Note: Project average are for the period October 1987 to September 1988

| Component | Basin Annual Average | Project Average |
|---|---|---|
| Precipitation | 31.2 inches | 25.8 inches |
| Runoff | 10.7 | 7.25 |
| Change in Storage | 0.0 | 0.0 |
| Underflow | 0.0 | 0.0 |
| Evapotranspiration | 20.5 | 18.5 |

Flambeau River Hydrology
Memo to BNP
January 20, 1989

V. FLAMBEAU DRAINAGE BASIN GLACIAL GEOLOGY

References: Wisconsin Geologic and Natural History Survey
Glacial Deposits Map & Hydrologic Atlas HA-386

A. Percent of drift covering whole basin (drift thickness ranges from 50 to 150 feet)

30% pitted outwash
10% outwash
15% end moraine
45% ground moraine

B. Percent of drift covering project site (drift thickness ~100 feet)

65% pitted outwash (west 2/3 of site to river)
35% ground moraine (east 1/3 of site)

VI. FLAMBEAU DRAINAGE BASIN BEDROCK GEOLOGY

Reference: Hydrologic Atlas HA-386

A. Percent distribution over whole drainage basin

97% Precambrian basement complex
3% Cambrian sandstone (lower most valley below Ladysmith)

B. Percent distribution over project site

95% Precambrian basement complex
5% Cambrian sandstone (east side of site)

VII. SOIL PERMEABILITY

Reference: Hydrologic Atlas HA-386

A. Permeability distribution over whole basin

20% 0.2 to 0.8 inches/hour (mostly in lower reach)
60% 0.8 to 2.5 inches/hour (middle & upper reach)
5% 2.5 to 5.0 inches/hour (mostly upper NE reach)
15% 5.0 to 10 inches/hour (mostly upper NE reach)

B. Permeability distribution over project site

100% 0.2 to 0.8 inches/hour

WATER YEAR 1988
STATION NUMBER 5360500
STATION TITLE FLAMBEAU
DRAINAGE AREA 1860 SQ. MI.

MEAN DAILY DISCHARGE IN CFS

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | 584.00 | 645.00 | 1550.00 | 780.00 | 760.00 | 660.00 | 2570.00 | 826.00 | 711.00 | 564.00 | 641.00 | 812.00 |
| 2) | 551.00 | 1070.00 | 1450.00 | 720.00 | 800.00 | 780.00 | 3350.00 | 920.00 | 683.00 | 485.00 | 741.00 | 717.00 |
| 3) | 610.00 | 1080.00 | 1230.00 | 760.00 | 880.00 | 720.00 | 3130.00 | 863.00 | 627.00 | 483.00 | 718.00 | 772.00 |
| 4) | 732.00 | 1070.00 | 823.00 | 800.00 | 800.00 | 680.00 | 3330.00 | 967.00 | 793.00 | 535.00 | 1270.00 | 760.00 |
| 5) | 777.00 | 954.00 | 933.00 | 840.00 | 660.00 | 620.00 | 4270.00 | 815.00 | 627.00 | 541.00 | 1210.00 | 746.00 |
| 6) | 682.00 | 982.00 | 1000.00 | 800.00 | 800.00 | 680.00 | 4290.00 | 885.00 | 594.00 | 501.00 | 1220.00 | 695.00 |
| 7) | 721.00 | 914.00 | 1200.00 | 740.00 | 720.00 | 740.00 | 4100.00 | 780.00 | 624.00 | 492.00 | 967.00 | 838.00 |
| 8) | 692.00 | 987.00 | 913.00 | 700.00 | 680.00 | 720.00 | 4160.00 | 697.00 | 642.00 | 461.00 | 843.00 | 654.00 |
| 9) | 616.00 | 720.00 | 1090.00 | 760.00 | 660.00 | 760.00 | 4140.00 | 1040.00 | 647.00 | 578.00 | 775.00 | 558.00 |
| 10) | 649.00 | 689.00 | 1360.00 | 780.00 | 560.00 | 780.00 | 2380.00 | 1910.00 | 542.00 | 543.00 | 696.00 | 742.00 |
| 11) | 673.00 | 858.00 | 1430.00 | 800.00 | 700.00 | 860.00 | 2890.00 | 2060.00 | 511.00 | 497.00 | 664.00 | 675.00 |
| 12) | 662.00 | 956.00 | 1590.00 | 840.00 | 720.00 | 800.00 | 3180.00 | 1960.00 | 489.00 | 479.00 | 713.00 | 629.00 |
| 13) | 656.00 | 853.00 | 1590.00 | 800.00 | 700.00 | 1100.00 | 2570.00 | 1520.00 | 487.00 | 471.00 | 865.00 | 607.00 |
| 14) | 644.00 | 898.00 | 1520.00 | 760.00 | 680.00 | 880.00 | 2990.00 | 1430.00 | 479.00 | 553.00 | 1190.00 | 552.00 |
| 15) | 689.00 | 536.00 | 1400.00 | 780.00 | 640.00 | 880.00 | 3150.00 | 1210.00 | 449.00 | 505.00 | 1480.00 | 558.00 |
| 16) | 1070.00 | 655.00 | 1200.00 | 800.00 | 620.00 | 780.00 | 3050.00 | 1260.00 | 564.00 | 918.00 | 1470.00 | 603.00 |
| 17) | 1210.00 | 923.00 | 1100.00 | 780.00 | 620.00 | 760.00 | 2500.00 | 1190.00 | 609.00 | 1260.00 | 1050.00 | 659.00 |
| 18) | 1550.00 | 1030.00 | 1000.00 | 760.00 | 740.00 | 860.00 | 2160.00 | 800.00 | 519.00 | 865.00 | 1040.00 | 1130.00 |
| 19) | 1430.00 | 1440.00 | 740.00 | 840.00 | 640.00 | 800.00 | 1860.00 | 1040.00 | 544.00 | 728.00 | 1110.00 | 668.00 |
| 20) | 1260.00 | 1410.00 | 900.00 | 860.00 | 660.00 | 600.00 | 2090.00 | 885.00 | 582.00 | 684.00 | 842.00 | 940.00 |
| 21) | 1080.00 | 1090.00 | 1300.00 | 880.00 | 540.00 | 560.00 | 1470.00 | 792.00 | 595.00 | 613.00 | 657.00 | 1110.00 |
| 22) | 1360.00 | 912.00 | 1200.00 | 900.00 | 470.00 | 660.00 | 1060.00 | 811.00 | 614.00 | 609.00 | 772.00 | 1240.00 |
| 23) | 1220.00 | 1190.00 | 1200.00 | 860.00 | 330.00 | 640.00 | 1240.00 | 813.00 | 560.00 | 603.00 | 932.00 | 1000.00 |
| 24) | 1150.00 | 1060.00 | 1100.00 | 760.00 | 400.00 | 720.00 | 1130.00 | 721.00 | 528.00 | 523.00 | 973.00 | 1000.00 |
| 25) | 1050.00 | 1080.00 | 1100.00 | 820.00 | 450.00 | 1000.00 | 1140.00 | 716.00 | 628.00 | 527.00 | 916.00 | 818.00 |
| 26) | 1180.00 | 827.00 | 1100.00 | 860.00 | 480.00 | 1700.00 | 1270.00 | 731.00 | 466.00 | 533.00 | 845.00 | 775.00 |
| 27) | 850.00 | 880.00 | 1100.00 | 800.00 | 450.00 | 2340.00 | 1280.00 | 649.00 | 419.00 | 552.00 | 984.00 | 791.00 |
| 28) | 1040.00 | 696.00 | 1100.00 | 780.00 | 440.00 | 2980.00 | 1240.00 | 721.00 | 420.00 | 579.00 | 746.00 | 649.00 |
| 29) | 1500.00 | 1090.00 | 1200.00 | 820.00 | | 2900.00 | 1210.00 | 704.00 | 459.00 | 536.00 | 661.00 | 722.00 |
| 30) | 1640.00 | 1230.00 | 1100.00 | 800.00 | | 1900.00 | 1290.00 | 730.00 | 746.00 | 665.00 | 704.00 | 771.00 |
| 31) | 629.00 | | 840.00 | 740.00 | | 2440.00 | | 725.00 | | 589.00 | 698.00 | |

1988

LOCAL MINIMA **** YEARLY STATISTICS ****** vs. HISTORICAL

MINIMUM DISCHARGE 330 CFS — 100 CFS (15YR. MIN.)
MEAN DISCHARGE 993.7969970703125 CFS — 1,857 CFS (34YR. $\bar{X}$)
MAXIMUM DISCHARGE 4290 CFS — 17,400 CFS (15YR. MAX.)

TOTAL DISCHARGE FOR THE YEAR
31340390400 CF
7.252769947052002 INCHES

TOTAL DISCHARGE/YEAR/BASIN AREA
16849672 CF/SQ. MI.
.6043988466262817 CF/SQ. FT.

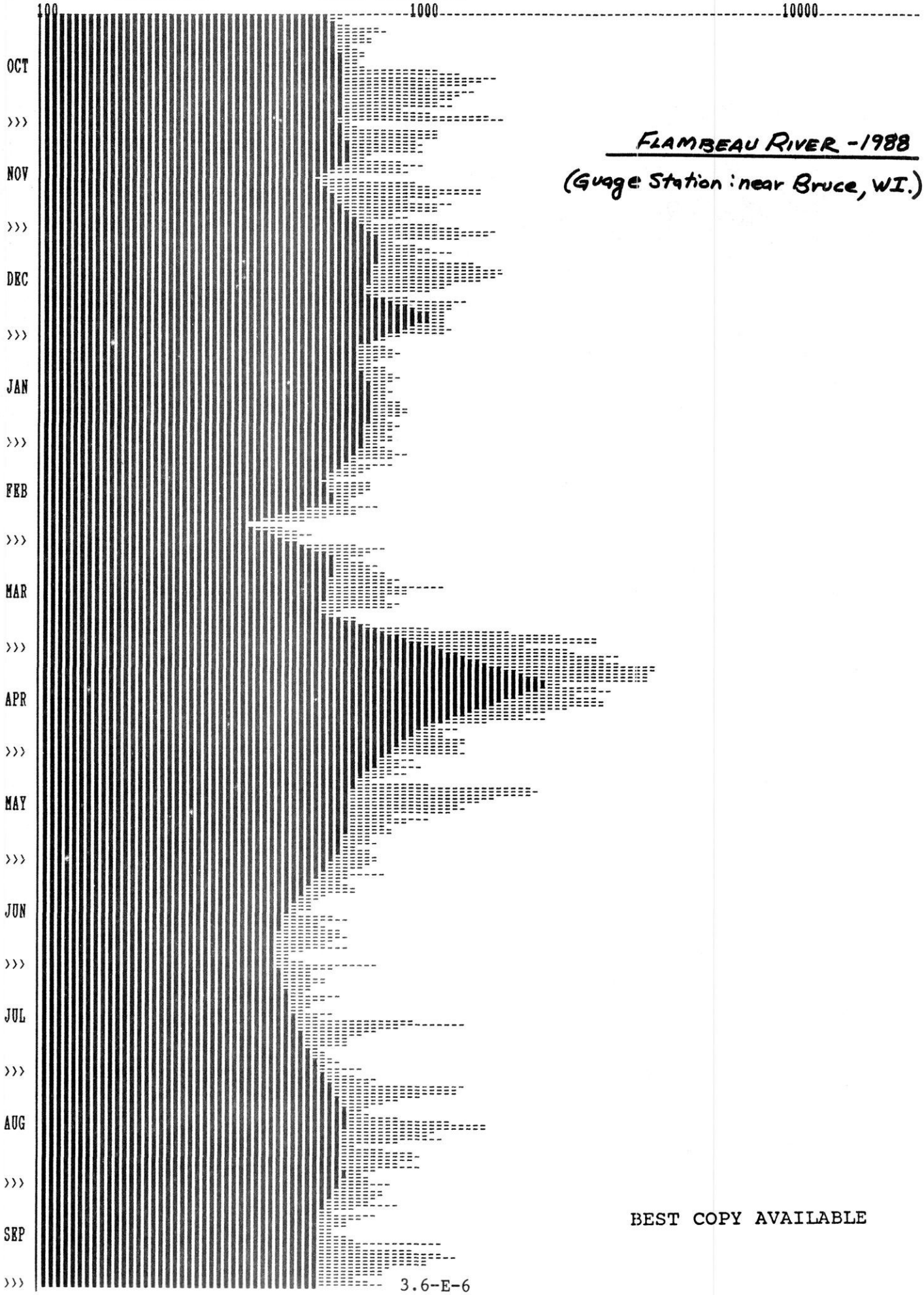
TOTAL GROUND WATER DISCHARGE FOR THE YEAR
22046228480 CF
5.101921558380127 INCHES

PERCENT OF TOTAL DISCHARGE DUE
TO GROUND WATER RUNOFF
70.34445953369141

BEST COPY AVAILABLE

RECHARGE RATE= 242000 GPD/SQ. MI. = 8.6806 GPD/FT²
8.6805559694767E-003 ~~GPD/SQ.~~ FT. × $\frac{365\ \text{Day}}{\text{Yr}} \times \frac{\text{Ft}^3}{7.48\ \text{Gal}} \times \frac{12\ \text{In.}}{\text{Ft.}} =$
= 5.08232 In./Yr.

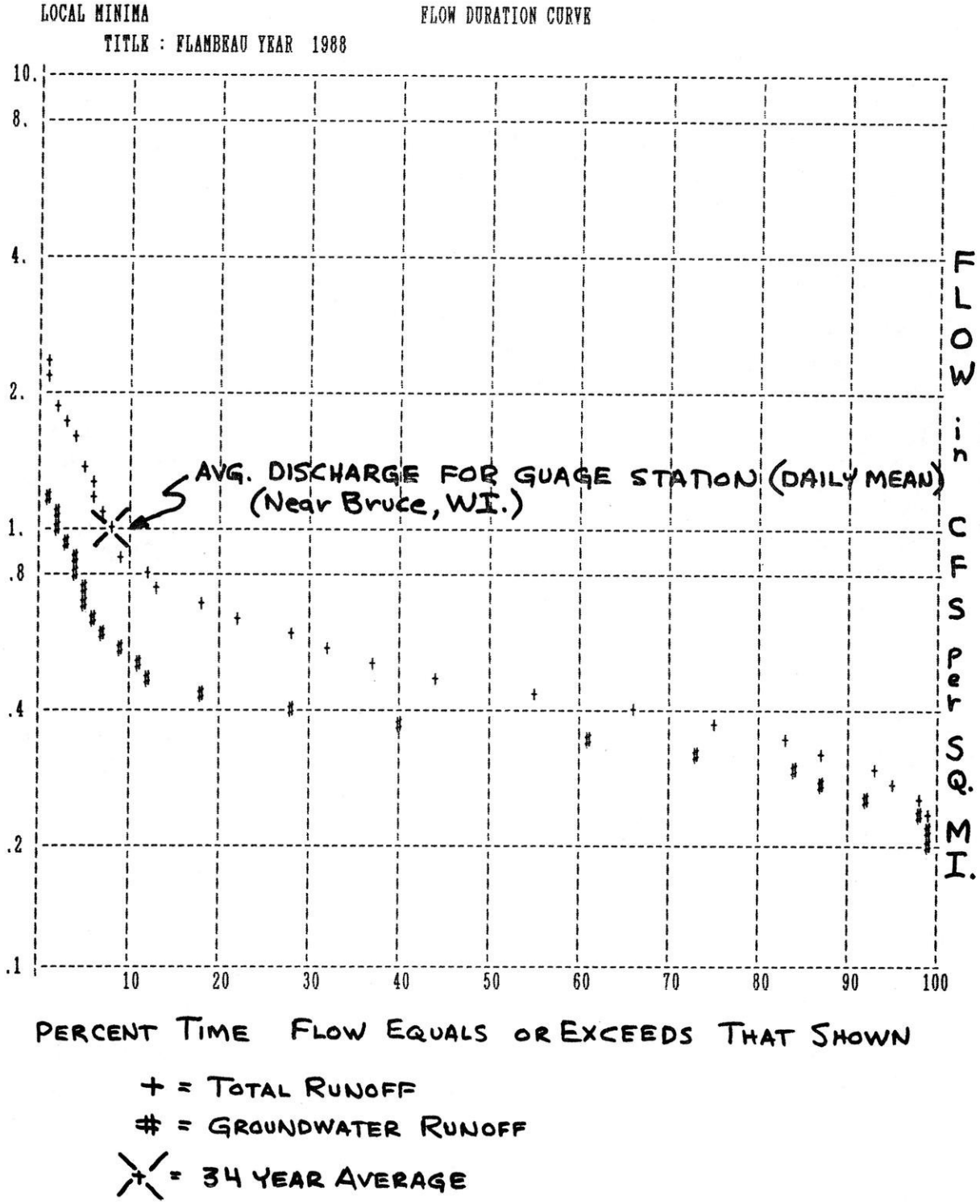
LOCAL MINIMA HYDROGRAPH TITLE: FLAMBEAU YEAR 1988 DISCHARGE CFS




FLAMBEAU RIVER -1988

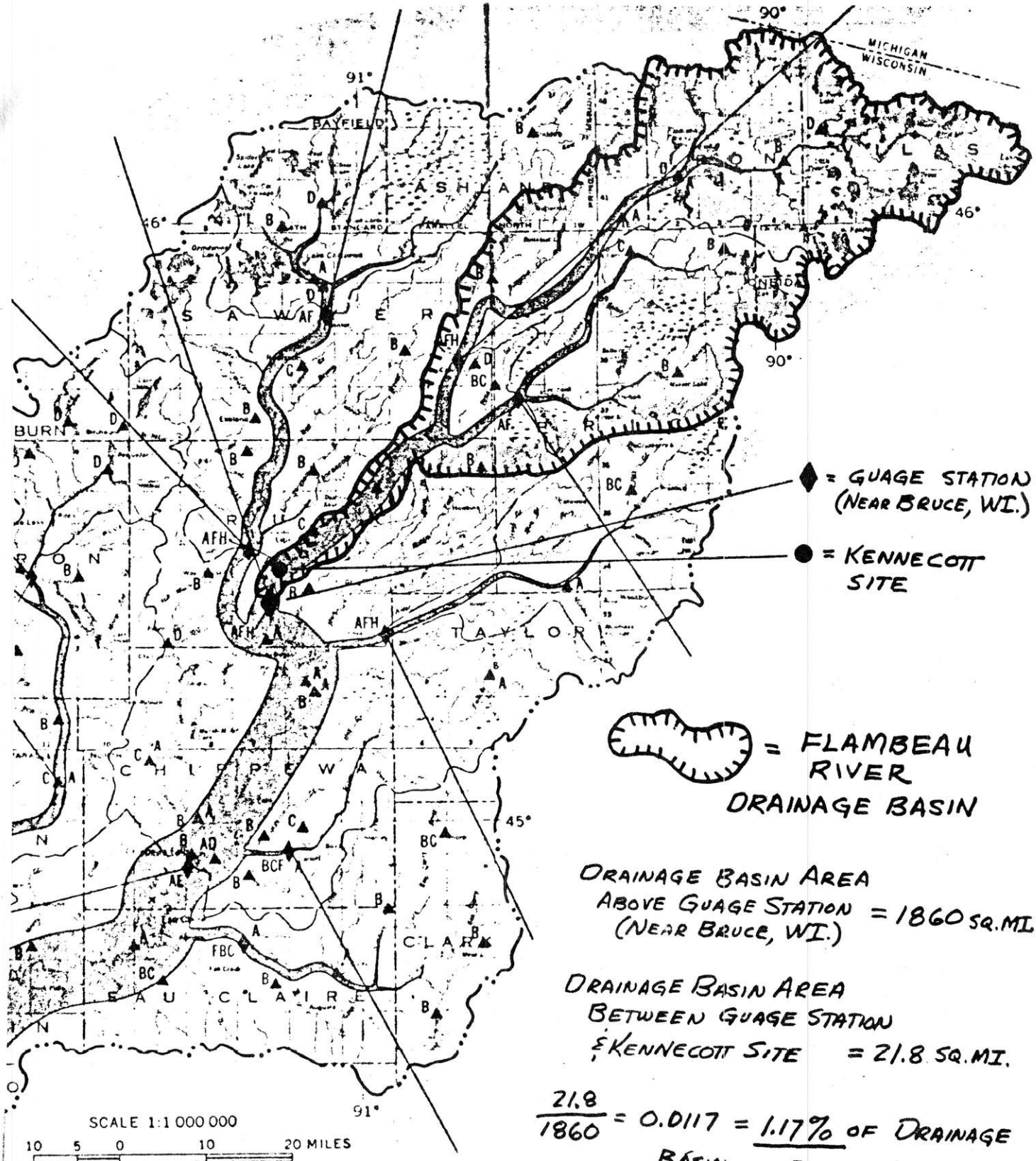
(Guage Station: near Bruce, WI.)

BEST COPY AVAILABLE




BEST COPY AVAILABLE

BEST COPY AVAILABLE




REF: HA-386

DRAINAGE BASIN AREA
ABOVE GUAGE STATION (NEAR BRUCE, WI.) = 1860 SQ. MI.

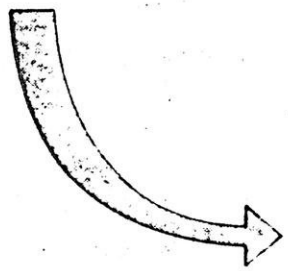
DRAINAGE BASIN AREA
BETWEEN GUAGE STATION
& KENNECOTT SITE = 21.8 SQ. MI.

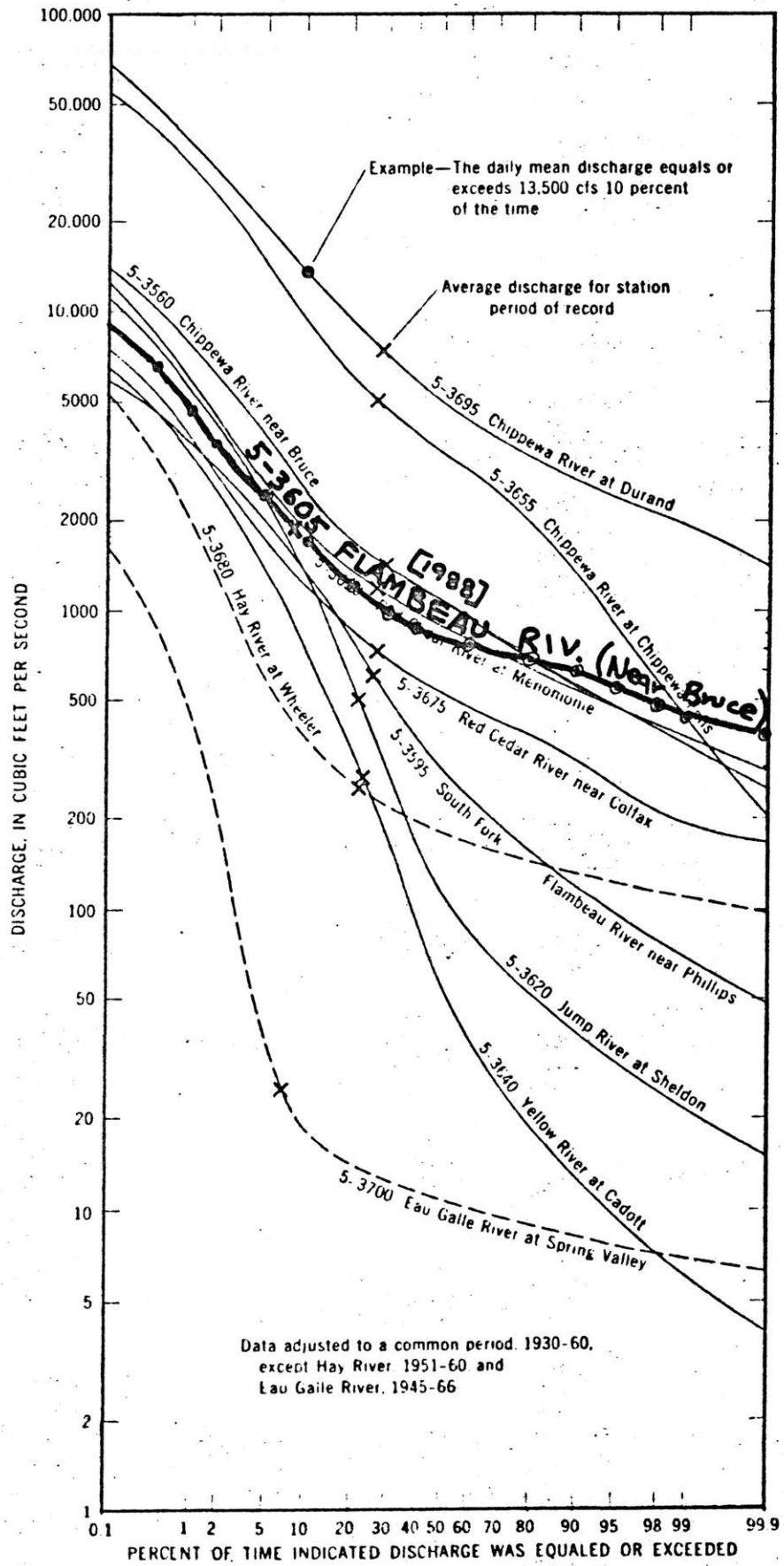
$\frac{21.8}{1860} = 0.0117 = \underline{1.17\%}$ OF DRAINAGE
BASIN IS BELOW SITE
OR $\underline{98.83\%}$ OF DRAINAGE
BASIN IS ABOVE SITE

The flow-duration curve shows the percentage of time specified discharges were equaled or exceeded during a given period. This curve relates to the hydrologic characteristics of a basin as well as shows the availability of a given streamflow.

The lower part of a duration curve represents the low-flow characteristics of the basin. A flat slope indicates a nearly constant and uniform release of storage, either from surface reservoirs (Red Cedar River at Menomonie and near Colfax, and Chippewa River at Durand and near Bruce) or from ground water (Hay River at Wheeler and Eau Galle River at Spring Valley). A steep slope indicates low storage and a relatively rapid recession of base flow. The Jump and Yellow Rivers, for example, have little ground- or surface-water storage. The steep slope of the lower end of the duration curve of the Chippewa River at Chippewa Falls indicates periodic regulation of surface storage; during summer weekends water is stored to be used for hydroelectric power generation during the week.

The upper end of the flow-duration curve shows the high-flow characteristics of the basin; a steep slope indicates short-term high flows from rainfall and snowmelt. This is true of all the curves shown. The Hay and Eau Galle Rivers, which have the steepest slopes on the upper end, drain areas of steep topography and poor soil infiltration, and produce flashy streamflow.






DURATION OF DAILY MEAN DISCHARGE OF MAJOR RIVERS

REF: HA-386

BEST COPY AVAILABLE

# APPENDIX 3.6-F

## Private Well Logs

AUG 2 1973

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME Grant

**2. LOCATION –** ¼ Section: NE¼SW¼ | Section: 2 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** John Matazynski
ADDRESS R. R.
POST OFFICE Ladysmith Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 7 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 40 | | 60 | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 79 |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t&c | Surface | 79 |
| 15 | Upset | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| hard pan | 4 | 68 |
| Sand gravel | 68 | 79 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7/26 1973

**11. MISCELLANEOUS DATA**
Yield test: 6 Hrs. at 10 GPM
Depth from surface to normal water level 10 ft.
Depth to water level when pumping 30 ft.

Well is terminated 14 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ N
Well sealed watertight upon completion ☒ Yes ☐ N

Water sample sent to Madison laboratory on: 7/30 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | 3.6-F-1 | | | |

REV. 3-71

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

AUG 13 1973

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Burnett | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NE¼ SW¼ | Section: 2 | Township: 34 | Range: 16
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Willis Hutnik
ADDRESS
POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 9 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 45 | – | 65 | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 81 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t. & c | Surface | 81 |
| 15 | Cheapest | | |
| | | | |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top | Surface | 3 |
| hard pan | 3 | 74 |
| Sand gravel | 74 | 81 |
| | | |
| | | |
| | | |
| | | |
| | | |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: 7/27/1973

11. MISCELLANEOUS DATA
Yield test: 6 Hrs. at 6 GPM
Depth from surface to normal water level: 11 ft.
Depth to water level when pumping: 35 ft.

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ N
Well sealed watertight upon completion ☒ Yes ☐ N

Water sample sent to Madison laboratory on: 8/8/1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | 3.6-F-2 | | | |

REV. 3–71

# WELL CONSTRUCTOR'S REPORT

Wel–6

AUG 3 1970

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

COUNTY: Rusk

CHECK ONE: ☑ Town ☐ Village ☐ City NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE of SW 2-T34N-R6W

OWNER AT TIME OF DRILLING: William Stoughton

OWNER'S COMPLETE MAIL ADDRESS: Glen Flora Wis 54526

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 14 | None | None | None | | None | None | None | None |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | None | None | | None | None | None | | None | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 90 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new Black J&C 15 lb per Ft | Surface | 82 |

GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drilling Mud | Surface | 20 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hard Pan | Surface | 42 |
| Silt | 42 | 60 |
| Clay | 60 | 78 |
| precambrain Shist | 78 | 90 |

Well redone 11/11/70 according to owner

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA
Yield test: 48 Hrs. at 2 GPM

Depth from surface to normal water level 30 ft.

Depth to water level when pumping 70 ft.

Water sample sent to Madison laboratory on: July 29 1970

Well construction completed on July 29 1970

Well is terminated 12 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

In your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: E P Moffit Registered Well Driller

COMPLETE MAIL ADDRESS: Sheldon Wis 54766

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

AUG 21 1984

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City Name: Grant

2. LOCATION: ¼ Section or Gov't. Lot: NW-SE; Section: 2; Township: 34N; Range: 6W
OR – Grid or Street No.: ; Street or Road Name:
AND – If available subdivision name, lot & block No.:

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Glen Galston
ADDRESS: Route #3
POST OFFICE: Ladysmith, Wis. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| 81' | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 40' | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench 60' | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | | |
| | | Pump | | | | | | | | | | |
| | | Tank | | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6 | Surface | 72 | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | new black standard steel, threaded and coupled, 20# per ft. A.STM A-53 U.S.S. | Surface | 72' |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| Sand | 1 | 30 |
| dirty sand and gravel | 30 | 68 |
| clean gravel | 68 | 72 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

Well construction completed on Aug. 3, 1984

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 7 GPM
Depth from surface to normal water level 30 Ft.
Depth of water level when pumping 38 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on Aug. 7, 1984

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale Attwood Registered Well Driller 3.6-F-4

Business Name and Complete Mailing Address: Attwood Well Drilling Rt #2 - Bruce Wis

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 27 1975

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

C

1. COUNTY: Rusk | CHECK ONE: ☐ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NW¼SE¼ | Section: 2 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Louis Graner
ADDRESS: R.R.
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 36 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black T & C | Surface | 36 |
| 15 | lb per ft | | |
| | | | |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| Sand pan | 2 | 30 |
| Sand & gravel | 30 | 36 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 5/21 1975

11. MISCELLANEOUS DATA
Yield test: 4 Hrs. at 2 GPM
Depth from surface to normal water level 3 ft.
Depth to water level when pumping 23 ft.

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 5/21 1975

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-5

OCT 11 1976

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300-15
Rev. 10-75

1. COUNTY: Rusk
CHECK (✓) ONE: [X] Town [ ] Village [ ] City
Name: Grant

2. LOCATION: ¼ Section: NW¼SE¼ | Section: 2 | Township: 34 | Range: 6
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME [X] OWNER [ ] AGENT AT TIME OF DRILLING CHECK (✓) ONE: Richard Keehn
ADDRESS: R. R. 3
POST OFFICE: Ladysmith, Wis.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | |
| | | Pump | | | | | | | | |
| | | Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 61 |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Blk Steel T&C | Surface | 61 |
| | ASTHM A-53 | | |
| | 10.45#/Ft | | |
| | Japanese Steel | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 55 |
| Sand & Gravel | 55 | 61 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

[X] Cable Tool
[ ] Rotary-air w/drilling mud
[ ] Rotary-w/drilling mud
[ ] Rotary-hammer w/drilling mud & air
[ ] Rotary-hammer & air
[ ] Reverse Rotary
[ ] Jetting with: [ ] Air [ ] Water

11. MISCELLANEOUS DATA

Yield Test: 12 Hrs. at 5 GPM
Depth from surface to normal water level 25 Ft.
Depth of water level when pumping 45 Ft. Stabilized [X] Yes [ ] No

Well construction completed on 9-28 1976
Well is terminated 12 inches [X] above [ ] below final grade
Well disinfected upon completion [X] Yes [ ] No
Well sealed watertight upon completion [X] Yes [ ] No

Water sample sent to Madiosn laboratory on 10-6 19 76

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe, Wis. 54745

3.6-F-6

SEP 3 1973

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NE¼SW¼ | Section: 2 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Dugal Paulson
ADDRESS: R. R.
POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 50 | — | — | 70 | — | — | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 32 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t+c | Surface | 32 |
| 15 | Ch pipe | | |
| | | | |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Dull Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| Sandstone | 2 | 30 |
| Sand Gravel | 30 | 32 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9/23 1973

11. MISCELLANEOUS DATA
Yield test: 3 Hrs. at 3 GPM
Depth from surface to normal water level 14 ft.
Depth to water level when pumping 20 ft.

Well is terminated 15 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 9/26 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-7

FEB 2 1970

STATE OF WISCONSIN

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel 6

1. COUNTY: Rusk

CHECK ONE: ☑ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

SE¼-NE¼ 2-34N-6W

3. OWNER AT TIME OF DRILLING: John Holat

4. OWNER'S COMPLETE MAIL ADDRESS: Route #3, Box 121, Ladysmith, Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 1' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | no sewers installed | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 12 | Surface | 21 | | | |
| 5 | 21 | 66 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled 15# per ft | Surface | 66 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Clay | 1 | 9 |
| hard pan | 9 | 40 |
| clay and silt | 40 | 49 |
| Hard pan | 49 | 64 |
| gravel | 64 | 66 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 4 Hrs. at 7 GPM

Depth from surface to normal water level 45 ft.

Depth to water level when pumping 54 ft.

Well construction completed on 12-11 1969

Well is terminated 12 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison, Wis. laboratory on: 12-15 1969

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Stroot Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wis. R.R. 2 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 18 1977

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

AUG 29

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼: NW | Section: 2 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name

3. OWNER AT TIME OF DRILLING: Craig Paulson
ADDRESS: R.3.
POST OFFICE: Ladysmith Wisc 54848

AND – If available subdivision name, lot & block no.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

BEST COPY AVAILABLE

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 72 | | | |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new black standard steel threaded and coupled 11# per ft. ASTM A589 | Surface | 72 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Sand | 1 | 27 |
| Sand and gravel | 27 | 36 |
| Dirty sand | 36 | 47 |
| Dirty sand and gravel | 47 | 68 |
| Clean sand gravel | 68 | 72 |
| U.S.S. | | |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9 – 17 – 1976

11. MISCELLANEOUS DATA
Yield test: 7 Hrs. at 7 GPM
Depth from surface to normal water level 36 ft.
Depth to water level when pumping 46 ft.

Well is terminated 8 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 10 – 26 – 1976

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, ...als, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R. 2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-9

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SE¼ SE¼ | Section: 2 | Township: 34 | Range: 6
OR – Grid or street no. | Street name

ADD – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Robert Matson
ADDRESS: 311 ½ Peterson
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 70 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 65 | | | 80 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 43 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black t+c | Surface | 43 |
| 10 | Unspft | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 3 |
| Hardpan | 3 | 40 |
| Sand gravel | 40 | 43 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 10/2 19 93

11. MISCELLANEOUS DATA
Yield test: 20 Hrs. at 5 GPM
Depth from surface to normal water level 15 ft.
Depth to water level when pumping 22 ft.

Well is terminated 16 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 10/3 1993

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-10 | | |

REV. 3–71

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☑ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SE SE | Section: 2 | Township: 34N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Pat Sweeney
ADDRESS: Route 2
POST OFFICE: Ladysmith, Wi. 54819

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 25 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 70' | | | 90' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 5 | 21 | 84 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black standard steel, threaded and coupled 15# per ft. ASTM A-53 GRS | Surface | 84 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| clay | 1 | 6 |
| hard pan | 6 | 76 |
| sand and gravel | 76 | 84 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: Oct. 25 1982

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

11. MISCELLANEOUS DATA
Yield test: 4 Hrs. at 8 GPM

Depth from surface to normal water level: 10 ft.

Depth to water level when pumping: 34 ft.

Water sample sent to Madison laboratory on: Nov. 17, 1982

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Atwood Well Drilling
Rt 2, Box 61
Bruce, Wi. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-11

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
APR 19 1949
BUREAU OF SANITARY ENG.

1. County Rusk { Town ☑ Village ☐ City ☐ } Grant Check one and give name

2. Location part of SW¼ SE¼ of Sec. 2 T34N R6W City View
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☑ or Agent ☐ E. B. Irwin
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin
Complete address required

5. From well to nearest: Building 6 ft; sewer — ft; drain — ft; septic tank — ft; dry well or filter bed 175 ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 18 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | 0 | 45 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 18 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 3 | 5 |
| Tiff Formation | 15 | 18 |
| Red Clay | 20 | 38 |
| Sand + Gravel | 7 | 45 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 10 GPM.

Depth from surface to water: 23 ft.

Water-level when pumping: 23 ft.

Water sample sent to laboratory at Madison on Oct. 13 1948

Construction of the well was completed on October 1948

The well is terminated — inches ☐ above, below ☑ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No —

Was the well sealed watertight upon completion? Yes ✓ No —

Signature Sam Kramer
Registered Well Driller

Complete Mail Address Augerhausen Inc.

3.6-F-12

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk { Town ☐ Village ☐ City ☒ } Jodysmith — Check one and give name

2. Location Corporation limits and Lot 4 Block 2 City of Jodysmith
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☒ or Agent ☐ Ezra mcCann (Sec 3 34N 6W) 4
Name of individual, partnership or firm

4. Mail Address Jodysmith wis
Complete address required

5. From well to nearest: Building 15 ft; sewer many ft; drain many ft; septic tank many ft; dry well or filter bed many ft; abandoned well many ft.

6. Well is intended to supply water for: farm

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4 | | 34 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Bleskirn extra heavy | | 34 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Slurry | 0 | 10 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 4 |
| Hardpan | 4 | 20 |
| gravel | 20 | 34 |

RECEIVED
APR 5
ENVIRONMENTAL SANITATION

RECEIVED
MAR 25 1957
ENVIRONMENTAL SANITATION

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 12 Hrs. at 2 GPM.

Depth from surface to water: 20 ft.

Water-level when pumping: 15 to 2 ft.

Water sample sent to laboratory at Madison on 12/3 1956

Construction of the well was completed on Dec 1 1956

The well is terminated 1 1/2 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

Signature Ezra mcCann
Registered Well Driller

Sheldon wis R.R. #1
Complete Mail Address

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
3 34N-6W

3. OWNER AT TIME OF DRILLING
Vern Moore

4. OWNER'S COMPLETE MAIL ADDRESS
Ladysmith, Wis.

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 4' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | 95' | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 23 | | | |
| 5 | 23 | 49 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Standard Black Steel | Surface | 49 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | Surface | 23 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 2 |
| Sand Pan | 2 | 39 |
| Dirty Gravel | 39 | 46 |
| Clean Gravel | 46 | 49 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 2½ Hrs. at 8 GPM

Depth from surface to normal water level 18 ft.

Depth to water level when pumping 26 ft.

Well construction completed on 8 - 20 - 19 56

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 8 - 23 - 19 56

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. RR II 2 5-481

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-14

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
APR 19 1949

1. County Rusk { Town ☐ Village ☐ City ☑ } Ladysmith
Check one and give name

2. Location Lots 1, 2, 3, 4 Block 12 Ladysmith 1st Add
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☐ or Agent ☐ John Rauhut (Sec 3 34N 6W) ?
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin
Complete address required

5. From well to nearest: Building 4 ft; sewer ← ft; drain ← ft; septic tank ← ft;
dry well or filter bed 80 ft; abandoned well ← ft.

6. Well is intended to supply water for Home & Gas Filling Station

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 24 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | 0 | 66 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cutting | 0 | 24 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 2 |
| Stiff Gravelly Clay | 2 | 24 |
| Hard Clay | 35 | 59 |
| Sand & Gravel | 59 | 66 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 10 GPM.

Depth from surface to water: 16 ft.

Water-level when pumping: 16 ft.

Water sample sent to laboratory at Madison on Oct 13 1948

Construction of the well was completed on October 1948

The well is terminated 8 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ← No

Was the well sealed watertight upon completion? Yes ← No

Signature Sam Kramer Registered Well Driller

Weyerhaeuser Wisc. Complete Mail Address

E

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26 1948

1. County Rusk { ~~Town~~ ~~Village~~ City Ladysmith

2. Location Lot 5 Block 1 Corbett & Ladd. Sec 3 34N 6W

3. Owner or Agent Clinton Wood

4. Address Ladysmith

5. From well to nearest: Building 6 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 45 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | steel | 0 | 106 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Drilled by Norman Craig | | 44 |
| Hard Pan | 30 | 74 |
| Slate + soapstone | 32 | 106 |
| Slates + Quartz | 10 | 116 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 10 Hrs. at 8 GPM.

Depth from surface to water: 30 ft.

Water-level when pumping: 60 ft.

Water sample sent to laboratory at Rhinelander on Sept 8 1947

Construction of the well was completed on Sept 1947

The well is terminated 8 inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ✓ No ____

Was the well sealed watertight upon completion? Yes ✓ No ____

Signature Sam Kramer
Registered Well Driller

Weyerhauser Wis
Box 173
Complete Mail Address

STATE OF WISCONSIN

# WELL CONSTRUCTOR'S REPORT — DEPARTMENT OF RESOURCE DEVELOPMENT — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☑ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE¼ - 4 - 34W - 6W NW

3. OWNER AT TIME OF DRILLING: Roger Grink

4. OWNER'S COMPLETE MAIL ADDRESS: West Lake Ave. Ladysmith wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Trailer Park

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6 | Surface | 38 | | | |
| | | | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | Standard blacksteel | Surface | 38 |
| | threaded and coupled | | |
| | 20# per ft | | |
| 6 | stainless steel screen | | |
| | 4 ft | 34 | 38 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand | Surface | 27 |
| sand and gravel | 27 | 38 |

BEST COPY AVAILABLE

Well construction completed on June 5, 1968

Well is terminated 12 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 22 GPM

Depth from surface to normal water level 8 ft.

Depth to water level when pumping 22 ft.

Water sample sent to Madison laboratory on: June 19, 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc R.R.2. 54819

**Please do not write in space below**

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

# WELL CONSTRUCTOR'S REPORT

Wel–6

NOV 10 1971

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

NE-NW¼ 4 34N 6W

3. OWNER AT TIME OF DRILLING:

Thomas Howard

4. OWNER'S COMPLETE MAIL ADDRESS

Ladysmith, Wisc 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 18' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 75' | | | 100' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Trailer home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 45 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black, standard steel, threaded and coupled 11# per ft | Surface | 45 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Topsoil | Surface | 1 |
| Sand | 1 | 26 |
| Sand and Gravel | 26 | 45 |

BEST COPY AVAILABLE

Well construction completed on 9 – 23 – 19 71

11. MISCELLANEOUS DATA

Yield test: 4 Hrs. at 8 GPM

Depth from surface to normal water level 30 ft.

Depth to water level when pumping 35 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 9 – 28 – 19 71

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. Rt. 1 54819

**Please do not write in space below**

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-18

REV. 11-68

D-1

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk {Town ~~Village~~ ~~City~~ Grant

2. Location Part of W½ E½ SW¼ 5 acres Sect. 4 T. 34 N. R. 1 W NO

3. Owner or Agent Herman Meyers

4. Address Ladysmith Wisc

5. From well to nearest: Building 4 ft; sewer ~~—~~ ft; drain ~~—~~ ft; septic tank ~~—~~ ft; dry well or filter bed 100 ft; abandoned well ~~—~~ ft.

6. Well is intended to supply water for: Small farm

## 7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |
| | | |
| | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Weight Pipe | 0 | 55½ |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drill cutting | 0 | 32 |
| | | |
| | | |
| | | |

## 10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Top soil & clay | 2 | 2 |
| Till formation | 30 | 32 |
| Medium gravel | 9 | 41 |
| Hard Pan | 8 | 49 |
| Sand & gravel water bearing | 6½ | 55½ |

BEST COPY AVAILABLE

## 11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 10 GPM.

Depth from surface to water: 30 ft.

Water-level when pumping: 30 ft.

Water sample sent to laboratory at Rhinelander on 8-27 1945

Construction of the well was completed on Aug 1945

The well is terminated 10" inches (above) ~~(below)~~ the permanent grade.

Was the well disinfected upon completion? Yes yes No ~~—~~

Was the well sealed watertight upon completion? Yes yes No ~~—~~

Signature Hans Kraus
Registered Well Driller

RR 1 Box 173
Complete Mail Address

Weyerhaeuser Wisc

# WELL CONSTRUCTOR'S REPORT

Wel–6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
SW¼ NW¼, Sec 4, T34, R6 W

3. OWNER AT TIME OF DRILLING
James Tom

4. OWNER'S COMPLETE MAIL ADDRESS
R 3 Sadsmith, Wis

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 14' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 6" | 20' | 56 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T+C, New Stul Black 19:45 lbs | Surface | 56' |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drilling slurry | Surface | 20' |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hardpan rocks | Surface | 28' |
| Muddy sand | 28' | 38' |
| Hardpan | 38' | 50' |
| sand + gravel | 50' | 56' |

RECEIVED
SEP 11 1969
Wis. Geol. & Nat. Hist. Survey

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA
Yield test: 3 Hrs. at 10 GPM

Depth from surface to normal water level 19' ft.

Depth to water level when pumping 23' ft.

Well construction completed on Sept 4 1969

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison Wis laboratory on: Sept 8 1969

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Dain Registered Well Driller

COMPLETE MAIL ADDRESS: R1 Holcombe, Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-20 | | |

REV.-11-68

# WELL CONSTRUCTOR'S REPORT

Wel–6

SEP 9 1970

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NW¼ NW¼ 4 T34N-R6W NO

3. OWNER AT TIME OF DRILLING: Clarence J Hanson

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith Wis 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5 | 25 | None | None | None | None | None | None | None |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | None | 56 | None | 116 | 120 | None | None | None | None |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 2 | 5 | 2 | 37 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Black Steel T&C – 15 # per FT | Surface | 37 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drilling Slurry | Surface | 2 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 2 |
| Sand & Gravel | 2 | 20 |
| Sand | 20 | 32 |
| Hard pan | 32 | 35 |
| Sand & Gravel | 35 | 37 |

BEST COPY AVAILABLE

Well construction completed on 9-2 1970

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 4 GPM

Depth from surface to normal water level 14 ft.

Depth to water level when pumping 18 ft.

Water sample sent to Madison laboratory on: 9-3 1970

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: E. L. Moffit Registered Well Driller

COMPLETE MAIL ADDRESS: Sheldon Wis 54766

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 2-6-E-21 | | |

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE: MAY 11 1977 APR 25 1977

White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 12-76

1. COUNTY Rusk NW — CHECK (✓) ONE: ☐ Town ☐ Village ☐ City — Name Grant

2. LOCATION — ¼ Section: NW¼ NW¼ — Section: 4 — Township: 34 — Range: 6
OR – Grid or Street No. — Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☒ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Wisconsin Rural
ADDRESS Rg
POST OFFICE Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 8 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | 70 |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | Nonconforming Existing | | | | | | | |
| | | Pump | | | | | | | | |
| | | Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 7 | 5 | 7 | 64 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN — Material, Weight, Specification & Method of Assembly

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black Steel to C | Surface | 64 |
| | ASTM 53 15# per ft. | | |
| | Japanese pipe | | |
| | WT | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 7 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| TOP | Surface | 2 |
| Sand gravel | 2 | 18 |
| hard pan | 18 | 51 |
| Sand gravel | 51 | 64 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

| | | |
|---|---|---|
| ☒ Cable Tool | ☐ Rotary-hammer w/drilling mud & air | ☐ Jetting with |
| ☐ Rotary-air w/drilling mud | ☐ Rotary-hammer & air | ☐ Air ☐ Water |
| ☐ Rotary-w/drilling mud | ☐ Reverse Rotary | |

Well construction completed on 4/20 19 77

11. MISCELLANEOUS DATA

Yield Test: 6 hrs. at 7 GPM

Depth from surface to normal water level 16 Ft.

Depth of water level when pumping 24 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 4/21 19 77

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe Wis 54745

3.6-F-22

# WELL CONSTRUCTOR'S REPORT

Wel–6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NW of NW. Sec 4, T 34N, R 6W NO

3. OWNER AT TIME OF DRILLING
Harold B. Wallace

4. OWNER'S COMPLETE MAIL ADDRESS
R 2, Sedgwick, Wis

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | NONE | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 5' | 20' | 72' |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5" | T&C, New Steel Black 15.00 lbs. | Surface | 72' |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drilling slurry | Surface | 20' |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sandpan | Surface | 70' |
| sand & gravel | 70' | 72' |

BEST COPY AVAILABLE

Well construction completed on July 11 19 69

Well is terminated 11 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐

Well sealed watertight upon completion ☒ Yes ☐

11. MISCELLANEOUS DATA

Yield test: 3 Hrs. at 12½ GPM

Depth from surface to normal water level 32 ft.

Depth to water level when pumping 33'-6" ft.

Water sample sent to Madison, Wis laboratory on: July 14 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to new wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Davis Registered Well Driller

COMPLETE MAIL ADDRESS: Rt, Holcombe, Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 11–68

3.6-F-23

County Rusk Twp. Grant 34-N 6-W Sec.

JUL 19 1939

1938 TO THE WISCONSIN STATE BOARD OF HEALTH,
WELL DRILLING DIVISION, MADISON, WIS.

# WELL LOG PREMISES DIAGRAM, and REPORT

For Official Record of the Board
(TO BE USED FOR THAT PURPOSE ONLY)

Owner Alexandra (If a joint ownership give name of responsible official. Also name of each individual holding an interest. Use a separate sheet and attach hereto.)

Address Ladysmith (City, village, township, county)

Driller Strawbridge

Address Wepterhausen

Date of Report Oct 14 1938

Registration No. 267

Give below the location of the property on which well is drilled.

If incorporated village or city: ..... Name ..... Lot ..... Blk. ..... Street and No. .....

If unincorporated hamlet ..... Name ..... County ..... Twp. ..... Highway .....

If Lake Shore Plat ..... Name of Plat ..... Lake ..... Lot ..... Blk. ..... Street .....

If Subdivision ..... Name ..... County ..... Twp. ..... Sec. ..... Lot ..... Blk. .....

If Farm Rusk County 34 Twp. 6 Sec. Old Highway 8

If School ..... County ..... Twp. ..... Sec. ..... District .....

If other public building ..... Kind ..... County ..... Twp. ..... Sec. .....

# WELL LOG and REPORT

| Kind of casing and liner in feet. Kind of shoe. Indicate grout, screen, seal, etc. | WELL DIAGRAM Vertical Lines = in. Dia. Horizontal Lines = ft. Depth Use a red line to show casing | Give depth of formations in feet. State if dry or water bearing. | Record of FINAL Pumping Test |
|---|---|---|---|
| 4 Standard | 0 2 3 4 5 6 8 10 12 14 16 18 24 | 0-6 red clay and gravel<br>6-12 Clay one blast at 12<br>12-20 gravel cemented with clay<br>20-50 hard rock<br>50-54 at 27. 15" stick of dynamite on rock<br>54-55 rubber clay<br>55-60 hard clay<br>60-65 water in gravel<br>65-70 clay<br>70-75 some water in clay<br>75. Bedrock<br>71-75 water at casing | Duration of test. Hours<br>Pumping Rate. G. P. M.<br>Depth of pump in well. Ft.<br>Standing water-level (from surface.) Ft.<br>Water level when pumping Ft.<br>Water. End of test. Check: Clear / Cloudy / Turbid<br>Was well sterilized before test? Yes No<br>Date<br>To which Laboratory was sample sent?<br>Date<br>Was the well sealed on completion? Yes No<br>How high did you leave casing above grade?<br>Well was completed 19<br>Well Driller:<br>Signature.<br>(Be sure to complete the report on the reverse side) |

BEST COPY AVAILABLE

3.6-F-24

WELL CONSTRUCTOR'S REPORT
FORM 3300-15

NOV 5 1974

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SW¼ NW¼ | Section: 4 | Township: 34 | Range: 6
OR – Grid or street no. | Street name: NO

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Richard Sorsenger
ADDRESS: R. R.
POST OFFICE: Gilman Wis 54433

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60 | | | 85 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 8 | 5 | 8 | 71 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t&c | Surface | 71 |
| 15 | Wpft. | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand gravel | Surface | 40 |
| Hard pan | 40 | 68 |
| Sand gravel | 68 | 71 |

BEST COPY AVAILABLE

GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 8 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 10 / 31 19 74

11. MISCELLANEOUS DATA
Yield test: 12 Hrs. at 12 GPM

Depth from surface to normal water level 16 ft.

Depth to water level when pumping 21 ft.

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 10/31 19 74

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, s... type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., sho... given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | B-6-E-25 | | |

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel 6

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

SW¼ of NW¼, Sec 4, T 34 N, R 6 W, Lot 25, Block 2, Kilgore addition

3. OWNER AT TIME OF DRILLING: Donald Bell

4. OWNER'S COMPLETE MAIL ADDRESS: R 3 Sadgemith, Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home?

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 6" | 20' | 66' |
| | | | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T&C, Black, Steel New 19.45 lbs. | Surface | 63' |
| 6" x 3' | Stainless Screen Set | 63' | 66' |
| | | | |
| | | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | Surface | 20' |
| | | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hardpan | Surface | 43' |
| dirty muddy sand | 43' | 46' |
| Hardpan | 46' | 56' |
| sand & gravel | 56' | 66' |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 4 Hrs. at 15 GPM

Depth from surface to normal water level 14' ft.

Depth to water level when pumping 15'6 inches ft.

Well construction completed on Jan 10 1968

Well is terminated 11 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wis laboratory on: Jan 11 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Dair Registered Well Driller

COMPLETE MAIL ADDRESS: R 1, Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JUL 5 1945

1. County Rusk. Town ~~Village~~ ~~City~~ Grant

2. Location NW of SW 10 acres Sec 4-T-34N R-6-W NO

3. Owner or Agent S. K. Cook

4. Address Ladysmith Route 3

5. From well to nearest: Building 60 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 90 ft; abandoned well 110 ft.

6. Well is intended to supply water for: the Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |
| | | |
| | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard | | |
| | Weight | | |
| | Pipe | | 68 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill cuttings | | |
| fill | | 26 |
| | | |
| | | |

10. FORMATIONS:

| | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Top soil & Clay | 3 | 3 |
| Fill + stones | 30 | 33 |
| Clay | 24 | 57 |
| Sloppy sand | 6 | 63 |
| Sand & gravel | 5 | 68 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 10 GPM.

Depth from surface to water: 21 ft.

Water-level when pumping: 21 ft.

Water sample sent to laboratory at Rhinelander on 7-2 1945

Construction of the well was completed on June 10

The well is terminated 12" inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ~~No~~

Was the well sealed watertight upon completion? Yes ~~No~~

Signature Sam Kramer
Registered Well Driller

Wagenhaus
Complete Mail Address

Box 173. Wisc

3.6-F-27

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk NO Town ☑ / Village ☐ / City ☐ Grant — Check one and give name

2. Location W part of NE¼ of NE¼ of Sect 4-T34-R 6-W. — Name of street and number of premise or Section, Town and Range numbers

3. Owner ☑ or Agent ☐ W Brysinger — Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc — Complete address required

RECEIVED AUG 18 1953 ENVIRONMENTAL SANITATION

5. From well to nearest: Building 4 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed 100 ft; abandoned well None ft.

6. Well is intended to supply water for: Home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6 | 0 | 16 | | | |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | full weight Steel | 0 | 36 |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 16 |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 2 |
| Silt Sand & gravel | 2 | 16 |
| Hard Pan | 16 | 33 |
| Pea gravel & Water | 33 | 36 |

BEST COPY AVAILABLE

**11. MISCELLANEOUS DATA:**

Yield test: 5 Hrs. at 8 GPM.

Depth from surface to water-level: 5 ft.

Water-level when pumping: 14 ft.

Water sample was sent to the state laboratory at: Madison City on Aug 8 1953

Construction of the well was completed on: July 1953

The well is terminated 24" inches ☑ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes ✓ No

Signature Kramer & Falan Registered Well Driller — Weyerhauser Wisc Complete Mail Address

Please do not write in space below

Rec'd No.

Ans'd 17970

Interpretation UNSAFE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | 0 | | | | |
| 48 hrs. | + | + | + | + | + |
| Confirm | | | | | |
| B. Coli | | | | | |

5/5 Examiner

3.6-F-28

STATE OF WISCONSIN

WELL CONSTRUCTOR'S REPORT — DEPARTMENT OF RESOURCE DEVELOPMENT — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE ¼ 4 - 34N - 6W NO 1

3. OWNER AT TIME OF DRILLING
Simon Morris

4. OWNER'S COMPLETE MAIL ADDRESS
Route # 2, Ladysmith Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 40' | | 70' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 41 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Black steel threaded and coupled | Surface | 41 |
| 11 | # per ft | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand | 1 | 8 |
| sand and gravel | 8 | 24 |
| sand | 24 | 36 |
| sand and gravel | 36 | 41 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 1½ Hrs. at 7 GPM

Depth from surface to normal water level 10 ft.

Depth to water level when pumping 18 ft.

Well construction completed on May 20, 1968

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: May 26, 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to n... wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood — Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R. 2 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

JUN 18 1945

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Frank Novak

Driller Sam Kramer

Street or RFD

Post Office Wigenhausen

Post Office Ladysmith

Date Permit No. 175

### LOCATION OF PREMISES

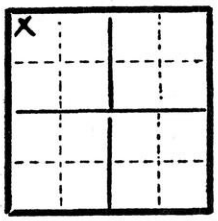
Rusk
County

Grant
Town

Describe further by subdivision, plat, district, lake, lot.

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.




Sec. No. 4

Twp. North 34 N

Range 6 E W

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.

North

U.S. # 8.

Well and Home expected to be built

slope

gentle slope

barn

tool shed

slope

toilet

BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG *and* REPORT

For method of making report, refer to bulletin entitled "Well Construction Report." 7-5-39. Accuracy is essential.

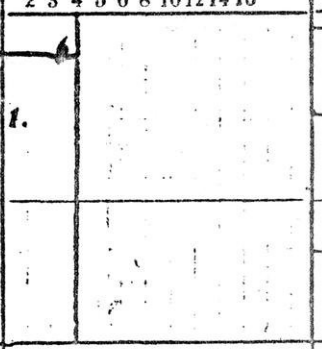
**In this column indicate the kind of casing, liner, shoe and other accessories used.**

6' feet

forged Steel shoe
4" Welldrillers pipe
Clayton mark 2 pipe
seal were used on
this job
also 2 pipe jet pump

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.

Inches Diameter 2 3 4 5 6 8 10 12 14 16




Depth

2
10
25
34
45
50
75
100
150
200
400
80
1200

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

Clay loam
dry silt sand + gravel
Hard pan with gravel dry.
Water bearing Sand + Gravel.
bed of gravel

**Record of FINAL Pumping test**

Duration of test
Hours 2

Pumping rate
G.P.M. 8

Depth of pump in well. Ft. 34

Standing water-level (from surface)
Ft. 34

Water-level when pumping Ft. 34

Water. End of test.
Clear ←
Cloudy
Turbid

Was the well sterilized?
Yes ← No

To which laboratory was sample sent?
Rhinelander
Date 8-15-[illegible]

Was the well sealed on completion?
Yes ← No

How high did you leave casing-pipe above ground?
6"

Well was completed
Date [illegible]

Well Contractor
[illegible]

BEST COPY AVAILABLE

Draw the diagram to show the full diameter and right section of well only.

3.6-F-31

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel

1. COUNTY: Rusk

CHECK ONE: ☑ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

NE ¼ 4 - 34N - 6W NO 1

3. OWNER AT TIME OF DRILLING

Simon Morris

4. OWNER'S COMPLETE MAIL ADDRESS

Route # 2, Ladysmith, Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 40' | | 70' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 41 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard black steel threaded and coupled | Surface | 41 |
| 11 | # per ft | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| sand | 1 | 8 |
| sand and gravel | 8 | 24 |
| sand | 24 | 36 |
| sand and gravel | 36 | 41 |

BEST COPY AVAILABLE

Well construction completed on May 20, 1968

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 1½ Hrs. at 7 GPM

Depth from surface to normal water level 10 ft.

Depth to water level when pumping 18 ft.

Water sample sent to Madison laboratory on: May 26, 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R. 2. 54819

**Please do not write in space below**

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH Wel 6

See Instructions on Reverse Side

RECEIVED

MAY 28 1963

SANITARY ENGINEERING

1. County Rusk NO Town ☒ Village ☐ City ☐ Grant Check one and give name

2. Location SW¼ NW¼ sec 4 - T34N - R6W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Alvin Reinaas
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 35 ft; sewer ____ ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | 0 | 8 | 4 | 8 | 51 |
| | | | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Steel | 0 | 51 |
| | | | |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 8 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 8 |
| Dirty Sand | 8 | 20 |
| Silt | 20 | 40 |
| Hard pan | 40 | 47 |
| Sand & Gravel | 47 | 51 |

BEST COPY AVAILABLE

Construction of the well was completed on: May 25 1963

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

11. MISCELLANEOUS DATA:

Yield test: 2½ Hrs. at 7½ GPM.

Depth from surface to water-level: 22 ft.

Water-level when pumping: 30 ft.

Water sample was sent to the state laboratory at: Madison City on May 31 1963

Signature E P Moffit Registered Well Driller

Sheldon Wis Complete Mail Address

Please do not write in space below

MAY 22 1963

Rec'd ____ No 17617

Ans'd ____

Interpretation ____

SAFE---BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|
| Gas—24 hrs. | | | | |
| 48 hrs. | | | | |
| Confirm | | | | |
| B. Coli | 0 | | | |

Examiner ____

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NO

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section: SW NW | Section: 4 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: ALEXANDER SAMARDZICH
ADDRESS: RR
POST OFFICE: Lady Smith, Wisc.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 40 | | Seepage Pit |
| | | | | | | | | | | | | | Seepage Bed 80 |
| | | | | | | | | | | | | | Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | |
| | | Pump | | | | | | | | |
| | | Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 6 | 5 | 6 | 41 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | NEW BLACK T&C | Surface | 38 |
| | ASTM A53 15.45 | | |
| | Pounds Per Foot | | |
| | Sumitomo | | |
| | 2" X 4' Screen | 38 | 41 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 1 |
| Sand | 1 | 41 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air ☐ Water

Well construction completed on 6-5 19 80

11. MISCELLANEOUS DATA

Yield Test: 15 Hrs. at 5 GPM
Letter Sent to owner
Depth from surface to normal water level 7 Ft.
Depth of water level when pumping 33 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 6-11 19 80

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Gary Wellmaker
Registered Well Driller

Complete Mail Address: Rt Holcombe, Wis 54745

3.6-F-34

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

NO

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk — CHECK ONE ☒ Town ☐ Village ☐ City — NAME Grant

**2. LOCATION** – ¼ Section: NW | Section: 4 | Township: 34N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Robert Phillips

ADDRESS 208 W. 2nd St. N.

POST OFFICE Ladysmith, Wisc.

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 75' | | | 100' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Trailer home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 28 | | | |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black, standard steel, threaded and coupled 17# per ft. | Surface | 28 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Sand and gravel | 1 | 28 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7-17 19 72

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**

Yield test: 2 Hrs. at 10 GPM

Depth from surface to normal water level 4 ft.

Depth to water level when pumping 11 ft.

Water sample sent to Madison laboratory on: 7-18 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS Bruce, Wisc. R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3-71

3.6-F-35

## WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26 1948

1. County Rusk { Town / Village / City Grant

2. Location Sect 4 - T-34-N R-6-W all of Gov Lot 4

3. Owner or Agent Theodore Johnson

4. Address Ladysmith Wis R. 3.

5. From well to nearest: Building 4 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 110 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6" | 0 | 18 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | steel | 0 | 56 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | 0 | 18 |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Med. Clay loam | 3 | 3 |
| till formation | 15 | 18 |
| Hard pan | 30 | 48 |
| Sand, gravel, water | 8 | 56 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 10 GPM.

Depth from surface to water: 43 ft.

Water-level when pumping: 43 ft.

Water sample sent to laboratory at Rhinelander on July 22 1946

Signature Sam Kramer
Registered Well Driller

Construction of the well was completed on July 1946

The well is terminated ____ inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ← No

Was the well sealed watertight upon completion? Yes ← No

Weyerhauser Wis
Complete Mail Address
Box 173

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26 1946

1. County, Rusk — Town ☐ Village ☐ City ☐ Ladysmith — Check one and give name — Town of Hart

2. Location Last Half Lot 4 Sec 4 T 34 N R 6 W
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☐ or Agent ☐ Wm. Carlson
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis.
Complete address required

5. From well to nearest: Building 8 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 70 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (In.) | From (Ft.) | To (Ft.) |
|---|---|---|
| 6 | 0 | 28 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (In.) | Kind | From (Ft.) | To (Ft.) |
|---|---|---|---|
| 4" | steel | | 83 |

9. GROUT:

| Kind | From (Ft.) | To (Ft.) |
|---|---|---|
| mud | 0 | 28 |

10. FORMATIONS:

| | From | To |
|---|---|---|
| Clay loam | 4 | 4 |
| till formation | 33 | 37 |
| Hard Pan | 39 | 96 |
| limerock | 2 | 78 |
| Sandy gravel Water | 4 | 82 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 8 Hrs. at 10 GPM.

Depth from surface to water: 40 ft.

Water-level when pumping: 40 ft.

Water sample sent to laboratory at Rhinelander on Nov 11 19 46

Construction of the well was completed on Nov 19 46

The well is terminated 12 inches ☐ above, ☐ below the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ____

Was the well sealed watertight upon completion? Yes ✓ No ____

Signature Sam Krasner
Registered Well Driller

Weyerhauser Wis.
Complete Mail Address
Box 173

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26

1. County Rusk { Town ☐ Village ☐ City ☐ } Ladysmith
Check one and give name

2. Location Part of Govt lot 4 Sec 4 T-34-N R-6-W ?
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☐ or Agent ☐ Ellwood Brueger
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 6 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 85 ft; abandoned well ____ ft.

6. Well is intended to supply water for: ____

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 27 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4' | Steel | | 82 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | 0 | 27 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay loam | 4 | 4 |
| till formation | 30 | 34 |
| Hard Pan | 40 | 74 |
| Sand fine | 3 | 77 |
| sand, gravel & Water | 5 | 82 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 10 Hrs. at 12 GPM.

Depth from surface to water: 40 ft.

Water-level when pumping: 40 ft.

Water sample sent to laboratory at Rhinelander on Nov 11 19 46

Construction of the well was completed on Nov 19 46

The well is terminated 8 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ____

Was the well sealed watertight upon completion? Yes ✓ No ____

Signature Sam Kramer
Registered Well Driller

Weyerhaeuser Wis
Complete Mail Address
Box 173

STATE OF WISCONSIN

# WELL CONSTRUCTOR'S REPORT — DEPARTMENT OF RESOURCE DEVELOPMENT — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
a parcel of land in gov. lot 1 Sect 4 T34N R6W ?

3. OWNER AT TIME OF DRILLING
James E Gargulak

4. OWNER'S COMPLETE MAIL ADDRESS
RR3 Ladysmith, Wis 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30 | 35 | — | — | — | — | — | 40 | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 60 | — | 100 | — | — | — | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | Surface | 20 | | | |
| 4 | 20 | 36½ | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" new | steel pipe - 11 lbs per ft | Surface above | 33½ |
| 4" x 3' | screen | 33½ | 36½ |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay loam | Surface | 2 |
| Sandy Clay | 2 | 5 |
| Hard pan | 5 | 18 |
| Sand, gravel & Water | 18 | 36½ |

RECEIVED
AUG 8 1969
Bureau Water Res.

BEST COPY AVAILABLE

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | Surface | 20 |

11. MISCELLANEOUS DATA
Yield test: 12 Hrs. at 4 GPM
Depth from surface to normal water level 17½ ft.
Depth to water level when pumping 20 ft.

Well construction completed on Sept 28 1968
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: Oct 7 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Sam Kramer Registered Well Driller

COMPLETE MAIL ADDRESS: Weyerhauser, Wis 54895

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

MAY - 4 1973

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk
CHECK ONE: ☒ Town ☐ Village ☐ City
NAME: Grant

2. LOCATION – ¼ Section: | Section: 4 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name:
AND – If available subdivision name, lot & block no.: Gas Lot 1

3. OWNER AT TIME OF DRILLING: Donald M Hershey
ADDRESS: R. R.
POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 30 | — | — | 50 | — | — | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 50 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black T & C | Surface | 50 |
| 15 | Ht pipe | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand gravel | Surface | 4 |
| Hardpan | 4 | 48 |
| Sand gravel | 48 | 50 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 4/28 1973

11. MISCELLANEOUS DATA
Yield test: 14 Hrs. at 10 GPM
Depth from surface to normal water level: 12 ft.
Depth to water level when pumping: 20 ft.

Well is terminated 14 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 5/1 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-40

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

(1)

RECEIVED
APR 19 1949
DIVISION OF ENGR

1. County Rusk { Town ☑ Grant, Village ☐, City ☐ } Check one and give name
2. Location Part of Sec. 14 of NE 1/4 Sec. 14 T 34 N R 6 W
Name of street and number of premise or Sec. Tn. and R. numbers
3. Owner ☐ or Agent ☐ John Kostkow
Name of individual, partnership or firm
4. Mail Address Ladysmith, Wisconsin
Complete address required
5. From well to nearest: Building 10 ft; sewer ← ft; drain 14 ft; septic tank ← ft; dry well or filter bed 100 ft; abandoned well ← ft.
6. Well is intended to supply water for: Farm Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 22 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | | 122 |
| | Open Bore | | 53 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 22 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 2 | 2 |
| Till Formation | 41 | 43 |
| Hard Pan | 30 | 73 |
| Sand + Little water | 1 | 74 |
| Grey Blue | 32 | 106 |
| Soft Slate + Shale | 16 | 122 |
| Slate Rock | 53 | 175 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 4 Hrs. at 8 GPM.

Depth from surface to water: 100 ft.

Water-level when pumping: 125 ft.

Water sample sent to laboratory at Madison on Aug 24 1948

Signature Sam Kramer
Registered Well Driller A.M.

Construction of the well was completed on August 8 1948

The well is terminated 8 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ← No

Was the well sealed watertight upon completion? Yes ← No

Weyauwega, Wisc.
Complete Mail Address

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 11 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

(P)

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Flambeau

**2. LOCATION** – ¼ Section: SE¼ SE¼ | Section: 5 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.: Lot 7 E½ of Lot 6 White Birch Ridge

**3. OWNER AT TIME OF DRILLING** Wisconsin Home sales

ADDRESS: Lake Ave W

POST OFFICE: Ladysmith Wis

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 35 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 7 | 5 | 7 | 42 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t+c | Surface | 42 |
| 15 | lbs per ft. | | |
| | | | |
| | | | |
| | | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 7 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| Sand | 4 | 36 |
| Sand & gravel | 36 | 42 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9/5 1972

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**

Yield test: 6 Hrs. at 4 GPM

Depth from surface to normal water level 28 ft.

Depth to water level when pumping 30 ft.

Water sample sent to Madison laboratory on: 9/6 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-42 | | |

REV. 3–71

FEB 15 1974 4

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NE¼SE¼ | Section: 5 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: D. Waterson
ADDRESS: R. R.
POST OFFICE: Ladysmith WIS. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 65 | | | 85 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 43 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t & c | Surface | 43 |
| 15 | Unspecified | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hard pan | Surface | 24 |
| Sand gravel | 24 | 43 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield test: 5 Hrs. at 2 GPM Pump controlled
Depth from surface to normal water level: 16 ft.
Depth to water level when pumping: 31 ft.

Well construction completed on 1 / 28 1974
Well is terminated 14 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 2 / 4 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-43 | | |

REV. 3-71

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Wel 6

**See Instructions on Reverse Side**

1. County Rusk — Town ☒ / Village ☐ / City ☐ Grant — Check one and give name

2. Location NE of SE, Sec 5, T 34 6
Name of street and number of premise or Section, Town and Range numbers

MAR 29 1965

SANITARY ENGINEERING

3. Owner ☒ or Agent ☐ Floyd Nelson
Name of individual, partnership or firm

4. Mail Address Route 3 Ladysmith Wis
Complete address required

5. From well to nearest: Building 16 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | 0' | 20' | 4" | 20' | 83' |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Steel | 0' | 83 |
| | | | |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 20' |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Gradpan | 0' | 35' |
| soft red clay | 35' | 57' |
| dirty sand & gravel | 57' | 59' |
| Gradpan | 59' | 82' |
| Sand & gravel | 82' | 83' |
| | | |
| | | |
| | | |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on: March 22 19 65

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

**11. MISCELLANEOUS DATA:**

Yield test: 3 Hrs. at 3 GPM.

Depth from surface to water-level: 18 ft.

Water-level when pumping: 32' ft.

Water sample was sent to the state laboratory at: Madison City on March 22 19 65

Signature Merlyn E. Blair
Registered Well Driller

Route 1, Holcombe Wis
Complete Mail Address

Please do not write in space below

Rec'd MAR 24 1965 No 11318

Ans'd MAR 26 1965

Interpretation SAFE....BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | 0 | 0 | 0 | |

Examiner ____

3.6-F-44

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

JUL 19 1972

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

5

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: N.E. | Section: 5 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Tom Souley
ADDRESS: P.O. Box 33
POST OFFICE: Ladysmith Wisc. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

BEST COPY AVAILABLE

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 74' | | | |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black, standard | Surface | 74 |
| | steel threaded | | |
| | and coupled | | |
| | 11# per ft | | |
| 4" | 3' stainless steel screen | 71' | 74' |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Sand | 1 | 24 |
| Sand gravel | 24 | 28 |
| Sand | 28 | 46 |
| Dirty sand | 46 | 51 |
| Sand | 51 | 69 |
| Sand and gravel | 69 | 74 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 6 – 20 – 19 72

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA
Yield test: 1 Hrs. at 12 GPM

Depth from surface to normal water level 31 ft.

Depth to water level when pumping 38 ft.

Water sample sent to Madison laboratory on: 7 – 11 – 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce Wisc. RR2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

Wel. 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
SEP 30 1955
ENVIRONMENTAL SANITATION

1. County Rusk (Town ☒ Village ☐ City ☐) T34 R6W Grant
Check one inclusive

2. Location sec 5-32-5- SW of SE
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Bryce E. Coggins
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 55 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well ____ ft.

6. Well is intended to supply water for: Farm

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 78 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand. | 0 | 78 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 32 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil & boulders | 0 | 32 |
| gravel | 32 | 85 |
| Clay | 85 | 52 |
| sand & gravel | 52 | 60 |
| Clay | 60 | 68 |
| gravel | 68 | 72 |
| Clay | 72 | 76 |
| Gravel | 76 | 78 |
| | | |

Construction of the well was completed on: Apr 23 1955

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

## 11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at [redacted]7 GPM.

Depth from surface to water-level: 30 ft.

Water-level when pumping: 34 ft.

Water sample was sent to the state laboratory at: Madison (City) on apr 28 1955

Signature Norman le roy Chippewa Falls Wis R 4
Registered Well Driller — Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

BEST COPY AVAILABLE

Examiner ____

Wd. 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk (Town ☒ Village ☐ City ☐) Grant Check

2. Location Sec 5 T 34 - 6 N E of the S E
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ E. L. Bruger
Name of individual, partnership or firm

4. Mail Address Lady Smith Wis
Complete address required

RECEIVED SEP 30 1957 ENVIRONMENTAL SANITATION

5. From well to nearest: Building 20 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 38 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | 0 | 38 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 24 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 24 |
| Gravel | 24 | 30 |
| Clay | 30 | 35 |
| Gravel | 35 | 38 |
| | | |
| | | |
| | | |
| | | |
| | | |

Construction of the well was completed on: apr 15 19 55

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 6 Hrs. at 5 GPM.

Depth from surface to water-level: 16 ft.

Water-level when pumping: 20 ft.

Water sample was sent to the state laboratory at: Madison City on apr 28 19 55

Signature Thomas Craig Registered Well Driller Please do not write in space below

Complete Mail Address Le Hyflewa Falls Wis

Rec'd No

Ans'd

Interpretation

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner

BEST COPY AVAILABLE

3-6-E-47

# WELL CONSTRUCTOR'S REPORT

Wel–6

SEP 1 1971

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE SE, #5 34N. 6W.

3. OWNER AT TIME OF DRILLING
Marvin Paasch

4. OWNER'S COMPLETE MAIL ADDRESS
R.3. Ladysmith, Wisc. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 6' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 70' | | | 100' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

BEST COPY AVAILABLE

6. Well is intended to supply water for:

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 61 | | | |
| 10 | surface | 21 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black | Surface | 61 |
| | standard steel | | |
| | threaded and | | |
| | coupled | | |
| | 11# per ft | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 4 |
| clay and sand | 4 | 18 |
| Sand | 18 | 31 |
| Hard gravel | 31 | 36 |
| Hard pan | 36 | 59 |
| Sand and gravel | 59 | 61 |

Well construction completed on 1 – 20 – 1972

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 10 Hrs. at 9 GPM

Depth from surface to normal water level 43 ft.

Depth to water level when pumping 49 ft.

Water sample sent to Madison laboratory on: 1 – 26 – 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R.2, 54819

**Please do not write in space below**

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-48 | | |

REV. 11-68

# WELL CONSTRUCTOR'S REPORT

Wel–6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

DEC 14 1970

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk — CHECK ONE: ☑ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE¼ SE¼ – 5 – 34N – 6W

3. OWNER AT TIME OF DRILLING
Marcel French

4. OWNER'S COMPLETE MAIL ADDRESS
817 E. 5th St. N. Ladysmith, Wis 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 4' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 75' | | | 90' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 4 | 21 | 55 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New, black, standard steel, threaded and coupled 11# per ft. | Surface | 55 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 4 |
| Hard pan | 4 | 31 |
| Sand and silt | 31 | 46 |
| Sand and gravel | 46 | 55 |

BEST COPY AVAILABLE

Well construction completed on 8 – 23, 1970

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 7 GPM

Depth from surface to normal water level 41 ft.

Depth to water level when pumping 45 ft.

Water sample sent to Madison laboratory on: 10 – 12 1970

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Atwood — Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R. 2 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

B.6-F-49

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

NOV 5 1973

DEC 0 7 1973

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

**2. LOCATION** – N.W. | ¼ Section 5 | Section | Township 34N | Range 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Tom Eever

ADDRESS R.2. Box 241

POST OFFICE Ladysmith, Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 71 | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black, standard steel, threaded and coupled 11# per ft. | Surface | 71 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| sand | 1 | 31 |
| sand and silt | 31 | 57 |
| soft sand rock | 57 | 71 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on Oct 12 19 73

**11. MISCELLANEOUS DATA**

Yield test: 2 Hrs. at 7 GPM

Depth from surface to normal water level 28 ft.

Depth to water level when pumping 37 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: Oct 23 - 19 73

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, sea type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS RR 2 Bruce, Wis. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-50

OCT 3 1972

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME Grant

**2. LOCATION** – ¼ Section: SE¼ NW¼ | Section: 5 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Leon Warren
ADDRESS 221 E 8th
POST OFFICE Ladysmith Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50 | | 70 | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 35 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black P.E. | Surface | 35 |
| 15 | lb per ft | | |
| | | | |
| | | | |
| | | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| hard pan | 4 | 32 |
| Sand - gravel | 32 | 35 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 10/ 2 1972
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**
Yield test: 3 Hrs. at 8 GPM
Depth from surface to normal water level 20 ft.
Depth to water level when pumping 22 ft.

Water sample sent to Madison laboratory on: 10/ 4 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE
Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS RI Box 153
Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-51

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk (Town ☒ / Village ☐ / City ☐) Grant — Check one and give name

2. Location NE of NW — Sec 5 T34N R6W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☐ or Agent ☐ Earl Teel
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 24 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 6 | 4 | 6 | 29 |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Sland Steel | 0 | 29 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 6 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 3 |
| Hard pan | 3 | 6 |
| Gravel & Rock | 6 | 22 |
| Hard pan & Rock | 22 | 27 |
| Gravel | 27 | 29 |
| | | |
| | | |
| | | |
| | | |

SANITARY ENGINEERING

Construction of the well was completed on: 3 — 31 — 1960

The well is terminated 14 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 5 GPM.

Depth from surface to water-level: 12 ft.

Water-level when pumping: 16 ft.

Water sample was sent to the state laboratory at: Madison City on 4-4 1960

Signature E. A. Tibbitt
Registered Well Driller

Sheldon Wis
Complete Mail Address

Please do not write in space below

Rec'd APR 6 - 1960 No. 9589

Ans'd

Interpretation SAFE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

BEST COPY AVAILABLE

Examiner

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

AUG 2 0 1973

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SE¼ NE¼ | Section: 5 | Township: 34 | Range: 6 W
OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: James E Husby
ADDRESS: R.
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 6 | 5 | 6 | 57 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t-c | Surface | 57 |
| 15 | Auger pt | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand-gravel | Surface | 57 |
| | | |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 6 |
| | | |

10. TYPE OF DRILLING MACHINE USED
☐ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield test: 10 Hrs. at 12 GPM
Depth from surface to normal water level: 33 ft.
Depth to water level when pumping: 37 ft.

Well construction completed on: 8/10/1973
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 8/15/1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-53

REV. 3-71

WELL CONSTRUCTOR'S REPORT
FORM 3300-15

JAN 28 1975

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk | CHECK ONE ☒ Town ☐ Village ☐ City | NAME Grant

**2. LOCATION –** ¼ Section: SE¼ NE¼ | Section: 5 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Wesenberger Realty
ADDRESS R. R.
POST OFFICE Ladysmith Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50 | | | 75 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 87 |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t & c | Surface | 87 |
| 15 | Hyd ft | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 5 |
| hardpan | 5 | 22 |
| Sand & gravel | 22 | 87 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 1 / 9 19 75

**11. MISCELLANEOUS DATA**
Yield test: 6 Hrs. at 6 GPM
Depth from surface to normal water level 25 ft.
Depth to water level when pumping 50 ft.

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 1 / 22 19 75

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-54 | | |

REV. 3-71

CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel 6

COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

NW½ 6 - 34N - 6W  6 1

OWNER AT TIME OF DRILLING: John Chmielewicz

OWNER'S COMPLETE MAIL ADDRESS: City View Ladysmith, Wis. 54848

Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 4' | 25' | | | | | | 28' | |

| REAR WATER DRAIN C. I. | REAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 25' | | 55' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

Well is intended to supply water for: Home

## DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 12 | Surface | 21 | | | |
| 5 | 21 | 70 | | | |

## CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | A.O.W. Standard black steel threaded and coupled 17# per ft | Surface | 70 |

## GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

## 10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 7 |
| Hard pan | 7 | 69 |
| gravel | 69 | 70 |

BEST COPY AVAILABLE

Well construction completed on 1 - 31 - 1968

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

## MISCELLANEOUS DATA

Yield test: 2 Hrs. at 4 GPM

Depth from surface to normal water level 31 ft.

Depth to water level when pumping 38 ft.

Date sample sent to Madison laboratory on: 2 - 5 - 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood  Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wis. RR2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-55

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk (Town ☒ / Village ☐ / City ☐) Grant — Check one and give name

2. Location Sec. 7 SE¼ of SE¼ lot 1 (34N 5ew) — Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Earl K. Madsen — Name of individual, partnership or firm

4. Mail Address Ladysmith Wisconsin — Complete address required

RECEIVED
MAY 1 1961
SANITARY ENGINEERING

5. From well to nearest: Building 35 ft; sewer 70 ft; drain ____ ft; septic tank 75 ft; dry well or filter bed 90 ft; abandoned well 60 ft.

6. Well is intended to supply water for: Cabin

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 14 | | | |
| 4 | 14 | 23 | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard black steel | | |
| | | 0 | 23 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | 0 | 14 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 14 |
| Sand and gravel | 14 | 23 |
| Rock formation | at 23 | feet |

BEST COPY AVAILABLE

Construction of the well was completed on: April 18, 1961 19____

The well is terminated 16 above inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 30 GPM.

Depth from surface to water-level: ____ ft.

Water-level when pumping: ____ ft.

Water sample was sent to the state laboratory at: April 18, 61 City on ____ 19____

Signature William L. Tegima — Registered Well Driller

Bruce Wisconsin — Complete Mail Address

Please do not write in space below

Rec'd APR 25 1961 No. ____

Ans'd SAFE—BACTERIOLOGICALLY

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ____

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

JAN 23 1979

# WELL CONSTRUCTOR'S REPORT

Form 3300-15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: NW¼SE¼ | Section: 7 | Township: 34 | Range: 6
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Jim Ruhsam
ADDRESS: RR3
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 20 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | 50 | | Seepage Bed | 70 |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | |
| | | Pump | | | | | | | | |
| | | Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 60 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black tape ASTM 53-1945 Sometimes | Surface | 49 |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 60 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top | Surface | 3 |
| hardpan | 3 | 45 |
| Sandstone | 45 | 60 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

| | | |
|---|---|---|
| ☒ Cable Tool | ☐ Rotary-hammer w/drilling mud & air | ☐ Jetting with |
| ☐ Rotary-air w/drilling mud | ☐ Rotary-hammer & air | ☐ Air ☐ Water |
| ☐ Rotary-w/drilling mud | ☐ Reverse Rotary | |

Well construction completed on 1/11 1979

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA
Yield Test: 4 Hrs. at 12 GPM
Depth from surface to normal water level 41 Ft.
Depth of water level when pumping 45 Ft. Stabilized ☒ Yes ☐ No

Water sample sent to Madison laboratory on 1/16 1979

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe Wis 54745

3.6-F-57

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

DEC 0 7 1973 FEB 7 1974

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Thornapple

**2. LOCATION** – ¼ Section: N.W. | Section: 7 | Township: 34N | Range: 6W

OR – Grid or street no.

Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING**
Mike Deconnuen

ADDRESS
R.2. Ladysmith

POST OFFICE
Ladysmith, Wisc 54848

**4. Distance in feet from well to nearest:**
(Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 55 | | | |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new black standard steel threaded and coupled 11# per ft | Surface | 55 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand | 1 | 24 |
| dirty sand and gravel | 24 | 38 |
| dirty sand | 38 | 47 |
| soft sand rocks | 47 | 55. |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 11 – 27 – 19 73

**11. MISCELLANEOUS DATA**

Yield test: 6 Hrs. at 7 GPM

Depth from surface to normal water level 27 ft.

Depth to water level when pumping 34 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 12 – 5 – 19 73

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE
Dale W. Atwood
Registered Well Driller

COMPLETE MAIL ADDRESS
R.2. Bruce, Wisc 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-58

SEP 9 1974

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SE NE | Section: 7 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Jack Blake
ADDRESS: 914 Milwaukee Ave So
POST OFFICE: So. Milwaukee Wis 53172

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | 50 | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 58 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t&c | Surface | 58 |
| 15 | Shpuft | | |
| | | | |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand yellow | Surface | 37 |
| Sand gravel | 37 | 58 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9/3 1974

11. MISCELLANEOUS DATA
Yield test: 12 Hrs. at 10 GPM
Depth from surface to normal water level 42 ft.
Depth to water level when pumping 46 ft.

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 9/3 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3 6-F-59 | | |

REV. 3–71

Wel. 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk (Town ☒ Village ☐ City ☐) Grant
   Check one and give name

2. Location SW of SE sec 8 T34 R-6-W
   Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Norman ~~Gordon~~ Larsen
   Name of individual, partnership or firm

4. Mail Address Lady Smith Wis
   Complete address required

5. From well to nearest: Building 4 ft; sewer None ft; drain None ft; septic tank None ft; None dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Home

RECEIVED
AUG 31 1956
ENVIRONMENTAL SANITATION

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 62 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand | 0 | 62 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 25 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 4 |
| Hard pan | 4 | 58 |
| Sand & Gravel | 58 | 62 |
| | | |
| | | |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on: Aug 16 1956

The well is terminated 14 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 3 GPM.

Depth from surface to water-level: 48 ft.

Water-level when pumping: 50 ft.

Water sample was sent to the state laboratory at: Madison City on Aug 27 1956

Signature E P Moffit Registered Well Driller WD 534 Sheldon Wis Complete Mail Address

Please do not write in space below

Rec'd AUG 29 1956 No. 31342

Ans'd

Interpretation

AUG 29 1956

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner

3.6-F-60

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

NOV 03 1978

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 12-76

NOV 08 1978

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: SE¼ SE¼ | Section: 8 | Township: 34 | Range: 6
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Jim Barker
ADDRESS: RR
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 50 | | Seepage Pit: Seepage Bed: 25 Seepage Trench: |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well: 4" dia pvc; Pump: ; Tank: | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 76 |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black pipe | Surface | 74 |
| | ASTM 53 - 1945 | | |
| | Joints | | |
| | Johnson screen | 74 | 76 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top | Surface | 3 |
| Hard pan | 3 | 60 |
| Sand & gravel | 60 | 76 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 10/12 1978

11. MISCELLANEOUS DATA

Yield Test: 3 Hrs. at 10 GPM
Depth from surface to normal water level 56 Ft.
Depth of water level when pumping 58 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 10-31 1978

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackett Registered Well Driller

Complete Mail Address: Holcombe Wis 54745

3.6-F-61

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

JUL 5 1945

1. County Rusk — Town ~~Village~~ ~~City~~ Grant

2. Location SW¼ NE¼ Sec 8 T 32 N R 6 W

3. Owner or Agent Joe Kreiner

4. Address Ladysmith Route 3.

5. From well to nearest: Building 2 ft; sewer none ft; drain none ft; septic tank none ft; dry well or filter bed 200 ft; abandoned well 250 ft.

6. Well is intended to supply water for: Cattle & milk house

## 7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Weight Pipe | | 98' |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill cutting Grout | 0 | 85 |

## 10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Light Clay | 3 | 3 |
| Tile formation | 32 | 35 |
| Quicksand | 55 | 90 |
| Blue Clay | 3 | 93 |
| Broken Granite & Gravel | 5 | 98 |

BEST COPY AVAILABLE

## 11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 10 GPM.

Depth from surface to water: 22 ft.

Water-level when pumping: 22 ft.

Water sample sent to laboratory at Rhinelander on 7-2 1945

Construction of the well was completed on June 1945

The well is terminated 12" inches (above) ~~(below)~~ the permanent grade.

Was the well disinfected upon completion? Yes Yes No

Was the well sealed watertight upon completion? Yes Yes No

Signature Sam Kramer Registered Well Driller

Complete Mail Address Wisc Box 173

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

JUL 5 1945

1. County Rusk — Town / Village / City: Grant

2. Location S W ¼ of NE ¼ of Sec. 8 T. 34 N - R. 6 W

3. Owner or Agent Henry Setter

4. Address Ladysmith Route 3

5. From well to nearest: Building 70 ft; sewer ~~[illegible]~~ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed 100 ft; abandoned well none ft.

6. Well is intended to supply water for: Dairy Farm

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Weight Pipe | | 60 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Puddle Clay Grout | | 34 |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Light Loam | 3 | 3 |
| Tile | 34 | 37 |
| Hard Pan | 14 | 51 |
| Sand Gravel | 9 | 60 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 8 GPM.

Depth from surface to water: 34 ft.

Water-level when pumping: 34 ft.

Water sample sent to laboratory at Rhinelander on 7-2 1945

Construction of the well was completed on June 1945

The well is terminated 12" inches (above) ~~(below)~~ the permanent grade.

Was the well disinfected upon completion? Yes yes No ____

Was the well sealed watertight upon completion? Yes yes No ____

Signature Hans Hansen Registered Well Driller

Hans Weyenberg Complete Mail Address

Ladysmith Wisc Box 173

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: NW NE | Section: 8 | Township: 34 N | Range: 6 W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Gary Hayden
ADDRESS: 317 E. 8th St.
POST OFFICE: Ladysmith, Wi. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 40' | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench | 75' |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 5 | | 165 | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled 15# per ft. A.S.T.M. A-53 U.S.S. | Surface | 165 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Clay | 1 | 7 |
| Hard pan | 7 | 67 |
| dirty clay gravel | 67 | 89 |
| dirty sand clay | 98 | 160 |
| clean gravel | 160 | 165 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 8-8 19 78

11. MISCELLANEOUS DATA
Yield Test: 4 Hrs. at 6 GPM
Depth from surface to normal water level 72 Ft.
Depth of water level when pumping 90 Ft. Stabilized ☑ Yes ☐ No

Well is terminated 8 inches ☑ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on 8-22 19 78

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Atwood Registered Well Driller
Complete Mail Address: R. 2. Bruce Wisc 54819

3.6-F-64

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JUL 5 1945

1. County Rusk { Town / Village / City } Grant

2. Location NE ¼ of NE ¼ Sec. 32 T 34 N R 1 W

3. Owner or Agent Glenn Struss

4. Address Ladysmith Route 3.

5. From well to nearest: Building 4 ft; sewer ---- ft; drain ---- ft; septic tank ---- ft; dry well or filter bed 6' ft; abandoned well ---- ft.

6. Well is intended to supply water for: Barry Franz

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Weight Pipe | 69 | 69 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Puddle Clay Grout | | 38 |
| | | |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Till formation | 38 | 38 |
| Hard Pan | 21 | 59 |
| Hard light gravel | 5 | 64 |
| Sand Gravel & water | 5 | 69 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 4 Hrs. at 10 GPM.

Depth from surface to water: 34 ft.

Water-level when pumping: 34 ft.

Water sample sent to laboratory at Rhinelander on 7-2nd 1945

Construction of the well was completed on June 1945

The well is terminated 12 inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes Yes No

Was the well sealed watertight upon completion? Yes Yes No

Signature Sam Krause (Registered Well Driller)

Complete Mail Address Box 173 Wisc

3.6-F-65

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

1. LOCATION – ¼ Section: SW¼ of NW¼ | Section: 8 | Township: 34N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Joe Grant
ADDRESS: 3371 N. 40th
POST OFFICE: Milwaukee Wis. 53200

4. Distance in feet from well to nearest:

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 15 | 25 | None | None | | None | | None | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | | 65 | None | 80 | None | None | None | 70 | None |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 67 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Black t.c | Surface | 67 |
| 15 | lb. per ft. | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hard Pan | Surface | 60 |
| Sand & gravel | 60 | 67 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: 1 – 12 – 1972

11. MISCELLANEOUS DATA
Yield test: 4 Hrs. at 6 GPM
Depth from surface to normal water level: 49 ft.
Depth to water level when pumping: 50 ft.

Well is terminated: 12 inches ☒ above ☐ below final grade
Well disinfected upon completion: ☒ Yes ☐ No
Well sealed watertight upon completion: ☒ Yes ☐ No

Water sample sent to: Madison laboratory on: 1 – 13 – 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen P. Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: R1 Holcombe Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-66 | | |

REV. 3–71

DEC 2 0 1979

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: NWNW | Section: 8 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
John Lelity
ADDRESS 301 E. River Ave.
POST OFFICE Ladysmith, Wi. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 30 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | | 50' | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | 75' |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 5 | 21 | 49 | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled 15# per ft. ASTM A53 USS | Surface | 49 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| clay | 1 | 6 |
| Hard pan | 6 | 45 |
| sand and gravel | 45 | 49 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary
☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9-10 19 79

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 7 GPM
Depth from surface to normal water level 34 Ft.
Depth of water level when pumping 38 Ft. Stabilized ☑ Yes ☐ No

Well is terminated 8 inches ☑ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on 9-12 19 79

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Attwood Registered Well Driller
Complete Mail Address: R.2. Bruce, Wisc. 54819

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

AUG 5 1983

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City Name: Grant

2. LOCATION: ¼ Section or Gov't. Lot: NE/NE | Section: 8 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: DNR Ladysmith Ranger Station
ADDRESS
POST OFFICE: Ladysmith, Wis. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 87 | 100 | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Sewage Sump | Clearwater Dr. | Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit: Seepage Pit | Seepage Bed 1204 | Seepage Trench | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 1204 | | | | | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well / Pump / Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | 104 | | | |

5. Well is intended to supply water for: Ranger Station

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 13 | | | |
| 6 | 13 | 60 | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" new | P.E. ASTM-A53 steel pipe 19lb/ft | Surface | 56 |
| 6" stainless steel screen | | 56 | 60 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drill cuttings | Surface | 13 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| clay | 1 | 3 |
| talc | 3 | 8 |
| sand & gravel | 8 | 30 |
| till | 30 | 39 |
| sand & gravel | 39 | 60 |

10. TYPE OF DRILLING MACHINE USED
☐ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with: ☐ Air ☐ Water

Well construction completed on 3/3 1983

11. MISCELLANEOUS DATA
Yield Test: 4 Hrs. at 15 GPM
Depth from surface to normal water level 39 Ft.
Depth of water level when pumping 39½ Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on 3/3 1983

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Jerome Wojtkiewicz
3.6-F-68 Registered Well Driller
Business Name and Complete Mailing Address: Jerome Wojtkiewicz Route 1 - Box 159 B Cameron, Wisconsin

UNIVERSITY OF WISCONSIN GEOLOGICAL & NATURAL HISTORY SURVEY
1815 University Avenue, Madison, Wisconsin 53706

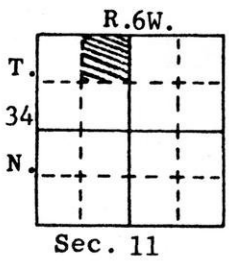
Log No.081-Ru-201

Well name Ladysmith City Well #6

Owner.... City of Ladysmith
Address.. 300 Miner Ave. W.
Ladysmith, WI 54848
Driller.. Layne-Northwest Co.
Engineer. Morgan and Parmley, Ltd.
Ladysmith, Wisconsin

County: Rusk

Completed... 10/1/84
Field check.
Altitude.... 1170' ETM
Use..... Municipal
Static w.l.. 26'
Spec. cap... 4.8 GPM/ft




Quad. Ladysmith 7½'

| Drill Hole | | | | | | Casing & Liner Pipe or Curbing | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dia. | from | to | Dia. | from | to | Dia. | Wgt.& Kind | from | to | Dia. | Wgt.& Kind | from | to |
| 42" | 0 | 40' | | | | 12" | Bk.new steel pipe 49.56 lb.welded | +4' | 65' | | | | |
| 36" | 40' | 54' | | | | 11" | S/S screen | 65' | 77' | | | | |
| 30" | 54' | 77' | | | | | | | | | | | |

Drilling method: cable tool
Samples from 0 to 77' Rec'd: 10/24/84

Studied by: Tom Hanson

| Grout | from | to |
|---|---|---|
| Concrete | 0 | 60' |
| Sand-bentonite | 60' | 61' |
| Gravel pack | 61' | 77' |

Issued: 5/20/85

Formations: Drift

Remarks: Well tested for 12 hours at 150 GPM with 31 feet of drawdown.

LOG OF WELL:

| | Depths | Graphic Section | Rock Type | Color | Grain Size Mode | Grain Size Range | Miscellaneous Characteristics |
|---|---|---|---|---|---|---|---|
| | 0-5 | | Silt | Strg bn | — | — | Siliceous. Much sand. Little clay. Trace gravel (Gr/MP). |
| | 5-10 | | Sand | " | M | Vfn/VC | Much silt. Trace gravel (Gran/M peb), clay. |
| | 10-15 | | " | " | " | " | Same. |
| D | 15-20 | | " | " | " | " | " |
| | 20-25 | | " | " | " | " | Much silt. Trace gravel (Gran/VL peb), clay. |
| R | 25-30 | | " | Red brown | " | " | Much silt. Trace gravel (Gran/M peb), clay. |
| I | 30-35 | | " | " | " | " | Much silt. Little gravel (Gran/L peb). Trace clay. |
| F | 35-40 | | " | " | " | " | Much silt. Little gravel (Gran/VL peb). Trace clay. |
| T | 40-45 | | " | " | " | " | Same. |
| | 45-50 | | " | " | " | " | Much silt. Little gravel (Gran/L peb). Trace clay. |
| | 50-55 | | " | " | " | " | Same. |
| | 55-60 | | " | " | " | " | Much silt. Little gravel (Gran/L peb), clay. |
| | 60-65 | | " | Mxd red bn | " | " | Much gravel (Gran/L peb). Little silt. Trace clay. |
| | 65-70 | | " | " | " | " | Same. |
| 77' | 70-77 | | Gravel | " | Gran | Gran/VL peb | Trap, granite, hematite-cemtd siltstone, quartz, volcanics, jasper, schist. |
| | | | | END OF LOG | | | |

BEST COPY AVAILABLE

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 10 1984

1. COUNTY: RUSK
CHECK (✓) ONE: ☐ Town ☐ Village ☒ City
Name: Ladysmith

2. LOCATION: ¼ Section or Gov't. Lot: NE, NW/4 | Section: 11 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name: Barnett Road
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
City of Ladysmith
ADDRESS
POST OFFICE: Ladysmith
ZIP CODE: 54848
Computer check completed

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| – | – | – | – | – | -- | – | – | – | – | – |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | – | Sewage Sump | – | C.I. | Other | | | | Seepage Pit | – | |
| – | – | – | – | Clearwater Dr. | – | Clearwater Sump | | – | – | – | – | – | Seepage Bed | – | – |
| | | | | | | | | | | | | | Seepage Trench | – | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | – | Nonconforming Existing | | | | | | | | |
| – | – | Pump | – | – | – | – | – | – | – | – | – | – |
| | | Tank | – | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | | Other (Describe) |
|---|---|---|---|---|---|---|
| – | – | – | – | – | Manure Storage Basin – | |
| | | | | | Concrete Floor Only – | |
| | | | | | Concrete Floor and Partial Concrete Walls – | |

5. Well is intended to supply water for: City Well No. 6

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 42" | Surface | 40' | 30" | 54 | 77 |
| 36" | 40 | 54 | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 12" | Bl. new steel pipe 49.56 lb. welded | Surface | 65 |
| 11" | S/S screen | 65 | 77 |
| | | | |
| | Gravel Pack | 61 | 77 |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Concrete | Surface | 60 |
| Sand-bentonite | 60 | 61 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 1 |
| Clay | 1 | 30 |
| Sand & gravel | 30 | 35 |
| Semi hard pan & stones | 35 | 62 |
| Sand & gravel | 62 | 68 |
| Fine tight sand | 68 | 69 |
| Sand & gravel | 69 | 77 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MA[illegible]
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary
☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 12 Hrs. at 150 GPM
Depth from surface to normal water level 26 Ft.
Depth of water level when pumping 57 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 10-1 19 84
Well is terminated 48 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to WIS State Lab of Hygiene sp. cap. = 4.8 gpm/ft laboratory on 9-26 19 84

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: LAYNE-NORTHWEST Div. of Layne-Western Co. Inc.
Registered Well Driller: [signature] 3.6-F-70
cc: NWD SGS WELL LOG BOOK

Business Name and Complete Mailing Address
6005 W. Martin Drive
Milwaukee, WI 53213

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 11 1972

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SW | ¼: ¼ | Section: 11 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Mastercraft Casket Co.
ADDRESS: R.R.3.
POST OFFICE: Ladysmith Wisc. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 35' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 100' | | | 125' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: factory

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 61 | | | |
| 10 | surface | 21 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black, Standard steel, threaded and coupled. 15# per Ft | Surface | 61 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Hard pan | 1 | 26 |
| Sand and clay | 26 | 34 |
| Hard pan | 34 | 58 |
| Sand and gravel | 58 | 61 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7 – 9 – 19 71

11. MISCELLANEOUS DATA
Yield test: 2 Hrs. at 8 GPM
Depth from surface to normal water level 20 ft.
Depth to water level when pumping 29 ft.

Well is terminated 10 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 7 – 13 – 19 71

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Atwood Registered Well Driller
COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

NOTE: NOV 2 2 1976
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15
Rev. 10–75

1. COUNTY: Rusk

CHECK (✓) ONE: X Town ☐ Village ☐ City

Name: Grant

2. LOCATION: ¼ Section: SE¼SE¼ | Section: 11 | Township: 34 | Range: 6

OR – Grid or Street No. | Street Name

AND – If available subdivision name, lot & block No.

3. NAME X OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE

Siverling, Walter

ADDRESS: R. R. 3

POST OFFICE: Ladysmith, Wis.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | Seepage Bed | 75 |
| | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Milk House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 59 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Blk Steel T&C | Surface | 59 |
| | ASTHM A-53 | | |
| | 19.45#/Ft. | | |
| | MJapanese Steel | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 58 |
| Sand & Gravel | 58 | 59 |
| | | |
| | | |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

X Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air ☐ Water

Well construction completed on 11/1 1976

11. MISCELLANEOUS DATA

Yield Test: 8 Hrs. at 6 GPM

Depth from surface to normal water level 10 Ft.

Depth of water level when pumping 30 Ft. Stabilized X Yes ☐ No

Well is terminated 12 inches X above ☐ below final grade

Well disinfected upon completion X Yes ☐ No

Well sealed watertight upon completion X Yes ☐ No

Water sample sent to Madison laboratory on 11/18 1976

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

3.6-F-72

Complete Mail Address: Holcombe, Wis. 54745

Wel 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk — Town ☐ Village ☐ City ☐ Grant (Check one and give name)

2. Location S W corner of the N W ¼ of sec. 11 (34N 6W)
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Arthur Sweeney (or Mrs Ed. Sweeney)
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis.
Complete address required

5. From well to nearest: Building 8 ft (house); sewer 30 ft; drain ____ ft; septic tank 50 ft; dry well or filter bed 65 ft; abandoned well ____ ft.

6. Well is intended to supply water for: home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 22 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Black Pipe | 0 | 22 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |
| | | |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 2 |
| fine sand | 2 | 21 |
| gravel | 21 | 22 |

RECEIVED
OCT 21 1959
ENVIRONMENTAL SANITATION

Construction of the well was completed on: 7/15/59 19____

The well is terminated 6 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

## 11. MISCELLANEOUS DATA:

Yield test: 4 Hrs. at 10 GPM.

Depth from surface to water-level: 12 ft.

Water-level when pumping: 14 ft.

Water sample was sent to the state laboratory at: ____ City on ____ 19____

Signature Wm C Tegtmeier — Registered Well Driller

Brun Wis — Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

BEST COPY AVAILABLE

Examiner ____

3.6-F-73

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 1 1 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE ☒ Town ☐ Village ☐ City

NAME Grant

**2. LOCATION** – ¼ Section: SW | ¼: ¼ | Section: 11 | Township: 34N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Mastercraft Casket Co.

ADDRESS R.R.3.

POST OFFICE Sadey Smith Wisc. 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 35' | | | | | ✓ | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 100' | | | 125' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Factory

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 61 | | | |
| 10 | surface | 21 | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black, Standard steel, threaded and coupled. 15# per ft | Surface | 61 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Hard pan | 1 | 26 |
| Sand and clay | 26 | 34 |
| Hard pan | 34 | 58 |
| Sand and gravel | 58 | 61 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7 – 9 – 19 71

**11. MISCELLANEOUS DATA**

Yield test: 2 Hrs. at 8 GPM

Depth from surface to normal water level 20 ft.

Depth to water level when pumping 29 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 7 – 13 – 19 71

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W. Atwood Registered Well Driller

COMPLETE MAIL ADDRESS Bruce, Wisc. R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-74 | | |

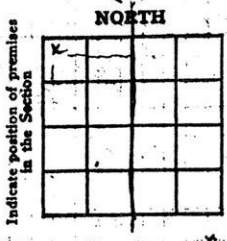
REV. 3–71

# PREMISES DIAGRAM

(See Rules)

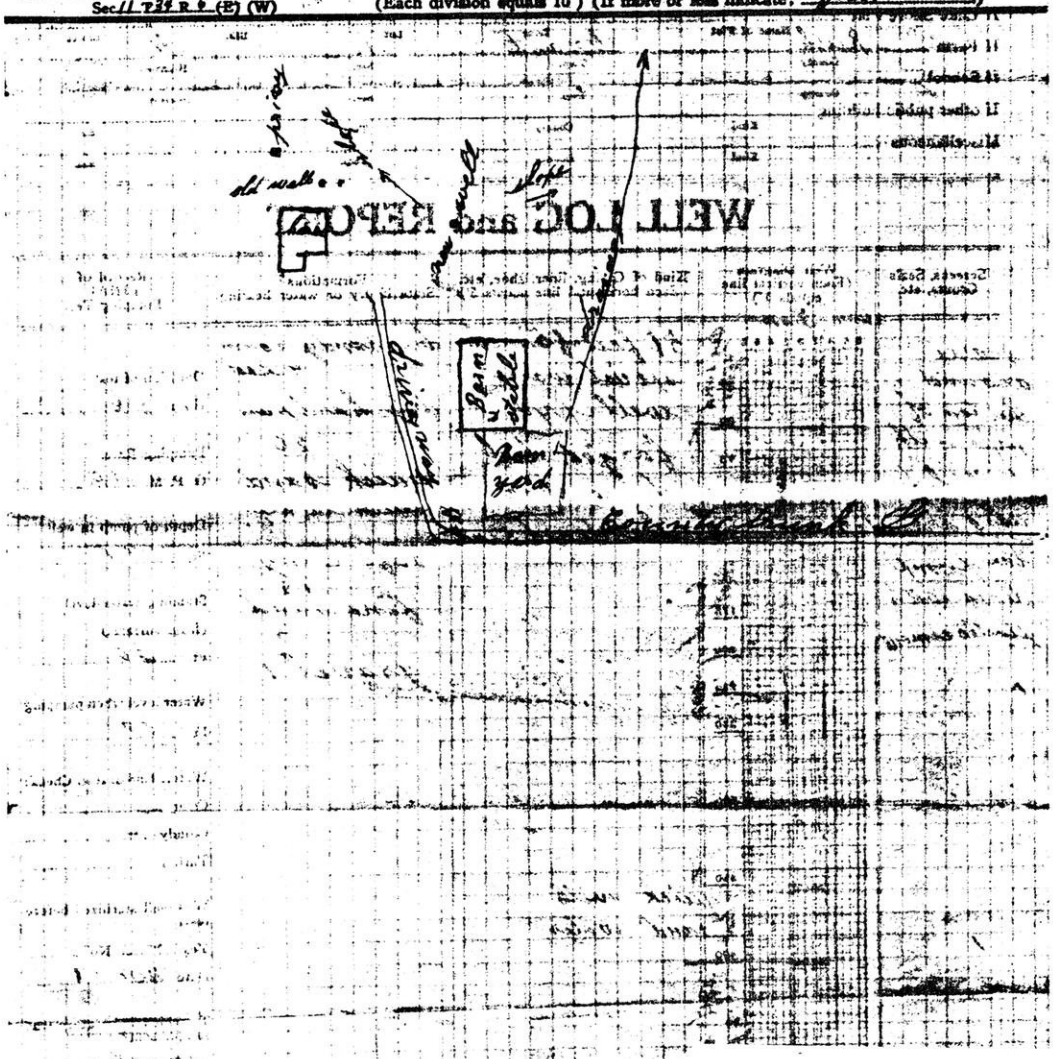
Draw a representative sketch of the premises on which this well is located, showing the location of the well with reference to buildings and possible sources of pollution. Indicate the condition of the surroundings by printing descriptive words like high, low, level, slope, lake, river, swamp, forest meadow, barnyard, cesspool, privy, sewer, etc., at their respective locations and show distance from the well on the sketch. Also show direction of the compass. See Part III for specimen Diagram.

REMARKS: Location of new well about 8 feet higher than the old well and house and barn yard




Sec 11 T 34 R 6 (E) (W)

(Each division equals 10') (If more or less indicate: feet)




BEST COPY AVAILABLE

North

Show in circle the Direction of Compass




Note: Additional copies of this form may be obtained at 5c per copy in lots of 10 or more. Send remittance with order to State Board of Health, Well Drilling Division, Madison.

County ... Twp. ... (Office Record—Do not fill in) Sec. ...

# TO THE WISCONSIN STATE BOARD OF HEALTH, WELL DRILLING DIVISION, MADISON, WIS.

# WELL LOG, PREMISES DIAGRAM, and REPORT

For Official Record of the Board.

(TO BE USED FOR THAT PURPOSE ONLY)

Owner ... Driller John Jedlicka

(If a joint ownership give name of responsible official. Also name of each individual holding an interest. Use a separate sheet and attach hereto.)

Address Route 3, Box 296 Ladysmith Wis.

Address ... (City, village, township, county)

Date of Report Dec 9th 1936

Registration No. 317

Give below the location of the property on which well is drilled.

If incorporated village or city: ... Name ... Lot ... Blk. ... Street and No.

If unincorporated hamlet ... Name ... County ... Twp. ... Highway

If Lake Shore Plat ... Name of Plat ... Lake ... Lot ... Blk. ... Street

If Farm Rusk County Grant Twp. 11 Sec. 4 Highway

If School ... County ... Twp. ... Sec. ... District

If other public building ... Kind ... County ... Twp. ... Sec.

Miscellaneous ... Kind ... County ... Twp. ... Sec.

# WELL LOG and REPORT

| Screens, Seals Grouts, etc. | Well Diagram (Each vertical line equals 1') | Kind of Casing, liner, shoe, etc. (Each horizontal line equals 5') | Formations State if dry or water bearing | Record of FINAL Pumping Test |
|---|---|---|---|---|
| sealed around the top of pipe with Lillebridge and around the pump base with plastic cement | 0 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 520 540 560 580 600 620 640 660 680 700 | 51 feet of 6 inch special water well pipe, forged steel shoe, hardened steel | dry sandy loam 4 feet<br>dry hardpan 26<br>quick sand with water 4<br>soft Clay 12<br>fine sand 3<br>gravel 1 | Duration of test. Hours 6<br>Pumping Rate. G. P. M. 10<br>Depth of pump in well. Ft. 44<br>Standing water-level (from surface.) Ft. 30<br>Water level when pumping Ft. 30<br>Water. End of test. Check: Clear ... Cloudy ~ Turbid ...<br>Was well sterilized before test? Yes ~ No ...<br>Date Nov 27<br>To which Laboratory was sample sent? Rhinelander<br>Date Nov 23 dec 1st<br>Was the well sealed on completion? Yes ~ No ...<br>How high did you leave casing above grade? ~10 inch<br>Well was completed Nov 17 1936<br>Well Driller: John Jedlicka Signature<br>(Be sure to complete the report on the reverse side) |

B-6-F-76

BEST COPY AVAILABLE

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

NOTE: NOV 2 2 1976
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15
Rev. 10–75

1. COUNTY: Rusk
CHECK (✓) ONE: X Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section SE¼SE¼ | Section 11 | Township 34 | Range 6
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Siverling, Walter
ADDRESS: R. R. 3
POST OFFICE: Ladysmith, Wis.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Sewage Sump | Clearwater Dr. | Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 50 | | Seepage Pit; Seepage Bed 75; Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well; Pump; Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Milk House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 59 |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Blk Steel T&C | Surface | 59 |
| | ASTHM A-53 | | |
| | 19.45#/Ft. | | |
| | Japanese Steel | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 58 |
| Sand & Gravel | 58 | 59 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 8 Hrs. at 6 GPM
Depth from surface to normal water level 10 Ft.
Depth of water level when pumping 30 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 11/1 1976
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 11/18 1976

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller
Complete Mail Address: Holcombe, Wis. 54745

3-6-E-77

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk — Town ☐ Village ☐ City ☐ Grant (Check one and give name)

2. Location S W corner of the N W ¼ of sec. 11 (34N 6W)
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Arthur Sweeney (or Mrs Ed. Sweeney)
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis.
Complete address required

5. From well to nearest: Building 8 ft (house); sewer 30 ft; drain ____ ft; septic tank 50 ft; dry well or filter bed 65 ft; abandoned well ____ ft.

6. Well is intended to supply water for: home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 22 | | | |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Black Pipe | 0 | 22 |
| | | | |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |
| | | |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 2 |
| fine sand | 2 | 21 |
| gravel | 21 | 22 |

RECEIVED
OCT 21 1959
ENVIRONMENTAL SANITATION

Construction of the well was completed on: 7/15/59 19____

The well is terminated 6 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

**11. MISCELLANEOUS DATA:**

Yield test: 4 Hrs. at 10 GPM.

Depth from surface to water-level: 12 ft.

Water-level when pumping: 14 ft.

Water sample was sent to the state laboratory at: ____ City on ____ 19____

Signature Wm C Ziegler — Registered Well Driller

Barron Wis. — Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ____

BEST COPY AVAILABLE

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 9 1976

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY:** Rusk

CHECK ONE: [X] Town [ ] Village [ ] City — NAME: Grant

**2. LOCATION –** ¼ Section: NW¼NW¼ | Section: 11 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING:** Lawrence Franzen

ADDRESS: RFD #1

POST OFFICE: Ladysmith, Wis. 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 59 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Blk Steel T&C | Surface | 57 |
| | ASTM A-53 | | |
| | 15#/Ft | | |
| | Japanese Steel | | |
| | Johnson Screen | 57 | 59 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 1 |
| Clay | 1 | 10 |
| Hard Pan | 10 | 55 |
| Sand & Gravel | 55 | 59 |
| Screen | 57 | 59 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

[X] Cable Tool [ ] Direct Rotary [ ] Reverse Rotary
[ ] Rotary – air w/drilling mud [ ] Rotary – hammer with drilling mud & air [ ] Jetting with [ ] Air [ ] Water

Well construction completed on 8/19 19 76

**11. MISCELLANEOUS DATA**

Yield test: 12 Hrs. at 7 GPM

Depth from surface to normal water level: 20 ft.

Depth to water level when pumping: 42 ft.

Well is terminated 14 inches [X] above [ ] below final grade

Well disinfected upon completion [X] Yes [ ] No

Well sealed watertight upon completion [X] Yes [ ] No

Water sample sent to Madison laboratory on: 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Stockleton
Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-79

SEP 25 1972

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NE NW. | Section: 11 | Township: 34N | Range: 6W.
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Peter Lybert
ADDRESS: 513 E. 11th St.
POST OFFICE: Ladysmith Wisc.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 6' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sewer system not installed as yet. | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 68 | | | |
| 10 | surface | 21 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black, standard steel, threaded and coupled 15# per ft. | Surface | 68 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 6 |
| Hard pan | 6 | 64 |
| Sand and gravel | 64 | 68 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: July 20 19 72
Well is terminated: 12 inches ☒ above ☐ below final grade
Well disinfected upon completion: ☒ Yes ☐ No
Well sealed watertight upon completion: ☒ Yes ☐ No

11. MISCELLANEOUS DATA
Yield test: 4 Hrs. at 7 GPM
Depth from surface to normal water level: 34 ft.
Depth to water level when pumping: 41 ft.

Water sample sent to: Madison laboratory on: aug 15, 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller
COMPLETE MAIL ADDRESS: Bruce, Wisc R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3 6-F-80

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 16 1984

1. COUNTY: RUSK
CHECK (✓) ONE: ☐ Town ☐ Village ☒ City
Name: Ladysmith

2. LOCATION: ¼ Section or Gov't. Lot: NE, NW/4 | Section: 11 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name: Barnett Road
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
City of Ladysmith
ADDRESS
Computer sheet completed
POST OFFICE: Ladysmith
ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| – | – | – | – | – | – | – | – | – | – | – |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | – | Sewage Sump | – | C.I. | Other | | | | | |
| – | – | – | – | Clearwater Dr. | – | Clearwater Sump | | – | – | – | – | – | Seepage Pit – / Seepage Bed – / Seepage Trench – | – |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – | – | Well | – | Nonconforming Existing | – | – | – | – | – | – | | – |
| | | Pump | – | – | | | | | | | | |
| | | Tank | – | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin – / Concrete Floor Only – / Concrete Floor and Partial Concrete Walls – | Other (Describe) |
|---|---|---|---|---|---|---|
| – | – | – | – | – | | |

5. Well is intended to supply water for: City Well No. 6

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 42" | Surface | 40' | 30" | 54 | 77 |
| 36" | 40 | 54 | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 12" | Bl. new steel pipe 49.56 lb. welded | Surface | 65 |
| 11" | S/S screen | 65 | 77 |
| | Gravel Pack | 61 | 77 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Concrete | Surface | 60 |
| Sand-bentonite | 60 | 61 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 1 |
| Clay | 1 | 30 |
| Sand & gravel | 30 | 35 |
| Semi hard pan & stones | 35 | 62 |
| Sand & gravel | 62 | 68 |
| Fine tight sand | 68 | 69 |
| Sand & gravel | 69 | 77 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 12 Hrs. at 150 GPM
Depth from surface to normal water level 26 Ft.
Depth of water level when pumping 57 Ft. Stabilized ☒ Yes ☐ No
Sp. cap. = 4.8 gpm/ft

Well construction completed on 10-1 19 84
Well is terminated 48 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to WIS State Lab of Hygiene laboratory on 9-26 19 84

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Layne-Western Co. Inc. LAYNE-NORTHWEST Div. of
Registered Well Driller 3.6-F-81
cc: NWD 565 WELL LOG BOOK

Business Name and Complete Mailing Address
6005 W. Martin Drive
Milwaukee, WI 53213

# WELL CONSTRUCTOR'S REPORT

Wel–6

JUL 8 1971

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Burk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grow

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE¼ of NW¼ Sec 11, T34, R6

3. OWNER AT TIME OF DRILLING
Stanley Matacgynski

4. OWNER'S COMPLETE MAIL ADDRESS
R3. Sadysmith, Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 11' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | 100' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6" | Surface | 69' | | | |
| | | | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T & C. Riveted | Surface | 66' |
| | Black 19.45 lbs | | |
| 6" | screen | 66' | 69' |
| | | | |
| | | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| topsoil | Surface | 1' |
| sand | 1' | 16' |
| hardpan | 16' | 65' |
| sand & gravel | 65' | 69' |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 6 Hrs. at 15 GPM

Depth from surface to normal water level 22 ft.

Depth to water level when pumping 23 ft.

Well construction completed on June 29 1971

Well is terminated 18 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wis. laboratory on: July 1971

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Dain Registered Well Driller

COMPLETE MAIL ADDRESS: R. 1. Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-82 | | |

REV. 11-68

County [illegible] Twp. [illegible] Sec. [illegible]
(Office Record—Do not fill in)

# TO THE WISCONSIN STATE BOARD OF HEALTH, WELL DRILLING DIVISION, MADISON, WIS.

# WELL LOG, PREMISES DIAGRAM, and REPORT

For Official Record of the Board.

(TO BE USED FOR THAT PURPOSE ONLY)

Owner ____ (If a joint ownership give name of responsible official. Also name of each individual holding an interest. Use a separate sheet and attach hereto.)

Driller John Jedlicka.

Address Route 3. Box 236 Ladysmith. Wis.

Address ____ (City, village, township, county)

Date of Report Dec 9th 1936

Registration No. 317

Give below the location of the property on which well is drilled.

If incorporated village or city: ____

If unincorporated hamlet ____ (Name / Lot / Blk. / Street and No.)

If Lake Shore Plat ____ (Name / County / Twp. / Highway)

If Farm Rusk (Name of Plat) Grant (Lake) Lot 11 Blk. G (Street)
County Twp. Sec. Highway

If School ____ County Twp. Sec. District

If other public building ____ Kind County Twp. Sec.

Miscellaneous ____ Kind County Twp. Sec.

# WELL LOG and REPORT

| Screens, Seals Grouts, etc. | Well Diagram (Each vertical line equals 1') | Kind of Casing, liner, shoe, etc. (Each horizontal line equals 5') | Formations State if dry or water bearing | Record of FINAL Pumping Test |
|---|---|---|---|---|
| sealed around the top of pipe with drill sludge also around the pump base with plastic cement | Diam 5 in. 8 6 4 2 0 2 4 6 8 | 56 feet of 6 inch special water well pipe forged steel drive shoe hardened 6 inch | dry sandy loam 4 feet<br>dry hardpan 26<br>quick sand with water 4.<br>soft Clay 12<br>fine sand 3<br>gravel 1 | Duration of test. Hours 6<br>Pumping Rate. G. P. M. 10<br>Depth of pump in well. Ft. 44<br>Standing water-level (from surface.) Ft. 30<br>Water level when pumping Ft. 30<br>Water. End of test. Check: Clear ____ Cloudy ~ Turbid ____<br>Was well sterilized before test? Yes ~ No ____ Date Nov 27<br>To which Laboratory was sample sent? Rhinelander Date Nov 23 dec 1st<br>Was the well sealed on completion? Yes ~ No ____<br>How high did you leave casing above grade? 10 inch<br>Well was completed Nov 17 1936<br>Well Driller: John Jedlicka Signature<br>(Be sure to complete the report on the reverse side) |

Diagram notes: Hard pan; quick with sand water; soft Clay; fine sand gravel water

BEST COPY AVAILABLE

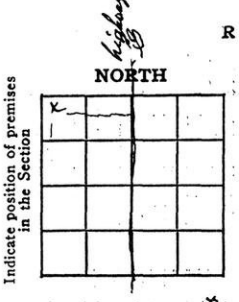
3.6-F-83

# PREMISES DIAGRAM

(See Rules)

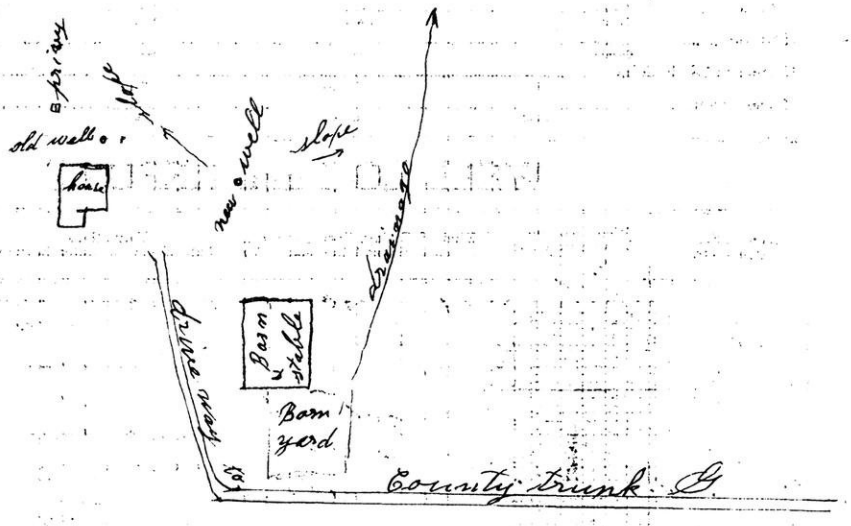
Draw a representative sketch of the premises on which this well is located, showing the location of the well with reference to buildings and possible sources of pollution. Indicate the condition of the surroundings by printing descriptive words like high, low, level, slope, lake, river, swamp, forest meadow, barnyard, cesspool, privy, sewer, etc., at their respective locations and show distance from the well on the sketch. Also show direction of the compass. See Part III for specimen Diagram.

Indicate position of premises in the Section



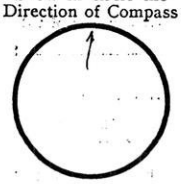

REMARKS: Location of new well about 8 feet higher then the old well and house and barn yard

Sec 11 T 24 R 6 (E) (W) (Each division equals 10') (If more or less indicate: feet.)




BEST COPY AVAILABLE

North
Show in circle the Direction of Compass



Note: Additional copies of this form may be obtained at 5c per copy in lots of 10 or more. Send remittance with order to State Board of Health, Well Drilling Division, Madison.

SEP 25 1972

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME Grant

**2. LOCATION** – ¼ Section: NE NW. | Section: 11 | Township: 34N | Range: 6W.
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Peter Sybert
ADDRESS 513 E. 11th St.
POST OFFICE Ladysmith Wisc.

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 6' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sewer system not installed as yet. | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 68 | | | |
| 10 | surface | 21 | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black, standard steel, threaded and coupled 15# per ft. | Surface | 68 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | Surface | 21 |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 6 |
| Hard pan | 6 | 64 |
| Sand and gravel | 64 | 68 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on July 20 19 72

**11. MISCELLANEOUS DATA**
Yield test: 4 Hrs. at 7 GPM
Depth from surface to normal water level 34 ft.
Depth to water level when pumping 41 ft.

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: aug 15, 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS Bruce, Wisc R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3-6-E-85

# WELL CONSTRUCTOR'S REPORT

Wel–6

JUL 8 1971

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Burk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grow

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
NE¼ of NW¼ Sec 11, T34, R6

3. OWNER AT TIME OF DRILLING
Stanley Matacgynski

4. OWNER'S COMPLETE MAIL ADDRESS
R.3. Sadgsmith, Wis. 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 11' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | 100' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6" | Surface | 69' | | | |
| | | | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T & C. New Steel | Surface | 66' |
| | Black 19.45 lbs | | |
| 6" | Screen | 66' | 69' |
| | | | |
| | | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| topsoil | Surface | 1' |
| sand | 1' | 16' |
| Sandgan | 16' | 65' |
| sand & gravel | 65' | 69' |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 6 Hrs. at 15 GPM

Depth from surface to normal water level 22 ft.

Depth to water level when pumping 23 ft.

Well construction completed on June 29 1971

Well is terminated 18 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wis. laboratory on: ~~June~~ July 1971

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearb wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Davis Registered Well Driller

COMPLETE MAIL ADDRESS: R. 1. Holcombe, Wis. 54745

**Please do not write in space below**

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-86

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 9 1976

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: [X] Town [ ] Village [ ] City

NAME: Grant

2. LOCATION – ¼ Section: NW¼NW¼ | Section: 11 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Lawrence Franzen

ADDRESS: RFD #1

POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 59 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Blk Steel T&C | Surface | 57 |
| | ASTM A-53 | | |
| | 15#/Ft | | |
| | Japanese Steel | | |
| | Johnson Screen | 57 | 59 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 1 |
| Clay | 1 | 10 |
| Hard Pan | 10 | 55 |
| Sand & Gravel | 55 | 59 |
| Screen | 57 | 59 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

[X] Cable Tool [ ] Direct Rotary [ ] Reverse Rotary
[ ] Rotary – air w/drilling mud [ ] Rotary – hammer with drilling mud & air [ ] Jetting with [ ] Air [ ] Water

Well construction completed on 8/19 19 76

11. MISCELLANEOUS DATA

Yield test: 12 Hrs. at 7 GPM

Depth from surface to normal water level: 20 ft.

Depth to water level when pumping: 42 ft.

Well is terminated 14 inches [X] above [ ] below final grade

Well disinfected upon completion [X] Yes [ ] No

Well sealed watertight upon completion [X] Yes [ ] No

Water sample sent to Madison laboratory on: 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Stockleton
Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3 6-E-87 | | |

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL DRILLING DIVISION

JAN 17 1940

Note: Section 32 of the Wisconsin Well Drilling Sanitary Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Mrs Sophia Kosmicki Driller Earl Buckhorn & Son

Street or RFD ---- Post Office Tolcombe #108

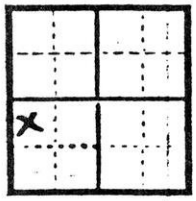
Post Office Conrath Date June 15 - 40 Permit No. #49

### LOCATION OF PREMISES

Rusk County Grant (?) Town

Describe further by subdivision, plat, district, lake, lot, block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



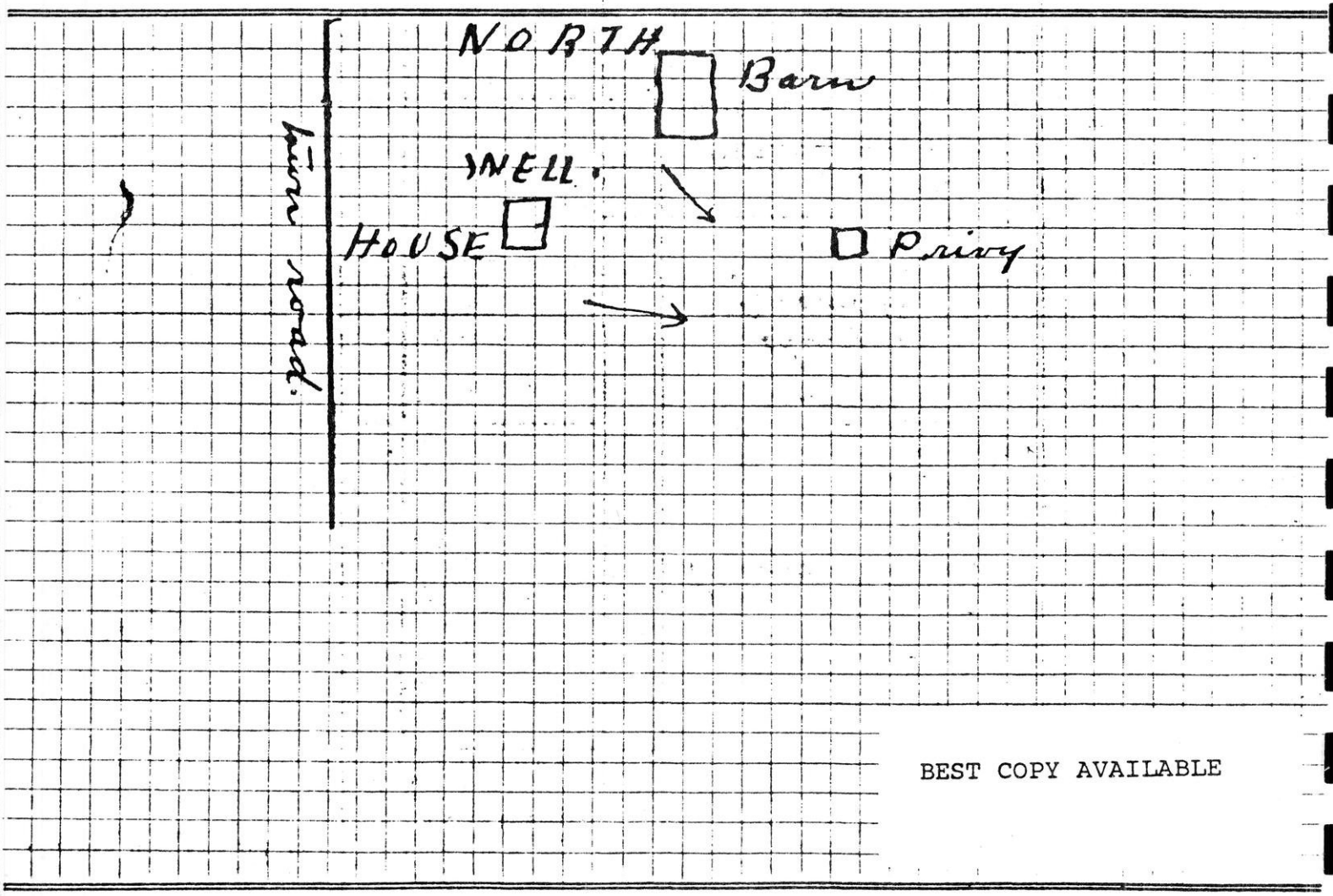

Sec. 12

Twp. (17) 34

Range 6W

### DIAGRAM OF PREMISES

See discussion and illustration in Part III Well Drilling Code. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25¢. Send remittance with order to State Board of Health, Well Drilling Division, Madison, Wis.

# WELL LOG and REPORT

| In this column indicate the kind of casing, liner, shoe and other accessories used. | WELL DIAGRAM Use a red line to show casing or liner pipe. Use black for drill or borehole. | In this column state the kind of formations penetrated, their thickness in feet and if water bearing. | Record of FINAL Pumping test |
|---|---|---|---|
| Standard pipe W.I.D.S. | Inches Diameter 2 3 4 5 6 8 10 12 14 16 18 | Depth | |
| | | 25 — Clays sand. | Duration of test Hours 3 hrs |
| | | 50 — quick Sand water dirty gravel | Pumping rate G.P.M. 4 gals. |
| | | 75 | Depth of pump in well. Ft. |
| | | 90 red clay | Standing water-level (from surface) Ft. 40 |
| | | 100 lime rock. | Water-level when pumping Ft. 80 |
| | | 110 white sand. | Water. - End of test. Clear X |
| | | 150 | Cloudy |
| | | | Turbid |
| | | | Was the well sterilized? Yes X No |
| | | 200 | To which laboratory was sample sent? Madison |
| | | | Date June 13-40 |
| mud grout | | 400 | Was the well sealed completion? Yes X No |
| casing | | | BEST COPY AVAILABLE |
| | | 800 | How high did you leave the casing-pipe above grade? 12 inches |
| drill hole. | | 1200 — See letter Jan. 22-40 | Well was completed Date Aug 10 39 |
| | Draw the diagram to show the right half only | | Well Driller Ed Buckbee Signature |

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: SE¼NW¼ | Section: 12 | Township: 34 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Duane Wallace
ADDRESS: R.R.
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60 | | | 80 | 120 | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Farm

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 62 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t+c | Surface | 60 |
| 15 | Ungraft | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 6 |
| hard pan | 6 | 59 |
| Sand gravel | 59 | 62 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 10/2 1973

11. MISCELLANEOUS DATA
Yield test: 14 Hrs. at 5 GPM
Depth from surface to normal water level: 20 ft.
Depth to water level when pumping: 50 ft.

Well is terminated 14 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 10/4 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-90 | | |

REV. 3–71

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 9 1985

FEB 7 1986

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: GRANT

2. LOCATION: ¼ Section or Govt. Lot: SW NE | Section: 14 | Township: 34N | Range: 6W

OR – Grid or Street No. | Street or Road Name: CTY G

AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Cheryl Nassbeegeer

ADDRESS: N 3798 CTH G

POST OFFICE: Ladysmith, WI ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 20' | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | 70 | C | Seepage Bed 100 | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | Pump | Tank | Nonconforming Existing | | | 200' | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin | Concrete Floor Only | Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 57 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Black P.E. | Surface | 54 |
| | 18.97# Per Foot | | |
| | ASTM-120 VSP D.T. | | |
| | 1200# P.S.I | | |
| 4"X4" | SCREEN | 54 | 57 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 2 |
| Clay | 2 | 51 |
| Sand | 51 | 57 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA

Yield Test: 3 Hrs. at 8 GPM

Depth from surface to normal water level 25' Ft.

Depth of water level when pumping 47 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 9-18 1985

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 9-23 1985

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Gary Wellmaker Registered Well Driller

Business Name and Complete Mailing Address: R#3 Holcombe 54745

3-6-E-91

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel

1. COUNTY: Rusk NO — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.): NW of SE 15 34 4

3. OWNER AT TIME OF DRILLING: John Baker

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith Wis 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 70 | 85 | None | None | None | None | None | None | None |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | None | 90 | None | 120 | 140 | 100 | None | 78 | None |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Farm

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 18 | Surface | 20 | 5 | 20 | 61 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Steel Black | Surface | 61 |
| | J&C 15 lb Raft | | |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | Surface | 20 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| Hard pan | 4 | 36 |
| Dirty gravel | 36 | 50 |
| Silt | 50 | 58 |
| Sand & gravel | 58 | 61 |

BEST COPY AVAILABLE

Well construction completed on: Aug 14 1967

Well is terminated 18 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 3½ Hrs. at 2½ GPM

Depth from surface to normal water level 31 ft.

Depth to water level when pumping 53 ft.

Water sample sent to Madison laboratory on: Aug 14 1967

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: E J Moffat Registered Well Driller — COMPLETE MAIL ADDRESS: Sheldon Wis 54766

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-92

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

NU

DEC 20 1973

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

LOCATION – ¼ Section: W½ NE¼ | Section: 15 | Township: 34N | Range: 6W

3. OWNER AT TIME OF DRILLING: Jim Wesenberg

OR – Grid or street no. | Street name | ADDRESS: City

AND – If available subdivision name, lot & block no. | POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 80 | | | 90 | 130 | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 58 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black ta c | Surface | 58 |
| 15 | 4 per ft. | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| Hard pan | 2 | 51 |
| Sand gravel | 51 | 58 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 12 / 13 1973

11. MISCELLANEOUS DATA

Yield test: 12 Hrs. at 10 GPM

Depth from surface to normal water level: 16 ft.

Depth to water level when pumping: 25 ft.

Well is terminated 16 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 12 / 13 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-93 | | |

REV. 3-71

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Wel 6

See Instructions on Reverse Side

RECEIVED
DEC 4 1963
SANITARY ENGINEERING

1. County Rusk — Town ☒ / Village ☐ / City ☐ Grant — Check one and give name

2. Location SW of NE Sec 15 T 34 N – R 6 W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Fred Hennekens
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 10 ft; sewer ____ ft; drain 35 ft; septic tank 35 ft; dry well or filter bed 100 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 8 | 4 | 8 | 65 |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand Steel | 0 | 65 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 8 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 4 |
| Hardpan | 4 | 8 |
| Silt | 8 | 33 |
| Gravel & silt | 33 | 36 |
| Hard pan | 36 | 40 |
| Silt | 60 | 62 |
| Gravel & sand | 62 | 65 |
| | | |
| | | |
| | | |

Construction of the well was completed on: Nov 22 1963

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

## 11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 3½ GPM.

Depth from surface to water-level: 12 ft.

Water-level when pumping: 55 ft.

Water sample was sent to the state laboratory at: Madison (City) on Nov 26 1963

Signature E P Moffit — Registered Well Driller

Sheldon Wis — Complete Mail Address

Please do not write in space below

Rec'd NOV 27 1963 No. 51417

Ans'd ____

Interpretation ____

SAFE—BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | 0 | 0 | 0 | 0 |

BEST COPY AVAILABLE

Examiner ____

3.6-F-94

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

JAN 23 1974 DEC 27 1974

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCE
Box 450
Madison, Wisconsin 53701

5

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼ Section: NE¼ NW¼ | Section: 15 | Township: 34 | Range: 6W
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Steve Jennon
ADDRESS: R. R.
POST OFFICE: Ladysmith Wis.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRA C. I. | WASTE WATER DRA TILE |
|---|---|---|---|---|---|---|---|---|
| 15 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 53 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t-c | Surface | 53 |
| 15 | Unspecified | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| hard pan | 2 | 48 |
| Sand gravel | 48 | 53 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

Pressure was controlled

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Wa

11. MISCELLANEOUS DATA
Yield test: 6 Hrs. at 3 GPM
Depth from surface to normal water level: 20 ft.
Depth to water level when pumping: 40 ft.

Well construction completed on: 12/ 20 197
Well is terminated 12 inches ☒ above ☐ below final gr
Well disinfected upon completion ☒ Yes ☐
Well sealed watertight upon completion ☒ Yes ☐

Water sample sent to Madison laboratory on: 12/20 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, s type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., shou be given on reverse side.

SIGNATURE: Stephen Shadbolton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3-71

3.6-F-95

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

**NOTE:**
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: Flambeau

2. LOCATION: ¼ Section: NW NW | Section: 15 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Larry Nelson
ADDRESS: Route 1
POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench | 75 |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pu proom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for:

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 34 | | | |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black steel, | Surface | 34 |
| | steel, threaded | | |
| | and coupled | | |
| | 15# per ft. | | |
| | ASTM A-53 U.S.S. | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand | 1 | 22 |
| sand and gravel | 22 | 34 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

| | | |
|---|---|---|
| ☑ Cable Tool | ☐ Rotary-hammer w/drilling mud & air | ☐ Jetting with |
| ☐ Rotary-air w/drilling mud | ☐ Rotary-hammer & air | ☐ Air ☐ Water |
| ☐ Rotary-w/drilling mud | ☐ Reverse Rotary | |

Well construction completed on 8-23 19 74

11. MISCELLANEOUS DATA

Yield Test: 2 Hrs. at 6 GPM

Depth from surface to normal water level 20 Ft.

Depth of water level when pumping 23 Ft. Stabilized ☑ Yes ☐ No

Well is terminated 8 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on Aug 23 19 74

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Attwood Registered Well Driller

Complete Mail Address: R2. Bruce, Wisc 54819

3.6-F-96

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

JUL 19 1977

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: Grant

2. LOCATION: ¼ Section NW¼NW¼ | Section 15 | Township 34 | Range 6

OR – Grid or Street No. | Street Name

AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Steve Jensen

ADDRESS

POST OFFICE: Ladysmith, WI 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ☒ | | | | | | | | | | | 60 | | Seepage Pit 80 / Seepage Bed / Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well / Pump / Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | Surface | 20 | 4 | 20 | 51 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New Blk Steel T&C | Surface | 51 |
| | ASTHM A-53 | | |
| | 11#/Ft | | |
| | Japanese Steel | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 50 |
| Sand & Gravel | 50 | 51 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air / Water

Well construction completed on 6/22 19 77

11. MISCELLANEOUS DATA

Yield Test: 12 Hrs. at 4 GPM

Depth from surface to normal water level 20 Ft.

Depth of water level when pumping 30 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 7/11 19 77

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe, Wis. 54745

3.6-F-97

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 27 19

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY:** Rusk

CHECK ONE: [X] Town [ ] Village [ ] City — NAME: Grant

**2. LOCATION –** ¼ Section: NW¼NW¼ | Section: 15 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING:** Jim Oechslin

ADDRESS

POST OFFICE: Ladysmith, Wis. 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 4 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** house

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 54 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Blk Steel T&C | Surface | 52 |
| | ASTM A-53 | | |
| | 19.45/ft | | |
| | Japanese Steel | | |
| | Johnson Screen | 52 | 54 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 48 |
| Sand & Gravel | 48 | 54 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

[XX] Cable Tool [ ] Direct Rotary [ ] Reverse Rotary
[ ] Rotary – air w/drilling mud [ ] Rotary – hammer with drilling mud & air [ ] Jetting with [ ] Air [ ] Water

Well construction completed on 8/31 1976

**11. MISCELLANEOUS DATA**

Yield test: 8 Hrs. at 10 GPM

Depth from surface to normal water level 34 ft.

Depth to water level when pumping 39 ft.

Well is terminated 12 inches [X] above [ ] below final grade

Well disinfected upon completion [XX] Yes [ ] No

Well sealed watertight upon completion [XX] Yes [ ] No

Water sample sent to Madison laboratory on: 9/16 1976

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-98

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

AUG 16 1982

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section or Gov't. Lot: NW NW | Section: 15 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name:
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Olynick Concrete
ADDRESS: R. # 2
POST OFFICE: Sheldon, Wis.
ZIP CODE: 54766

| Distance in feet from well to nearest: (Record answer in appropriate block) | Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 40 | ~~100~~ | | 100 | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 150 | Seepage Pit / Seepage Bed / Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well / Pump / Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: Ready mix plant

**DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | | | |
| 6 | 20 | 42 | | | |

**CASING, LINER, CURBING AND SCREEN**

| Dia. (in.) | Material, Weight, Specification Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | new nlk stl t&c 19.45 API 5L USS | Surface | 39 |
| 6 | # 18 S.S. Screen & Packer | 39 | 42 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill cuttings | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay | Surface | 36 |
| Sand and gravel | 36 | 42 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air / Water

Well construction completed on July 21 19 82

11. MISCELLANEOUS DATA

Yield Test: 3 Hrs. at 7 GPM
Depth from surface to normal water level 14 Ft.
Depth of water level when pumping 28 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 16 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Wis App Lab. # 59 RRR MK laboratory on Aug. 9 19 82

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: William D. Brunner 3.6-F-99
Registered Well Driller

Business Name and Complete Mailing Address: D. S. R. Melford

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk

CHECK (✓) ONE: ☑ Town ☐ Village ☐ City Name: Flambeau

2. LOCATION: ¼ Section: NW NW | Section: 15 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Larry Nelson
ADDRESS: Route 1
POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench | 75 |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | Nonconforming Existing | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for:

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 34 | | | |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification & Method of Assembly

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black steel Surface | | 34 |
| | steel, threaded | | |
| | and coupled | | |
| | 15# per ft. | | |
| | ASTM A-53 U.S.S. | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand | 1 | 22 |
| sand and gravel | 22 | 34 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary
☐ Jetting with ☐ Air ☐ Water

Well construction completed on 8-23 19 74

Well is terminated 8 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 6 GPM
Depth from surface to normal water level 20 Ft.
Depth of water level when pumping 23 Ft. Stabilized ☑ Yes ☐ No

Water sample sent to Madison laboratory on Aug 23 19 74

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Altwood Registered Well Driller

Complete Mail Address: R2. Bruce, Wisc 54819

3.6-F-100

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel 6

1. COUNTY: Rusk — CHECK ONE: [X] Town [ ] Village [ ] City — NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.): NW of SE 15 34 4

3. OWNER AT TIME OF DRILLING: John Baker

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith Wis 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 70 | 85 | None | None | None | None | None | None | None |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | None | 90 | None | 120 | 140 | 100 | None | 76 | None |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Farm

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 18 | Surface | 20 | 5 | 28 | 61 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Steel Black J&C 15 lb per ft | Surface | 61 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | Surface | 20 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| Hard pan | 4 | 36 |
| Dirty gravel | 36 | 50 |
| Silt | 50 | 58 |
| Sand & gravel | 58 | 61 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 3½ Hrs. at 2½ GPM

Depth from surface to normal water level 31 ft.

Depth to water level when pumping 53 ft.

Well construction completed on Aug 14 1967

Well is terminated 18 inches [X] above [ ] below final grade

Well disinfected upon completion [X] Yes [ ] No

Well sealed watertight upon completion [X] Yes [ ] No

Water sample sent to Madison laboratory on: Aug 14 1967

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: E J Moffit Registered Well Driller — COMPLETE MAIL ADDRESS: Sheldon Wis 54766

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-101

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

NOTE: APR 12 1977

White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300–15
Rev. 10–75

1. COUNTY: Burke
CHECK (✓) ONE: ☐ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: NE¼ NE¼ | Section: 16 | Township: 34 | Range: 6W
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Murray Co.
ADDRESS
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 8 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | 70 |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 52 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black steel 15 lb per ft ASTM 53 Japan steel | Surface | 49 |
| | Screen Johnson | 49 | 52 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| TOP | Surface | 2 |
| Clay | 2 | 10 |
| hard pan | 10 | 44 |
| Sand Gravel | 44 | 52 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with: ☐ Air ☐ Water

Well construction completed on 3/14 1977

11. MISCELLANEOUS DATA

Yield Test: 6 Hrs. at 12 GPM
Depth from surface to normal water level 12 Ft.
Depth of water level when pumping 22 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 10 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 4/6 1977

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller
3.6-F-102
Complete Mail Address: Holcombe Wis 54745

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☑ Town ☐ Village ☐ City — NAME: Grant

LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
16-34-6 ?

3. OWNER AT TIME OF DRILLING: Leland Peterson

OWNER'S COMPLETE MAIL ADDRESS: Ladysmith Wis.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| Bare lo Tiver Drilled | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | ✓ |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 12 | | | |
| 4 | 0 | 30 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Black Steel 11# per ft | Surface | 30 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | Surface | 12 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 2 |
| Hard pan | 2 | 8 |
| Sand | 8 | 28 |
| gravel | 28 | 30 |

BEST COPY AVAILABLE

Well construction completed on July 2, 1966

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 1½ Hrs. at 18 GPM

Depth from surface to normal water level 16 ft.

Depth to water level when pumping 19 ft.

Water sample sent to — laboratory on: 7-2-196

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Brian T. Fagan Registered Well Driller — COMPLETE MAIL ADDRESS: Brantwood

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-103

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk ? { Town ☑ Village ☐ City ☐ } Thornapple
Check one and give name

2. Location S.W. ¼ Sec. Twp. N. Range W. Sec. 34 Lat. Long.
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☒ or Agent ☐ Mrs Blanch Ewan
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis Rt 3
Complete address required

5. From well to nearest: Building 5 ft; sewer none ft; drain none ft; septic tank none ft; dry well or filter bed none ft; abandoned well 100 ft.

6. Well is intended to supply water for: Farm

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4 | Surf | 114 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Black iron Rem | Surf | 114 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Slurry | 4 | 10 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| sand rock and boulders | | |

RECEIVED
MAR 25 1957
ENVIRONMENTAL SANITATION

RECEIVED
APR 1 5 1957
ENVIRONMENTAL SANITATION

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 30 GPM.

Depth from surface to water: 7 ft.

Water-level when pumping: 7 ft.

Water sample sent to laboratory at Madison on ____ 19____

Construction of the well was completed on Dec 26 19 56

The well is terminated 14 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

Signature Ernest McCann
Registered Well Driller

SHELDON Rt 2
Complete Mail Address

3.6-F-104

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 9 1985

FEB 7 1986

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section or Gov't. Lot: SW SE; Section: 14; Township: 34N; Range: 6W
OR – Grid or Street No.: 2; Street or Road Name: "CTY G"
AND – If available subdivision name, lot & block No.: 2

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Cheryl Nassbegger
ADDRESS: N 3798 CTH G
POST OFFICE: Ladysmith, WI
ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 20' | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit: Seepage Pit | Sewage Absorption Unit: Seepage Bed | Sewage Absorption Unit: Seepage Trench | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 70 | | | 100 | | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing Well | Pit: Nonconforming Existing Pump | Pit: Nonconforming Existing Tank | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 200' | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin: Concrete Floor Only | Manure Storage Basin: Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 57 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Black P.E. | Surface | 54 |
| | 18.97# Per Foot | | |
| | ASTM-120 VSP O.T. | | |
| | 1200# P.S.I | | |
| 6"X4" | SCREEN | 54 | 57 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 2 |
| Clay | 2 | 51 |
| Sand | 51 | 57 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

Well construction completed on 9-18 1985

11. MISCELLANEOUS DATA
Yield Test: 3 Hrs. at 8 GPM
Depth from surface to normal water level 25' Ft.
Depth of water level when pumping 47 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 9-23 1985

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Gary Willmarth Registered Well Driller
3.6-F-105

Business Name and Complete Mailing Address: RT 3 Holcombe 54745

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Wel 6

See Instructions on Reverse Side

RECEIVED

1. County Rusk — Town ☒ / Village ☐ / City ☐ Grant — Check one and give name

2. Location SE of NE sec. 16 - T34N - R6W
Name of street and number of premise or Section, Town and Range numbers

SANITARY ENGINEERING

3. Owner ☒ or Agent ☐ V E Nedland
Name of individual, partnership or firm

4. Mail Address Ladysmith
Complete address required

5. From well to nearest: Building 10 ft; sewer ____ ft; drain 30 ft; septic tank 35 ft; dry well or filter bed 75 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 18 | 0 | 20 | 4 | 20 | 41 |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand. steel | 0 | 41 |
| | | | |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 20 |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 3 |
| Hard pan & Rock | 3 | 22 |
| Sandy Clay | 22 | 40 |
| Gravel | 40 | 41 |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on: July 3 19 64

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

**11. MISCELLANEOUS DATA:**

Yield test: 4 Hrs. at 3 GPM.

Depth from surface to water-level: 24 ft.

Water-level when pumping: 29 ft.

Water sample was sent to the state laboratory at: Madison City on July 7 19 64

Signature E J Moffet — Registered Well Driller

Sheldon Wis — Complete Mail Address

Please do not write in space below

29345

Rec'd JUL 8 - 1964 No. ____

Ans'd JUL 13 1964

Interpretation UNSAFE—BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | + | | | | |
| 48 hrs. | | | | | |
| Confirm | + | | | | |
| B. Coli | - | | | | |

Examiner ____

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

DEC 26 1973 NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

JAN 11 1974
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

2. LOCATION – ¼ Section: SW¼ NW¼ | Section: 16 | Township: 34 | Range: 6

OR – Grid or street no. | Street name: SISTERS FARM

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Great Lakes Exploration Co. Inc

ADDRESS: c/o MC #53 – (SISTERS FARM)

POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 55 | | | 75 | | | 45 | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 46 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t&c | Surface | 46 |
| 5 | Shoe pt | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 5 |
| Sandpan | 5 | 32 |
| Sand gravel | 32 | 46 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 12/17 1973

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 15 Hrs. at 3 GPM

Depth from surface to normal water level 5 ft.

Depth to water level when pumping 30 ft.

Water sample sent to Madison laboratory on: 12/17 1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Haleonka Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| * See Form letter dated 1-4-74 in Drillers file | | | | |

REV. 3–71

3-6-E-107

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — #46 — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

RECEIVED JUL 29 1966 SANITARY ENGINEERING

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
S16 T34N R6W ?

3. OWNER AT TIME OF DRILLING: Ed Thummel

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith, Wisc.

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| Barn lot | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)
None

6. Well is intended to supply water for:
Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 23 | | | |
| 4 | 23 | 44 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard Black Steel | Surface | 44 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | Surface | 23 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 2 |
| Hard Pan | 2 | 26 |
| Hard gravel | 26 | 40 |
| Sand rock | 40 | 44 |

BEST COPY AVAILABLE

Well construction completed on 7 - 19 - 196

Well is terminated 24 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 8 GPM

Depth from surface to normal water level 29 ft.

Depth to water level when pumping 33 ft.

Water sample sent to ____ laboratory on: 19

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood — Registered Well Driller

COMPLETE MAIL ADDRESS: R.R. 1. Bruce, Wisc 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-108

WELL CONSTRUCTOR'S REPORT
FORM 3300-15

JAN 26 1976

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY Rusk (Rusk)

CHECK ONE: ☒ Town ☐ Village ☐ City NAME Grant

2. LOCATION – ¼ Section: SWSW | Section: 18 | Township: 34N | Range: 6W
OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Earl Strom
ADDRESS: R.2.
POST OFFICE: Ladysmith 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | | 80' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 5 | 21 | 72 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New, black, standard steel, threaded, and coupled. 15# per ft. 258 wall ASTM A53 U.S.S. | Surface | 72 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 4 |
| Hard pan | 4 | 36 |
| Dirty sand and clay | 36 | 51 |
| Hard pan | 51 | 68 |
| Sand and gravel | 68 | 72 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 2 – 18 – 1975

11. MISCELLANEOUS DATA
Yield test: 4 Hrs. at 6 GPM
Depth from surface to normal water level 31 ft.
Depth to water level when pumping 43 ft.

Well is terminated 10 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 3 – 3 – 1975

In your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller
COMPLETE MAIL ADDRESS: R.R.2. Bruce, Wisc. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-109 | | |

REV. 3–71

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

**NOTE:**
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section: SWSW | Section: 18 | Township: 34 N | Range: 6 W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Karl Strom
ADDRESS: Route 2
POST OFFICE: Ladysmith, Wi. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 60' | | Seepage Pit; Seepage Bed; Seepage Trench 80' |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well; Pump; Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 72 | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled 15# per ft. ASTM A-53 U.S.S. | Surface | 72 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand gravel | 1 | 22 |
| Hard gravel | 22 | 31 |
| Dirty sand gravel | 31 | 67 |
| Clean sand gravel | 67 | 72 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

Well construction completed on 2-18 19 75

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 7 GPM
Depth from surface to normal water level 31 Ft.
Depth of water level when pumping 38 Ft. Stabilized ☑ Yes ☐ No

Well is terminated 8 inches ☑ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on 3-3 19 75

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Atwood Registered Well Driller
Complete Mail Address: R.2 Bruce, Wisc 54819

3.6-F-110

NOV 5 1973

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Grant

2. LOCATION – ¼: SW, SW, | Section: 18 | Township: 34N. | Range: 6 W.
OR – Grid or street no. | Street name

3. OWNER AT TIME OF DRILLING: Bob Efferts
ADDRESS
AND – If available subdivision name, lot & block no.
POST OFFICE: Ladysmith, Wisc. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 55' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 41 | | | |

7. CASING, LINER, CURBING, AND SCREEN

Well was 41' of standard steel, welded and coupled, 11# per ft.

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand | 1 | 26 |
| Hard gravel | 26 | 36 |
| Sand and gravel | 36 | 41 |

BEST COPY AVAILABLE

GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: Sept 24, 19 73

11. MISCELLANEOUS DATA
Yield test: 3 Hrs. at 8 GPM
Depth from surface to normal water level: 12 ft.
Depth to water level when pumping: 18 ft.

Well is terminated 10 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: Oct 23, 19 73

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale A. Attwood Registered Well Driller
COMPLETE MAIL ADDRESS: R. R. 2, Bruce, Wisc 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-111 | | |

REV. 3–71

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

SEP 23 19

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section or Gov't. Lot: NE SW | Section: 18 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Alexander Samardzich
ADDRESS: 906 Shady Lane
POST OFFICE: Ladysmith, Wi. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 15' | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Clearwater Dr. | C.I. | Other | | | | Seepage Pit<br>Seepage Bed<br>Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well<br>Pump<br>Tank | Nonconforming Existing | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 41 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | Raw black t+c ASTM A53 Sum Fo. 19.45# Per Foot | Surface | 41 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 1 |
| Rocky Clay | 1 | 28 |
| Sand | 28 | 41 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9-8-1982

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 12 GPM
Depth from surface to normal water level 22 Ft.
Depth of water level when pumping 24 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 9-13 1982

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature
Larry Wellmaker 3.6-F-112
Registered Well Driller

Business Name and Complete Mailing Address
R3 Holcombe

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

JUL 20 1983

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section or Gov't. Lot: NE-SW | Section: 18 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Jerry Potter
ADDRESS: RR# 2
POST OFFICE: Holcombe Wi. ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 30' | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Clearwater Dr. | Sewage Sump | Clearwater Sump | | | | Seepage Pit / Seepage Bed / Seepage Trench | |
| | | | | | | | | | | | | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 75' | | Well / Pump / Tank | Nonconforming Existing | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin: Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 6' | 4 | 6' | 31½ |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New Black T+C ASTM-A53 Smls 10.45# PerFoot | Surface | 31½ |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 1 |
| Course Grave | 1 | 26 |
| Sand | 26 | 31½ |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 10 GPM
Depth from surface to normal water level 14 Ft.
Depth of water level when pumping 21 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 6-24 1983
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 6-28 1983

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Wellmann Registered Well Driller
3.6-F-113
Business Name and Complete Mailing Address: RT 3 Holcombe

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

APR - 8 1974

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City — NAME Grant

**2. LOCATION** – ¼ Section: N.E. S.W. | Section: 18 | Township: 34N | Range: 6 W.

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Henry M. Pathsacks

ADDRESS R.3.

POST OFFICE Ladysmith, Wisc. 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 35' | | | 55' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Trailer home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 48 | | | |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black, standard steel, threaded and coupled. 11# per ft. | Surface | 48 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil. | Surface | 1 |
| Sand | 1 | 15 |
| Sand and gravel | 15 | 28 |
| Sand | 28 | 33 |
| Sand and hard gravel | 33 | 37 |
| Sand and hard gravel | 37 | 48 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 5 – 18 – 19 71

**11. MISCELLANEOUS DATA**

Yield test: 2 Hrs. at 5 GPM

Depth from surface to normal water level 20 ft.

Depth to water level when pumping 28 ft.

Well is terminated 8 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ N

Water sample sent to laboratory on: 10 – 20 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W. Atwood Registered Well Driller

COMPLETE MAIL ADDRESS Bruce, Wisc. Rt. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3-71

3.6-F-114

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

JUN 29 1983

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Grant

2. LOCATION: ¼ Section or Gov't. Lot: NW NE | Section: 18 | Township: 34N | Range: 6W
OR – Grid or Street No. – Street or Road Name:
AND – If available subdivision name, lot & block No.:

3. NAME ☐ OWNER ☒ AGENT AT TIME OF DRILLING CHECK (✓) ONE
Alexander Sanarczich
ADDRESS: Port Arthur Rd.
POST OFFICE: Ladysmith, Wi. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | ~~Clearwater~~ Dr. | ~~Clearwater~~ Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | Nonconforming Existing | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | Concrete Floor Only | |
| | | | | | Concrete Floor and Partial Concrete Walls | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 6 | 6 | 6 | 82 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Black T+C ASTMA-53 Seamless 19.45# Per Foot | Surface | 79 |
| 4"X4' | Screen | 79 | 82 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 2 |
| Gravel | 2 | 82 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

Well construction completed on 6-21 19 83

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 10 GPM
Depth from surface to normal water level 65 Ft.
Depth of water level when pumping 71 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 6-22 19 83

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Wellnitz Registered Well Driller
3.6-F-115
Business Name and Complete Mailing Address: Rt 3 Solomon

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

AUG 15 1977

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk

CHECK (✓) ONE: [X] Town [ ] Village [ ] City

Name: Grant

2. LOCATION: ¼ Section: SW¼NW¼ | Section: 9 | Township: 34 | Range: 6

OR – Grid or Street No. | Street Name

AND – If available subdivision name, lot & block No.

3. NAME [X] OWNER [ ] AGENT AT TIME OF DRILLING CHECK (✓) ONE: Mining Co.

ADDRESS

POST OFFICE: Ladysmit , WI 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 7 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | 80 |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 53 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Blk Steel T&C | Surface | 51 |
| | ASTHM A-53 | | |
| | 11#/Ft. | | |
| | Japanese Steel | | |
| | Screen | 51 | 53 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 47 |
| Sand & Gravel | 47 | 53 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

[X] Cable Tool
[ ] Rotary-air w/drilling mud
[ ] Rotary-w/drilling mud
[ ] Rotary-hammer w/drilling mud & air
[ ] Rotary-hammer & air
[ ] Reverse Rotary
[ ] Jetting with Air / Water

Well construction completed on 8/6 19 77

11. MISCELLANEOUS DATA

Yield Test: 7 Hrs. at 3 GPM

Depth from surface to normal water level 30 Ft.

Depth of water level when pumping 39 Ft. Stabilized [X] Yes [ ] No

Well is terminated 12 inches [X] above [ ] below final grade

Well disinfected upon completion [X] Yes [ ] No

Well sealed watertight upon completion [X] Yes [ ] No

Water sample sent to Madison laboratory on 8/9/ 19 77

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Stockletz Registered Well Driller 3.6-F-116

Complete Mail Address: Holcombe, WI. 54745

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

AUG 15 1977

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: Hrant

2. LOCATION: ¼ Section: SW¼NW¼ | Section: 9 | Township: 34 | Range: 6

OR – Grid or Street No. | Street Name

AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Mining Co.

ADDRESS

POST OFFICE: Ladysmit, WI 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewer C.I. | Storm Bldg. Sewer Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: Sewer | Foundation Drain Connected to: Sewage Sump | Foundation Drain Connected to: Clearwater Dr. | Foundation Drain Connected to: Clearwater Sump | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 50 | | Seepage Pit |
| | | | | | | | | | | | | | Seepage Bed 80 |
| | | | | | | | | | | | | | Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | |
| | | Pump | | | | | | | | |
| | | Tank | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 53 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Blk Steel T&C | Surface | 51 |
| | ASTHM A-53 | | |
| | 11#/Ft. | | |
| | Japanese Steel | | |
| | Screen | 51 | 53 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 47 |
| Sand & Gravel | 47 | 53 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air / Water

Well construction completed on 8/6 1977

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield Test: 7 Hrs. at 3 GPM

Depth from surface to normal water level 30 Ft.

Depth of water level when pumping 39 Ft. Stabilized ☒ Yes ☐ No

Water sample sent to Madison laboratory on 8/9/ 19 77

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Stockletter Registered Well Driller

Complete Mail Address: Holcombe, WI. 54145

3.6-F-117

STATE OF WISCONSIN

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

S ½, Govt Lot 7, Sec 9, T 34N, R 6W

3. OWNER AT TIME OF DRILLING

Al Jennerman

4. OWNER'S COMPLETE MAIL ADDRESS

Ladysmith, Wis

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | N | 0 | N | N | E | | | ✓ |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Trailer

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6" | Surface | 33' | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T & C, Black, New Steel 19:45 | Surface | 33' |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Dirty gravel & Big Stones | Surface | 16' |
| Sand & gravel | 16' | 33' |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 3 Hrs. at 15 GPM

Depth from surface to normal water level 22 ft.

Depth to water level when pumping 23 ft.

Well construction completed on March 14 1968

Well is terminated 11 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wis laboratory on: March 17 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE

Merlyn E. Dair Registered Well Driller

COMPLETE MAIL ADDRESS

R 1, Holcombe, Wis.

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

FEB 3 1942

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner L Harry Parker — Driller Ed Bradbury

Street or RFD — Post Office Haberman

Post Office Ladysmith — Date Feb 2. — Permit No. 79

### LOCATION OF PREMISES

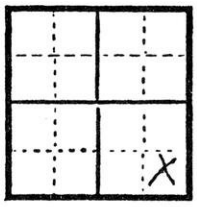
Rusk. — Town

County

Describe further by subdivision, plat, district, lake, lot,

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



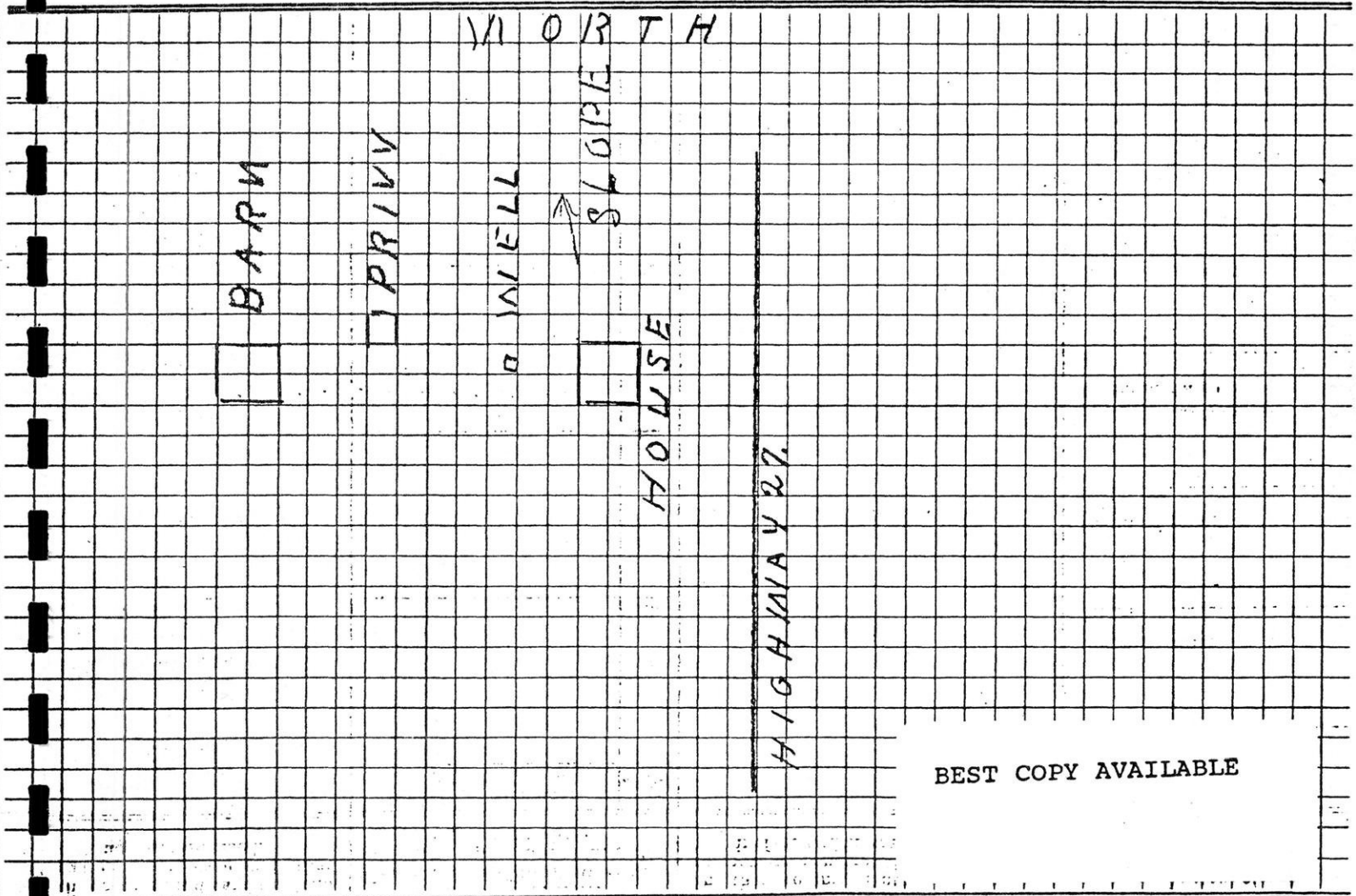
Sec. No. 9

Twp. No. 34

Range 6 { E / W

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25¢. Send remittance with order to State Board of Health, Well Drilling Division, Madison, Wis.

3.6-F-119

# WELL LOG *and* REPORT

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-1939.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

4 inch
W.I. P. S.

DRIVE
SHOE

Casing

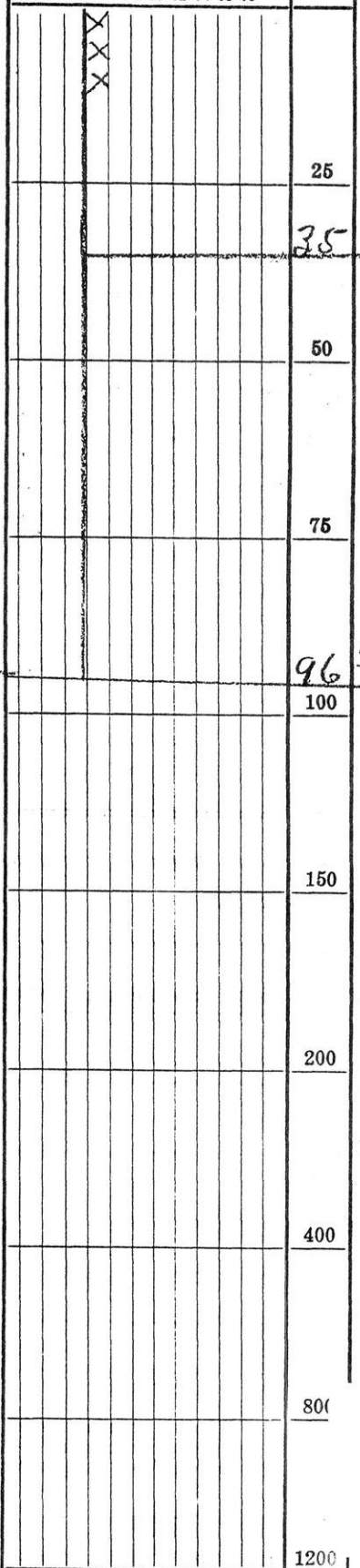
KEY

| Casing

drill hole

X Gravel
X gravel
X

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.




Draw the diagram to show the right half only

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

Sand

Yellow clay

94 sand + water

BEST COPY AVAILABLE

**Record of FINAL Pumping test**

Duration of test
Hours 1 hour

Pumping rate
G.P.M. 4

Depth of pump in well. Ft. 68

Standing water-level (from surface)
Ft. 18

Water-level when pumping Ft. 60 ft.

Water. End of test.
Clear
Cloudy cloudy
Turbid

Was the well sterilized?
Yes yes No

To which laboratory was sample sent?
Madison

Date Jan 10

Was the well sealed on completion?
Yes yes No

How high did you leave the casing-pipe above grade?
1 foot

Well was completed
Date Dec 22

Well Driller
Ed Rueble
Signature

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk { Town / Village / City } Grant

2. Location SE of SE ¼ Sec 7 - V 34 N R-6 W

3. Owner or Agent Harry Kasbar

4. Address Ladysmith R # 3

5. From well to nearest: Building 50 ft; sewer ~ ft; drain ~ ft; septic tank ~ ft; dry well or filter bed 120 ft; abandoned well 30 ft.

6. Well is intended to supply water for: Dairy farm

## 7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Weight Pipe | | 52' |
| | | | |
| | | | |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Puddle Clay | 0 | 24 |
| | | |
| | | |
| | | |
| | | |

## 10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Clay loam | 3 | 3 |
| Gravelly Hard Pan | 17 | 20 |
| Coarse Sand & Gravel | 3 | 23 |
| Fine Sand | 18 | 41 |
| Blue Clay | 8 | 49 |
| Coarse Sand | 6 | 55 |

BEST COPY AVAILABLE

## 11. MISCELLANEOUS DATA:

Yield test: 6 Hrs. at 20 GPM.

Depth from surface to water: 10 ft.

Water-level when pumping: 10 ft.

Water sample sent to laboratory at Rhinelander on 8-27 1942

Construction of the well was completed on Aug 1942

The well is terminated 12" inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes Yes No

Was the well sealed watertight upon completion? Yes Yes No

Signature Sam Kramer Registered Well Driller

Box 173 Complete Mail Address

Weyerhauser

3.6-F-121 Wisc

## INSTRUCTIONS

ALL INFORMATION INDICATED ON THE FACE OF THIS FORM MUST BE GIVEN

PLEASE BE GUIDED BY THE FOLLOWING:

Numbers below correspond to numbers of items of the form on the opposite side.

1. Name of the County and the name of the Town, Village or City. Indicate which is given.
2. If Rural: Number and the ¼ of the Section, the number of the Town North, and the number of the Range East or West.
   If Urban: Name of the Street and the number of the Premise.
3. Name of the Owner. If the name of the owner cannot be given, give instead the name of the Agent. Indicate which is given.
4. Name of the Street and the number of the Premise or the number of the Mail Route, the name of the Post Office and the name of the State.
5. Distance, in feet, from the well to the nearest building and to each source of pollution shown.
6. Indicate: Home, farm, school, tavern, creamery, community, industry, etc.
7. Show the diameter and depth of the initial drillhole or excavation and each reduction in size to bottom. If well was reconstructed, show diameter and depth of original well on first line.
8. Show diameter and kind of casing pipe, liner pipe or curbing and actual position in the well, measured from the surface.
9. Show kind of material (mud or cement) used in sealing the annular space, from and to what depths from the surface. If neither was used indicate "none".
10. Show thickness of each formation and the total depth at the base thereof.
11. Provide the data indicated.

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, connecting pits, etc., may be given here:

This well was drilled about 30 ft from a 96 ft well which produced very little water and of poor quality also reached the Granite

The new well was drilled to the bottom of sand tock and is 41 ft 4" Johnson screen was used. Also forged steel shoe + a sanitary flange.

BEST COPY AVAILABLE

If more space is needed another sheet may be attached.

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Wel 6

See Instructions on Reverse Side

RECEIVED
AUG 6 1963
SANITARY ENGINEERING

1. County Rusk — Town ☒ / Village ☐ / City ☐ Grant (Check one and give name)

2. Location NE of SW sec 9 T34N - R6W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Jerry Mills
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building None ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 31 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand. Steel | 0 | 31 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| None | | |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand & Gravel | 0 | 20 |
| Sand | 20 | 28 |
| Sand & Gravel | 28 | 31 |
| | | |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on: Aug 1 1963

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 15 GPM.

Depth from surface to water-level: 11 ft.

Water-level when pumping: 13 ft.

Water sample was sent to the state laboratory at: Madison City on Aug 1 1963

Signature E P Moffit
Registered Well Driller

Sheldon Wis
Complete Mail Address

Please do not write in space below

Rec'd AUG 2 - 1963 No. 31744

Ans'd

Interpretation SAFE—BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

Examiner

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

FEB 3 1942

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Harry Parker  Driller Earl Burchfield

Street or RFD  Post Office Holcombe

Post Office Ladysmith  Date Feb 2.  Permit No. 79

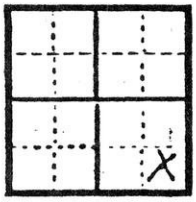
### LOCATION OF PREMISES

Rusk.
County  Town

Describe further by subdivision, plat, district, lake, lot,

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



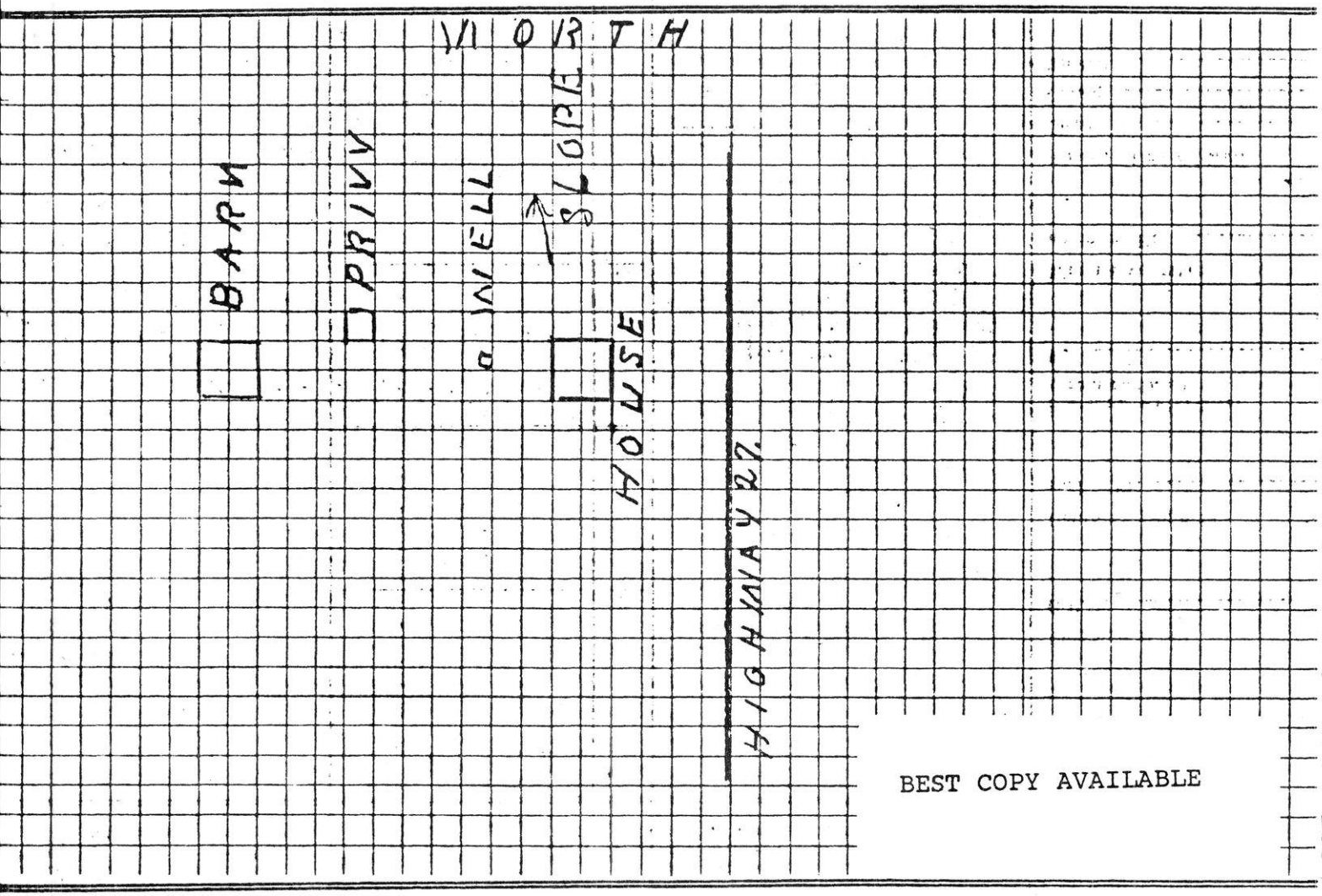
Sec. No. 9

Twp. No. 34

Range 6 { E / W }

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25¢. Send remittance with order to State Board of Health, Well Drilling Division, Madison, Wis.

3.6-F-124

# WELL LOG *and* REPORT

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-1939.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

4 inch W.D.S.

DRIVE SHOE

Casing

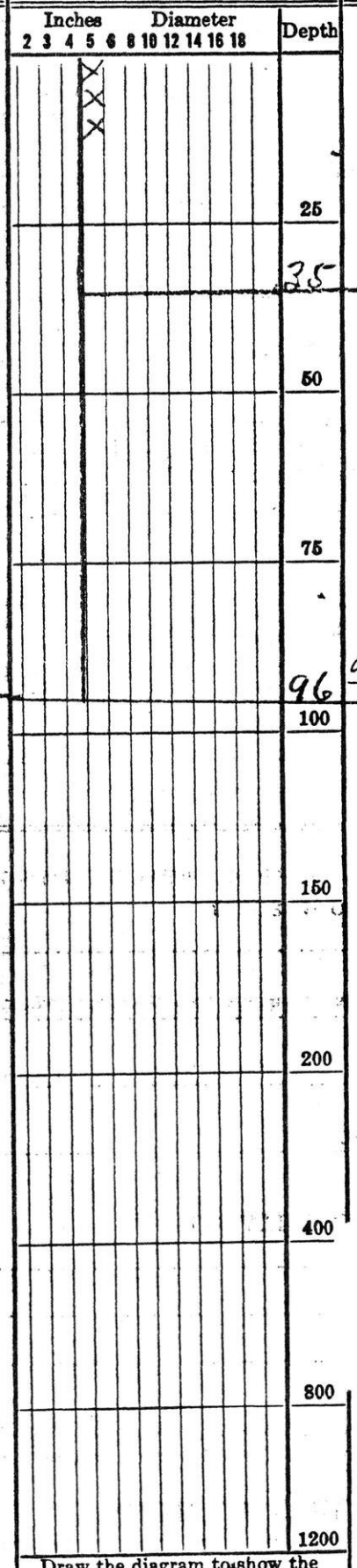
KEY

Casing

drill hole

X Sand
X grout

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.




Draw the diagram to show the right half only

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

Sand

yellow clay

94 sand + water

BEST COPY AVAILABLE

**Record of FINAL Pumping test**

Duration of test Hours 1 hour

Pumping rate G.P.M. 4

Depth of pump in well. Ft. 68

Standing water-level (from surface) Ft. 18

Water-level when pumping Ft. 60 ft.

Water. End of test.
Clear
Cloudy Cloudy
Turbid

Was the well sterilized?
Yes Yes No

To which laboratory was sample sent?
Madison

Date Jan 10

Was the well sealed on completion?
Yes Yes No

ow high did you leave the asing-pipe above grade?
1 foot

Well was completed
Date Dec 22.

Well Driller
Ed Bruchert
Signature

SEP 9 1974

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Grant

2. LOCATION – ¼ Section: NW¼ NW¼ | Section: 10 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Tom Hutnik

ADDRESS: Route 3

POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50 | | | 75 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 82 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Block T+C | Surface | 82 |
| 15 lb. per ft. | | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 5 |
| Hard Pan | 5 | 80 |
| Sand gravel | 80 | 82 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 8 - 30 - 1974

11. MISCELLANEOUS DATA

Yield test: 6 Hrs. at 7 GPM

Depth from surface to normal water level 13 ft.

Depth to water level when pumping 20 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, laboratory on: 9/3 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-126 | | |

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk (Town ☒ Grant / Village ☐ / City ☐) Check one and give name

2. Location NW of NW Sec 10 T 34 Rt - W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☐ or Agent ☐ Harry Pederson
Name of individual, partnership or firm

4. Mail Address Sady Smith Wis
Complete address required

5. From well to nearest: Building 6 ft; sewer ____ ft; drain 25 ft; septic tank 50 ft; dry well or filter bed 80 ft; abandoned well None ft.

6. Well is intended to supply water for: ____

7. **DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | 0 | 6 | 5 | 6 | 70 |
| | | | | | |

8. **CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Stand Steel | 0 | 70 |
| | | | |
| | | | |

9. **GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 6 |
| | | |

10. **FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | 0 | 4 |
| Sand & Gravel | 4 | 25 |
| Hard Pan | 25 | 65 |
| Gravel | 65 | 70 |

RECEIVED
OCT 17 1957
ENVIRONMENTAL SANITATION

Construction of the well was completed on: Sept 26 1957

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

11. **MISCELLANEOUS DATA:**

Yield test: 4 Hrs. at 3 GPM.

Depth from surface to water-level: 30 ft.

Water-level when pumping: 40 ft.

Water sample was sent to the state laboratory at: ~~Madison~~ ____ City on Oct 7 1957

Signature E F Mellitt
Registered Well Driller

Sheldon Wis
Complete Mail Address

Please do not write in space below

Rec'd OCT 9 1957 No. 35041

Ans'd ____

Interpretation UNSAFE

BEST COPY AVAILABLE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | + | + | | | |
| 48 hrs. | | | | | |
| Confirm | + | + | | | |
| B. Coli | 2 | | | | |

Examiner ____

3.6-F-127

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

Wel 6

See Instructions on Reverse Side

RECEIVED

1. County Rusk — Town ☒ / Village ☐ / City ☐ Grant — Check one and give name

2. Location SW of SW sec 20 T34N-R6W — Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Maurice Anderson — Name of individual, partnership or firm

4. Mail Address Ladysmith Wis — Complete address required

5. From well to nearest: Building 40 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Farm

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | 0 | 18 | 5 | 18 | 43 |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Stand Steel | 0 | 41 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 18 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 2 |
| Hard Pan | 2 | 18 |
| Silt & Sand | 18 | 34 |
| Silt & Gravel | 34 | 36 |
| Sand Stone | 36 | 43 |

BEST COPY AVAILABLE

Construction of the well was completed on: Aug 6 1963

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 2 Hrs. at 7½ GPM.

Depth from surface to water-level: 13 ft.

Water-level when pumping: 15 ft.

Water sample was sent to the state laboratory at: Madison (City) on Aug 6 1963

Signature E F Moffit (Registered Well Driller) — Sheldon Wis (Complete Mail Address)

Please do not write in space below

AUG 7 - 1963

Rec'd ____ No. 32-26

Ans'd ____

Interpretation SAFE—BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

0/5

Examiner ____

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

OCT 12 1976

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15
Rev. 10–75

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: Grant

2. LOCATION: ¼ Section: NE¼SE¼ | Section: 21 | Township: 34 | Range: 6

OR – Grid or Street No. | Street Name:

AND – If available subdivision name, lot & block No.:

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
WIESENBERGER. (Mining Co.)

ADDRESS former Schaefer Property (Sillman Rd (west of STH "27")

POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed |
| | | | | | | | | | | | | | Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | Surface | 20 | 4 | 20 | 55 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New Blk Steel T&C | Surface | 53 |
| | ASTHM A-53 | | |
| | 11#/Ft | | |
| | Japanese Steel | | |
| | Screen | 53 | 55 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 50 |
| Sand & Gravel | 50 | 55 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air / Water

Well construction completed on 9/23 19 76

11. MISCELLANEOUS DATA

Yield Test: 10 Hrs. at 6 GPM

Depth from surface to normal water level 18 Ft.

Depth of water level when pumping 38 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on ~~10/4~~ 10/7 19 76

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe. Wis. 54745

3-6-F-129

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — Town ☑ / Village ☐ / City ☐ Grant (Check one and give name)

2. Location NE of NE sec 2, T-34N. R-6-W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Grant Center School
Name of individual, partnership or firm

4. Mail Address Ladysmith R-R-3 Wis
Complete address required

5. From well to nearest: Building 8 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft. 75 ft from Toilet

6. Well is intended to supply water for: School

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | 0 | 10 | 4 | 10 | 44 |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand. steel | 0 | 44 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 10 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Old well 4 in 21 ft Deep With light casing | | |
| Clay | 0 | 10 |
| Silt | 10 | 36 |
| Gravel | 36 | 44 |

RECEIVED
NOV 5 1958
ENVIRONMENTAL SANITATION

This was an old well. Light 4" casing replaced

Construction of the well was completed on: Oct 28 1958

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 3 GPM.

Depth from surface to water-level: 10 ft.

Water-level when pumping: 25 ft.

Water sample was sent to the state laboratory at: Madison (City) on Oct 28 1958

Signature E. S. Moffit (Registered Well Driller) — Sheldon Wis (Complete Mail Address)

Please do not write in space below

Rec'd OCT 30 1958 No. 35767

Ans'd

Interpretation SAFE

BEST COPY AVAILABLE

3.6-F-130

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

Examiner

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 9 1985

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section or Gov't. Lot: NW-NW | Section: 22 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street or Road Name: Cty P
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: JULE REISNER
ADDRESS: RH 1
POST OFFICE: Sheldon. ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | Nonconforming Existing | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin: Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for:

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 57 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Black P.E. | Surface | 54 |
| | 18.97# Per Foot | | |
| | ASPA-120 VSP D.R. | | |
| | 1200# P.S.I. | | |
| 4"x4" | SCREEN | 54 | 57 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 2 |
| Clay | 2 | 12 |
| Hard pan | 12 | 25 |
| Clay | 25 | 53 |
| Sand | 53 | 57 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with: ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 3 Hrs. at 8 GPM
Depth from surface to normal water level 8 Ft.
Depth of water level when pumping 26 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 9-25 1985
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 10-7 1985

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Jerry Wellnitz Registered Well Driller

Business Name and Complete Mailing Address: RH 3 Holcombe. 54745

3-6-E-131

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 9 1985

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section or Gov't. Lot: NW-NW | Section: 22 | Township: 34N | Range: 6W
OR – Grid or Street No.: 2 | Street or Road Name: Cty P
AND – If available subdivision name, lot & block No.: 2

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: JULE REISNER
ADDRESS: RH 1
POST OFFICE: Sheldon
ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin: Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for:

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 57 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Black P.E. | Surface | 54 |
| | 18.97# PER FOOT | | |
| | ASPA-120 VSP D.T. | | |
| | 1200# P.S.I. | | |
| 4"X4" | SCREEN | 54 | 57 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| DRILL SLURRY | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| TOP | Surface | 2 |
| CLAY | 2 | 12 |
| HARD PAN | 12 | 25 |
| CLAY | 25 | 53 |
| SAND | 53 | 57 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with: ☐ Air ☐ Water

Well construction completed on 9-25 1985

11. MISCELLANEOUS DATA

Yield Test: 3 Hrs. at 8 GPM
Depth from surface to normal water level 8 Ft.
Depth of water level when pumping 26 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 10-7 1985

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Wellman
3.6-F-137 Registered Well Driller

Business Name and Complete Mailing Address: RH 3 Holcombe 54745

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

APR 10 1985

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: Flambeau

2. LOCATION: ¼ Section or Gov't. Lot: SE/SW | Section: 27 | Township: 35N | Range: 6W

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓): Alvin Flint

OR – Grid or Street No. | Street or Road Name

AND – If available subdivision name, lot & block No.

ADDRESS: R.R. 1 Box 81A

POST OFFICE: Ladysmith, Wi ZIP CODE: 548

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. |
|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. Ot |
| 5 | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hoppe Retention or Pnuematic Tan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | ✓ | | Seepage Bed ✓ | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for:

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 10 | | | |
| 4 | 10 | 56 | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New Black Steel Lawhill USS A589 11#/Ft. | Surface | 53 |
| 4 | Stainless Steel Screen | 53 | 56 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 10 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Tan Sand, Gravel & Rock | Surface | 20 |
| Tan Sand & Clay | 20 | 50 |
| Pea Gravel (W) | 50 | 56 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with: ☐ Air ☐ Water

11. MISCELLANEOUS DATA

Yield Test: 2 Hrs. at 10 GPM

Depth from surface to normal water level 35 Ft.

Depth of water level when pumping 38 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 11-11 19 83

Well is terminated 18 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to _____ laboratory on 12-[illegible]3 19 8[illegible]

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: [signature] Registered Well Driller

Business Name and Complete Mailing Address: R4 Hayward, Wi 54843

3.6-F-133

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

T35-R6

1. County Rusk — Town ☒ Village ☐ City ☐ Flambeau (Check one and give name)

2. Location Sec. 27 Ladysmith, Wis. (Name of street and number of premise or Section, Town and Range numbers)

3. Owner ☒ or Agent ☐ Clifford Roberts (Name of individual, partnership or firm)

4. Mail Address Ladysmith, Wis (Complete address required)

5. From well to nearest: Building 4 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft. No sewers - new construction

6. Well is intended to supply water for: House

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4" | 0 | 52 | | | |
| | | | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | St. Blk. Steel | 0 | 52 |
| | | | |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 6 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 6 |
| Clay | 6 | 32 |
| Hard pan | 32 | 50 |
| water bearing gravel | 50 | 52 |

RECEIVED
JUN 3 1956
ENVIRONMENTAL SANITATION

Construction of the well was completed on: Oct. 1953

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

11. MISCELLANEOUS DATA:

Yield test: 10 Hrs. at 6 GPM.

Depth from surface to water-level: 18 ft.

Water-level when pumping: 32 ft.

Water sample was sent to the state laboratory at: Madison (City) on Oct. 3 1953

Signature Melvin L Fugina (Registered Well Driller) Bruce, Wis (Complete Mail Address)

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

BEST COPY AVAILABLE

Examiner ____

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26 1948

1. County Rusk { Town / ~~Village~~ / ~~City~~ Flambeau

2. Location a part of SW¼ of SW¼ Sect 27 - T 35 - R 6 W

3. Owner or Agent Theodore Sandon

4. Address Ladysmith Wis.

5. From well to nearest: Building 14 ft; sewer 80 ft; drain 80 ft; septic tank 10 ft; dry well or filter bed 150 ft; abandoned well 125 ft.

6. Well is intended to supply water for: Night Club

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 28 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | 1 | 65 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | | 28 |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Sandy loam | 3 | 3 |
| tall formation | 27 | 30 |
| Mud + Water | 30 | 60 |
| Sand + gravel | 5 | 65 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 12 GPM.

Depth from surface to water: 30 ft.

Water-level when pumping: 30 ft.

Water sample sent to laboratory at Rhinelander on 7-9 19 46

Signature Sam Kramer
Registered Well Driller

Construction of the well was completed on July 19 46

The well is terminated 8 inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes ✓ No

Complete Mail Address

RECEIVED Wel 6
APR 15 1966

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk, Town ☒ / Village ☐ / City ☐ Flambeau (Check one and give name) SANITARY

2. Location S.W. 1/4 S.W. 1/4 South 27 Township 35 North Range 6 West
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ George Roberts
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin
Complete address required

No sewer on the place

5. From well to nearest: Building 8 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 20 | | | |
| 4 | 20 | 53 | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Black Standard | | |
| | Steel | 0 | 53 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | 0 | 21 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 3 |
| Clay | 3 | 38 |
| Hard pan gravel and clay | 38 | 51 |
| Water bearing gravel | 51 | 53 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 10 GPM.

Depth from surface to water-level: 35 ft.

Water-level when pumping: 38 ft.

Water sample was sent to the state laboratory at: ____ City on ____ 19____

Construction of the well was completed on: June 20 19 61

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

Signature William P. Ferguson
Registered Well Driller

Bruce, Wisconsin
Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ____

3.6-F-136

# WELL CONSTRUCTOR'S REPORT

Wel-6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk — CHECK ONE: ☐ Town ☐ Village ☒ City — NAME: Ladysmith

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
SW SE 27 T35N-R6W

3. OWNER AT TIME OF DRILLING: Roman Kostek

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith Wis RR.1, 54848

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C.I. | SANITARY SEWER TILE | FLOOR DRAIN C.I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C.I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 18 | None | | None | | None | | None | |

| CLEAR WATER DRAIN C.I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| None | | None | | None | | None | | None | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home.

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 3 | 5 | 3 | 31 |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Black F&C 15 Lb per Ft | Surface | 31 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 3 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Gravel | Surface | 6 |
| Sand | 6 | 20 |
| Sand & Gravel | 20 | 22 |
| Silt | 22 | 29 |
| Sand & Gravel | 29 | 31 |

BEST COPY AVAILABLE

Well construction completed on 9-28 1971

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 3 GPM

Depth from surface to normal water level 12 ft.

Depth to water level when pumping 18 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison Wis laboratory on: 9-30 1971

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: E. P. Moffit Registered Well Driller

COMPLETE MAIL ADDRESS: Sheldon Wis 54766

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-137

REV. 11-68

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 26 1948

1. County Rusk { Town / Village / City } Flambeau

2. Location W. ½ of S.W. ¼ of SE ¼ Section 27 T.35 n-R.1 W.

3. Owner or Agent Fayne Martin

4. Address Ladysmith Wis

5. From well to nearest: Building 18 ft; sewer — ft; drain — ft; septic tank — ft; dry well or filter bed 65 ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 25 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Steel | | 56 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Mud | 0 | 25 |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Clay loam | 3 | 3 |
| Sand & gravel | 22 | 25 |
| Hard Pan | 25 | 50 |
| Sand & gravel | 6 | 56 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 8 GPM.

Depth from surface to water: 38 ft.

Water-level when pumping: 38 ft.

Water sample sent to laboratory at Rhinelander on July 9 1946

Construction of the well was completed on July 1946

The well is terminated 12" inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ← No

Was the well sealed watertight upon completion? Yes ← No

Signature Sam Kramer
Registered Well Driller

Weyerhauser Wis
Complete Mail Address

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

JAN 2 1948

1. County Rusk { Town ☐ Village ☐ City ☐ } Flambeau
Check one and give name

2. Location West Hemlock St ¼ of SE ¼ Sect 29 T35N R-6-W
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☐ or Agent ☐ E V. McGill
Name of individual, partnership or firm

4. Mail Address Ladysmith
Complete address required

5. From well to nearest: Building 36 ft; sewer ——— ft; drain ——— ft; septic tank ——— ft; dry well or filter bed 300 ft; abandoned well ——— ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 8 | 0 | 20 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | steel | | 42½ |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | 0 | 20 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Med. loam | 2 | 2 |
| Silt, sand & gravel | 16 | 20 |
| Hard pan | 15 | 35 |
| Sand gravel & Water | 7½ | 42½ |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 10 GPM.

Depth from surface to water: 34 ft.

Water-level when pumping: 34 ft.

Water sample sent to laboratory at Rhinelander on Sept 8 19 47

Construction of the well was completed on Sept 19 47

The well is terminated 10 inches ☐ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ———

Was the well sealed watertight upon completion? Yes ✓ No ———

Signature Sam Kramer
Registered Well Driller

Wegerhausen Bros
Complete Mail Address
Box 173

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

JUL 26 1974

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Flambeau

2. LOCATION – ¼ Section: NE¼ NE¼ | Section: 27 | Township: 35 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Tom Throud

ADDRESS: R. R.

POST OFFICE: Ladysmid Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50 | | | 75 | 100 | 100 | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Farm

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 7 | 5 | 7 | 70 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t-c | Surface | 7 |
| 15 | 4 ft. | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand gravel | Surface | 25 |
| hard pan | 25 | 55 |
| Sand gravel | 55 | 70 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 7 |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7/12 1974

11. MISCELLANEOUS DATA

Yield test: 8 Hrs. at 4 GPM

Depth from surface to normal water level 20 ft.

Depth to water level when pumping 24 ft.

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 7/22 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Stackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-140 | | |

REV. 3–71

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
DEC 13 1963
SANITARY ENGINEERING

1. County Burnett — Town ☑ / Village ☐ / City ☐ Flambeau — Check one and give name

2. Location Part of Gov Lot 1 of Sec 27-T-35N-R-16-W
Name of street and number of premises or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Buel Riddle
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc RR#1
Complete address required

5. From well to nearest: Building 4 ft; sewer 24 ft; drain None ft; septic tank ____ ft; 40 dry well or filter bed 100 ft; abandoned well ____ ft. None

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 12 | | | |
| 4 | 12 | 27 | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Full Weight Steel | Above | 27 |
| | | | |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 12 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 1 |
| Boulders & gravel | 2 | 10 |
| Sloppy Sand & Gravel | 10 | 18 |
| Dia. Gravel | 18 | 27 |

BEST COPY AVAILABLE

Construction of the well was completed on: Dec 4th 1963

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes 1 No ____

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 7 GPM.

Depth from surface to water-level: 9 ft.

Water-level when pumping: 10 ft.

Water sample was sent to the state laboratory at: Madison City on Dec 9th 1963

Signature Kramer & Falan, Registered Well Driller — Wegerhausen Wisc, Complete Mail Address

Please do not write in space below

DEC 10 1963

Rec'd ____ No. 52971

Ans'd ____

Interpretation SAFE—BACTERIOLOGICALLY

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

Examiner ____

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk — Town ☐ Village ☐ City ☒ Ladysmith Wis (Check one and give name)

2. Location Lot 3 Block 1 Third Add to Ladysmith (Name of street and number of premise or Section, Town and Range numbers) Sec. 28 T35N - R6W

3. Owner ☒ or Agent ☐ Earl F Sanderson (Name of individual, partnership or firm)

4. Mail Address Ladysmith Wis (Complete address required)

5. From well to nearest: Building 6 ft; sewer None ft; drain 30 ft; septic tank None ft; dry well or filter bed None ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | 0 | 62 | | | |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Stand. Steel | 0 | 62 |
| | | | |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| None | | |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand & Silt | 0 | 20 |
| Silt | 20 | 61 |
| Sand & Gravel | 61 | 62 |

RECEIVED
NOV 17 1960
SANITARY ENGINEERING

Construction of the well was completed on: Nov 8 19 60

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

**11. MISCELLANEOUS DATA:**

Yield test: 2 Hrs. at 4 GPM.

Depth from surface to water-level: 26 ft.

Water-level when pumping: 29 ft.

Water sample was sent to the state laboratory at: Madison (City) on Nov 9 1960

Signature E F Moffat (Registered Well Driller) — Sheldon Wis (Complete Mail Address)

Please do not write in space below

Rec'd NOV 10 1960 No. 44728

Ans'd ____

Interpretation SAFE—BACTERIOLOGICALLY

BEST COPY AVAILABLE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

Examiner ____

3.6-F-142

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

MAY 16 1980

# WELL CONSTRUCTOR'S REPORT

Form 3300-15 Rev. 12-76

1. COUNTY: RUSK
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: GRANT

2. LOCATION: ¼ Section: SE NE | Section: 28 | Township: 34N | Range: 6W
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: ZENNY KUC
ADDRESS: RI CORRATH
POST OFFICE: CORRATH WISC.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 15 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | — |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Descript |
|---|---|---|---|---|---|
| | | | | | |

BEST COPY AVAILABLE

5. Well is intended to supply water for: PARTS STORE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 77 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification & Method of Assembly

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | NEW BLACK T+C | Surface | 77 |
| | 19.45# PER FOOT | | |
| | SUMITOMO | | |
| | ASTM 53 | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| DRILL SLURRY | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| TOP | Surface | 1 |
| HARD PAN | 1 | 32 |
| GRAVELLY CLAY | 32 | 60 |
| MUDDY SAND | 60 | 63 |
| HARD PAN | 63 | 70 |
| MUDDY SAND & GRAVEL | 70 | 74 |
| GRAVEL | 74 | 77 |
| | | |

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary
☐ Jetting with ☐ Air ☐ Water

Well construction completed on 5-6 19 80

11. MISCELLANEOUS DATA
Yield Test: 16 Hrs. at 4 GPM
Depth from surface to normal water level 8 Ft.
Depth of water level when pumping 70 Ft. Stabilized ☑ Yes ☐ No

Well is terminated 12 inches ☐ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on 5-13 19 80

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Willmarth Registered Well Driller

Complete Mail Address: RI Holcombe, Wisc. 54745

3.6-F-143

State of Wisconsin
Department of Natural Resources
Box 450
Madison, Wisconsin 53701

NOTE: OCT 11 1976

White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300-15
Rev. 10-75

1. COUNTY: Rusk

CHECK (✓) ONE: [X] Town [ ] Village [ ] City

Name: Grant

2. LOCATION: ¼ Section NE¼NE¼ | Section 28 | Township 34 | Range 6

OR – Grid or Street No. | Street Name

AND – If available subdivision name, lot & block No.

3. NAME [X] OWNER [ ] AGENT AT TIME OF DRILLING CHECK (✓) ONE

William Sieg

ADDRESS: R. F. D. #3

POST OFFICE: Ladysmith, Wis. 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 14 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | 76 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | Nonconforming Existing | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 220 98 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New Blk Steel T&C | Surface | 220 98 |
| | ASTM A-53 | | |
| | 19.45#/Ft. | | |
| | Japanese Steel | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 3 |
| Hard Pan | 3 | 75 |
| Sand & Gravel | 75 | 98 |
| Granite | 98 | 220 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

[X] Cable Tool
[ ] Rotary-air w/drilling mud
[ ] Rotary-w/drilling mud
[ ] Rotary-hammer w/drilling mud & air
[X] Rotary-hammer & air
[ ] Reverse Rotary
[ ] Jetting with Air / Water

Well construction completed on 9/20 1976

11. MISCELLANEOUS DATA

Yield Test: 10 Hrs. at 15 GPM

Depth from surface to normal water level 12 Ft.

Depth of water level when pumping 27 Ft. Stabilized [X] Yes [ ] No

Well is terminated 12 inches [X] above [ ] below final grade

Well disinfected upon completion [X] Yes [ ] No

Well sealed watertight upon completion [XX] Yes [ ] No

Water sample sent to Madison laboratory on 10/6 1976

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe. Wis. 54745

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 09 1974

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

**1. COUNTY** Buffalo — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Grant

**2. LOCATION** – ¼ Section: W½NE¼ | Section: 28 | Township: 34 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Weisenberger Jacob

ADDRESS

POST OFFICE Ladysmith Wis

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 60 | — | — | 75 | 120 | 140 | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Farm

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 7 | 5 | 7 | 80 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black | Surface | 80 |
| 15 | Unspecified | | |
| | | | |
| | | | |
| | | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Dull Slurry | Surface | 7 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 3 |
| Sand & Gravel | 3 | 22 |
| Hard pan | 22 | 70 |
| Sand & Gravel | 70 | 80 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 4/26 1974

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**

Yield test: 12 Hrs. at 10 GPM

Depth from surface to normal water level 10 ft.

Depth to water level when pumping 20 ft.

Water sample sent to Madison laboratory on: 5/1 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE

Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS

Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-145

REV. 3-71

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

JUL 25 1944

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Joe Kodeteka — Driller Kramer & Calkins

Street or RFD #2 — Post Office Weyerhauser Wisc

Post Office Ladysmith Wisc — Date ____ Permit No. 267

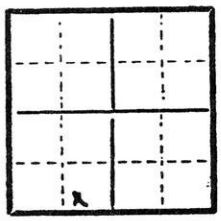
### LOCATION OF PREMISES

Rusk (County) — Flambeau (Town)

Describe further by subdivision, plat, district, lake, lot.

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



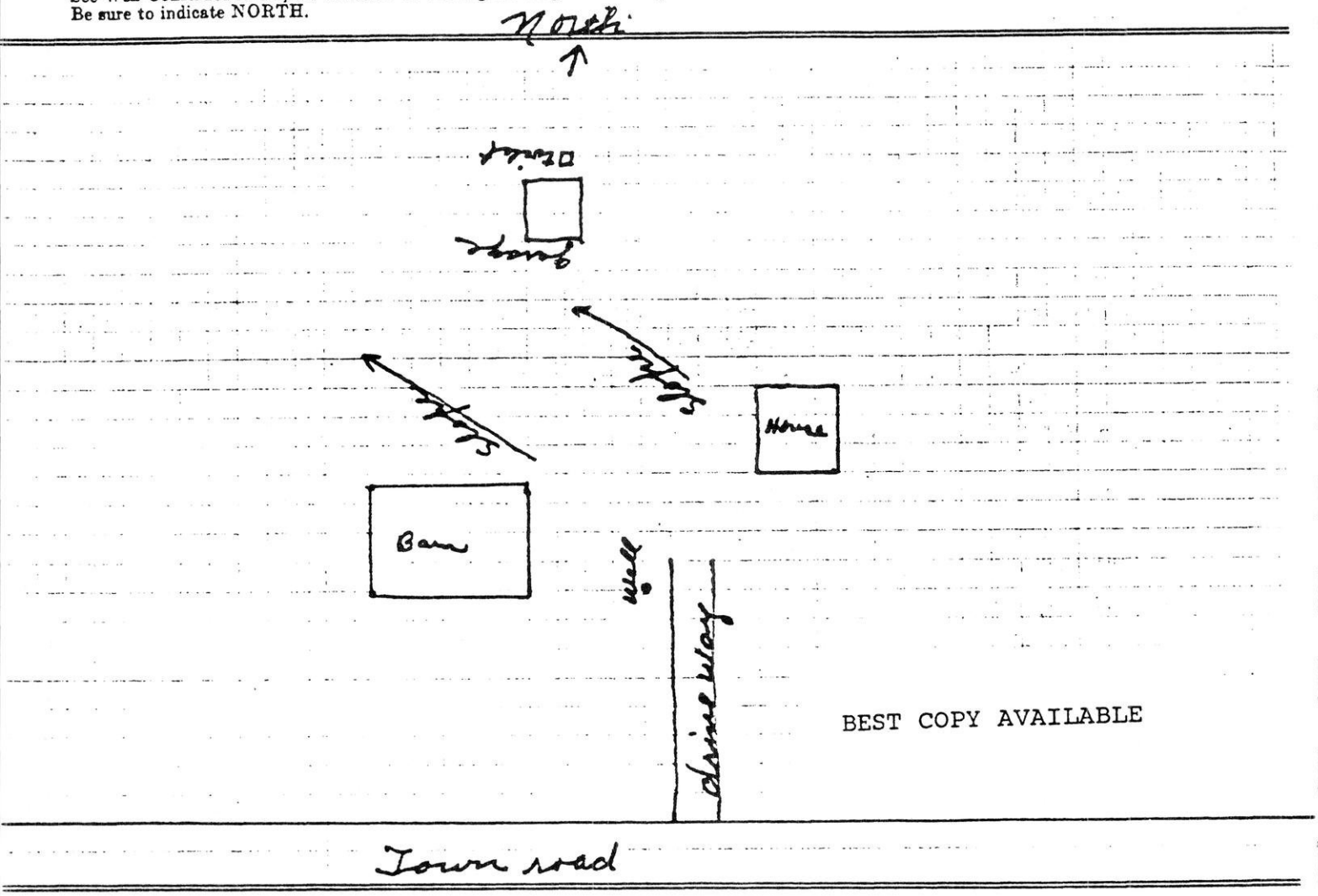
Sec. No. 28

Twp. North 35-N

Range 6 { ~~E~~ / W

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG and REPORT

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-39. Accuracy is essential.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

Clean Earth

Puddle Clay 28

Casing to 72 ft
3'-4"-Johnson screen
4" Welldrillers pipe
forged steel shoe
were used on this
job.

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.

Inches Diameter 2 3 4 5 6 8 10 12 14 16

Depth: 25, 28, 32, 50, 66, 72, 75, 100, 150, 200, 400, 800, 1200

**Draw the diagram to show the full diameter and right section of well only.**

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

Top soil is Clay loam

This was a dug well to 28 ft

32 Clay gravel little water

50 Hard pan + small rocks

66

72 Sand + gravel water

75 Sand & gravel water

BEST COPY AVAILABLE

**Record of FINAL Pumping test**

Duration of test
Hours 4

Pumping rate
G.P.M. 10

Depth of pump in well. Ft. 65

Standing water-level (from surface)
Ft. 28

Water-level when pumping Ft. 28

Water. End of test.
Clear ✓
Cloudy
Turbid

Was the well sterilized?
Yes ✓ No

To which laboratory was sample sent?
Madison
Date 9-16-41

Was the well sealed on completion?
Yes ✓ No

How high did you leave the casing-pipe above grade?
1 ft

Well was completed
Date 9-10-41

Well Constructor
Thomas & Calkins Jr
Signature

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

NOV 2 - 1973

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Marshall

2. LOCATION – ¼ Section: NW¼ SW¼ | Section: 28 | Township: 35 | Range: 6
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Fred Roditek
ADDRESS: R. R.
POST OFFICE: Ladysmith

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 6 | 5 | 6 | 71 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black T&C | Surface | 71 |
| 15 | 4 lbs per ft. | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand | Surface | 60 |
| hard pan | 60 | 65 |
| Sand gravel | 65 | 71 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: 10/24/1973

11. MISCELLANEOUS DATA
Yield test: 12 Hrs. at 4 GPM
Depth from surface to normal water level: 14 ft.
Depth to water level when pumping: 36 ft.

Well is terminated 20 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 10/30/1973

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller
COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-148 | | |

REV. 3–71

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

OCT 0 [illegible]

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: FLAMBEAU

2. LOCATION: ¼ Section or Gov't. Lot: NW NW | Section: 28 | Township: 35N | Range: 6W
OR – Grid or Street No. | Street or Road Name: Sheep Ranch Rd.
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Joseph Bobella
ADDRESS: R#1
POST OFFICE: Ladysmith | ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin: Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 85 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black R.E. | Surface | 85 |
| | 18.97# Peterfoot VSP D.T. | | |
| | ASPA-120 | | |
| | 1200# P.S.I. | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 2 |
| Clay | 2 | 22 |
| Gravel | 22 | 28 |
| Hard Pan | 28 | 70 |
| Clay | 70 | 84 |
| Gravel | 84 | 85 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with: ☐ Air ☐ Water

Well construction completed on 9-13 19 85

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA
Yield Test: 3 Hrs. at 5 GPM
Depth from surface to normal water level 25 Ft.
Depth of water level when pumping 62 Ft. Stabilized ☒ Yes ☐ No

Water sample sent to Madison laboratory on 11-4 19 85

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Willmott
3.6-F-149 Registered Well Driller

Business Name and Complete Mailing Address: R# 3 Holcombe 54745

3.6-S

Wis. 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — Town ☐ Village ☐ City ☑ Ladysmith (Check one and give name)

2. Location A part of Gov't Lot 1 - City of Ladysmith East of RECEIVED (Name of street and number of premise or section, Town and Range numbers)

3. Owner ☑ or Agent ☐ James A. Main (Name of individual, partnership or firm) AUG 30 1956

4. Mail Address Ladysmith Wisc (Complete address required) ENVIRONMENTAL SANITATION

5. From well to nearest: Building 4 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed 95 ft; abandoned well None ft.

6. Well is intended to supply water for: Home (Piney)

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 23 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Full Weight Steel | above | 39 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drill cuttings | 0 | 23 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 3 |
| Gravel + till | 3 | 23 |
| Mucky sandy till | 23 | 33 |
| Sloppy sand | 33 | 36 |
| Sand gravel & Water | 36 | 39 |
| | | |
| | | |
| | | |
| | | |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on: Aug 1956

The well is terminated 12 inches ☑ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes ✓ No

## 11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 6 GPM.

Depth from surface to water-level: 27 ft.

Water-level when pumping: 27 ft.

Water sample was sent to the state laboratory at: Madison (City) on Aug 20 1956

Signature Kramer & Talan (Registered Well Driller) Weyerhauser Wisc (Complete Mail Address)

Please do not write in space below

Rec'd AUG 21 1956 No. 2997-1

Ans'd

Interpretation Because of the presence of B. Coli in one of the 10 cc. portions of this sample another examination is advisable.

3.6-F-150

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | + | 0 | 0 | 0 | 0 |
| Confirm | | | | | |
| B. Coli | Y/S | | | | |

Examiner

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — Town ☒ / Village ☐ / City ☐ Flambeau (Check one and give name)

2. Location W½ of W½ of SE¼ of SE¼ Sec 31 35 6 W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Club 8 Ed Pavlik
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc
Complete address required

RECEIVED
FEB 20 1962
SANITARY ENGINEERING

5. From well to nearest: Building 160 ft; sewer 200 ft; drain 200 ft; septic tank 230 ft; dry well or filter bed 300 ft; abandoned well ____ ft.

6. Well is intended to supply water for: Tavern & home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | 0 | 12 | | | |
| 5 | 12 | 30 | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Standard Black Steel | 0 | 30 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | 0 | 12 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | 0 | 2 |
| Clay & hard pan – Gravel | 2 | 7 |
| Gravel | 7 | 17 |
| Sandy Clay | 17 | 26 |
| Gravel | 26 | 30 |
| | | |
| | | |
| | | |

Construction of the well was completed on: 8/5 19 61

The well is terminated 14 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

11. MISCELLANEOUS DATA:

Yield test: 6 Hrs. at 12 GPM.

Depth from surface to water-level: 18 ft.

Water-level when pumping: 22 ft.

Water sample was sent to the state laboratory at: Ladysmith City Creamery on 8/7 1961

Signature Wm L Hagin
Registered Well Driller

Bruce Wisc
Complete Mail Address

Please do not write in space below

Rec'd ____ No ____

Ans'd ____

Interpretation ____

10 ml 10 ml 10 ml 10 ml 10 ml

Gas—24 hrs. –

48 hrs. – BEST COPY AVAILABLE

Confirm –

B. Coli

Examiner ____

3-6mE-151

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED JUL 1952 ENVIRONMENTAL SANITATION

1. County Rusk { Town ☒ Village ☐ City ☐ } Flambeau — Check one and give name

2. Location S½ of NE¼ Sec 31 T35 N R6 W
Name of street and number or premise or Sec. Tn. and R. numbers

3. Owner ☒ or Agent ☐ Richard Stine
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin R Rt 2
Complete address required

5. From well to nearest: Building 4 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed 80 ft; abandoned well None ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 18 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Fully Weight Steel | 0 | 37 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 18 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 2 |
| Iff Formation | 2 | 18 |
| Red Rock | 18 | 34 |
| Ground water | 34 | 37 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 7 GPM.

Depth from surface to water: 15 ft.

Water-level when pumping: 15 ft.

Water sample sent to laboratory at Madison on ____ 19____

Construction of the well was completed on September 19 52

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ____

Was the well sealed watertight upon completion? Yes ✓ No ____

Signature Kramer and Lilen Weyerhaeuser Wisconsin
Registered Well Driller — Complete Mail Address

9-30-52 #17692

3.6-F-152

# LL CONSTRUCTOR'S REPORT

Wel–6

WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Flambeau

LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
SE¼ of NE¼ Sec 31, T 35 N, R 6 W

OWNER AT TIME OF DRILLING
Bernard Daughenbaugh

OWNER'S COMPLETE MAIL ADDRESS
R 2, Sadeysmith, Wis, 54848

Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | | | | | | | | |

| AR WATER DRAIN C. I. | AR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | 100 | | | | | | |

ER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

. Well is intended to supply water for: Home

. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 6" | 20' | 53 |
| | | | | | |

. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T&C, New Steel Black 19.45 lbs | Surface | 53' |
| | | | |
| | | | |
| | | | |

. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drilling Slurry | Surface | 20' |
| | | |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sandpan | Surface | 28' |
| City sand & gravel | 28' | 49' |
| Sand & gravel | 49' | 53' |

BEST COPY AVAILABLE

Well construction completed on: aug 11 1969

Well is terminated 16 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

1. MISCELLANEOUS DATA

Yield test: 3 Hrs. at 5 GPM

Depth from surface to normal water level 14 ft.

Depth to water level when pumping 38 ft.

Water sample sent to Madison, Wis. laboratory on: aug 13 1969

For opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumpcourse, access pits, etc., should be given on reverse side.

SIGNATURE: Evelyn E. Dain Registered Well Driller

COMPLETE MAIL ADDRESS: R 1, Holcombe, Wis. 54745

Please do not write in space below

| FORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-153 | | |

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

T 35-R 6

1. County Rusk — Town ☒ / Village ☐ / City ☐ Flambeau (Check one and give name)

2. Location Sec. 32 town of Stubbs
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Maurice Randes
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wis
Complete address required

5. From well to nearest: Building 3 ft; sewer ____ ft; drain ____ ft; septic tank 40 ft; dry well or filter bed 100 ft; abandoned well ____ ft.

6. Well is intended to supply water for: House use

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4" | 0 | 58' | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Extend Blk. Steel | 0 | 58 |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | 0 | 5' |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 2' |
| Hard pan Clay | 2 | 52 |
| Hard pan gravel | 52 | 57 |
| water bearing " | 57 | 58 |

RECEIVED
JUL 3 1956
ENVIRONMENTAL SANITATION

Construction of the well was completed on: September 1953

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

## 11. MISCELLANEOUS DATA:

Yield test: 4 Hrs. at 6 GPM.

Depth from surface to water-level: 40 ft.

Water-level when pumping: 46 ft.

Water sample was sent to the state laboratory at: Madison City on 9/10 1953

Signature William C. Engum Registered Well Driller

Bruce, Wis. R#2 Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

BEST COPY AVAILABLE

Examiner ____

3.6-F-154

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 14 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Flambeau

2. LOCATION – ¼ Section: SW¼SW¼ | Section: 32 | Township: 35 | Range: 6
OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Robert Zomyak
ADDRESS: R. R.
POST OFFICE: Ladysmith Wis

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60 | | | 80 | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 10 | 5 | 10 | 43 |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t & c | Surface | 43 |
| 15 | lbs per ft. | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| hard pan | Surface | 10 |
| silty sand | 10 | 31 |
| hard pan | 31 | 40 |
| sand & gravel | 40 | 43 |

BEST COPY AVAILABLE

GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 10 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 9/1/1972

11. MISCELLANEOUS DATA
Yield test: 3 Hrs. at 2 GPM

Well is terminated 12 inches ☒ above ☐ below final grade

Depth from surface to normal water level 15 ft.

Well disinfected upon completion ☒ Yes ☐ No

Depth to water level when pumping 31 ft.

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 9/11/1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-155

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — Town ☐ / Village ☐ / City ☐ Flambeau (Check one and give name)

2. Location Sec. 32 SE ¼ of S W 1/4 (no other discription known)
Name of street and number of premise or Section, Town and Range numbers (35N 6W)

3. Owner ☒ or Agent ☐ Doc. Barker
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisconsin
Complete address required

No building on the lot as yet.

5. From well to nearest: Building_____ft; sewer_____ft; drain_____ft; septic tank_____ft;

dry well or filter bed_____ft; abandoned well_____ft.

6. Well is intended to supply water for: home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 18 | | | |
| 4 | 18 | 53 | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | standard black steel | | |
| | | 0 | 53 |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | 0 | 18 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 3 |
| sandy clay | 3 | 18 |
| sand and gravel | 18 | 51 |
| Sand roc | 51 | 53 |
| | | |
| | | |
| | | |
| | | |

RECEIVED
NOV 16 1961
SANITARY ENGINEERING

Construction of the well was completed on:
June 25, 1960 19____

Pump was installed July 1961

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?
Yes x No_____

Was the well sealed watertight upon completion?
Yes x No_____

## 11. MISCELLANEOUS DATA:

Yield test: 8 Hrs. at 8 GPM.

Depth from surface to water-level: 29 ft.

Water-level when pumping: 36 ft.

Water sample was sent to the state laboratory at:
Madison City on Nov 8 1961

Signature [signature] Registered Well Driller

[signature] Complete Mail Address

Please do not write in space below

NOV 9 1961 Rec'd No. 43842

Ans'd

Interpretation SAFE—BACTERIOLOGICALLY
Iron = < .04
Ph = 8.25
Hard = 120.
Alk. = 132

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | --- | | | | |
| 48 hrs. | --- | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

BEST COPY AVAILABLE

3.6-F-156

Examiner

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Ed Fedde — Driller Ira Watkins

Street or RFD 2 — Post Office Weyerhauser

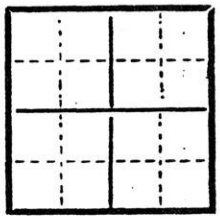
Post Office Ladysmith — Date 4/25/47 — Permit No. 267

### LOCATION OF PREMISES

Rusk
County — Town

One half mile west of Ladysmith on highway 8 north side of road
Describe further by subdivision, plat, district, lake, lot, block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



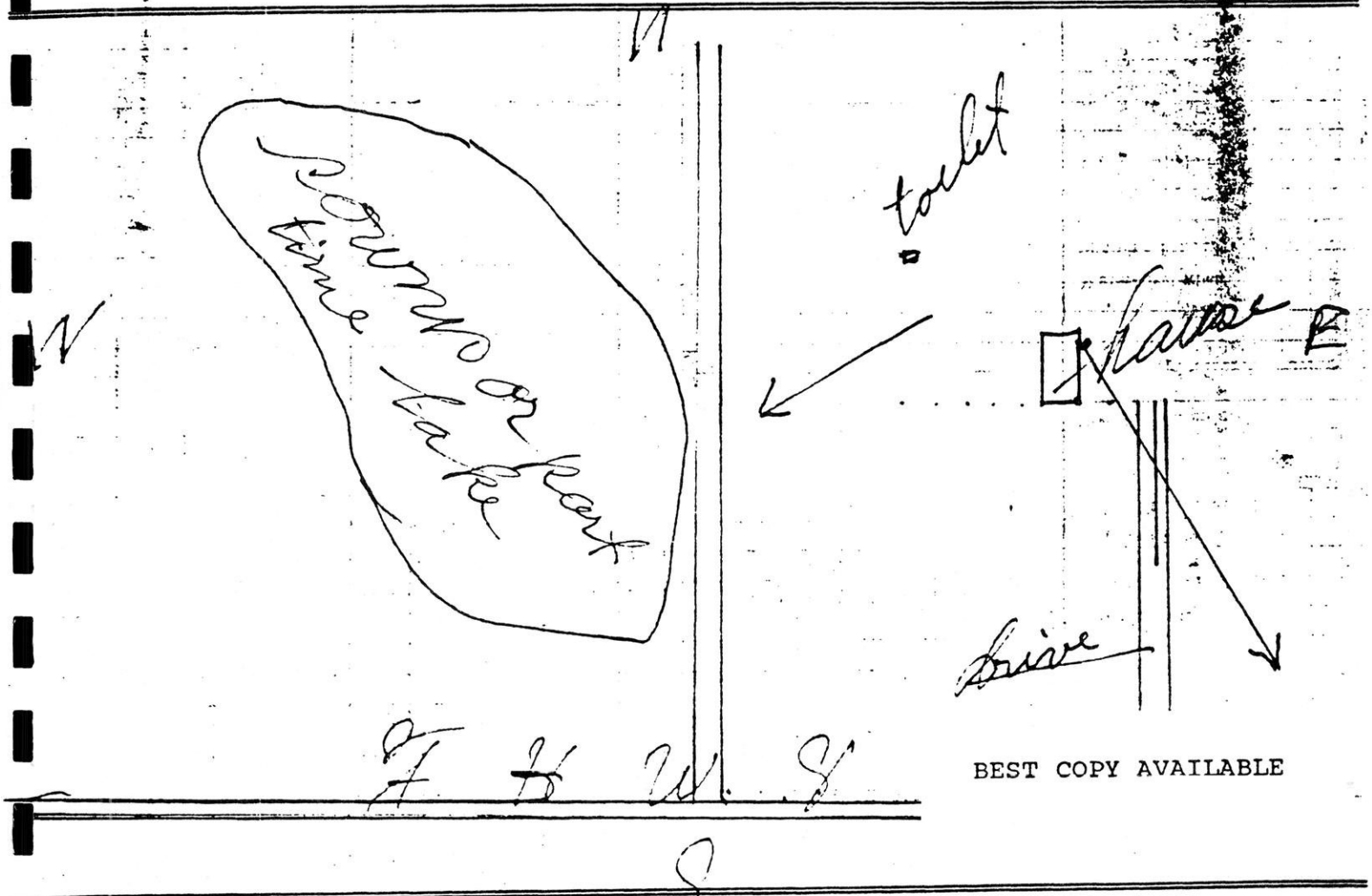
Sec. No. 33

Twp. No. 35

Range 6 { E / W }

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG *and* REPORT

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-39.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

Standard well driller casing

casing

¼ clay grout

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.

Inches Diameter 2 3 4 5 6 8 10 12 14 16 18

| Depth |
|---|
| 25 |
| 33 |
| 50 |
| 75 |
| 100 |
| 150 |
| 200 |
| 400 |
| 8 |
| 1200 |

Draw the diagram to show the right half only

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

0-4 clay
4-19 dry sand
19-22 hard pan
22-33 water at casing set at 33 2/3

**Record of FINAL Pumping test**

Duration of test
Hours

Pumping rate
G.P.M. 1

Depth of pump in well. Ft. 28

Standing water-level (from surface)
Ft. 20

Water-level when pumping Ft.

Water. End of test.
Clear
Cloudy
Turbid /

Was the well sterilized?
Yes No /

To which laboratory was sample sent?
Madison
Date 4/25/42

Was the well sealed on completion?
Yes No /

How high did you leave the casing-pipe above grade?
2 feet

Well was completed
Date 4/25/42

Well Constructor
Signature

BEST COPY AVAILABLE

WELL CONSTRUCTOR'S REPORT — WISCONSIN STATE BOARD OF HEALTH — Wel 6

1. COUNTY: Rusk — CHECK ONE: ☒ Town ☐ Village ☐ City — NAME: Flambeau

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
33-35-6 35

3. OWNER AT TIME OF DRILLING: John Panash

4. OWNER'S COMPLETE MAIL ADDRESS: Ladysmith, Wisc.

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 4' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 70' | | 90' | | | | ✓ | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 18 | | | |
| 4 | 0 | 59 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Black Steel 11# per ft | Surface | 59 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | Surface | 18 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 2 |
| Hard-pan | 2 | 18 |
| Sand and clay | 18 | 50 |
| Sand gravel | 50 | 59 |

BEST COPY AVAILABLE

Well construction completed on 3 - 16 - 19 7

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 8 Hrs. at 7 GPM

Depth from surface to normal water level 35 ft.

Depth to water level when pumping 40 ft.

Water sample sent to Madison laboratory on: 3 - 24 - 19 7

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. RR.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-159

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

SEP 1 1964

SANITARY ENGINEERING

Wo 1/6 State Comp

1. County Rusk {Town ☒ / Village ☐ / City ☐} Flambeau (Check one and give name)

2. Location SW 1/4 Sec 33 Town 35 N Range 6W Lot 7 Block 2
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Harry Doud
Name of individual, partnership or firm

4. Mail Address Ladysmith Wis
Complete address required

5. From well to nearest: Building 5 ft; sewer ____ ft; drain ____ ft; septic tank 28 ft; dry well or filter bed 12 ft; abandoned well ____ ft. Privie 90 ft

6. Well is intended to supply water for: home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 21 | | | |
| 5 | 21 | 61 | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5" | Standard Black steel | | |
| | | 0 | 61 |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | 0 | 21 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 2 |
| Clay + gravel | | |
| Mix (Hardpan) | 2 | 58 |
| Water bearing | | |
| Gravel | 58 | 61 |

BEST COPY AVAILABLE

Construction of the well was completed on:

Jan 1964

The well is terminated 8 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No

Was the well sealed watertight upon completion? Yes X No

## 11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 8 GPM.

Depth from surface to water-level: 23 ft.

Water-level when pumping: 40 ft.

Water sample was sent to the state laboratory at: Madison June 17 on ____ 1964
City

Signature Ira Ingram Bruce Wis
Registered Well Driller — Complete Mail Address

Please do not write in space below

Rec'd ____ No. ____

Ans'd ____

Interpretation ____

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ____

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

AUG 15 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME Flambeau

**2. LOCATION –** ¼ Section: SE¼SW¼ | Section: 33 | Township: 35 | Range: 6W

OR – Grid or street no. | Street name: Ladysmith Township.

AND – If available subdivision name, lot & block no.: Lot 10 Block 6. 3rd add.

**3. OWNER AT TIME OF DRILLING** Frances Karabetsos

ADDRESS R. R.

POST OFFICE Ladysmith Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 50 | | 75 | — | — | — | — | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 6 | 5 | 6 | 39 |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t & c | Surface | 39 |
| 15 | 4lb per ft. | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| Sand & gravel | 2 | 39 |

BEST COPY AVAILABLE

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on Aug 10 1972

**11. MISCELLANEOUS DATA**

Yield test: 4 Hrs. at 8 GPM

Depth from surface to normal water level 10 ft.

Depth to water level when pumping 14 ft.

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: Aug 10 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE
Stephen Shackleton
Registered Well Driller

COMPLETE MAIL ADDRESS
Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-161

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

AUG 07 19[illegible]

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 12-76

1. COUNTY: Rusk

CHECK (✓) ONE: ☒ Town ☐ Village ☐ City

Name: Flambeau

2. LOCATION: ¼ Section: NE¼SW¼ | Section: 33 | Township: 35 | Range: 6

OR – Grid or Street No. | Street Name:

AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Mrs Art West

ADDRESS: RR. 1

POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 12 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | 50 | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | | | Seepage Bed | 80 |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 47 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black tar C | Surface | 45 |
| | ASTM 53 19.45 | | |
| | Lomtow | | |
| | Johnson screen | 45 | 47 |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top | Surface | 2 |
| hardpan | 2 | 30 |
| Sand gravel | 30 | 47 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air / Water

Well construction completed on 8/15 1978

11. MISCELLANEOUS DATA

Yield Test: 5 Hrs. at 10 GPM

Depth from surface to normal water level 20 Ft.

Depth of water level when pumping 32 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 8/1 1978

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe Wis 54745

3.6-F-162

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 12-76

APR 16 1979

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Flambeau

2. LOCATION: ¼ Section: NE SW | Section: 33 | Township: 35 | Range: 6
OR – Grid or Street No. | Street Name
AND – If available subdivision name, lot & block No.

3. NAME ☐ OWNER ☒ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Murry Plumbing
ADDRESS
POST OFFICE: Ladysmith, Wisc

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | — | | Seepage Bed |
| | | | | | | | | | | | | | Seepage Trench |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | Nonconforming Existing | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | Surface | 6 | 4 | 6 | 55 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification & Method of Assembly

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New black T&C | Surface | 55 |
| | 11#6 ASTM53 | | |
| | Sonitomo | | |
| | Johnson Screen | 55 | 57 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 1 |
| Sand | 1 | 57 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 4-4 19 79

11. MISCELLANEOUS DATA
Yield Test: 3 Hrs. at 10 GPM
Depth from surface to normal water level 18 Ft.
Depth of water level when pumping 38 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wisc. laboratory on 4-11 19 79

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Mackbitor Registered Well Driller
Complete Mail Address: Holcombe, Wisc.

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

JUN 18 1945

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner John Raubut — Driller Sam Kramer

Street or RFD #2 — Post Office Weyauwega

Post Office Ladysmith — Date ____ Permit No. 175

### LOCATION OF PREMISES

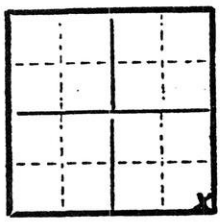
Rusk (County) Flambeau (Town)

Lot 8 & 13 Ladysmith town site third division

Describe further by subdivision, plat, district, lake, lot.

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



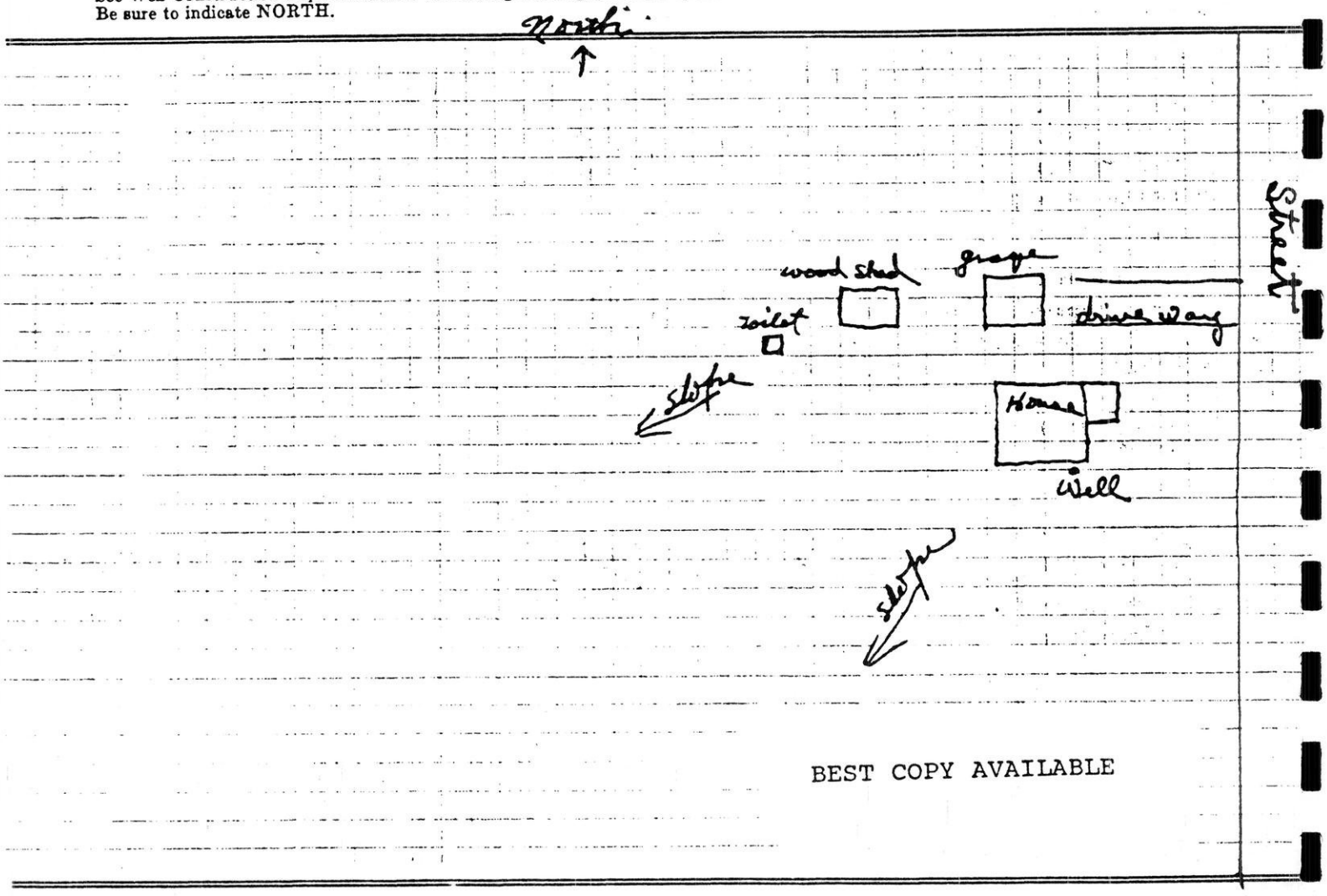
Sec. No. 33

Twp. North 35 N

Range 6 W

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG and RECORD

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-39. Accuracy is essential.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

Forged Steel shoe
4" Well drillers pipe
Clayton mark Well
seal was used on
end of conduit pipe
4" tee was installed
at -ip ft below
surface.
Shallow well pump
installed in basement
of house.

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.

Inches Diameter
2 3 4 5 6 8 10 12 14 16

Depth
3
22
25
27
31/2
50
75
100
150
200
400
80
1200

**In this column state the kind of formations penetrated, their thickness in feet and if water bearing.**

Clay loam
Hard pan
Sand water bearing
Gravel
bed of gravel

**Record of FINAL Pumping test**

Duration of test
Hours 3

Pumping rate
G.P.M. 9

Depth of pump in well. Ft. 26

Standing water-level (from surface)
Ft. 24

Water-level when pumping Ft. 25

Water. End of test.
Clear ✓
Cloudy
Turbid

Was the well sterilized?
Yes ✓ No

To which laboratory was sample sent?
Rhinelander
Date 8-15-44

Was the well sealed on completion?
Yes ✓ No

How high did you leave the casing-pipe above grade?
6"

Well was completed
Date 8-11-44

Well Constructor
Signature

Draw the diagram to show the full diameter and right section of well only.

BEST COPY AVAILABLE

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

JUN 18 1975

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** RUSK

CHECK ONE: ☒ Town ☐ Village ☐ City NAME Flambeau

**2. LOCATION** – ¼ Section: SE | SE; Section: 33; Township: 35N; Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no. Lot #5

**3. OWNER AT TIME OF DRILLING**
LOREN BECKETT
ADDRESS P.O. Box 113
POST OFFICE LADYSMITH, WIS 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20 | 6" | 20' | 46' |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T&C NEW STEEL BLACK 19:45 lbs. | Surface | 46' |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drilling slurry | Surface | 20' |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 12' |
| Gradpan | 12' | 38' |
| Sand & gravel | 38' | 46' |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on June 9 1975

Well is terminated 20 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**

Yield test: 2 Hrs. at 15 GPM

Depth from surface to normal water level 25 ft.

Depth to water level when pumping 27 ft.

Water sample sent to Madison, Wis laboratory on: June 10 1975

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE
Merlyn E. Dain Registered Well Driller

COMPLETE MAIL ADDRESS
R1, Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-166

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
DEC 29 1949
BUREAU SAN. ENG.

1. County Rusk { Town / Village / City } Ladysmith

2. Location N.W. of S.E. Sec. 33 T35 R 6W

3. Owner or Agent Harrison Brank

4. Address Ladysmith

5. From well to nearest: Building 2 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft. Toilet 80 ft

6. Well is intended to supply water for: Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4" | 0 | 51 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Clay | 02 | 02 |
| sand + gravel | 16 | 18 |
| hard pan | 30 | 48 |
| water at 48 in Clay + Gravel | | |
| Light Colored clay hard pan | 3 | 51 |
| water gravel | | |
| Rain 27 | | |
| Test 10 gal per | | |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 9 GPM.

Depth from surface to water: 24 ft.

Water-level when pumping: 24 ft.

Water sample sent to laboratory at Dec. 24 on 1949 19____

Construction of the well was completed on 24 Dec. 1949

The well is terminated 9 inches (above) [illegible] the permanent grade.

Was the well disinfected upon completion? Yes ____ No ____

Was the well sealed watertight upon completion? Yes ____ No ____

Signature Ora Calkins (Registered Well Driller)

Ora Calkins (Complete Mail Address)

Weyerhaeuser R 1

12-24-49 #21347

Safe

(Well Constructor's Copy)

3-6-E-167

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Alvin Martin — Driller Kramer & Calkins

Street or RFD #1 — Post Office Weyerhaeuser Wisc

Post Office Ladysmith Wisc — Date ____ Permit No 267

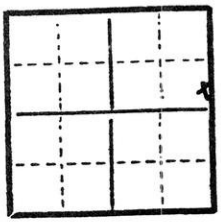
### LOCATION OF PREMISES

Rusk County — Flambeau Town

This is a small farm in the North west
Describe further by subdivision, plat, district, lake, lot.

edge of ladysmith about 7 acres
block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



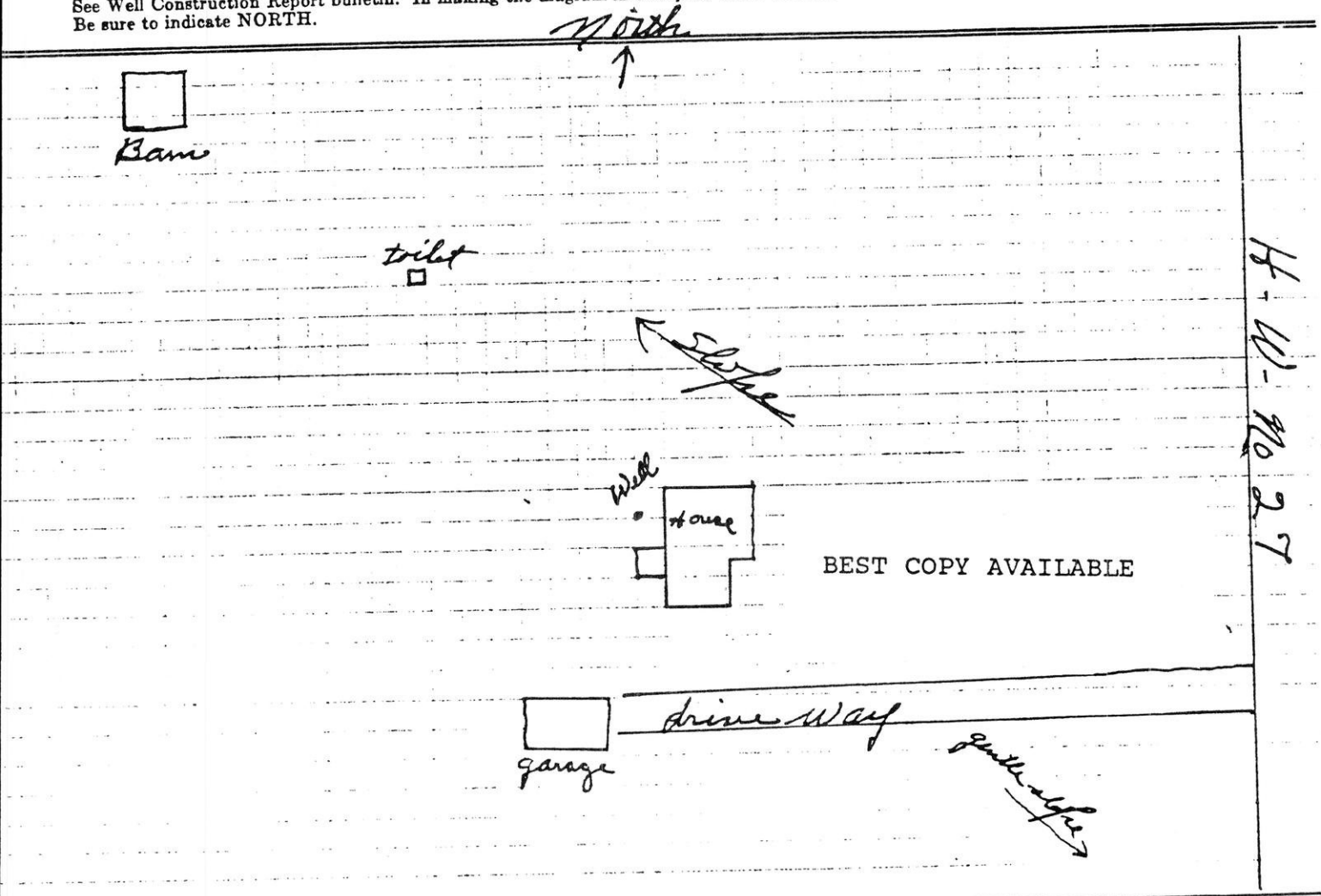
Sec. No. 33

Twp. North 35

Range 6 {E / W}

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG and REPORT

AUG - 3 194

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-39. Accuracy is essential.

BUR SAN Record of FINAL Pumping test

| In this column indicate the kind of casing, liner, shoe and other accessories used. | WELL DIAGRAM Use a red line to show casing or liner pipe. Use black for drill or borehole. Inches Diameter 2 3 4 5 6 8 10 12 14 16 | Depth | In this column state the kind of formations penetrated, their thickness in feet and if water bearing. |
|---|---|---|---|
| | | 2 | Clay loam |
| | | 18 | till formation dry |
| | | 25 | Hard pan with gravel & rocks. dry |
| | | 44 | |
| | | 50 | Hard gravel & water |
| | | 53 | |
| 4" Well drillers pipe & forged steel shoe was used on this job | | 75 | |
| | | 100 | |
| | | 150 | |
| | | 200 | |
| | | 400 | |
| | | 80 | |
| | | 1200 | |

Draw the diagram to show the full diameter and right section of well only.

BEST COPY AVAILABLE

Duration of test
Hours 2

Pumping rate
G.P.M. 5

Depth of pump in well. Ft. 50

Standing water-level (from surface)
Ft. 40

Water-level when pumping Ft. 40

Water. End of test.
Clear ✓
Cloudy
Turbid

Was the well sterilized?
Yes ✓ No

To which laboratory was sample sent?
Rhinelander
Date 9-25-41

Was the well sealed on completion?
Yes ✓ No

How high did you leave the casing-pipe above grade?
12"

Well was completed
Date 9-22-41

Well Constructor
Kramer & Calkins
Signature

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

AUG 18 1980

1. COUNTY: RUSK
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: PLAMBEAU

2. LOCATION: ¼ Section or Gov't. Lot: NE SE | Section: 33 | Township: 35N | Range: 6W
OR – Grid or Street No. | Street or Road Name
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Rewel Holcomb
ADDRESS: R1
POST OFFICE: Ladysmith ZIP CODE:

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | 40 | | Seepage Bed 60 | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | Surface | 20 | 4 | 20 | 59 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New black T&C | Surface | 56 |
| | ASTM A53 Sumitomo | | |
| | 11.45 lbs Per FT. | | |
| 2"X4' | SCREEN | 56 | 59 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| DRILL SLURRY | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 1 |
| Clay & Stones | 1 | 55 |
| 2nd | 55 | 59 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with ☐ Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 10 GPM
Depth from surface to normal water level 30 Ft.
Depth of water level when pumping 49 Ft. Stabilized ☒ Yes ☐ No
Water sample sent to MADISON laboratory on 8-12 1980

Well construction completed on 7-24 1980
Well is terminated 12 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Willemarth
Registered Well Driller

Business Name and Complete Mailing Address: R1 Holcombe 54745

3.6-F-170

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk — Town ☐ Village ☐ City ☐ Flambeau (Check one and give name)

2. Location NW¼ of NW¼ of Sec 33-T35N-R6W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☑ or Agent ☐ Joe Mukina
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc R#2
complete address required

5. From well to nearest: Building 10 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed 115 ft; abandoned well None ft.

6. Well is intended to supply water for: Farm + Home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 26 | | | |
| | | | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | full Weight pipe | 1 above | 62½ |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 26 |
| | | |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 4 |
| Hard Pan | 4 | 26 |
| Muckystill Formation | 26 | 51 |
| Hard Pan | 51 | 56 |
| Sand gravel + water | 56 | 62½ |

RECEIVED
AUG 6 1956
ENVIRONMENTAL SANITATION

**11. MISCELLANEOUS DATA:**

Yield test: 4 Hrs. at 7 GPM.

Depth from surface to water-level: 18 ft.

Water-level when pumping: 18 ft.

Water sample was sent to the state laboratory at: Madison (City) on July 30 1956

Construction of the well was completed on: July 1956

The well is terminated 14" inches ☑ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No ☐

Was the well sealed watertight upon completion? Yes ✓ No ☐

Signature Kramer + Lalan (Registered Well Driller) Weyerhaeuser Wisc (Complete Mail Address)

Please do not write in space below

Rec'd JUL 31 1956 No. 26433

Ans'd

Interpretation

SAFE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | 0 | | | | |
| Confirm | | | | | |
| B. Coli | 0 | | | | |

Examiner

3.6-F-171

BEST COPY AVAILABLE

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH
See Instructions on Reverse Side

RECEIVED
AUG 1 1952
ENVIRONMENTAL SANITATION

1. County Rusk { Town ☑ / Village ☐ / City ☐ } Flambeau (Check one and give name)

2. Location a partial of land S ½ of NE ¼ of Sect 33 T 35 N R 6 W
Name of street and number of premises or Sec. Tn. and R. numbers

3. Owner ☑ or Agent ☐ Jump River Electric Corporation
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin
Complete address required

5. From well to nearest: Building 4 ft; sewer None ft; drain None ft; septic tank None ft; dry well or filter bed None ft; abandoned well None ft.

6. Well is intended to supply water for: Employees

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 7 | 0 | 22 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Steel Full Weight | 0 | 53½ |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cuttings | 0 | 22 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil Clay | 0 | 2 |
| Till Formation | 2 | 22 |
| Hard Pan | 22 | 45 |
| Sand Gravel & water | 45 | 53½ |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 8 GPM.

Depth from surface to water: 33½ ft.

Water-level when pumping: 33½ ft.

Water sample sent to laboratory at Madison on July 5 19 52

Construction of the well was completed on August 19 52

The well is terminated 8 inches ☑ above, ☐ below the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes ✓ No

Signature Thomas & Colen
Registered Well Driller

Weyerhaeuser, Wisconsin
Complete Mail Address

# 12579
# 12580 Safe

8-7-52

3.6-F-172

# WELL CONSTRUCTION REPORT
# WISCONSIN STATE BOARD OF HEALTH
## WELL CONSTRUCTION DIVISION

Note: Section 31 of the Wisconsin Well Construction Code, having the force and effect of law, provides that within thirty days after completion of every well the driller shall submit a report covering all essential details of construction to the State Board of Health on a form provided by the Board.

Owner Clark Robinson — Driller Kramer & Calkins

Street or RFD #1 — Post Office Weyauwega Wisc

Post Office Ladysmith — Date ____ Permit No. 267

### LOCATION OF PREMISES

Rusk (County) — Flambeau (Town)

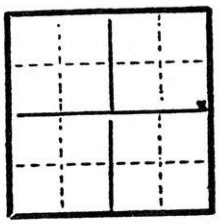
This is a small place on the north

Describe further by subdivision, plat, district, lake, lot.

west side of Ladysmith

block, nearest principal highway, etc., whichever apply.

The square below represents a section of land divided into 40 acre tracts. Mark the position of the premises in the section.



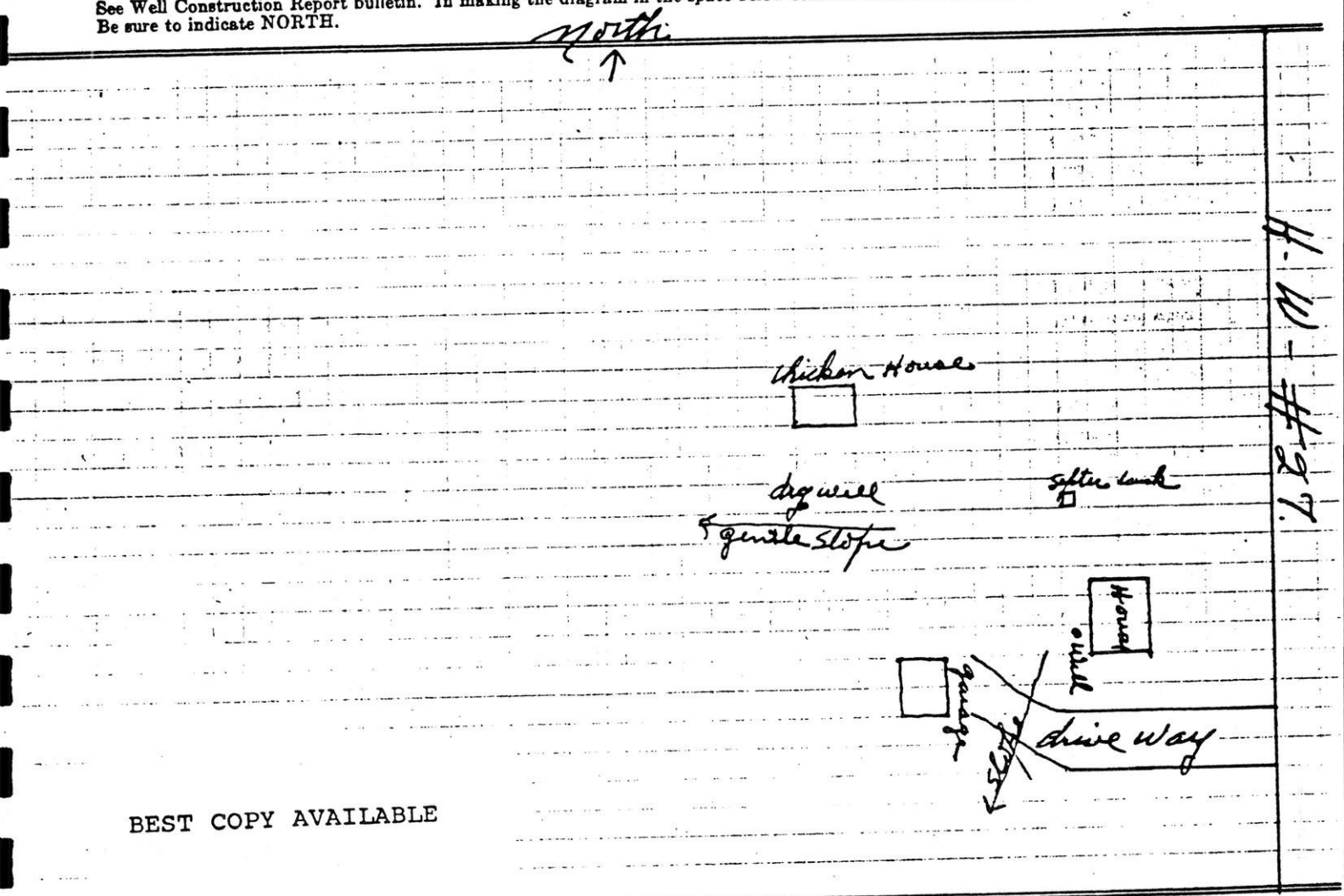
Sec. No. 33

Twp. North 35 N

Range 6 { E / W

### DIAGRAM OF PREMISES

See Well Construction Report bulletin. In making the diagram in the space below consider 10 ft. as the distance between lines. Be sure to indicate NORTH.




NW - NW - 17

BEST COPY AVAILABLE

Additional copies of this form may be obtained in lots of 12 for 25c. Send remittance with order to State Board of Health, Well Construction Division, Madison, Wis.

# WELL LOG *and* REPORT

RECEIVED
AUG - 3 1944
BUREAU OF SAN. ENG.

For method of making report, refer to bulletin entitled "Well Construction Report," 7-5-39. Accuracy is essential.

**In this column indicate the kind of casing, liner, shoe and other accessories used.**

Pump fit

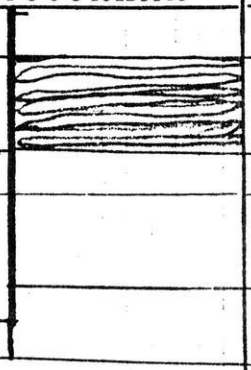
Mud Grout then filled With clean Earth

4"-4" Johnson Screens

4" Will drillers pipe forged steel shoe & Clayton mark sanitary seal was used on this job

**WELL DIAGRAM**
Use a red line to show casing or liner pipe. Use black for drill or borehole.

Inches Diameter
2 3 4 5 6 8 10 12 14 16



| Depth | In this column state the kind of formations penetrated, their thickness in feet and if water bearing. |
|---|---|
| 6 | top soil clay loam |
| 20 | This was dug to 20' |
| 25 | Hard pan & gravel |
| 40 | |
| 50 | Sand & water |
| 47 | to base of sand & water |
| 75 | |
| 100 | |
| 150 | |
| 200 | |
| 400 | |
| 800 | |
| 1200 | |

Draw the diagram to show the full diameter and right section of well only.

**Record of FINAL Pumping test**

Duration of test
Hours 2 hrs.

Pumping rate
G.P.M. 5

Depth of pump in well. Ft. 44

Standing water-level (from surface)
Ft. 28

Water-level when pumping Ft. 28

Water. End of test.
Clear ✓
Cloudy
Turbid

Was the well sterilized?
Yes ✓ No

To which laboratory was sample sent?
Rhinelander
Date 9-24-41

Was the well sealed on completion?
Yes ✓ No

ow high did you leave the sing-pipe above grade?
8"

Well was completed
Date 9-18-41

Well Constructor
Hansen & Calkins
Signature Jr.

BEST COPY AVAILABLE

3.6-F-174

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

AUG 16 1974

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: RUSK

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Flambeau

2. LOCATION – ¼ Section: NW NE | Section: 33 | Township: 35N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Leland Peterson

ADDRESS: R 3.

POST OFFICE: Ladysmith, Wis 54848.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 10' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | NONE | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home.

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 6" | 20' | 56' |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T & C New Steel | Surface | 53' |
| | Black 19.45 lbs. | | |
| 6" | Stainless Screen | 53' | 56' |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drilling slurry | Surface | 20' |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sandpan | Surface | 52' |
| sand & gravel | 52' | 56' |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: aug 12 1974

Well is terminated: 14 inches ☒ above ☐ below final grade

Well disinfected upon completion: ☒ Yes ☐ No

Well sealed watertight upon completion: ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 10 GPM

Depth from surface to normal water level: 19 ft.

Depth to water level when pumping: 33 ft.

Water sample sent to: Madison Wis. laboratory on: aug 13 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Merlyn E. Dain Registered Well Driller

COMPLETE MAIL ADDRESS: RI, Holcombe, Wis, 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-175

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — {Town ☒ / Village ☐ / City ☐} Flambeau (Check one and give name)

2. Location NE NE T35N R6W Sec. 33
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Jump River Electric
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wis.
Complete address required

5. From well to nearest: Building 6 ft; sewer 26 ft; drain ____ ft; septic tank 35 ft;
dry well or filter bed 85 ft; abandoned well ____ ft.

6. Well is intended to supply water for: All-electric home

**7. DRILLHOLE:**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 12 | 0 | 8 | | | |
| 5 | 8 | 85 | | | |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | St. Black Steel | 0 | 85 |
| | | | |
| | | | |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | 0 | 8 |

**10. FORMATIONS:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 2 |
| Sand and gravel | 2 | 38 |
| Gravel and clay | 38 | 63 |
| Sandy clay | 63 | 85 |

RECEIVED
JUL 16 1962
SANITARY ENGINEERING

Construction of the well was completed on:
July 9 19 62

The well is terminated 8 inches
☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?
Yes X No

Was the well sealed watertight upon completion?
Yes X No

**11. MISCELLANEOUS DATA:**

Yield test: 10 Hrs. at 8 GPM.

Depth from surface to water-level: 42 ft.

Water-level when pumping: 55 ft.

Water sample was sent to the state laboratory at:
Madison City on July 11 19 62

Signature Thos L. Tryon Registered Well Driller

Bruce Wisc. Complete Mail Address

Please do not write in space below

Rec'd JUL 12 1962 No. 24362

Ans'd

Interpretation UNSAFE—BACTERIOLOGICALLY

BEST COPY AVAILABLE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | + | + | + | + | + |
| 48 hrs. | | | | | |
| Confirm | + | | | | |
| B. Coli | 5 | | | | |
| | 5 | | | | |

Examiner

3.6-F-176

## WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk { Town / Village / City } Flambeau

2. Location part of Gov. Lot 1 Sec 24 T35 R6W

3. Owner or Agent Miles Weldon

4. Address Ladysmith

5. From well to nearest: Building no building yet ft; sewer ft; drain ft; septic tank ft; dry well or filter bed ft; abandoned well ft.

6. Well is intended to supply water for: home.

RECEIVED
SEP 13 1949
BUREAU
SAN. ENG.

### 7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4 | 0 | 26 |

### 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| | Steel | | |

### 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |

### 10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Sand + Rock & Rock | 4 | 04 |
| Gravel + Rock cemented with clay (water) | 10 | 14 |
| Clay | 12 | 26 |

BEST COPY AVAILABLE

### 11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 5 GPM.

Depth from surface to water: 21 ft.

Water-level when pumping: 21 ft.

Water sample sent to laboratory at Madison on Sep 4 1949

Signature Vern Calkins
Registered Well Driller

Construction of the well was completed on Sep 2 1949

The well is terminated ____ inches (above) (below) the permanent grade.

Was the well disinfected upon completion? ~~Yes~~ No

Was the well sealed watertight upon completion? Yes No

Vern Calkins
Complete Mail Address
Weyerhaeuser RI

(Well Constructor's Copy)

3-6-F-177

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
SEP 13 1949
BUREAU
SAN. ENG.

1. County Rusk { Town / Village / City } Flambeau

2. Location Gov. Lot 11 Sec. 34 T 35 R 6 W

3. Owner or Agent Emil Sandell

4. Address Ladysmith

5. From well to nearest: Building 18 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4 | 0 | 28 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| | Standard | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |

10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Rock & Gravel | 22 | 22 |
| Soft Clay | 2 | 24 |
| Hard pan | 3 | 27 |
| Water Gravel | 1 | 28 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 5 GPM.

Depth from surface to water: 18 ft.

Water-level when pumping: 18 ft.

Water sample sent to laboratory at Sup 5 1949 on ____ 19____

Construction of the well was completed on Sep 4 - 1949 19____

The well is terminated 10 inches (above) ~~(below)~~ the permanent grade.

Was the well disinfected upon completion? Yes ~~No~~

Was the well sealed watertight upon completion? Yes ~~No~~

Signature Ira Scaffino
Registered Well Driller

Ira Scaffino
Complete Mail Address

3.6-F-178

## WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
SEP 13 1949
BUREAU
SAN. ENG.

1. County Rusk { Town / Village / City } Flambeau

2. Location Part of Gov't Lot 11 Sec. 24 T 35 R 6 W

3. Owner or Agent Mike Aldon

4. Address Ladysmith

5. From well to nearest: Building 8 ft; sewer ---- ft; drain ---- ft; septic tank ---- ft; dry well or filter bed ---- ft; abandoned well ---- ft.

6. Well is intended to supply water for: Home

### 7. DRILLHOLE OR EXCAVATION:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 4½ | 0 | 27 |

### 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Standard | 0 | 27 |

### 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | | |

### 10. FORMATIONS:

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Loam | 6 | 06 |
| soft clay with water | 16 | 22 |
| Hard pan | 4 | 26 |
| Water gravel | 1 | 27 |

BEST COPY AVAILABLE

### 11. MISCELLANEOUS DATA:

Yield test: 1 Hrs. at 5 GPM.

Depth from surface to water: 7 ft.

Water-level when pumping: 7 ft.

Water sample sent to laboratory at Madison on Sept 7 1949

Construction of the well was completed on Sept 1 1949

The well is terminated 12 inches (above) (~~below~~) the permanent grade.

Was the well disinfected upon completion? Yes ---- No ----

Was the well sealed watertight upon completion? Yes ---- No ----

Signature Ira Calkin
Registered Well Driller

Ira Calkin
Complete Mail Address
Weyerhaeuser RI

(Well Constructor's Copy)

3.6-F-179

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 12-76

JUL 13 1979

1. COUNTY: RUSK
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: FLAMBEAU

2. LOCATION: ¼ Section: NE-SW | Section: 34 | Township: 35N | Range: 6W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE
EDWARD Bejeck
ADDRESS: 109 Park Ave E
POST OFFICE: Ladysmith, Wisc.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| — | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | — | | Seepage Bed | — |
| | | | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 6 | 5 | 6 | 33 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black T+C | Surface | 33 |
| | 15/16s ASTM S3 | | |
| | Sumitomo | | |
| 3" | Johnson Screen | 33 | 35 |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top Soil | Surface | 1 |
| Sand & Gravel | 1 | 35 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

| | | |
|---|---|---|
| ☒ Cable Tool | ☐ Rotary-hammer w/drilling mud & air | ☐ Jetting with |
| ☐ Rotary-air w/drilling mud | ☐ Rotary-hammer & air | ☐ Air ☐ Water |
| ☐ Rotary-w/drilling mud | ☐ Reverse Rotary | |

Well construction completed on 6-25 19 79

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA
Yield Test: 4 Hrs. at 3 GPM
Depth from surface to normal water level 10 Ft.
Depth of water level when pumping 23 Ft. Stabilized ☐ Yes ☐ No

Water sample sent to Madison, Wisc. laboratory on 7-9 19 79

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shacklette Registered Well Driller

Complete Mail Address: Holcombe, Wisc. 54745

3.6-F-180

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Stanberry

2. LOCATION – ¼ Section: E½ NE¼ | Section: 34 | Township: 35N | Range: 6W

OR – Grid or street no. | Street name

3. OWNER AT TIME OF DRILLING: Don Baxter

ADDRESS: 316 Sabin Ave W

POST OFFICE: Ladysmith Wis 54848

ADD – If available subdivision name, lot & block no.: Hobbles Garden 23-24

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 30 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 75 | — | ~~80~~ | 80 | — | — | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 65 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black PVC | Surface | 65 |
| 5 | lb per ft | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay | Surface | 4 |
| hard pan | 4 | 30 |
| sand | 30 | 40 |
| hard pan | 40 | 63 |
| sand & gravel | 63 | 65 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: June 22 1972

Well is terminated 12 inches ☒ above ☐ below final grade

11. MISCELLANEOUS DATA

Yield test: 24 Hrs. at 2 GPM

Depth from surface to normal water level: 20 ft.

Depth to water level when pumping: 48 ft.

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: June 28 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-181

3-71

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

JAN 28 1975

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Flambeau

2. LOCATION – ¼ Section: SE¼NE¼ | Section: 34 | Township: 35 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Casey Balczak

ADDRESS: R. R.

POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 8 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 40 | — | | 55 | — | | 4' filled in, | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 65 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t&c | Surface | 65 |
| 15 | 4 sq. ft. | | |
| | | | |
| | | | |
| | | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 2 |
| Hardpan | 2 | 53 |
| Sand & gravel | 53 | 65 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 1 / 20 19 75

11. MISCELLANEOUS DATA

Yield test: 7 Hrs. at 6 GPM

Depth from surface to normal water level: 35 ft.

Depth to water level when pumping: 45 ft.

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 1 / 23 19 75

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shacklett Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-182

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

AUG 7 4 1985

1. COUNTY: Rusk
CHECK (✓) ONE: ☑ Town ☐ Village ☐ City
Name: Flambeau

2. LOCATION: ¼ Section or Gov't. Lot: NE-NE | Section: 34 | Township: 35N | Range: 6W
OR – Grid or Street No. | Street or Road Name:
AND – If available subdivision name, lot & block No.

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: William Kanda
ADDRESS: 178 Bruno Ave.
POST OFFICE: Ladysmith, Wis. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 40 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | C.I. | Other | | | | Seepage Pit | |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | 50' | | Seepage Bed | |
| | | | | | | | | | | | | | Seepage Trench 60' | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | | |
| | | Pump | | | | | | | | | | |
| | | Tank | | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|

5. Well is intended to supply water for: Trailer

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | | 30 | | |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled, 15# per ft. 1200 psi D.T. ASTM-A120-VSP | Surface | 30 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| sand and rocks | 1 | 17 |
| gravel | 17 | 30 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 1 Hrs. at 8 GPM
Depth from surface to normal water level 8 Ft.
Depth of water level when pumping 12 Ft. Stabilized ☑ Yes ☐ No

Well construction completed on June 28, 1985
Well is terminated 10 inches ☑ above ☐ below final grade
Well disinfected upon completion ☑ Yes ☐ No
Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on July 8, 1985

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W. Atwood 3.6-F-183 Registered Well Driller

Business Name and Complete Mailing Address: Atwood Well Drilling W3637 Hwy 40 Bruce, Wis 54819

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

AUG 7 1975

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City NAME: Flambeau

2. LOCATION – ¼ Section: NE¼NE¼ | Section: 34 | Township: 35 | Range: 6

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Jim Wesenberg

ADDRESS

POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 8 | 6 | 8 | 54 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | New black t+c | Surface | 54 |
| 19.45 | lbs per ft. | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay | Surface | 4 |
| gravel | 4 | 20 |
| sand | 20 | 50 |
| sand gravel | 50 | 54 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 8 |
| | | |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7/29 1975

11. MISCELLANEOUS DATA

Yield test: 5 Hrs. at 9 GPM

Depth from surface to normal water level 42 ft.

Depth to water level when pumping 44 ft.

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 7/30 1975

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-184

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 15 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Flambeau

2. LOCATION – ¼ Section: NE¼ NE¼ | Section: 34 | Township: 35 | Range: 6 | 3. OWNER AT TIME OF DRILLING: Walt Fiddle

OR – Grid or street no. | Street name | ADDRESS

AND – If available subdivision name, lot & block no. | POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 12 | — | — | — | — | — | — | — | — |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| — | — | 55 | — | — | 75 | — | — | — | — |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: house

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 6 | 5 | 6 | 32 |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New Black to C | Surface | 32 |
| 15 | lb per ft | | |
| | | | |
| | | | |
| | | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sand | Surface | 6 |
| Sand & gravel | 6 | 32 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 6 |
| | | |

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: Sept 12 1972

11. MISCELLANEOUS DATA

Yield test: 4 Hrs. at 5 GPM

Depth from surface to normal water level: 9 ft.

Depth to water level when pumping: 14 ft.

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to: Madison laboratory on: Sept 12 1972

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Stephen Shackleton Registered Well Driller

COMPLETE MAIL ADDRESS: Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-185

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

**See Instructions on Reverse Side**

1. County Rusk — {Town ☒ / Village ☐ / City ☐} Flambeau (Check one and give name)

2. Location Lot 34 Block 1 Thomas 2nd Addition Sec 35-T35N-R6W
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Amazi H. Hodden
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc.
complete address required

RECEIVED
AUG 29 1956
ENVIRONMENTAL SANITATION

5. From well to nearest: Building 15 ft; sewer ___ ft; drain ___ ft; septic tank ___ ft; dry well or filter bed 100 ft; abandoned well ___ ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 20 | | | |
| | | | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | full wght Steel Pipe | 1' above | 56½ |
| | | | |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill cutting | 0 | 20 |
| | | |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 0 | 3 |
| Hard Pan | 3 | 24 |
| Sloppy Sand | 24 | 50 |
| Sand, Gravel & Water | 50 | 56½ |
| | | |
| | | |
| | | |
| | | |
| | | |

BEST COPY AVAILABLE

Construction of the well was completed on:
Aug 1956

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion?
Yes ← No

Was the well sealed watertight upon completion?
Yes ← No

## 11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 6 GPM.

Depth from surface to water-level: 38 ft.

Water-level when pumping: 38 ft.

Water sample was sent to the state laboratory at:
Madison (City) on Aug 20 1956

Signature Kramer & Laban
Registered Well Driller

Weyerhauser Wisc.
Complete Mail Address

Please do not write in space below

Rec'd AUG 21 1956 No. 29975

Ans'd

Interpretation UNSAFE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | + | + | 0 | 0 | 0 |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner

3.6-F-186

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

1. County Rusk — Town ☐ Village ☐ City ☒ City of Ladysmith (Check one and give name)

2. Location Lots 73 thru 80 Block 3 Brooklyn Gardens addition to Ladysmith
Name of street and number of premise or Section, Town and Range numbers

3. Owner ☒ or Agent ☐ Ladysmith Lanes Inc. SW 35 35N 6W
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisconsin
Complete address required

5. From well to nearest: Building 5 ft; sewer ____ ft; drain ____ ft; septic tank ____ ft; no sewers or building at present time
dry well or filter bed ____ ft; abandoned well ____ ft.

6. Well is intended to supply water for: Ladysmith Lanes Inc.

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | 0 | 21 | | | |
| 5 | 21 | 58 | | | |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | standard black steel | | |
| | | 0 | 58 |
| | | | |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | 0 | 21 |
| | | |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | 0 | 2 |
| clay and boulders | 2 | 56 |
| water bearing gravel | 56 | 58 |

RECEIVED
DEC 9 1960
SANITARY ENGINEERING

11. MISCELLANEOUS DATA:

Yield test: 12 Hrs. at 12 GPM.

Depth from surface to water-level: 38 ft.

Water-level when pumping: 42 ft.

Water sample was sent to the state laboratory at: Madison City on ____ 1960

Construction of the well was completed on: Oct. 1960

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ____

Was the well sealed watertight upon completion? Yes X No ____

Signature Wm L Higgins Registered Well Driller

Bruce Wisconsin Complete Mail Address

Please do not write in space below

Rec'd NOV 30 1960 No. 47294

Ans'd ____

Interpretation SAFE—BACTERIOLOGICALLY

BEST COPY AVAILABLE

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ____

**WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH**
**See Instructions on Reverse Side**

1. County Rusk { Town / Village / City Ladysmith
2. Location Lot 2 Block 31 Menasha Woodenware 3rd add
3. Owner or Agent F. Everett Brown (SE SW 35 35N 6W)
4. Address Ladysmith Wis
5. From well to nearest: Building 13 ft; sewer ——— ft; drain ——— ft; septic tank ——— ft; dry well or filter bed 100 ft; abandoned well ——— ft.
6. Well is intended to supply water for: Home

**7. DRILLHOLE OR EXCAVATION:**

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6" | 0 | 30 |

**8. CASING AND LINER PIPE OR CURBING:**

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | steel | 0 | 82 |

**9. GROUT:**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| mud | 0 | 30 |

**10. FORMATIONS:**

| Kind | Thickness (ft.) | Total Depth (ft.) |
|---|---|---|
| Clay loam | 0 | 2 |
| till formation | 28 | 30 |
| Hard pan | 32 | 62 |
| fine silty sand with little water | 8 | 70 |
| Hard pan | 10 | 80 |
| pea gravel + water | 2 | 82 |

BEST COPY AVAILABLE

**11. MISCELLANEOUS DATA:**

Yield test: 2 Hrs. at 8 GPM.

Depth from surface to water: 60 ft.

Water-level when pumping: 60 ft.

Water sample sent to laboratory at Rhinelander on July 8 1946

Construction of the well was completed on July 1946

The well is terminated 18 inches (above) (below) the permanent grade.

Was the well disinfected upon completion? Yes ← No

Was the well sealed watertight upon completion? Yes ← No

Signature Sam Kramer
Registered Well Driller

Weyerhauser Wis
Complete Mail Address
Box 173

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300–15 Rev. 2-79

1. COUNTY: Rusk

CHECK (✓) ONE: ☑ Town ☐ Village ☐ City Name: Flambeau

2. LOCATION: ¼ Section or Gov't. Lot: NE-SW | Section: 35 | Township: 35N | Range: 6W

OR – Grid or Street No. | Street or Road Name:

AND – If available subdivision name, lot & block No.: Thomas 2nd Addition Lots 6-8 Block 1

3. NAME ☑ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: James Bourne

ADDRESS: Route 2, Box 86A

POST OFFICE: Ladysmith, Wi. ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain C.I. | Sanitary Bldg. Drain Other | Sanitary Bldg. Sewer C.I. | Sanitary Bldg. Sewer Other | Floor Drain Connected To: C.I. Sewer | Floor Drain Connected To: Other Sewer | Storm Bldg. Drain C.I. | Storm Bldg. Drain Other | Storm Bldg. Sewe C.I. | Storm Bldg. Sewe Other |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | | | |

| Street Sewer San. | Street Sewer Storm | Other Sewers C.I. | Other Sewers Other | Foundation Drain Connected to: | | Sewage Sump C.I. | Sewage Sump Other | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sewer | Sewage Sump | | | | 50' | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench 75' | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin / Concrete Floor Only / Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 4 | 21 | 69 | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | new black standard steel, threaded and coupled 11# psft | Surface | 69' |
| | A.S.T.M. A53 U.S.S. | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 4 |
| Hard pan | 4 | 67 |
| Sand and gravel | 67 | 69 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☑ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

Well construction completed on 9-20 19 79

11. MISCELLANEOUS DATA
Yield Test: 3 Hrs. at 4 GPM

Depth from surface to normal water level 52 Ft.

Depth of water level when pumping 59 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to ~~April~~ Madison laboratory on April 4 19 80

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W. Atwood 3.6-F-189 Registered Well Driller

Business Name and Complete Mailing Address: Atwood Well Drilling Rt 2, Box 61 Bruce Wi. 54819

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
APR 19 1949
GEN. ENG.

1. County Rusk {Town ☒ / Village ☐ / City ☐} 7 lambeau Check one and give name

2. Location SW-¼ of SE¼ Sec 35 T-35 N. R. 6 W
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☒ or Agent ☐ James Koditek
Name of individual, partnership or firm

4. Mail Address Ladysmith
Complete address required

5. From well to nearest: Building 8 ft; sewer — ft; drain — ft; septic tank — ft; dry well or filter bed 85 ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 26 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | steel | 0 | 100 |
| | screen | | 3 |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drill cuttings | 0 | 26 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay loam | 3 | 3 |
| Till formation | 23 | 26 |
| hard pan | 61 | 87 |
| sandy clay | 9 | 96 |
| sand & gravel | 7 | 103 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 8 Hrs. at 10 GPM.

Depth from surface to water: 60 ft.

Water-level when pumping: 60 ft.

Water sample sent to laboratory at Madison on Dec 13 1948

Construction of the well was completed on Dec 1948

The well is terminated 12 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes ✓ No

Was the well sealed watertight upon completion? Yes ✓ No

Signature Mrs Sam Kramer Weyerhauser
Registered Well Driller

Box 173 Wis
Complete Mail Address

WELL CONSTRUCTOR'S REPORT
FORM 3300–15

SEP 25 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
– Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Glenbeam

2. LOCATION – ¼ Section: S.E. | Section: 35 | Township: 35N | Range: 6W
OR – Grid or street no. | Street name
AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Pat Boyle
ADDRESS: R.R. 2.
POST OFFICE: Ladysmith Wisc.

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRA C. I. | WASTE WATER DRA TILE |
|---|---|---|---|---|---|---|---|---|
| 6' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Trailer home.

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5" | Surface | 75 | | | |
| 10 | surface | 21 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black, standard steel, threaded and coupled. 15# per ft. | Surface | 75 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Topsoil | Surface | 1 |
| Clay | 1 | 6 |
| Hardpan | 6 | 72 |
| Sand and gravel | 72 | 75 |

BEST COPY AVAILABLE

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 8 – 7 – 19 72

11. MISCELLANEOUS DATA
Yield test: 12 Hrs. at 7 GPM
Depth from surface to normal water level 57 ft.
Depth to water level when pumping 67 ft.

Well is terminated 10 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ N
Well sealed watertight upon completion ☒ Yes ☐ N

Water sample sent to Madison laboratory on: 8 – 8 – 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W. Atwood Registered Well Driller
COMPLETE MAIL ADDRESS: Bruce, Wisc R.R. 2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-191 | | |

REV. 3–71

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

MAY 11 1972

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME Flambeau

**2. LOCATION** – ¼ Section: S.E. ¼ | Section: 35 | Township: 35N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Robert Betthauser

ADDRESS R.R. 2

POST OFFICE Ladysmith, Wisc 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 75' | | 0 | 100' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 80 | | | |
| 10 | surface | 21 | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new, black, standard steel, threaded and coupled 15# per Ft. | Surface | 80 |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| clay | 1 | 6 |
| Hard pan | 6 | 77 |
| Sand and gravel | 77 | 80 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 1 – 31 – 19 72

Well is terminated 18 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

**11. MISCELLANEOUS DATA**

Yield test: 1 Hrs. at 7 GPM

Depth from surface to normal water level 65 ft.

Depth to water level when pumping 69 ft.

Water sample sent to Madison laboratory on: 2 – 28 – 19 72

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Dale W. Altwood Registered Well Driller

COMPLETE MAIL ADDRESS Bruce, Wisc. R.R. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-192

RFV. 3–71

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

RECEIVED
APR 19 1948
BY

1. County Rusk { Town ☑ / Village ☐ / City ☐ } Flambeau
Check one and give name

2. Location South 16½ rods Maple Hill Block 14 NE Sec 35 SW ¼ SE ¼
Name of street and number of premise or Sec. Tn. and R. numbers

3. Owner ☑ or Agent ☐ Charles Mayer - Sec 35 - T 35 N R 6 W
Name of individual, partnership or firm

4. Mail Address Ladysmith, Wisconsin
Complete address required

5. From well to nearest: Building 16 ft; sewer — ft; drain — ft; septic tank — ft; dry well or filter bed 111 ft; abandoned well — ft.

6. Well is intended to supply water for: Home

7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|
| 6 | 0 | 30 |

8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | Steel | 0 | 90 |
| | Screen | | 2½ |

9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Cutting | 0 | 30 |

10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Loam | 3 | 3 |
| Tight Formation | 27 | 30 |
| Hard Pan | 43 | 73 |
| Clay Blue | 13 | 86 |
| Sandy Gravel | 6½ | 92½ |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA:

Yield test: 5 Hrs. at 10 GPM.

Depth from surface to water: 60 ft.

Water-level when pumping: 60 ft.

Water sample sent to laboratory at Madison on April 1948

Construction of the well was completed on November 1 1948

The well is terminated — inches ☑ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes — No —

Was the well sealed watertight upon completion? Yes — No —

Signature Sam Kramer am
Registered Well Driller

Hayerhausen, Wisc.
Complete Mail Address

3.6-F-193

State of Wisconsin
Department of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT
Form 3300-15 Rev. 2-79

APR 30 1984

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City Name: Flambeau

2. LOCATION: ¼ Section or Gov't. Lot: SE-SE | Section: 35 | Township: 35N | Range: 6W
OR – Grid or Street No. | Street or Road Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Tom Silversale
ADDRESS: Route 3
POST OFFICE: Ladysmith, Wi. ZIP CODE: 54819

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 8 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pnuematic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Sewage Sump | C.I. | Other | | 30 | | Seepage Pit | |
| | | | | Clearwater Dr. | Clearwater Sump | | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench 60 | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | Nonconforming Existing | | | | | | | | |
| | | Pump | | | | | | | | | | |
| | | Tank | | | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 40 | | | |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new, black standard steel, threaded and coupled 11# per ft. ASTM-A53488 | Surface | 40 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| sand and gravel | 1 | 28 |
| sand | 28 | 36 |
| Course sand and gravel | 36 | 40 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Rotary-air w/drilling mud ☐ Rotary-w/drilling mud ☐ Rotary-hammer w/drilling mud & air ☐ Rotary-hammer & air ☐ Reverse Rotary ☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA
Yield Test: 2 Hrs. at 5 GPM
Depth from surface to normal water level 21 Ft.
Depth of water level when pumping 28 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on Jan. 20 19 80
Well is terminated 8 inches ☒ above ☐ below final grade
Well disinfected upon completion ☒ Yes ☐ No
Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on Jan. 20 19 80

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Dale W Atwood
3.6-F-194 Registered Well Driller

Business Name and Complete Mailing Address:
Atwood Well Drilling
Rt 2, Box 41
Bruce, Wi. 54819

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 12-76

1. COUNTY: Rusk
CHECK (✓) ONE: ☒ Town ☐ Village ☐ City
Name: Flambeau

2. LOCATION: ¼ Section: SE¼ SE¼ | Section: 35 | Township: 35 | Range: 6W
OR – Grid or Street No. | Street Name:
AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: Jake Lunt
ADDRESS: RR.
POST OFFICE: Ladysmith Wis 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 10 | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | | Sewage Sump | | | 50 | | Seepage Pit | 75 |
| | | | | Clearwater Dr. | | Clearwater Sump | | | | | Seepage Bed | |
| | | | | | | | | | | | Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom Nonconforming Existing | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well | | | | | | | | | |
| | | Pump | | | | | | | | | |
| | | Tank | | | | | | | | | |

| Temporary Manure Stack | Watertight Liquid Manure Tank | Solid Manure Storage Structure | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Other (Give Description) |
|---|---|---|---|---|---|
| | | | | | |

5. Well is intended to supply water for: House

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 6 | 20 | 118 |
| | | | | | |

7. CASING, LINER, CURBING AND SCREEN

| Dia. (in.) | Material, Weight, Specification & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | New black to c | Surface | 116 |
| | ASTM 53 11lb | | |
| | Domtor | | |
| | Johnson | 116 | 118 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top | Surface | 3 |
| hardpan | 3 | 80 |
| sand & gravel | 80 | 118 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

| | | |
|---|---|---|
| ☒ Cable Tool | ☐ Rotary-hammer w/drilling mud & air | ☐ Jetting with |
| ☐ Rotary-air w/drilling mud | ☐ Rotary-hammer & air | ☐ Air ☐ Water |
| ☐ Rotary-w/drilling mud | ☐ Reverse Rotary | |

Well construction completed on 7/13 19 78

11. MISCELLANEOUS DATA

Yield Test: 6 Hrs. at 10 GPM

Depth from surface to normal water level 40 Ft.

Depth of water level when pumping 70 Ft. Stabilized ☒ Yes ☐ No

Well is terminated 14 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on 8/1 19 78

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Stephen Shackleton Registered Well Driller

Complete Mail Address: Holcombe Wis 54745

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME Thornapple

**2. LOCATION –** ¼ Section: SE¼SE¼ | Section: 35 | Township: 35 | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** Phil Dudkowski

ADDRESS R. R. 2

POST OFFICE Ladysmith Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** House

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 9 | Surface | 20 | 5 | 20 | 85 |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black t & c | Surface | 85 |
| 15 | 10 gauge | | |
| | | | |
| | | | |
| | | | |

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill slurry | Surface | 20 |
| | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Hard pan | Surface | 80 |
| Sand gravel | 80 | 85 |

BEST COPY AVAILABLE

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 4 / 11 1974

**11. MISCELLANEOUS DATA**

Yield test: 4 Hrs. at 5 GPM

Depth from surface to normal water level 42 ft.

Depth to water level when pumping 65 ft.

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison laboratory on: 4 / 11 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Stephen Stackleton Registered Well Driller

COMPLETE MAIL ADDRESS Holcombe Wis 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-196

NOV 4 1971

# WELL CONSTRUCTOR'S REPORT
FORM 3300–15

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

**1. COUNTY** Rusk

CHECK ONE ☒ Town ☐ Village ☐ City

NAME Flambeau

**2. LOCATION** – ¼ Section: NW¼ of SE¼ | Section: 35 | Township: 35N | Range: 6W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

**3. OWNER AT TIME OF DRILLING** John Lovely

ADDRESS

POST OFFICE Ladysmith, Wis 54848

**4. Distance in feet from well to nearest:** (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

**5. Well is intended to supply water for:** Home

**6. DRILLHOLE**

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10" | Surface | 20' | 6" | 20' | 300' |
| | | | | | |

**7. CASING, LINER, CURBING, AND SCREEN**

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6" | T & C New Stock | Surface | 134' |
| | 19.45 lbs | | |
| | | | |
| | | | |
| | | | |

**9. FORMATIONS**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Sandpan | Surface | 134' |
| granite | 134' | 300' |

BEST COPY AVAILABLE

**8. GROUT OR OTHER SEALING MATERIAL**

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| drilling slurry. | Surface | 20' |
| | | |

**10. TYPE OF DRILLING MACHINE USED**

☒ Cable Tool ☒ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on Oct 24 1971

**11. MISCELLANEOUS DATA**

Yield test: 6 Hrs. at 1½ GPM

Depth from surface to normal water level 50 ft.

Depth to water level when pumping 200 ft.

Well is terminated 21 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to Madison, Wis laboratory on: Nov 1 1971

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE

Merlyn E. Dair Registered Well Driller

COMPLETE MAIL ADDRESS

R 1, Holcombe, Wis. 54745

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-197

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel

1. COUNTY: Rusk — CHECK ONE: ☑ Town ☐ Village ☐ City — NAME: Flambeau

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)
N½ SE 35-35N-6W

3. OWNER AT TIME OF DRILLING
Jt. School Dist #1

4. OWNER'S COMPLETE MAIL ADDRESS
Ladysmith, Wis. 54849

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | No | sewered | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: construction

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 5 | Surface | 56 | | | |
| 10 | surface | 21 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | Standard black steel, threaded and coupled 15# per ft | Surface | 56 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| top soil | Surface | 1 |
| clay | 1 | 6 |
| hardpan | 6 | 41 |
| hard pan and boulders | 41 | 54 |
| hard gravel | 54 | 56 |

BEST COPY AVAILABLE

Well construction completed on October 4, 1968

11. MISCELLANEOUS DATA
Yield test: 1 Hrs. at 5 GPM

Depth from surface to normal water level 40 ft.

Depth to water level when pumping 45 ft.

Well is terminated 10 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison laboratory on: October 9, 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood — Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wisc. R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| See letter to owner 12/5/68 | (School files) | | | |

FEB 2 1970

STATE OF WISCONSIN

WELL CONSTRUCTOR'S REPORT

# DEPARTMENT OF RESOURCE DEVELOPMENT

Wel

1. COUNTY: Rusk

CHECK ONE: ☑ Town ☐ Village ☐ City

NAME: Flambeau

2. LOCATION (Number and Street or ¼ section, section, township and range. Also give subdivision name, lot and block numbers when available.)

¼NE-¼NW-35-35-6

3. OWNER AT TIME OF DRILLING: Norman Austvold

4. OWNER'S COMPLETE MAIL ADDRESS: 105 E. Miner ave. Ladysmith, Wis. 5484

5. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 55' | | 65' | | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home

7. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 21 | | | |
| 5 | 21 | 58 | | | |

8. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | new black standard steel, threaded and coupled 15# per ft | Surface | 58 |

9. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

10. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| sand and clay | 1 | 16 |
| Hard pan | 16 | 53 |
| Sand and gravel | 53 | 58 |

BEST COPY AVAILABLE

11. MISCELLANEOUS DATA

Yield test: 2 Hrs. at 4 GPM

Depth from surface to normal water level: 40 ft.

Depth to water level when pumping: 45 ft.

Well construction completed on: 12-6 1969

Well is terminated 8 inches ☑ above ☐ below final grade

Well disinfected upon completion ☑ Yes ☐ No

Well sealed watertight upon completion ☑ Yes ☐ No

Water sample sent to Madison, Wis. laboratory on: 12-9 1969

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, subsurface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce, Wis. RR 2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS — 24 HRS. | GAS — 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

3.6-F-199

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

MAY 13 1975

**NOTE**
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk

CHECK ONE: ☒ Town ☐ Village ☐ City

NAME: Flambeau

2. LOCATION – ¼ Section: NE | Section: 35 | Township: 36N | Range: 6 W

OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Al Bates

ADDRESS: Ladysmith, Wisc R.2

POST OFFICE

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 25' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 60' | | | 80' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 6 | Surface | 43 | | | |
| | | | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 6 | new black | Surface | 43 |
| | Standard steel | | |
| | 20# per ft. | | |
| | Threaded and | | |
| | coupled | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| | Surface | |
| | | |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Sand and Gravel | 1 | 15 |
| Sandy | 15 | 39 |
| Gravel | 39 | 43 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on 7 – 23 – 19 74

Well is terminated 10 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

11. MISCELLANEOUS DATA

Yield test: 1 Hrs. at 6 GPM

Depth from surface to normal water level 33 ft.

Depth to water level when pumping 36 ft.

Water sample sent to Madison laboratory on: 8 – 14 – 19 74

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seal type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Atwood Registered Well Driller

COMPLETE MAIL ADDRESS: R.2. Bruce, Wisc 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | | | |

REV. 3–71

3.6-F-200

# WELL CONSTRUCTOR'S REPORT
FORM 3300-15

FEB 28 1975

NOTE
WHITE COPY – DIVISION'S COPY
GREEN COPY – DRILLER'S COPY
YELLOW COPY – OWNER'S COPY

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

1. COUNTY: Rusk | CHECK ONE: ☒ Town ☐ Village ☐ City | NAME: Glenbeau

2. LOCATION – ¼ Section: NE | Section: 35 | Township: 35N | Range: 6W
OR – Grid or street no. | Street name

AND – If available subdivision name, lot & block no.

3. OWNER AT TIME OF DRILLING: Randy Novak
ADDRESS: R. 2.
POST OFFICE: Ladysmith Wisc 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| BUILDING | SANITARY SEWER C. I. | SANITARY SEWER TILE | FLOOR DRAIN C. I. | FLOOR DRAIN TILE | FOUNDATION DRAIN SEWER CONNECTED | FOUNDATION DRAIN INDEPENDENT | WASTE WATER DRAIN C. I. | WASTE WATER DRAIN TILE |
|---|---|---|---|---|---|---|---|---|
| 5' | | | | | | | | |

| CLEAR WATER DRAIN C. I. | CLEAR WATER DRAIN TILE | SEPTIC TANK | PRIVY | SEEPAGE PIT | ABSORPTION FIELD | BARN | SILO | ABANDONED WELL | SINK HOLE |
|---|---|---|---|---|---|---|---|---|---|
| | | 50' | | | 75' | | | | |

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: Home

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 4 | Surface | 84 | | | |
| 10 | | 21 | | | |

7. CASING, LINER, CURBING, AND SCREEN

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4 | new black standard steel threaded and coupled 11# per ft. | Surface | 84 |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| clay slurry | Surface | 21 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | Surface | 1 |
| Clay | 1 | 4 |
| Hard pan | 4 | 61 |
| Dirty gravel | 61 | 67 |
| Hard pan | 67 | 82 |
| clean gravel | 82 | 84 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED
☒ Cable Tool ☐ Direct Rotary ☐ Reverse Rotary
☐ Rotary – air w/drilling mud ☐ Rotary – hammer with drilling mud & air ☐ Jetting with ☐ Air ☐ Water

Well construction completed on: oct 7 – 19 74

11. MISCELLANEOUS DATA
Yield test: 3 Hrs. at 7 GPM

Well is terminated 10 inches ☒ above ☐ below final grade

Depth from surface to normal water level: 64 ft.

Well disinfected upon completion ☒ Yes ☐ No

Depth to water level when pumping: 74 ft.

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to: Madison laboratory on: 11 – 9 19 74

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dale W Attwood Registered Well Driller

COMPLETE MAIL ADDRESS: Bruce Wisc. R.R.2. 54819

Please do not write in space below

| COLIFORM TEST RESULT | GAS – 24 HRS. | GAS – 48 HRS. | CONFIRMED | REMARKS |
|---|---|---|---|---|
| | | 3.6-F-201 | | |

REV. 3-71

Wel 6

# WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH

See Instructions on Reverse Side

State Copy

1. County Rusk — Town ☒ / Village ☐ / City ☐ — Flambeau — Check one and give name

2. Location SW¼ of NE¼ of Sec. 35 T 35 R 6 W.
Name of street and number of premise or Section, Town and Range numbers

RECEIVED
APR 15 1966
SANITARY ENGINEERING

3. Owner ☒ or Agent ☐ Leo Johnson
Name of individual, partnership or firm

4. Mail Address Ladysmith Wisc.
Complete address required

5. From well to nearest: Building Vacant Lot ft; sewer ___ ft; drain ___ ft; septic tank ___ ft; dry well or filter bed ___ ft; abandoned well ___ ft.

6. Well is intended to supply water for: Home

## 7. DRILLHOLE:

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 8 | 0 | 22 | | | |
| 4 | 22 | 95 | | | |

## 8. CASING AND LINER PIPE OR CURBING:

| Dia. (in.) | Kind and Weight | From (ft.) | To (ft.) |
|---|---|---|---|
| 4" | Standard Black Steel | | |
| | | 0 | 95 |
| | | | |

## 9. GROUT:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Clay Slurry | 0 | 22 |

## 10. FORMATIONS:

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top soil | 0 | 3 |
| Hard pan clay & gravel mixture | 3 | 18 |
| gravel | 18 | 39 |
| Clay | 39 | 94 |
| Water bearing gravel | | 95 |

BEST COPY AVAILABLE

Construction of the well was completed on: June 30 19 60

The well is terminated 10 inches ☒ above, below ☐ the permanent ground surface.

Was the well disinfected upon completion? Yes X No ___

Was the well sealed watertight upon completion? Yes X No ___

## 11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 8 GPM.

Depth from surface to water-level: 67 ft.

Water-level when pumping: 75 ft.

Water sample was sent to the state laboratory at: ___ City on June 30 1960

Signature Figura Well Drilling — Registered Well Driller — Barron Wisc. — Complete Mail Address

Please do not write in space below

Wm F Figura

Rec'd ___ No. ___

Ans'd ___

Interpretation ___

| | 10 ml | 10 ml | 10 ml | 10 ml | 10 ml |
|---|---|---|---|---|---|
| Gas—24 hrs. | | | | | |
| 48 hrs. | | | | | |
| Confirm | | | | | |
| B. Coli | | | | | |

Examiner ___

...ent of Natural Resources
Private Water Supply
Box 7921
Madison, Wisconsin 53707

NOTE:
White Copy – Division's Copy
Green Copy – Driller's Copy
Yellow Copy – Owner's Copy

# WELL CONSTRUCTOR'S REPORT

Form 3300–15 Rev. 2-79

AUG 26 1982

1. COUNTY: RUSK

CHECK (✓) ONE: ☐ Town ☐ Village ☐ City Name: FLAMBEAU

2. LOCATION: ¼ Section or Gov't. Lot: N ½ E ¼ NE ¼ | Section: 35 | Township: 35N | Range: 6W

OR – Grid or Street No. | Street or Road Name

AND – If available subdivision name, lot & block No.

3. NAME ☒ OWNER ☐ AGENT AT TIME OF DRILLING CHECK (✓) ONE: DENNIS Flater

ADDRESS: 1001 E. 7s

POST OFFICE: Ladysmith ZIP CODE: 54848

4. Distance in feet from well to nearest: (Record answer in appropriate block)

| Building | Sanitary Bldg. Drain | | Sanitary Bldg. Sewer | | Floor Drain Connected To: | | Storm Bldg. Drain | | Storm Bldg. Sewer | |
|---|---|---|---|---|---|---|---|---|---|---|
| | C.I. | Other | C.I. | Other | C.I. Sewer | Other Sewer | C.I. | Other | C.I. | Other |
| 15' | | | | | | | | | | |

| Street Sewer | | Other Sewers | | Foundation Drain Connected to: | | | Sewage Sump | | Clearwater Sump | Septic Tank | Holding Tank | Sewage Absorption Unit | Manure Hopper or Retention or Pneumatic Tank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| San. | Storm | C.I. | Other | Sewer | Clearwater Dr. | Sewage Sump | C.I. | Other | | | | Seepage Pit<br>Seepage Bed<br>Seepage Trench | |

| Privy | Pet Waste Pit | Pit: Nonconforming Existing | | Subsurface Pumproom | Barn Gutter | Animal Barn Pen | Animal Yard | Silo With Pit | Glass Lined Storage Facility | Silo w/o Pit | Earthen Silage Storage Trench Or Pit | Earthen Manure Basin |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Well<br>Pump<br>Tank | | Nonconforming Existing | | | | | | | | |

| Temporary Manure Stack or Platform | Watertight Liquid Manure Tank or Basin | Manure Pressure Pipe | Subsurface Gasoline or Oil Tank | Waste Pond or Land Disposal Unit (Specify Type) | Manure Storage Basin<br>Concrete Floor Only<br>Concrete Floor and Partial Concrete Walls | Other (Describe) |
|---|---|---|---|---|---|---|
| | | | | | | |

5. Well is intended to supply water for: HOUSE

6. DRILLHOLE

| Dia. (in.) | From (ft.) | To (ft.) | Dia. (in.) | From (ft.) | To (ft.) |
|---|---|---|---|---|---|
| 10 | Surface | 20 | 5 | 20 | 114 |

7. CASING, LINER, CURBING AND SCREEN
Material, Weight, Specification

| Dia. (in.) | Mfg. & Method of Assembly | From (ft.) | To (ft.) |
|---|---|---|---|
| 5 | New black T&C | Surface | 114 |
| | ASTA-53 Sumitomo | | |
| | 15.45# per Foot | | |

8. GROUT OR OTHER SEALING MATERIAL

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Drill Slurry | Surface | 20 |

9. FORMATIONS

| Kind | From (ft.) | To (ft.) |
|---|---|---|
| Top | Surface | 2 |
| Clay | 2 | 12 |
| Hard pan | 12 | 84 |
| Clay | 84 | 110 |
| Sand + Gravel | 110 | 114 |

BEST COPY AVAILABLE

10. TYPE OF DRILLING MACHINE USED

☒ Cable Tool
☐ Rotary-air w/drilling mud
☐ Rotary-w/drilling mud
☐ Rotary-hammer w/drilling mud & air
☐ Rotary-hammer & air
☐ Reverse Rotary
☐ Jetting with Air ☐ Water

11. MISCELLANEOUS DATA

Yield Test: 3 Hrs. at 8 GPM

Depth from surface to normal water level 80 Ft.

Depth of water level when pumping 97 Ft. Stabilized ☒ Yes ☐ No

Well construction completed on 7-21 1982

Well is terminated 12 inches ☒ above ☐ below final grade

Well disinfected upon completion ☒ Yes ☐ No

Well sealed watertight upon completion ☒ Yes ☐ No

Water sample sent to MADISON laboratory on 7-26 1982

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, method of finishing the well, amount of cement used in grouting, blasting, etc., should be given on reverse side.

Signature: Larry Willmouth Registered Well Driller 3.6-F-203

Business Name and Complete Mailing Address: RR1 Holcombe Wis.

# APPENDIX 3.6-G

## Wetland 10A Backhoe Pit Study

**Bear Creek Mining Company**

**Eastern District**

November 1, 1971

Gric

Mr. H. L. Bauer, Jr.
Bear Creek Mining Company
1826 Kennecott Building
10 East South Temple
Salt Lake City, Utah 84111

Dear Herm:

Re: Flambeau Project, Wisconsin
Soil Investigations
Section 10 Tailings Area (Site B)

Herewith an excellent report by Ed May on the results of test pitting done in Site B in accordance with Duane Whiting's September 1, 1971 recommendation. Ed also makes a comparison of the advantages and disadvantages of Sites A and B.

Sincerely,

Norman R. Lutz

NRL/dhc

Enclosure

cc: H. L. Bauer, Jr. w/enc
J. L. Halls w/enc (2)



7704 MORGAN AVENUE S. MINNEAPOLIS, MINNESOTA 55423 TELEPHONE: 612-861-4125 TWX: 910-576-3160

# SOIL INVESTIGATION

# SECTION 10 TAILINGS AREA

# GRANT TOWNSHIP, RUSK COUNTY

# WISCONSIN

October 26, 1971

By

Edwarde R. May
Project Geologist

GREAT LAKES EXPLORATION COMPANY
FLAMBEAU DEVELOPMENT
03-00-0855

## TABLE OF CONTENTS


| | | Page |
|---|---|---|
| I. | INTRODUCTION | 1 |
| II. | DESCRIPTION OF SOIL LAYERS | 1 |
| | 1. Peat and Soil | 1 |
| | 2. Silty Sand | 5 |
| | 3. Sand | 5 |
| | 4. Till | 6 |
| III. | A DISCUSSION ON SOILS | 8 |
| IV. | A COMPARISON OF THE TWO WASTE DISPOSAL SITES | 9 |
| V. | REFERENCES | 13 |
| VI. | APPENDIX | 14 |
| | 1. Geologic Logs of Test Pits | 15 - 26 |
| | 2. Estimated Physical and Chemical Properties of Soils | 27 - 29 |


## LIST OF TABLES


| | | |
|---|---|---|
| 1. | CORRELATION OF U. S. SOIL CONSERVATION AND GLEC SOILS TERMINOLOGY | 9 |
| II. | A COMPARISON OF SECTIONS 10 AND 21 | 10 |


## LIST OF FIGURES


| | | |
|---|---|---|
| 1. | Test Pit Location Map, Section 10 with Overlay | 2 |
| 2. | Photograph of Contact between Silty Sand and Sand | 3 |
| 3. | Photograph of Contact between Silty Sand and Till | 3 |


(Continued)

TABLE OF CONTENTS (Continued)

LIST OF FIGURES


4. Photograph of Till..... 4

5. Soil Cross Sections, Possible Tailings Area, Section 10..... 7

6. Relationships between Pertinent Soil Types, Sections 10 and 21..... 8

7. Photograph of Section 10 looking North..... 11

8. Photograph of Section 21 looking South..... 11

9. Distribution of Tree Cover..... 12

## I. INTRODUCTION

Ancillary land uses for Flambeau development were initially discussed and reported by MMD-ED in 1970[1]. In this preliminary report the mine waste was piled immediately north of the pit and and the mill tailings east across Highway 27 into Section 10. Both were excellent and logical choices when based upon an economic evaluation. However, continual awareness of esthetic complications such as the proximity of a river, college, nursing home-convent-hospital complex, highway, and the City of Ladysmith suggested that less conspicuous sites be investigated. Lands in Section 20 and 21 offered potential as an alternate waste disposal site[2] and have been examined by observation wells[2] in 1970 and test pits[3] this summer.

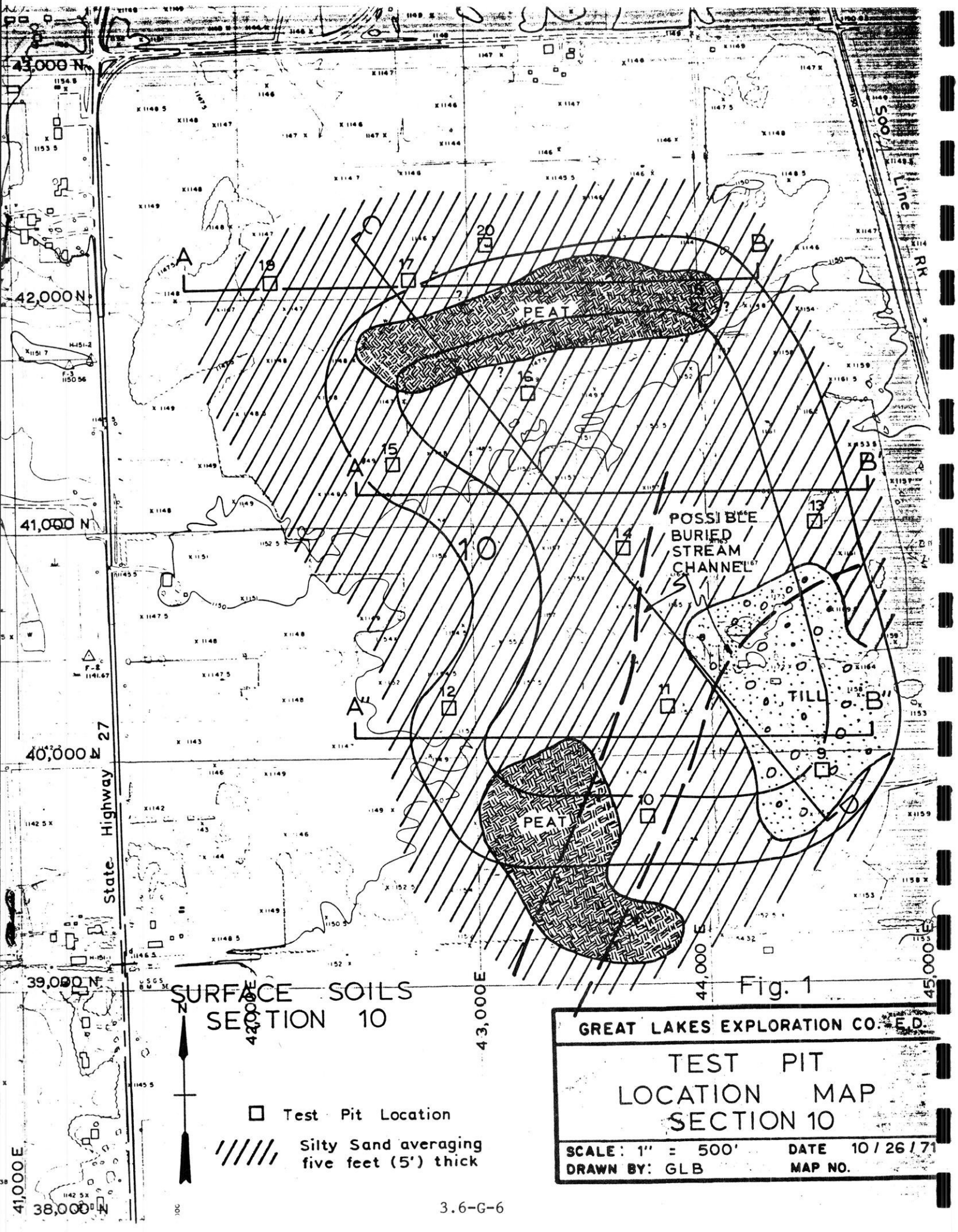
Upon completion of the Section 21 test pit study it was recommended that a similar investigation be conducted in Section 10. Duane Whiting[4] concurred and forwarded a recommended location map (Fig. 1) for the excavation of a dozen test pits. Such a map was based upon a possible tailings pond location and ideas of D. J. Thomas[5], MMD-ED.

The purpose and data collecting are similar to those reported for Section 21. Again, it should be stressed that a minimum 3 pound channel sample was taken across the true width of each soil layer, identified, and stored for future reference. A representative grab sample was taken by the backhoe only when the pit became too deep or wall conditions too uncertain to permit channel sampling.

## II. DESCRIPTION OF SOIL LAYERS

Four distinct soil types were recognized during excavation of the 12 test pits. The soils are described below with my terminology proceeded in parenthesis by the United States Soil Conservation's name.

1. PEAT and SOIL (SEDGE PEAT). A veneer of soil generally no deeper than 0.7 of a foot consisting of decayed vegetation covers the test area. Tannic acids generated by humus decomposition tend to stain the underlying silt for 0.2 to 0.4 of a foot and was included within the soil unit. Peat was encountered in test pit 18 (Fig. 5) and believed, based upon field observations and information supplied by the Soil Conservation Department




SURFACE SOILS
SECTION 10

Fig. 1

GREAT LAKES EXPLORATION CO. E.D.

TEST PIT
LOCATION MAP
SECTION 10

SCALE: 1" = 500' DATE 10/26/71
DRAWN BY: GLB MAP NO.

to extend for several hundreds of feet in a northeast - southwest direction. Decomposed sedges, aquatic plants, and trees have formed a peat deposit at least 48 inches thick filling in all probability an ancient lake. Outlining of this valuable topsoil deposit will be necessary as future landscape and reclamation plans mature. Additional peat undoubtedly underlies the swamp south of test pit 10.

2. SILTY SAND (FREER SILT LOAM). A variegated tan to orangy-brown silty sand immediately underlies the soil veneer except in the southeast corner of the site where it onlaps gravelly and cobbly kames. The silty sand averages 5 feet in thickness ranging from a low of 3 feet in pit 17 to a high of 12 feet in pit 18. Grain size varies greatly from clay to rare boulders exceeding 350 millimeters. However the majority of the grains fall within the range of silt to fine sand. A well sorted silty sand was encountered in test pit 18 and due to its exceptional thickness of 12 feet should be named the Auburndale silt loam. Digging a pit in the Auburndale was difficult as the silt, which has a high porosity but low permeability, continually collapsed due to plastic flow. No difficulty was experienced while digging the thinner and less water saturated Freer Silt Loam. Generally the silty sand is quite impermeable ranging from 0.20 to 2.0 inches per hour[6]. An example of its apparant impermeability was observed while digging test pit 10 which, although less than 100 feet from a swamp and at the same elevation, contained no appreciable amounts of water in an underlying well sorted sand.

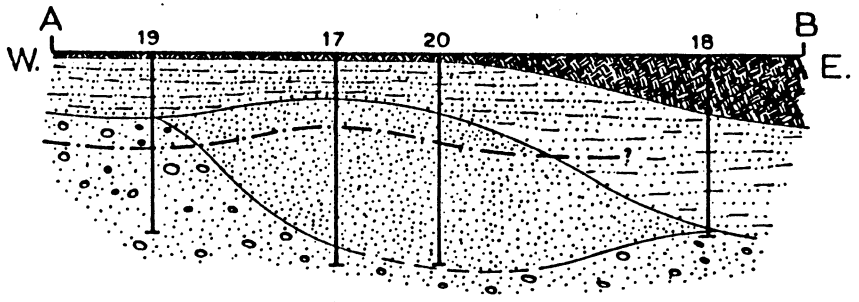
3. SAND (?). Underlying the silty sand in the north, east, and south centers of the site is an angular to subangular sand varying from well to poorly sorted in grain size. Thicknesses for the sand ranged from 4.5 feet to greater than 20 feet in test pit 13. It is easily distinguished from the overlying soils but as was the case in

Section 21, it tends to laterally interfinger with the glacial till. Great difficulty was experienced in test pit 14 separating these two units and to some extent this was true for pit 11. The upper contact is gradational over a foot or two (Fig. 2). The sand does not appear to be an important aquifer within 20 feet of the surface either due to the overlying impermeable silty sand or due to a lowered or deep water table. The sand did produce approximately 15 gallons per minute in pit 17 at the sand-till contact.

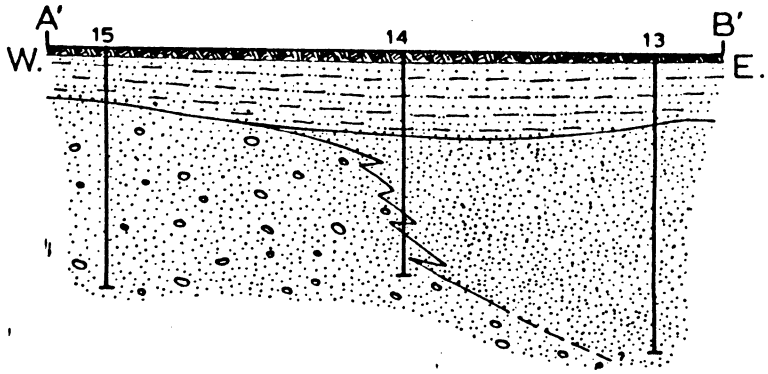
4. TILL (RED HARDPAN). The till is easily recognized by its distinctive red to purply-red color and wide range in particle size with abundant granules, pebbles, and cobbles (Fig. 4). The till is exposed in the southeast corner of the site (Pit 9) forming a hummocky topography with small, shallow swamps occupying the low areas. Depth of cover over the till increases to the north exceeding 20 feet in test pit 13 but decreases along the west side of the site to average 4 feet. High silt content in the matrix creates a till of moderately low permeability although water seeps, up to 2 gallons per minute in test pit 15, were noted in many pits. Total thickness of till is unknown but from personal communications with local well diggers it should exceed 20 to 35 feet becoming better sorted and thus more permeable with depth.

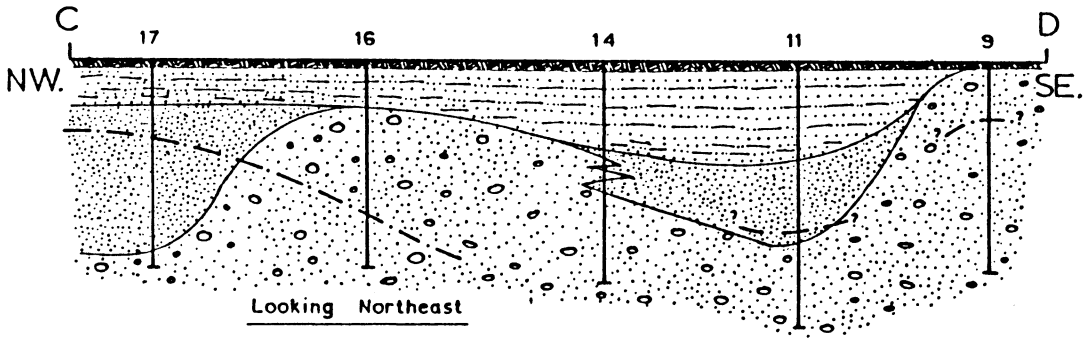
Cross sections perpendicular to the north-south axis of the proposed waste disposal site (Fig. 1) indicate some interesting soil stratification particularly under the small swamp located at the northern edge of the site. Section A - B (Fig. 5) constructed in this area illustrates a thickening of soils overlying the till to the east with a subsequent decrease in grain size, so that the top of the water table which is approximately 6 feet below the surface passes from till in the west, through sand, to silt. The site contains two peat swamps, one in the north and the other located in the southwest corner. Low hummocky hills, possibly kames in the southeast corner of the site are composed of till, otherwise the area is underlain by 5 feet of relatively impermeable silty sand which thickens to 12 feet in test pit 18. Depth to the till increases north from pit 9 and east of pits 12, 15, and 19 to a depth exceeding 20 feet. A stream channel is postulated below pits 10, and 11 running in a northeast - southwest direction (Fig. 1).

# NEARSURFACE PLEISTOCENE PROFILES, SEC. 10 T. 34 N., R. 6 W., RUSK CO., WIS.

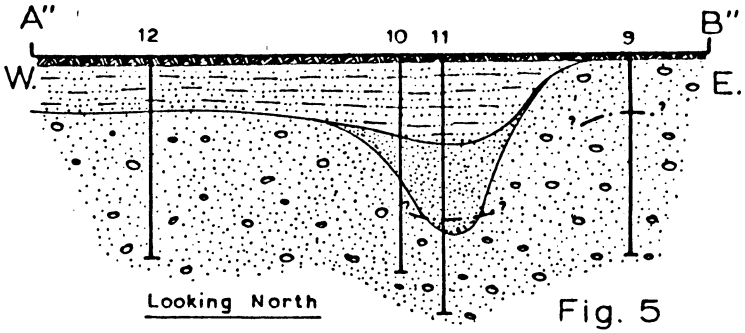



Looking North




Looking Northeast




Looking North

Fig. 5

## LEGEND

RECENT

Peat

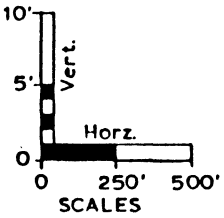
PLEISTOCENE

Silt and Silty Sand

Till

Sand

Water Table




GREAT LAKES EXPLORATION CO - E.D.

SOIL CROSS SECTIONS
Possible Tailings Area
Rusk County, Wisconsin

SCALE: AS SHOWN DATE 10/26/71
DRAWN BY: GLB MAP NO

## III. A DISCUSSION ON SOILS

Completion of 20 test pits, 8 observation wells, and local reports by the U. S. Soil Conservation Department have helped to construct the beginning of a comprehensive picture of the soil stratification underlying the two proposed waste disposal areas. Obviously much work remains before mine production is realized and a final tailings area selected. To facilitate such decisions I have attempted to correlate my observations between the two sites and to coordinate such observations with work completed by governmental agencies. Differing techniques were used by GLEC and the government to describe the same soil. Both techniques used grain size as the basic criteria but in addition the Soil Conservation Department introduced topographical relationships and soil thickness as a final means for soil identification. For example the Freer and Auburndale silt loams are equivalent to my silty sand. The Freer differs from the Auburndale not in composition but rather in thickness with the former averaging 15 to 30 inches and the latter more than 30 inches. Likewise the Almena differs from Auburndale and the Freon from the Freer silts due to topographical relationships with the Almena and Freon occupying low, broad interstream ridge. The following diagram table should aid in future soil identifications.

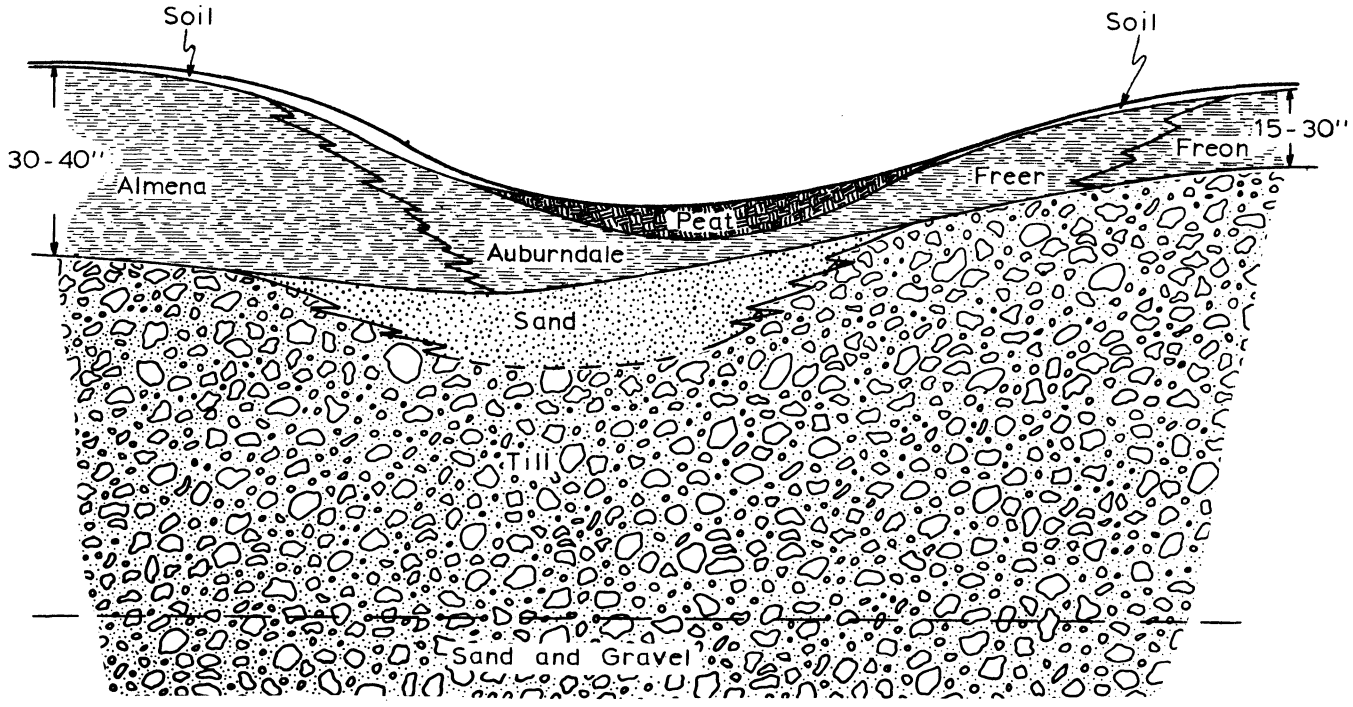



Figure 6. Relationships between Pertinent Soil Types, Sections 10 and 21, Grant Township, Rusk County, Wisconsin

TABLE I

CORRELATION OF U. S. SOIL CONSERVATION AND GLEC SOILS TERMINOLOGY

| U. S. SOIL CONSERVATION | GLEC |
|---|---|
| Sedge Peat | Peat |
| Auburndale - Freer | Clayey silt - silty sand |
| Almena - Freon | Silty sand |
| ? | Sand |
| Red Hardpan | Till |

## IV. A COMPARISON OF THE TWO WASTE DISPOSAL SITES.

Today in an age of environmental awareness, esthetic considerations must be evaluated along with engineering and economic aspects. This is particularly true when a proposed solid waste site lies within 6000 feet of City Hall, overlooks the town and the Flambeau River with a young, progressive, liberal arts college 4500 feet downstream on the opposit bank (Fig. 7). The challenge is indeed formiable but not impossible. A long, low ridge between the river and the proposed tailings site in Section 10 is ideally oriented for construction of a screening dike (Fig. 9). Peat, which will have to be removed before waste deposition, makes an excellent dike cover when mixed with correct proportions of soil. Trees within the waste area, many of which are less than 12 feet in height, can be readily transplanted onto the dike. In short, by diligently utilizing all our natural resources a pleasing screen can be constructed with a chance of successfully satisfying some conservationists, local residents, and governmental agencies. Section 10 will require more ground preparation to construct dikes and tree screens than Section 21 which is relatively isolated and better screened by existing trees (Fig. 8). A serious disadvantage to the southern site is the transportation distance involved, and the necessity of placing the tailings pipeline parallel to the Flambeau River for over 4000 feet - a point the conservationists are not likely to overlook. However Section 21 does hold promise for expansion which could be a serious handicap for Section 10. Finally the purchase price for Sections 20 and 21 is $194,900 higher than Section 10. Listed below in no particular order are some advantages and disadvantages pertinent to both sites.

TABLE II

A COMPARISON OF SECTIONS 10 AND 21.

| SECTION 21 SITE A | SECTION 10 SITE B |
|---|---|
| **ADVANTAGES** | |
| Isolated from town and college | Nearness to mine |
| Natural tree screen | Few land purchases |
| Area is a depression | Underlain by impervious silt |
| Underlain by an impervious silt | |
| Potential for expansion | |
| **DISADVANTAGES** | |
| Distance from mine | Located on a hill |
| Pipe line paralleling River | Overlooks Ladysmith |
| Close to Flambeau River | Poor tree cover |
| Expensive land options | Limited area for waste disposal |
| Possible poor underlying soils | |
| Site close to wetlands | Crossing State Highway 27 |

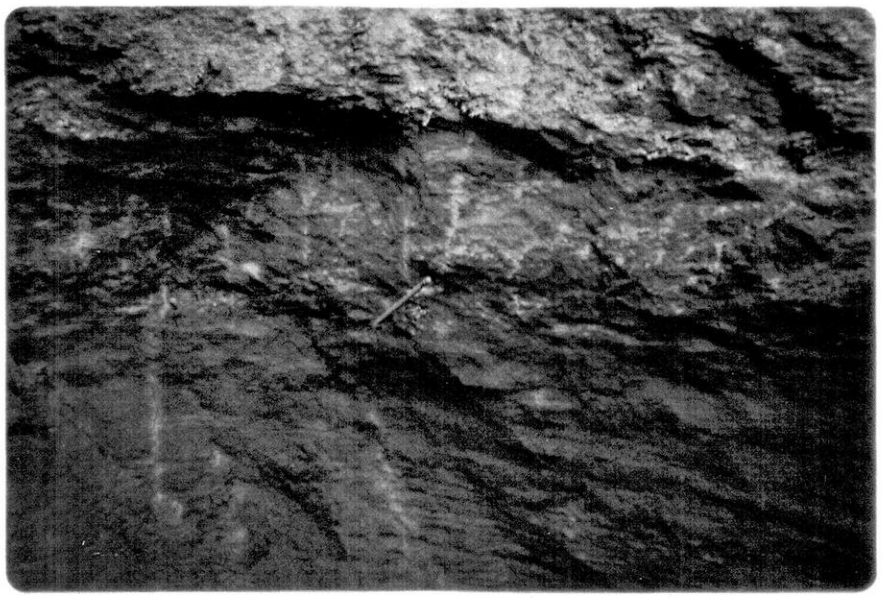


Figure 2. Photograph of Contact between Silty Sand and Underlying Sand. Note fine Interbedding of Sand and Silt below Contact. Test Pit 17, Section 10, Grant Township.

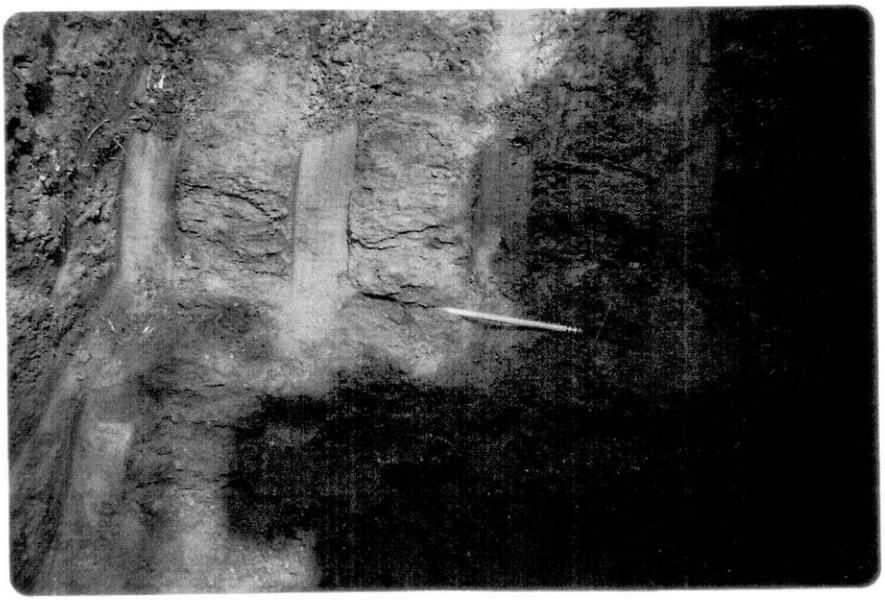


Figure 3. Photograph of Contact between Silty Sand and Till. Test Pit 16, Section 10, Grant Township.

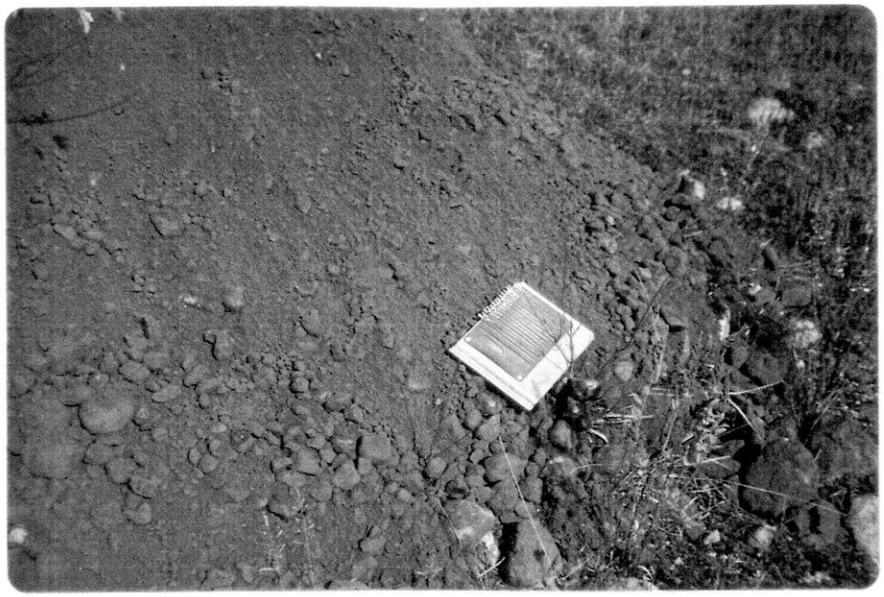


Figure 4. Photograph of Till showing Distinctive Color and Wide Range in Particle Size. Test Pit 14, Section 10, Grant Township.

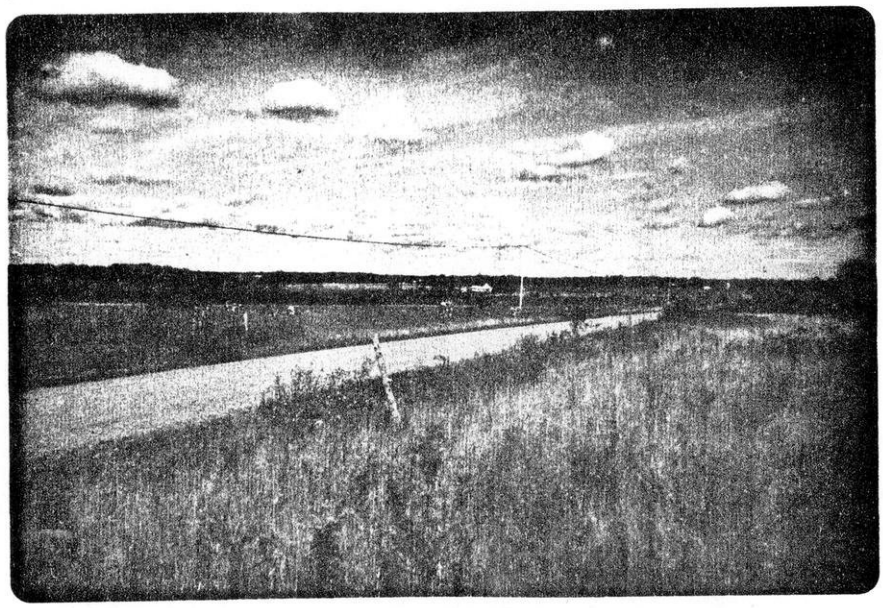


Figure 7. Photograph of Section 10 looking North towards Hospital and the City of Ladysmith. No natural tree screens in this direction.

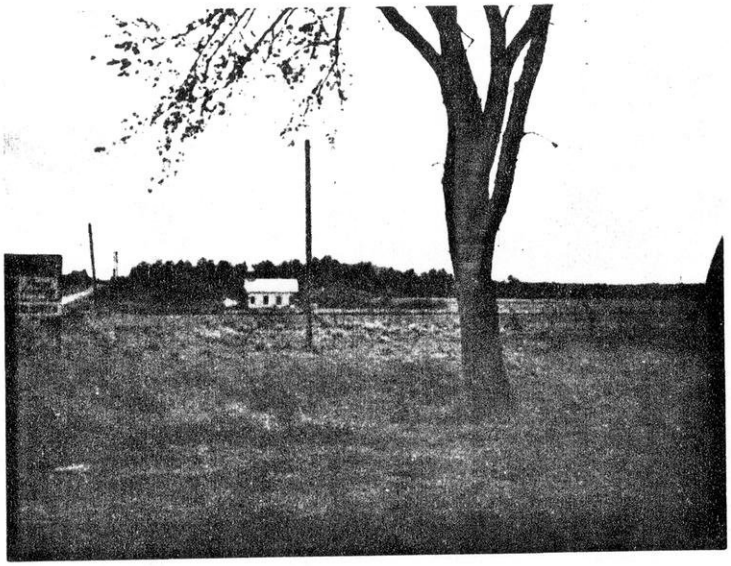
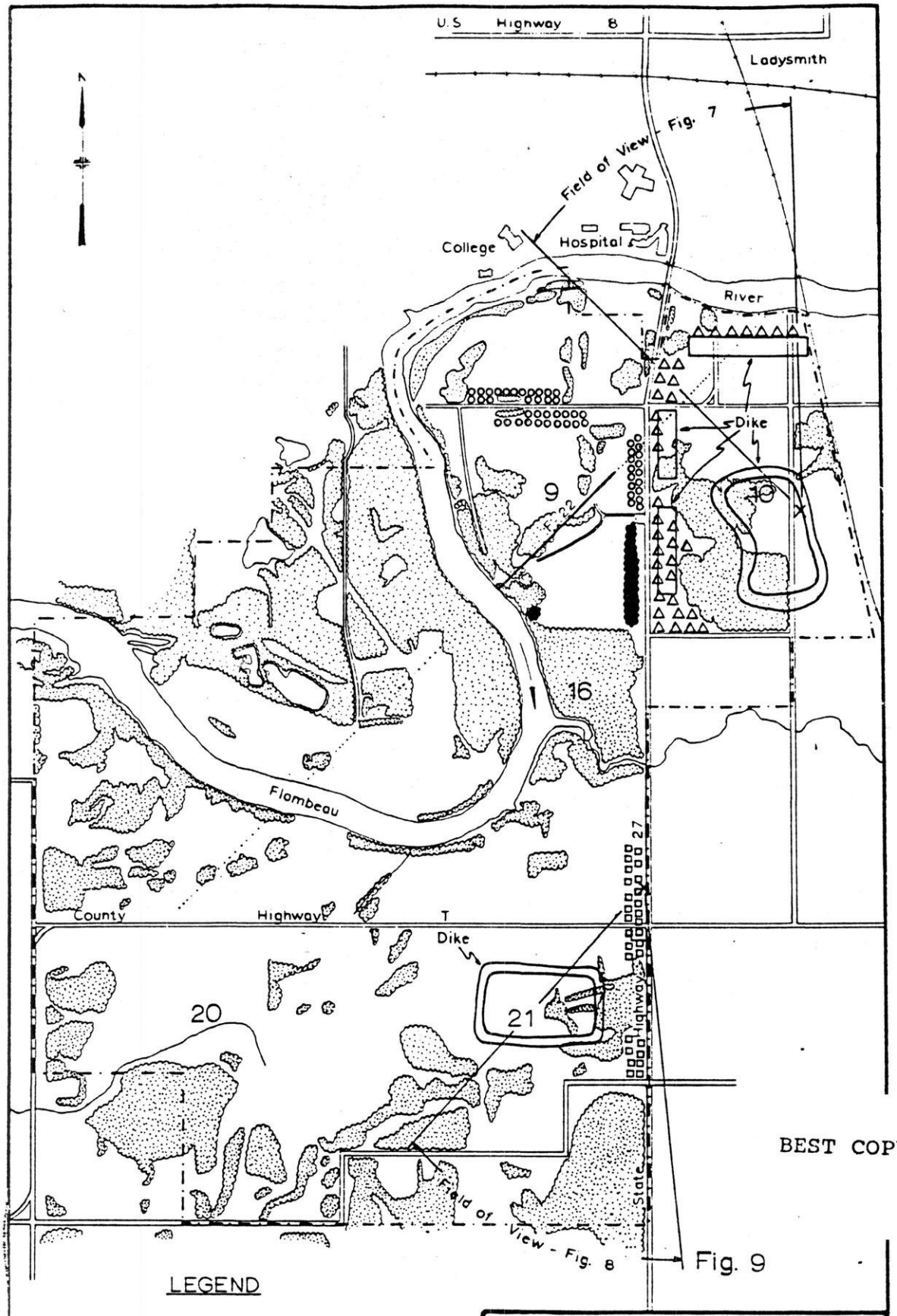


Figure 8. Photograph of Section 21 looking South. Note good tree screen along Highway 27.




LEGEND

- Wooded Areas
- Trees Planted

FUTURE TREE SCREENS

- Mine Area
- Waste Area - Section 10
- Waste Area - Section 21

GREAT LAKES EXPLORATION CO - E.D.

DISTRIBUTION OF TREE COVER

Flambeau Development

Ladysmith, Wisconsin

SCALE 1" = 2000' DATE 10 / 27 / 71

DRAWN BY GLB MAP NO -A-

BEST COPY AVAILABLE

## V. REFERENCES


1. Halls, J. L., 1969, Report on Great Lakes Region Deposits: MMD-ED Report, September 8, 1969.

2. May, E. R., 1970, Data Collecting and Subsurface Interpretation: GLEC Report, October, 1970.

3. May, E. R., 1971, Soil Investigation, Proposed Waste Disposal Area, Section 21: GLEC Report, August 19, 1971.

4. Whiting, D. L., 1971, Test Pit Exploration - Tailings Disposal Area; MMD-ED Letter to N. R. Lutz, September 1, 1971.

5. Thomas, D. J., 1971, Letter to E. R. May with attachments, August 2, 1971.

6. U. S. Dept. of Agriculture, 1969, Wisconsin Soils Their Properties and Uses: Soil Conservation Service, January, 1969.

7. Martinson, A. H., 1965, General Soil Map of Rusk County, Wisconsin: U. S. Soil Conservation Service, June, 1965.

8. Martinson, A. H., 1970, A Soil Study of the Flambeau - Ladysmith - North Grant Community, Rusk County, Wisconsin: U. S. Dept. of Agriculture, Soil Conservation Service, July, 1970.

# APPENDIX

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 9

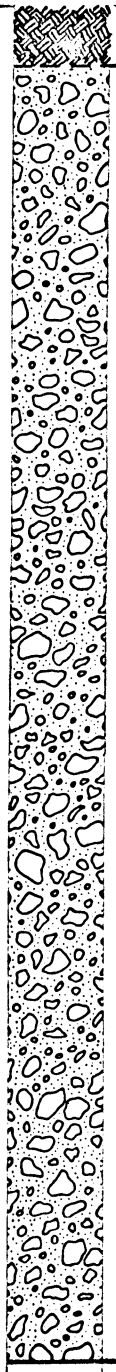
COORDINATES 39,900 N, 44,475 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 14 ft.

ELEVATION 1165 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

0-0.6' SOIL; dark brown silty-sandy soil with gravel and pebbles; colored by humus material. decay.

0.6-14.0' TILL; bleached light tan to brown till with pebbles ranging to 51 mm. and cobbles as large as 153 mm. Scattered boulders on surface up to several feet in diameter. Typical kettle moraine topography with swamps in low areas due to high silt content of till. Till reddy-purple below 2 feet with unsorted particles to 600 mm. Water seeps at 4 feet. Pit walls competent.

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

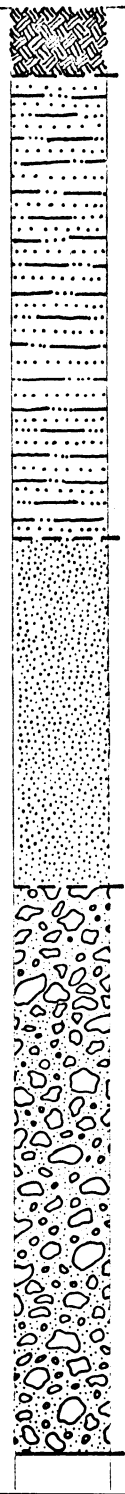
## Test Pit 10

COORDINATES 39,720 N, 43,715 E

DATE STARTED / COMPLETED 10/12/71

LENGTH OF HOLE 15 ft.

ELEVATION 1153 ft.




| GEOLOGIC COLUMN | | GEOLOGIC DESCRIPTION |
|---|---|---|
| 0.7 | 0-0.7' | SOIL; dark brown humus rich silty sand soil. |
| | 0-7-5.5' | SILTY-SAND; tan-brown, fine to medium grained, fairly well sorted silty sand. Rare cobbles to 152 mm. Bottom contact gradational over several inches. |
| 5.5 | 5.5-9.1' | SAND; pink to light brown, fine grained, well sorted, angular to sub-angular sand. 92% quartz grains, 3% magnetite, and 5% dark colored particles. Very minor silt. Bottom 2 feet contained boulders up to 410 mm. No appreciable water in sand even though pit is less than 100 feet from a swamp. |
| 9.1 | 9.1-15.0' | TILL; purple-red, very poorly sorted with particles ranging from silt to boulders up to 580 mm. Water seeps at 11.7 feet. Matrix of till is predominately a silty sand. |
| 15.0 | 3.6-G-20 | END OF HOLE |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 11

COORDINATES 40,195 N, 43,815 E

DATE STARTED / COMPLETED 10/12/71

LENGTH OF HOLE 18 ft.

ELEVATION 1155 ft.

| GEOLOGIC COLUMN | | GEOLOGIC DESCRIPTION |
|---|---|---|
| 0.6 | 0—0.6' | SOIL; black silty-sand with an increase in humus content. |
| 4.2 | 0.6—4.2' | SILT; variegated dirty tan to orangy-brown silt with minor cobbles to 127 mm. Few sand grains to 2 mm. Fairly sharp bottom contact. |
| 6.4 | 4.2—6.4' | SILTY SAND; olive brown, very poorly sorted sand with numerous decomposed boulders to 360 mm. Many pebbles to 7 mm. |
| 12.2 | 6.4—12.2 | SAND; brown to reddy-brown fine grained, angular, poorly sorted sand. Gradational contact at 6.4 feet dipping gently 8° to the west. Mostly pebbles to 40 mm. in a matrix of sand. Towards base is finely interbedded silty-sand and clayey-silt dipping gently 8-12° to the west southwest. Unit appears a gradation between the sand in pit 10 and till. |
| 18.0 | 12.2—18.0' | TILL; reddy-brown, poorly sorted, till with high silt content. Some hematitic clays and silts. Pit walls Pit walls competent with minor water. Competent pit walls. |
| | | END OF HOLE |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 12

COORDINATES 40,205 N, 42,870 E

DATE STARTED / COMPLETED 10/12/71

LENGTH OF HOLE 14 ft.

ELEVATION 1153 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0-0.5' | SOIL; humus intermixed with silty sand. |
| 0.5-3.9' | SILTY-SAND; variegated tan to orangy-brown sandy silt with thin bands of clayey silt. Minor granules and small pebbles. |
| 3.9-14.0' | TILL; purple-brown, poorly sorted, silty till. Top contact gradational over a foot or two. Grain size ranges from silt to cobbles up to 127 mm. and rare boulders to 900 mm. across. Pit was dry with competent walls. |
| 14.0 | END OF HOLE |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

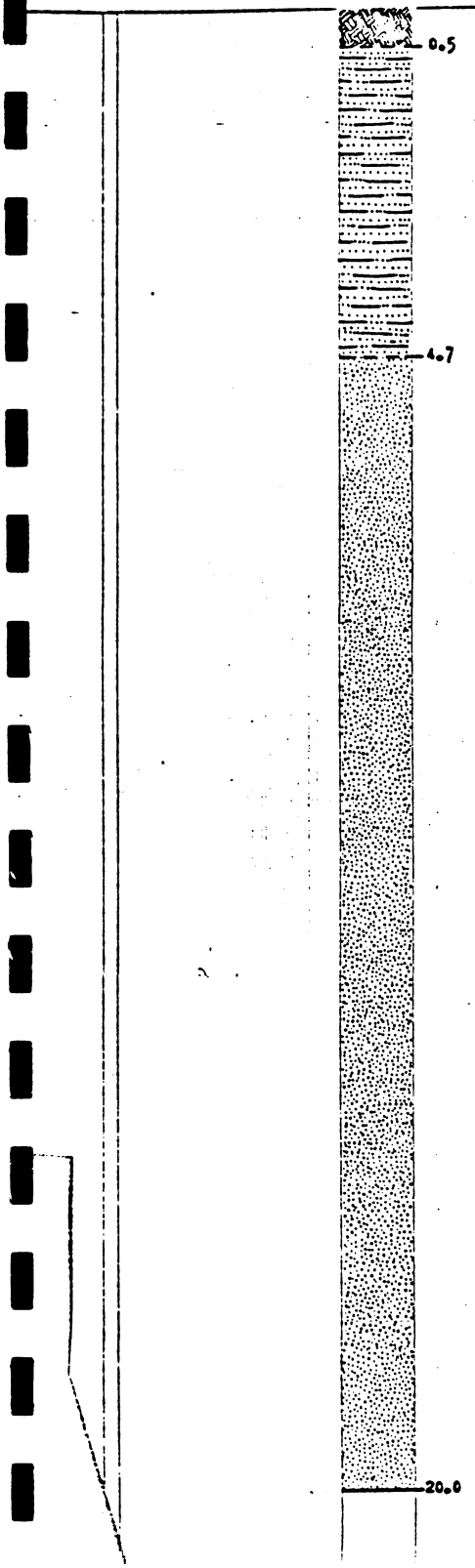
## Test Pit 13

COORDINATES 40,975 N, 44,465 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 20 ft.

ELEVATION 1157 ft.




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0–0.5' | SOIL; silty-sand stained black by shallow humus layer. |
| 0.5–4.7' | SILTY-SAND; Light tan grading in depth to limonitic orangy-brown silty-sand. Bottom gradational over 1.3 feet with some pebbles and cobbles to 150 mm. |
| 4.7–20.0' | SAND; brown, fine to medium grained, somewhat poorly sorted sand with an increase in sand grain size to granules below 18 feet. A dry pit becoming moist at bottom. Walls stood up well. |

SCALE: 1 inch = 2 feet

BEST COPY AVAILABLE

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 14

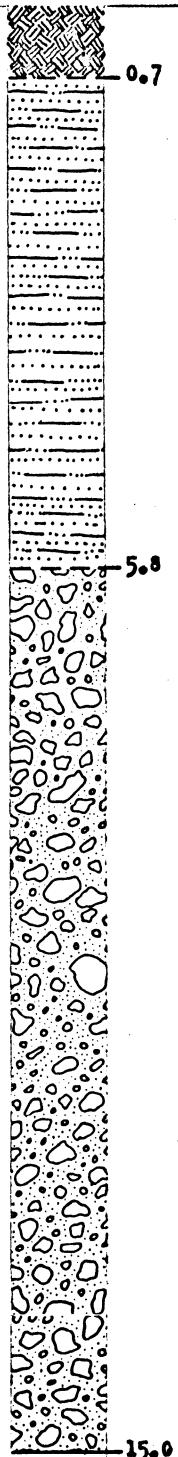
COORDINATES 40,885 N, 43,650 E

DATE STARTED / COMPLETED 10/12/71

LENGTH OF HOLE 15 ft.

ELEVATION 1158 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0-0.7' | SOIL; black humus stained silty sand. |
| 0.7-5.8' | SILTY SAND; tan to light brown variegated, poorly sorted silty-sand with rotten boulders to 330 mm. Generally pebbles to 60 mm. Silt decreases with an increase in sand below 3.5 feet. |
| 5.8-15.0' | TILL? Gradational contact based more on color change to reddy-brown rather than a slight increase in pebbles and cobbles. Cobbles increase in size to 200 mm. with depth. Unit appears a gradation between a true till and sand as found in pit 11. No appreciable water with pit walls competent. |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

END OF HOLE

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 15

SECTION

COORDINATES 41,260 N, 42,650 E

AZIMUTH

ELEVATION 1149 ft.

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 16 ft.



| GEOLOGIC COLUMN | | GEOLOGIC DESCRIPTION |
|---|---|---|
| 0.4 | 0-0.4' | SOIL; humus stained silty sand. |
| | 0.4-3.5' | SILTY-SAND; variegated tan to limonitic brown, poorly sorted silty-sand with occasional granule or small pebble. Bottom contact gradational based on color change and increase in particle size. |
| 3.5 | 3.5-16.0' | TILL; brown to red-brown, poorly sorted with silty-sand containing granules, pebbles, cobbles, and rare boulders up to 1000 mm. Water seeps at 6.9 feet. Water seep on west wall at 11 feet making approximately 2 gpm in a fine sand with some silt; smaller seeps on east and north walls. Pit walls slowly collapsed below 7.5 feet. |
| 16.0 | | END OF HOLE |

SCALE: 1 inch = 2 feet

BEST COPY AVAILABLE

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 16

COORDINATES 41,555 N, 43,250 E

DATE STARTED / COMPLETED 10/12/71

LENGTH OF HOLE 14 ft.

ELEVATION 1149 ft.

| GEOLOGIC COLUMN | | GEOLOGIC DESCRIPTION |
|---|---|---|
| 0.6 | 0-0.6' | SOIL; silty sand with a fairly high humus content. |
| | 0.6-4.2' | SILTY-SAND; tan to orangy-brown, fine grained sand with few grains of granule or pebble size. |
| 4.2 | 4.2-14.0' | TILL; reddy-brown, poorly sorted till with pebbles and cobbles to 250 mm. Gradational upper contact over several inches. Small water seeps below 10 feet with minor pit wall collapse. |
| 14.0 | | END OF HOLE |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 17

COORDINATES 42,060 N 42,735 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 14 ft.

ELEVATION 1146 ft.

| GEOLOGIC COLUMN | | GEOLOGIC DESCRIPTION |
|---|---|---|
| 0.5 | 0-0.5' | SOIL; humus covering black stained silty-sand. |
| | 0.5-3.0' | SILTY-SAND; bleached light tan to 2.0 feet and limonitic stained to 3 feet. Pebbles up to 22 mm. rest upon a gradational bottom contact. |
| 3.0 | 3.0-12.75' | SAND; light brown, fine grained, angular to sub-angular sand. Grain size increases 4.0-5.8' to granules and large 60 mm. pebbles in a matrix of silty sand. Water seeps at 5.0 feet. Below 5.8 feet lies thin 2 inch interbeds of silty-sand and sand grading into a well sorted sand with depth. |
| 12.75 | 12.75-14.0' | TILL; reddy-brown, poorly sorted till with grain size ranging from silt to pebbles. Water boils in top of till making approximately 15 gpm. Lost pit at 14 feet due to pit wall collapse. |
| 14.0 | | END OF HOLE |

BEST COPY AVAILABLE

3.6-G-27 SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 18

COORDINATES 41,925 N, 43,990 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 12 ft.

ELEVATION 1145 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0-4.0' | PEAT; decomposed vegetation mixed with minor silt to give a dark black soil. |
| 4.0-12.0' | SILT; dark blue-gray silt becoming a silty-sand with depth. Rare cobbles to 250 mm. in size. No water seeps. Silt is water saturated. |
| 12.0' | TILL? Dark brown sand with silt, granules, and pebbles to 14 mm. Lost pit at 12 feet due to wall collapse in the silt. |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 19

COORDINATES 42,060 N, 42,125 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 12 ft.

ELEVATION 1147 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0-0.7' | SOIL; black humus in a silty-sand. |
| 0.7-4.4' | SILTY-SAND; tan to orangy-brown, poorly sorted silty sand with miner granules and small pebbles. |
| 4.4-12.0' | TILL; reddy-brown, poorly sorted till. Gradational bottom contact over several inches. Water seeps at 6.7 feet. |
| 12.0 | END OF HOLE |

BEST COPY AVAILABLE

SCALE: 1 inch = 2 feet

# GREAT LAKES EXPLORATION

## Flambeau

## Test Pit 20-13

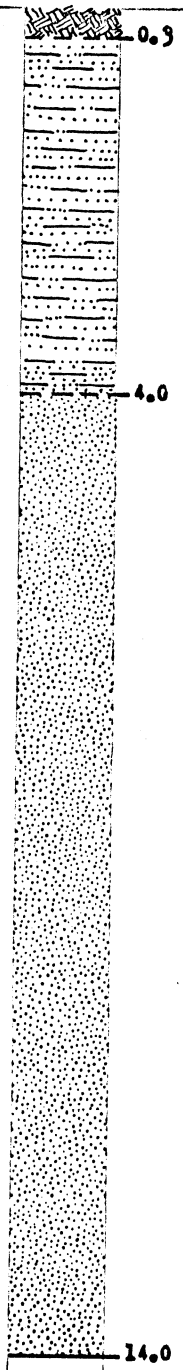
COORDINATES 42,215 N, 43,070 E

DATE STARTED COMPLETED 10/12/71

LENGTH OF HOLE 14 ft.

ELEVATION 1146 ft.

GEOLOGIC COLUMN




GEOLOGIC DESCRIPTION

| | |
|---|---|
| 0-0.3' | SOIL. |
| 0.3-4.0' | SILTY-SAND; light tan to brown variegated silty sand. Bottom contact undulating but gradational over 12 inches. |
| 4.0-14.0' | SAND; light brown, fine grained, well sorted, sub-angular to sub-rounded sand. Water seeps at 6 feet. Some biotite flakes noted. Lost pit at 14 feet due to wall collapse. |

BEST COPY AVAILABLE

END OF HOLE

SCALE: 1 inch = 2 feet

Almena silt loam

ESTIMATED PHYSICAL AND CHEMICAL PROPERTIES

| Depth Inches | Classification | | | Percent of Material Passing Sieve | | | Permeability in/hr | Available water capacity in/in | Soil reaction pH | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| | USDA | Unified | AASHO | No. 4 5.0 mm. | No. 10 2.0 mm | No. 200 0.074 mm | | | | |
| Surface layer 0-12 | Silt loam | ML | A-4 | - | 95-100 | 90-100 | .63-2.0 | .18-.22 | 4.5-6.5 | - |
| 12-36 Subsoil | Silt loam | CL | A-7 | - | 90-100 | 90-100 | .20-.63 | .18-.22 | 4.5-5.5 | Mod. |
| Substratum 36-60 | Sandy loam | SC or SM | A-4, A-2 | 85-90 | 70-85 | 30-40 | .63-2.0 | .08-.12 | 4.5-5.5 | Low |

INTERPRETATIONS OF ENGINEERING PROPERTIES — Hydrologic Group C

| Suitability as a source of: | |
|---|---|
| Topsoil | Surface - FAIR; thin. Subsoil - FAIR; low fertility; erosive on slopes. |
| Sand and gravel | POOR - pockets of poorly graded sand and gravel occur in places in substratum. |
| Road subgrade and highway fills | Subsoil - POOR; low bearing value and unstable when wet. Substratum - FAIR; moderately high water table; often stony. |

| Limitations and Soil Features Affecting: | | |
|---|---|---|
| Highway Location | | MODERATE - seasonal water table at 1 to 3 feet; moderate frost heave potential. |
| Foundations for low buildings | | SLIGHT - high bearing value; seasonal water table may hinder installation. MODERATE for basements; subject to seasonal wetness. |
| Corrosion hazard | Metal | LOW |
| | Concrete | HIGH |
| Pond reservoir areas | | Moderately slow permeability in subsoil; seasonal high water table; dugout ponds may be feasible. |
| Dams, dikes and embankments | | Subsoil - fair to good stability and compaction. Substratum - fair stability; fair to good compaction; may be stony. |
| Waterways | | SLIGHT - wetness may hinder construction. |
| Drainage | | Moderately slow permeability; seasonal high water table; land smoothing and surface drainage feasible. |
| Terraces and diversions | | SLIGHT - wetness may hinder construction. |
| Irrigation | | High available water capacity; deep soil; slow water intake rate; somewhat poorly drained. |

| LIMITATIONS FOR SOME URBAN USES | |
|---|---|
| Sanitary land fill | MODERATE - seasonal high water table; difficult to work in wet seasons. |
| Disposal fields | SEVERE - seasonal high water table; moderately slow permeability. |
| Sewage lagoons | MODERATE - moderately permeable. |
| | |

The soil is evaluated only to a depth of 5 feet or less. Soils are rated on the basis of 4 soil suitability and limitation classes. In the following definitions the suitability rating is listed first and limitation rating listed second:
Good, Slight - The soils have no limitations or limitations for a given use that are easy to overcome; Fair, Moderate - The soils have limitations for a given use that can be overcome by average management and manipulation; Poor, Severe - The soils have limitations for a given use that are difficult to overcome; Unsuitable, Very Severe - The soils have limitations that generally preclude their use for a given purpose.


9,N-27111



BEST COPY AVAILABLE

Auburdale silt loam

ESTIMATED PHYSICAL AND CHEMICAL PROPERTIES

| Depth Inches | Classification | | | Percent of Material Passing Sieve | | | Permeability in/hr | Available water capacity in/in | Soil reaction pH | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| | USDA | Unified | AASHO | No. 4 5.0 mm. | No. 10 2.0 mm | No. 200 0.074 mm | | | | |
| Surface layer 0-10 | Silt loam | ML | A-4 | - | 95-100 | 90-100 | .63-2.0 | .18-.22 | 5.0-6.5 | - |
| 10-36 Subsoil | Silt loam | CL | A-7 | - | 95-100 | 85-95 | .20-.63 | .18-.22 | 4.5-5.5 | Mod. |
| Substratum 36-60 | Sandy loam | SC or SM | A-4, A-2 | 85-90 | 70-85 | 30-40 | .63-2.0 | .08-.12 | 5.6-6.5 | Low |

INTERPRETATIONS OF ENGINEERING PROPERTIES — Hydrologic Group D

| | Suitability as a source of: |
|---|---|
| Topsoil | Surface - GOOD; thin. Subsoil - FAIR; low fertility; erosive on slopes. |
| Sand and gravel | POOR - pockets of poorly graded sand and gravel occur in places in substratum. |
| Road subgrade and highway fills | Subsoil - POOR; low bearing value and unstable when wet. Substratum - FAIR; high water table. |

| | | Limitations and Soil Features Affecting: |
|---|---|---|
| Highway Location | | SEVERE - less than 1 foot to permanent or seasonal water table; hauling and excavation difficult. |
| Foundations for low buildings | | MODERATE - high water table hinders excavation. SEVERE for basements; subject to wetness. |
| Corrosion hazard | Metal | LOW |
| | Concrete | HIGH |
| Pond reservoir areas | | Moderately slow permeability in subsoil; high water table; dugout ponds feasible. |
| Dams, dikes and embankments | | Subsoil - fair to good stability and compaction; Substratum -fair stability; fair to good compaction; may be stony. |
| Waterways | | Slight limitations; seasonal high water table. |
| Drainage | | Moderately slow permeability; high water table; land smoothing and surface drainage feasible. |
| Terraces and diversions | | SLIGHT for diversions; water table may hinder construction. |
| Irrigation | | High available water capacity; deep soil; slow water intake rate; poorly drained. |

LIMITATIONS FOR SOME URBAN USES

| | |
|---|---|
| Sanitary land fill | SEVERE - high water table. |
| Disposal fields | SEVERE - high water table. |
| Sewage lagoons | MODERATE - high water table; moderate permeability. |

The soil is evaluated only to a depth of 5 feet or less. Soils are rated on the basis of 4 soil suitability and limitation classes. In the following definitions the suitability rating is listed first and limitation rating listed second:
Good, Slight - The soils have no limitations or limitations for a given use that are easy to overcome; Fair, Moderate - The soils have limitations for a given use that can be overcome by average management and manipulation; Poor, Severe - The soils have limitations for a given use that are difficult to overcome; Unsuitable, Very Severe - The soils have limitations that generally preclude their use for a given purpose.





BEST COPY AVAILABLE

Freer silt loam

ESTIMATED PHYSICAL AND CHEMICAL PROPERTIES

| Depth Inches | Classification | | | Percent of Material Passing Sieve | | | Permeability in/hr | Available water capacity in/in | Soil reaction pH | Shrink-swell potential |
|---|---|---|---|---|---|---|---|---|---|---|
| | USDA | Unified | AASHO | No. 4 5.0 mm. | No. 10 2.0 mm | No. 200 0.074 mm | | | | |
| Surface layer 0-12 | Silt loam | ML | A-4 | 95-100 | 95-100 | 90-100 | .63-2.0 | .18-.22 | 5.5-6.1 | Low |
| Subsoil 12-36 | Loam | ML | A-4 | 90-100 | 80-90 | 55-65 | .20-.63 | .16-.20 | 5.1-6.1 | Moderate |
| Substratum 36-60 | Sandy loam | SC-SM | A-4, A-2 | 85-90 | 55-65 | 30-40 | .63-2.0 | .08-.12 | 5.1-6.5 | Low |

INTERPRETATIONS OF ENGINEERING PROPERTIES Hydrologic Group C

| | Suitability as a source of: |
|---|---|
| Topsoil | Surface - GOOD; thin. Subsoil - FAIR; low fertility; erosive on slopes. |
| Sand and gravel | POOR - pockets of poorly graded sand and gravel in substratum. |
| Road subgrade and highway fills | POOR - moderate bearing value and unstable when wet. Substratum - FAIR; moderate stability and bearing value. |

| | | Limitations and Soil Features Affecting: |
|---|---|---|
| Highway Location | | MODERATE - seasonal water table at 1 to 3 feet; high frost heave potential in subsoil. |
| Foundations for low buildings | | SLIGHT - seasonal water table hinders installation. Moderate for basements; subject to seasonal wetness. |
| Corrosion hazard | Metal | LOW |
| | Concrete | HIGH |
| Pond reservoir areas | | Moderately slow permeability in subsoil; seasonal high water table; dugout ponds may be feasible. |
| Dams, dikes and embankments | | Subsoil - fair to good stability and compaction; semipervious. Substratum - fair stability; fair to good compaction; semipervious. |
| Waterways | | MODERATE - wetness hinders construction; often stony. |
| Drainage | | Moderately slow permeability; seasonal high water table; land smoothing and surface drainage feasible. |
| Terraces and diversions | | MODERATE - sandy loam substratum; often stony; wetness may hinder construction. |
| Irrigation | | High available water capacity; low water intake rate; somewhat poorly drained. |

LIMITATIONS FOR SOME URBAN USES

| | |
|---|---|
| Sanitary land fill | MODERATE - seasonal high water table; difficult to work in wet seasons. |
| Disposal fields | SEVERE - seasonal high water table; moderately slow permeability in subsoil. |
| Sewage lagoons | MODERATE - moderate permeability. |

The soil is evaluated only to a depth of 5 feet or less. Soils are rated on the basis of 4 soil suitability and limitation classes. In the following definitions the suitability rating is listed first and limitation rating listed second:
Good, Slight - The soils have no limitations or limitations for a given use that are easy to overcome; Fair, Moderate - The soils have limitations for a given use that can be overcome by average management and manipulation; Poor, Severe - The soils have limitations for a given use that are difficult to overcome; Unsuitable, Very Severe - The soils have limitations that generally preclude their use for a given purpose.

USDA-SCS-LINCOLN, NEBR. 1969



BEST COPY AVAILABLE

# APPENDIX 3.6-H

## Groundwater Quality Data
## (Including WDNR Splits)

Groundwater Quality by Parameter

All values in milligrams per liter
unless otherwise indicated

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

ALKALINITY

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 32 | 43 | 21 | 40 | 40 | 20 | 30 | 27 | 18 | 29 | 27 | 36 |
| MW-1000P | 96 | 96 | 85 | 120 | 100 | 90 | 90 | 81 | 84 | 100 | 98 | 120 |
| MW-1001 | 43 | 53 | 64 | 50 | 50 | 40 | 40 | 36 | 36 | 38 | 48 | 69 |
| MW-1001G | 53 | 64 | 53 | 60 | 60 | 50 | 50 | 40 | 45 | 62 | 55 | 69 |
| MW-1001P | 120 | 110 | 110 | 150 | 130 | 110 | 110 | 110 | 110 | 120 | 120 | 160 |
| MW-1002 | 120 | 110 | 85 | 110 | 80 | 70 | 60 | 63 | 45 | 53 | 50 | 66 |
| MW-1002G | 120 | 96 | 85 | 110 | 100 | 90 | 80 | 90 | 81 | 110 | 89 | 110 |
| MW-1003 | 53 | 53 | 43 | 50 | 50 | 40 | 50 | 45 | 36 | 53 | 44 | 54 |
| MW-1003P | 150 | 180 | 170 | 220 | 200 | 230 | 190 | 180 | 180 | 210 | 200 | 250 |
| MW-1004 | 32 | 53 | 32 | 40 | 40 | 32 | 40 | 38 | 27 | 14 | 39 | 54 |
| MW-1004S | 64 | 53 | 53 | 70 | 60 | 60 | 50 | 45 | 54 | 76 | 46 | 75 |
| MW-1004P | 160 | 170 | 160 | 210 | 190 | 170 | 180 | 160 | 160 | 180 | 190 | 230 |
| MW-1005 | 64 | 74 | 64 | 70 | 80 | 60 | 60 | 72 | 81 | 81 | 60 | 93 |
| MW-1005G | 160 | 170 | 96 | 210 | 200 | 170 | 180 | 190 | 170 | 210 | 200 | 260 |
| MW-1005P | 230 | 250 | 250 | 300 | 280 | 250 | 250 | 250 | 240 | 280 | 270 | 340 |
| MW-1006G | | | | | | | 160 | | 140 | | 170 | |
| MW-1006S | | | | | | | 160 | | 140 | | 150 | |
| BLANK | <10 | <10 | 11 | 10 | <10 | 50 | 20 | <10 | <10 | 10 | <10 | <10 |
| TANK | | | 190 | | | | | | | | | |
| ARTESIAN | | 53 | | | | | | | | | | |
| R-1 | | | | | 190 | | | | | | | |
| R-2 | | | | | 150 | | | | | | | |
| R-3 | | | | | 150 | | | | | | | |
| R-5 | | | | | 180 | | | | | | | |
| R-6 | | | | | 260 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

ALUMINUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 0.337 | 0.042 | 0.083 | 0.056 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | 0.118 | 0.090 | 0.158 | 0.086 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | 0.078 | 0.070 | 0.125 | 0.126 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | 0.102 | 0.102 | 0.064 | 0.091 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | 0.090 | 0.046 | 0.118 | 0.086 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | 0.034 | 0.046 | 0.090 | 0.086 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | 0.034 | 0.074 | 0.061 | 0.046 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | 0.082 | 0.076 | 0.086 | 0.061 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | 0.050 | 0.038 | 0.106 | 0.071 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | 0.074 | 0.131 | 0.118 | 0.111 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | 0.110 | 0.058 | 0.078 | 0.035 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | 0.034 | 0.034 | 0.091 | 0.081 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | 0.094 | 0.086 | 0.110 | 0.091 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | 0.070 | 0.070 | 0.098 | 0.056 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | 0.082 | 0.070 | 0.130 | 0.101 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | 0.018 | 0.044 | 0.032 | 0.054 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | 0.072 | 0.069 | 0.098 | 0.080 | | | | | | | | |
| TANK | | | 0.086 | | | | | | | | | |
| ARTESIAN | | 0.038 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

ARSENIC

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1000P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004 | <0.005 | 0.021 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1006S | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| MW-1006G | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| BLANK | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.003 | <0.005 | <0.005 |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | 0.022 | | | | | | | |
| R-2 | | | | | 0.010 | | | | | | | |
| R-3 | | | | | <0.005 | | | | | | | |
| R-5 | | | | | 0.005 | | | | | | | |
| R-6 | | | | | 0.012 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

BARIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1000P | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1001 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1001G | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1001P | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1002 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1002G | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1003 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1003P | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1004 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1004S | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1004P | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1005 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1005G | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1005P | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-1006S | | | | | | | <0.5 | | <0.5 | | <0.5 | |
| MW-1006G | | | | | | | <0.5 | | <0.5 | | <0.5 | |
| BLANK | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.08 | <0.5 | <0.5 |
| TANK | | | <0.5 | | | | | | | | | |
| ARTESIAN | | <0.5 | | | | | | | | | | |
| R-1 | | | | | <0.5 | | | | | | | |
| R-2 | | | | | <0.5 | | | | | | | |
| R-3 | | | | | <0.5 | | | | | | | |
| R-5 | | | | | <0.5 | | | | | | | |
| R-6 | | | | | <0.5 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

BERYLLIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.001 | 0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.001 | <0.001 | <0.001 | <0.001 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TANK | | | <0.001 | | | | | | | | | |
| ARTESIAN | | <0.001 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CADMIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.0010 | <0.0010 | 0.0013 | 0.0011 | 0.0035 | 0.0036 | 0.0021 | 0.0004 | <0.0003 | 0.0003 | 0.0005 | 0.0016 |
| MW-1000P | <0.0010 | 0.0037 | 0.0190 | 0.0038 | 0.0092 | 0.0043 | 0.0068 | 0.0015 | 0.0034 | 0.0047 | 0.0022 | 0.0013 |
| MW-1001 | <0.0010 | 0.0021 | 0.0018 | <0.0010 | 0.0034 | 0.0032 | 0.0004 | 0.0004 | 0.0004 | 0.0005 | 0.0004 | 0.0012 |
| MW-1001G | <0.0010 | <0.0010 | 0.0025 | 0.0010 | 0.0030 | 0.0034 | 0.0008 | 0.0004 | 0.0009 | 0.0011 | 0.0005 | 0.0012 |
| MW-1001P | 0.0030 | 0.0041 | 0.0240 | <0.0010 | 0.0028 | 0.0035 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0003 |
| MW-1002 | <0.0010 | 0.0023 | 0.0026 | 0.0020 | 0.0044 | 0.0037 | 0.0004 | 0.0003 | 0.0007 | 0.0004 | 0.0011 | 0.0020 |
| MW-1002G | <0.0010 | 0.0031 | 0.0018 | 0.0024 | 0.0170 | 0.0081 | <0.0003 | 0.0012 | 0.0017 | 0.0021 | 0.0004 | 0.0016 |
| MW-1003 | <0.0010 | <0.0010 | 0.0028 | <0.0010 | 0.0028 | 0.0030 | 0.0004 | <0.0003 | 0.0003 | <0.0003 | 0.0015 | 0.0006 |
| MW-1003P | 0.0016 | 0.0027 | 0.0009 | 0.0049 | 0.0035 | 0.0038 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0011 | <0.0003 |
| MW-1004 | <0.0010 | <0.0010 | 0.0004 | <0.0010 | 0.0033 | 0.0035 | <0.0004 | <0.0003 | <0.0003 | 0.0003 | 0.0006 | 0.0003 |
| MW-1004S | <0.0010 | 0.0030 | 0.0019 | 0.0015 | 0.0039 | 0.0040 | 0.0016 | 0.0005 | 0.0008 | 0.0008 | 0.0029 | 0.0016 |
| MW-1004P | 0.0022 | 0.0022 | 0.0011 | 0.0035 | 0.0027 | 0.0031 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0004 | <0.0003 |
| MW-1005 | 0.0021 | 0.0017 | 0.0033 | 0.0012 | 0.0034 | 0.0049 | 0.0030 | 0.0015 | 0.0011 | 0.0008 | 0.0015 | 0.0015 |
| MW-1005G | <0.0010 | <0.0010 | 0.0080 | <0.0010 | 0.0028 | 0.0027 | 0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| MW-1005P | 0.0012 | 0.0031 | 0.0010 | 0.0012 | 0.0035 | 0.0039 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| MW-1006S | | | | | | | 0.0009 | | 0.0010 | | 0.0009 | |
| MW-1006G | | | | | | | 0.0004 | | 0.0017 | | 0.0017 | |
| BLANK | <0.0010 | <0.0010 | 0.0038 | <0.0010 | 0.0029 | 0.0028 | <0.0003 | <0.0004 | <0.0003 | <0.0003 | 0.0007 | 0.0005 |
| | 0.0020 | 0.0028 | 0.0048 | 0.0023 | 0.0046 | 0.0039 | 0.0018 | 0.0008 | 0.0012 | 0.0012 | 0.0011 | 0.0012 |
| TANK | | | <0.0001 | | | | | | | | | |
| ARTESIAN | | 0.0011 | | | | | | | | | | |
| R-1 | | | | | 0.0038 | | | | | | | |
| R-2 | | | | | 0.0035 | | | | | | | |
| R-3 | | | | | 0.0039 | | | | | | | |
| R-5 | | | | | 0.0044 | | | | | | | |
| R-6 | | | | | 0.0045 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CALCIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 11.0 | 11.0 | 9.5 | 9.0 | 10.0 | 8.8 | 8.2 | 11.0 | 11.0 | 9.6 | 13.0 | 9.5 |
| MW-1000P | 23.0 | 23.0 | 20.0 | 22.0 | 19.0 | 19.0 | 21.0 | 20.0 | 25.0 | 23.0 | 22.0 | 20.0 |
| MW-1001 | 12.0 | 13.0 | 12.0 | 12.0 | 11.0 | 9.9 | 10.0 | 30.0 | 12.0 | 11.0 | 13.0 | 12.0 |
| MW-1001G | 16.0 | 17.0 | 15.0 | 15.0 | 14.0 | 15.0 | 13.0 | 15.0 | 17.0 | 16.0 | 18.0 | 18.0 |
| MW-1001P | 25.0 | 24.0 | 17.0 | 24.0 | 23.0 | 23.0 | 22.0 | 26.0 | 27.0 | 26.0 | 27.0 | 27.0 |
| MW-1002 | 28.0 | 24.0 | 20.0 | 20.0 | 18.0 | 18.0 | 15.0 | 18.0 | 17.0 | 15.0 | 16.0 | 15.0 |
| MW-1002G | 34.0 | 28.0 | 28.0 | 27.0 | 26.0 | 26.0 | 24.0 | 29.0 | 28.0 | 27.0 | 29.0 | 26.0 |
| MW-1003 | 13.0 | 13.0 | 11.0 | 13.0 | 10.0 | 11.0 | 10.0 | 12.0 | 11.0 | 11.0 | 13.0 | 11.0 |
| MW-1003P | 36.0 | 36.0 | 41.0 | 41.0 | 37.0 | 39.0 | 39.0 | 41.0 | 44.0 | 38.0 | 39.0 | 37.0 |
| MW-1004 | 12.0 | 11.0 | 11.0 | 12.0 | 11.0 | 11.0 | 10.0 | 15.0 | 13.0 | 12.0 | 14.0 | 13.0 |
| MW-1004S | 18.0 | 15.0 | 17.0 | 18.0 | 14.0 | 16.0 | 13.0 | 16.0 | 16.0 | 17.0 | 16.0 | 16.0 |
| MW-1004P | 34.0 | 34.0 | 36.0 | 37.0 | 34.0 | 33.0 | 33.0 | 40.0 | 38.0 | 38.0 | 40.0 | 39.0 |
| MW-1005 | 83.0 | 91.0 | 81.0 | 76.0 | 70.0 | 73.0 | 95.0 | 81.0 | 79.0 | 81.0 | 77.0 | 68.0 |
| MW-1005G | 40.0 | 42.0 | 40.0 | 42.0 | 37.0 | 39.0 | 42.0 | 47.0 | 44.0 | 45.0 | 47.0 | 44.0 |
| MW-1005P | 53.0 | 56.0 | 47.0 | 51.0 | 46.0 | 51.0 | 49.0 | 54.0 | 56.0 | 55.0 | 56.0 | 50.0 |
| MW-1006S | | | | | | | 37.0 | | 39.0 | | 37.0 | |
| MW-1006G | | | | | | | 38.0 | | 38.0 | | 40.0 | |
| BLANK | 0.7 | <1.0 | <0.2 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | 4.1 | 0.4 |
| | 29.20 | 29.20 | 27.03 | 27.93 | 25.33 | 26.18 | 28.19 | 30.33 | 30.29 | 28.31 | 30.41 | 27.03 |
| TANK | | | 50.0 | | | | | | | | | |
| ARTESIAN | | 15.0 | | | | | | | | | | |
| R-1 | | | | | 40.0 | | | | | | | |
| R-2 | | | | | 33.0 | | | | | | | |
| R-3 | | | | | 31.0 | | | | | | | |
| R-5 | | | | | 35.0 | | | | | | | |
| R-6 | | | | | 52.0 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CHLORIDE

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <1 | <1 | <1 | 10 | 1 | <2 | <2 | <2 | <2 | 5 | <2 | <2 |
| MW-1000P | 2 | 1 | <1 | 1 | 2 | <2 | <2 | 3 | <2 | 3 | <2 | <2 |
| MW-1001 | 4 | 6 | <1 | 8 | 5 | 5 | <10 | 7 | 6 | 14 | 6 | 19 |
| MW-1001G | 2 | 1 | <1 | 2 | 4 | 3 | 3 | 3 | 5 | 6 | 6 | 6 |
| MW-1001P | 3 | <1 | <1 | <1 | 1 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MW-1002 | 9 | 4 | 1 | <1 | 4 | 2 | 2 | 3 | <2 | <2 | 3 | 3 |
| MW-1002G | 14 | 15 | 14 | 14 | 15 | 15 | 13 | 14 | 14 | 13 | 13 | 12 |
| MW-1003 | <1 | 2 | <1 | 2 | <2 | <2 | <2 | <2 | <2 | 7 | <2 | <2 |
| MW-1003P | 4 | 1 | <1 | 1 | 2 | <2 | <2 | 3 | <2 | <2 | <2 | <2 |
| MW-1004 | <2 | <1 | <1 | 1 | 4 | <2 | <2 | 2 | <2 | 6 | <2 | <2 |
| MW-1004S | 3 | 3 | 2 | 3 | 5 | 2 | 3 | 3 | 3 | 5 | 3 | 3 |
| MW-1004P | <1 | 1 | <1 | 1 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| MW-1005 | 220 | 220 | 230 | 230 | 200 | 205 | 220 | 217 | 213 | 210 | 210 | 210 |
| MW-1005G | <1 | <1 | <1 | 1 | 2 | 2 | <2 | <2 | 4 | 3 | 3 | 3 |
| MW-1005P | 3 | 4 | 4 | 4 | 6 | 2 | <2 | 6 | 4 | 4 | 4 | 4 |
| MW-1006S | | | | | | | <2 | | <2 | | <2 | |
| MW-1006G | | | | | | | <2 | | <2 | | <2 | |
| BLANK | <1 | 1 | <1 | 1 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| TANK | | | 1 | | | | | | | | | |
| ARTESIAN | | 4 | | | | | | | | | | |
| R-1 | | | | | 2 | | | | | | | |
| R-2 | | | | | 3 | | | | | | | |
| R-3 | | | | | 3 | | | | | | | |
| R-5 | | | | | 8 | | | | | | | |
| R-6 | | | | | 9 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CHROMIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1000P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1006S | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| MW-1006G | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| BLANK | 0.006 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.002 | <0.005 | <0.005 |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | <0.005 | | | | | | | |
| R-2 | | | | | <0.005 | | | | | | | |
| R-3 | | | | | <0.005 | | | | | | | |
| R-5 | | | | | <0.005 | | | | | | | |
| R-6 | | | | | <0.005 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

COBALT

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.05 | <0.05 | <0.05 | <0.05 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TANK | | | <0.05 | | | | | | | | | |
| ARTESIAN | | <0.05 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CADMIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.0010 | <0.0010 | 0.0013 | 0.0011 | 0.0035 | 0.0036 | 0.0021 | 0.0004 | <0.0003 | 0.0003 | 0.0005 | 0.0016 |
| MW-1000P | <0.0010 | 0.0037 | 0.0190 | 0.0038 | 0.0092 | 0.0043 | 0.0068 | 0.0015 | 0.0034 | 0.0047 | 0.0022 | 0.0013 |
| MW-1001 | <0.0010 | 0.0021 | 0.0018 | <0.0010 | 0.0034 | 0.0032 | 0.0004 | 0.0004 | 0.0004 | 0.0005 | 0.0004 | 0.0012 |
| MW-1001G | <0.0010 | <0.0010 | 0.0025 | 0.0010 | 0.0030 | 0.0034 | 0.0008 | 0.0004 | 0.0009 | 0.0011 | 0.0005 | 0.0012 |
| MW-1001P | 0.0030 | 0.0041 | 0.0240 | <0.0010 | 0.0028 | 0.0035 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0003 |
| MW-1002 | <0.0010 | 0.0023 | 0.0026 | 0.0020 | 0.0044 | 0.0037 | 0.0004 | 0.0003 | 0.0007 | 0.0004 | 0.0011 | 0.0020 |
| MW-1002G | <0.0010 | 0.0031 | 0.0018 | 0.0024 | 0.0170 | 0.0081 | <0.0003 | 0.0012 | 0.0017 | 0.0021 | 0.0004 | 0.0016 |
| MW-1003 | <0.0010 | <0.0010 | 0.0028 | <0.0010 | 0.0028 | 0.0030 | 0.0004 | <0.0003 | 0.0003 | <0.0003 | 0.0015 | 0.0006 |
| MW-1003P | 0.0016 | 0.0027 | 0.0009 | 0.0049 | 0.0035 | 0.0038 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0011 | <0.0003 |
| MW-1004 | <0.0010 | <0.0010 | 0.0004 | <0.0010 | 0.0033 | 0.0035 | <0.0004 | <0.0003 | <0.0003 | 0.0003 | 0.0006 | 0.0003 |
| MW-1004S | <0.0010 | 0.0030 | 0.0019 | 0.0015 | 0.0039 | 0.0040 | 0.0016 | 0.0005 | 0.0008 | 0.0008 | 0.0029 | 0.0016 |
| MW-1004P | 0.0022 | 0.0022 | 0.0011 | 0.0035 | 0.0027 | 0.0031 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | 0.0004 | <0.0003 |
| MW-1005 | 0.0021 | 0.0017 | 0.0033 | 0.0012 | 0.0034 | 0.0049 | 0.0030 | 0.0015 | 0.0011 | 0.0008 | 0.0015 | 0.0015 |
| MW-1005G | <0.0010 | <0.0010 | 0.0080 | <0.0010 | 0.0028 | 0.0027 | 0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| MW-1005P | 0.0012 | 0.0031 | 0.0010 | 0.0012 | 0.0035 | 0.0039 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| MW-1006S | | | | | | | 0.0009 | | 0.0010 | | 0.0009 | |
| MW-1006G | | | | | | | 0.0004 | | 0.0017 | | 0.0017 | |
| BLANK | <0.0010 | <0.0010 | 0.0038 | <0.0010 | 0.0029 | 0.0028 | <0.0003 | <0.0004 | <0.0003 | <0.0003 | 0.0007 | 0.0005 |
| | 0.0020 | 0.0028 | 0.0048 | 0.0023 | 0.0046 | 0.0039 | 0.0018 | 0.0008 | 0.0012 | 0.0012 | 0.0011 | 0.0012 |
| TANK | | | <0.0001 | | | | | | | | | |
| ARTESIAN | | 0.0011 | | | | | | | | | | |
| R-1 | | | | | 0.0038 | | | | | | | |
| R-2 | | | | | 0.0035 | | | | | | | |
| R-3 | | | | | 0.0039 | | | | | | | |
| R-5 | | | | | 0.0044 | | | | | | | |
| R-6 | | | | | 0.0045 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

CHEMICAL OXYGEN DEMAND

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 10 | <5 | 15 | <5 | <5 | 10 | 10 | 12 | <5 | 14 | <5 | 18 |
| MW-1000P | 25 | 85 | 25 | 25 | 10 | 10 | <5 | 45 | <5 | 5 | <5 | 7 |
| MW-1001 | 10 | 25 | 20 | <5 | 10 | 50 | 20 | 27 | <5 | 76 | 12 | 22 |
| MW-1001G | 15 | 90 | 20 | 10 | <5 | 10 | <5 | 20 | <5 | 13 | 5 | <5 |
| MW-1001P | 35 | 30 | 25 | <5 | 35 | <5 | <5 | 25 | <5 | <5 | <5 | 13 |
| MW-1002 | 15 | 10 | 10 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | 13 |
| MW-1002G | 15 | 10 | 10 | <5 | <5 | <5 | <5 | 9 | <5 | <5 | <5 | 13 |
| MW-1003 | 20 | 25 | 20 | <5 | <5 | 15 | <5 | 20 | 14 | 13 | <5 | 14 |
| MW-1003P | 40 | 80 | 30 | 25 | <5 | <5 | <5 | 8 | 22 | 6 | <5 | 5 |
| MW-1004 | 30 | 50 | 30 | 15 | 5 | 15 | <5 | 36 | 5 | 7 | 19 | 8 |
| MW-1004S | 10 | 15 | <5 | <5 | <5 | <5 | <5 | 31 | <5 | 7 | 11 | <5 |
| MW-1004P | 10 | 15 | 20 | 5 | 15 | <5 | <5 | 26 | 16 | 6 | 10 | 7 |
| MW-1005 | 25 | 30 | 25 | <5 | 16 | 15 | 10 | 25 | 15 | 12 | 12 | 23 |
| MW-1005G | 15 | 75 | <5 | 15 | 10 | 10 | <5 | 31 | 12 | 9 | 11 | 28 |
| MW-1005P | 15 | 50 | 30 | 15 | 10 | 15 | <5 | 11 | 6 | 6 | 8 | 16 |
| MW-1006S | | | | | | | <5 | | 8 | | 14 | |
| MW-1006G | | | | | | | 5 | | 13 | | 12 | |
| BLANK | 5 | <5 | <5 | <5 | <5 | <5 | <5 | 5 | <5 | <5 | 13 | <5 |
| | 19.33 | 42.14 | 21.54 | 15.71 | 13.88 | 16.67 | 11.25 | 23.29 | 12.33 | 14.50 | 11.40 | 14.38 |
| TANK | | | <5 | | | | | | | | | |
| ARTESIAN | | <5 | | | | | | | | | | |
| | | | | | | | | | | | | |
| R-1 | | | | | <5 | 2.50 | | | | | | |
| R-2 | | | | | <5 | 2.50 | | | | | | |
| R-3 | | | | | 5 | 5.00 | | | | | | |
| R-5 | | | | | <5 | 2.50 | | | | | | |
| R-6 | | | | | <5 | 2.50 | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

COPPER

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 0.040 | 0.010 | <0.005 | 0.007 | 0.011 | 0.046 | 0.042 | 0.018 | 0.026 | 0.031 | 0.034 | 0.019 |
| MW-1000P | 0.048 | 0.061 | 0.050 | 0.055 | 0.052 | 0.034 | 0.031 | 0.085 | 0.042 | <0.010 | <0.010 | 0.010 |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | 0.007 | 0.027 | 0.013 | <0.010 | <0.010 | 0.011 | <0.010 | 0.014 |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.017 | 0.014 | <0.010 | <0.010 | <0.010 | <0.010 | 0.011 |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | 0.009 | 0.018 | 0.009 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | 0.008 | 0.023 | 0.007 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | 0.017 | 0.019 | 0.007 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.020 | 0.009 | <0.010 | <0.010 | <0.010 | 0.011 | <0.010 |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.015 | <0.005 | <0.010 | <0.010 | <0.010 | 0.012 | <0.010 |
| MW-1004 | <0.005 | <0.005 | <0.005 | <0.005 | 0.009 | 0.016 | 0.014 | <0.010 | <0.010 | <0.010 | 0.015 | <0.010 |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | 0.018 | 0.020 | 0.018 | <0.010 | <0.010 | <0.010 | 0.015 | <0.010 |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | 0.007 | 0.018 | 0.006 | <0.010 | <0.010 | <0.010 | 0.012 | <0.010 |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.006 | 0.005 | 0.016 | 0.018 | <0.010 | <0.010 | 0.025 | 0.015 | <0.010 |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | 0.015 | 0.018 | 0.014 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | 0.011 | 0.022 | 0.012 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| MW-1006S | | | | | | | 0.020 | | <0.010 | | 0.011 | |
| MW-1006G | | | | | | | 0.010 | | <0.010 | | 0.014 | |
| BLANK | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.020 | 0.012 | <0.010 | <0.010 | <0.010 | 0.010 | <0.010 |
| | 0.044 | 0.036 | 0.050 | 0.031 | 0.014 | 0.022 | 0.015 | 0.052 | 0.034 | 0.022 | 0.016 | 0.014 |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | 0.010 | | | | | | | |
| R-2 | | | | | 0.011 | | | | | | | |
| R-3 | | | | | 0.031 | | | | | | | |
| R-5 | | | | | 0.012 | | | | | | | |
| R-6 | | | | | 0.010 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

FLUORIDE

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.2 | <0.2 | <0.1 | 0.2 | 0.1 | 0.1 | <0.1 |
| MW-1000P | 0.1 | 0.2 | 0.2 | <0.2 | 0.3 | 0.2 | <0.8 | 0.2 | 0.2 | <0.1 | 0.2 | 0.1 |
| MW-1001 | <1.0 | 0.1 | <0.1 | <1.0 | <2.0 | <0.2 | <4.0 | 1.4 | 0.2 | <4.0 | 0.2 | 0.9 |
| MW-1001G | 0.1 | <0.1 | 0.2 | 0.1 | <0.1 | 0.2 | <0.2 | <0.1 | <0.1 | <0.1 | 0.1 | 0.2 |
| MW-1001P | 0.3 | 0.4 | 0.3 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.6 | 0.3 | 0.2 | 0.2 |
| MW-1002 | 0.4 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | <0.2 | <0.1 | <0.1 | 0.2 | 0.1 | 0.2 |
| MW-1002G | 0.2 | <0.1 | 0.2 | 0.2 | <0.1 | 0.2 | <0.2 | 0.1 | <0.1 | 0.1 | 0.1 | 0.2 |
| MW-1003 | 0.3 | 0.2 | 0.5 | 0.2 | <1.0 | 0.2 | <4.0 | 0.2 | 0.1 | <4.0 | 0.2 | <0.1 |
| MW-1003P | 0.4 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | <0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 |
| MW-1004 | <5.0 | <2.0 | <1.0 | <1.0 | <1.0 | <0.2 | <4.0 | 1.0 | <0.1 | <4.0 | 0.2 | 0.4 |
| MW-1004S | 0.3 | 0.1 | 0.6 | <0.1 | <0.1 | <0.4 | <0.2 | 0.1 | <0.1 | 0.1 | 0.2 | <0.1 |
| MW-1004P | 0.4 | 0.3 | 0.5 | 0.2 | 0.3 | <0.4 | <0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 |
| MW-1005 | <0.2 | 0.1 | 0.2 | <0.5 | 0.2 | 0.5 | <4.0 | 0.5 | <0.1 | <2.0 | 0.2 | <0.1 |
| MW-1005G | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | <0.8 | <0.8 | 0.3 | 0.3 | 0.4 | 0.3 |
| MW-1005P | 0.2 | 0.2 | <0.1 | 0.2 | 0.2 | 0.5 | <0.2 | 0.2 | 0.1 | 0.2 | 0.1 | <0.1 |
| MW-1006S | | | | | | | <0.2 | | 0.2 | | 0.2 | |
| MW-1006G | | | | | | | <0.2 | | 0.2 | | <0.3 | |
| BLANK | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 |
| | 0.28 | 0.22 | 0.31 | 0.23 | 0.26 | 0.34 | 0.40 | 0.43 | 0.24 | 0.20 | 0.20 | 0.32 |
| TANK | | | 0.2 | | | | | | | | | |
| ARTESIAN | | <0.1 | | | | | | | | | | |
| R-1 | | | | | 0.3 | | | | | | | |
| R-2 | | | | | 0.2 | | | | | | | |
| R-3 | | | | | 0.2 | | | | | | | |
| R-5 | | | | | 0.3 | | | | | | | |
| R-6 | | | | | 0.3 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

HARDNESS

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 41 | 39 | 43 | 40 | 30 | 30 | 34 | 37 | 30 | 52 | 47 | 63 |
| MW-1000P | 100 | 93 | 93 | 90 | 110 | 80 | 80 | 63 | 76 | 92 | 78 | 150 |
| MW-1001 | 62 | 49 | 58 | 50 | 60 | 80 | 50 | 50 | 40 | 68 | 59 | 390 |
| MW-1001G | 62 | 70 | 70 | 70 | 60 | 70 | 50 | 65 | 64 | 72 | 67 | 78 |
| MW-1001P | 100 | 100 | 95 | 110 | 100 | 110 | 100 | 110 | 100 | 100 | 120 | 110 |
| MW-1002 | 110 | 93 | 82 | 80 | 70 | 80 | 70 | 68 | 56 | 68 | 55 | 74 |
| MW-1002G | 130 | 120 | 120 | 120 | 110 | 110 | 110 | 110 | 110 | 120 | 110 | 110 |
| MW-1003 | 49 | 56 | 2 | 50 | 60 | 50 | 50 | 41 | 43 | 36 | 47 | 43 |
| MW-1003P | 140 | 170 | 170 | 170 | 170 | 170 | 180 | 171 | 150 | 150 | 150 | 170 |
| MW-1004 | 41 | 49 | 58 | 40 | 50 | 50 | 50 | 38 | 52 | 44 | 47 | 63 |
| MW-1004S | 66 | 62 | 70 | 70 | 60 | 60 | 60 | 55 | 120 | 64 | 82 | 67 |
| MW-1004P | 140 | 150 | 150 | 150 | 150 | 140 | 150 | 150 | 150 | 140 | 160 | 150 |
| MW-1005 | 370 | 380 | 380 | 380 | 390 | 390 | 360 | 400 | 350 | 340 | 330 | 380 |
| MW-1005G | 160 | 160 | 200 | 170 | 170 | 160 | 170 | 170 | 160 | 160 | 170 | 170 |
| MW-1005P | 220 | 210 | 200 | 210 | 220 | 220 | 220 | 240 | 200 | 210 | 220 | 210 |
| MW-1006S | | | | | | | 170 | | 150 | | 150 | |
| MW-1006G | | | | | | | 160 | | 150 | | 150 | |
| BLANK | <2 | <1 | <2 | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| | 119.40 | 120.07 | 119.40 | 120.00 | 120.67 | 120.00 | 115.60 | 117.87 | 113.40 | 114.40 | 116.13 | 148.53 |
| TANK | | | 220 | | | | | | | | | |
| ARTESIAN | | 52 | | | | | | | | | | |
| R-1 | | | | | 167 | | | | | | | |
| R-2 | | | | | 143 | | | | | | | |
| R-3 | | | | | 1137 | | | | | | | |
| R-5 | | | | | 151 | | | | | | | |
| R-6 | | | | | 245 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

IRON

| | | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | | 0.11 | <0.10 | <0.10 | <0.10 | <0.10 | 0.15 | <0.10 | <0.10 | <0.10 | 0.16 | 0.20 | <0.10 |
| MW-1000P | | 0.12 | 0.15 | 0.11 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.20 | 0.11 | 0.45 |
| MW-1001 | | 0.13 | 0.12 | 0.15 | 0.26 | <0.10 | 0.31 | 0.42 | 0.35 | 0.18 | 1.30 | 0.53 | 0.27 |
| MW-1001G | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.06 | <0.10 |
| MW-1001P | | <0.10 | <0.10 | <0.10 | <0.10 | 0.24 | 0.28 | 0.24 | 0.50 | 0.29 | 0.58 | 0.46 | 0.59 |
| MW-1002 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.06 | <0.10 |
| MW-1002G | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.06 | <0.10 |
| MW-1003 | | 0.49 | <0.10 | 0.18 | 0.17 | <0.10 | 0.13 | 0.39 | <0.10 | 0.29 | 0.34 | 0.10 | 0.12 |
| MW-1003P | | <0.10 | <0.10 | <0.10 | <0.10 | 0.34 | <0.10 | 0.22 | 0.33 | <0.10 | 0.25 | 0.20 | 0.27 |
| MW-1004 | | 0.21 | 0.26 | 0.12 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.12 | <0.06 | <0.10 |
| MW-1004S | | 0.11 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.06 | <0.10 |
| MW-1004P | | <0.10 | <0.10 | <0.10 | 0.10 | 0.55 | <0.10 | 0.14 | <0.10 | <0.10 | 0.19 | <0.06 | <0.10 |
| MW-1005 | | 7.20 | 6.10 | 13.00 | 12.00 | 12.00 | 7.90 | 3.50 | 15.00 | 21.00 | 19.00 | 1.10 | 12.00 |
| MW-1005G | | 4.00 | 3.10 | 4.00 | 3.00 | 3.10 | 2.60 | 4.30 | 2.10 | 1.90 | 4.00 | 3.40 | 3.10 |
| MW-1005P | | 0.38 | 0.56 | 0.18 | 0.20 | 0.22 | 0.29 | 0.54 | 0.72 | 0.27 | 0.63 | 0.95 | <0.10 |
| MW-1006S | | | | | | | | <0.10 | | <0.10 | | <0.06 | |
| MW-1006G | | | | | | | | <0.10 | | <0.10 | | <0.06 | |
| BLANK | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.06 | <0.10 |
| | 2.22 | 1.42 | 1.72 | 2.53 | 2.62 | 2.74 | 1.67 | 1.22 | 3.17 | 3.99 | 2.43 | 0.78 | 2.40 |
| TANK | | | | 5.20 | | | | | | | | | |
| ARTESIAN | | | <0.10 | | | | | | | | | | |
| R-1 | | | | | | <0.10 | 0.05 | | | | | | |
| R-2 | | | | | | <0.10 | 0.05 | | | | | | |
| R-3 | | | | | | <0.10 | 0.05 | | | | | | |
| R-5 | | | | | | <0.10 | 0.05 | | | | | | |
| R-6 | | | | | | <0.10 | 0.05 | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

LEAD

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1000P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1006S | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| MW-1006G | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| BLANK | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | <0.005 | | | | | | | |
| R-2 | | | | | <0.005 | | | | | | | |
| R-3 | | | | | <0.005 | | | | | | | |
| R-5 | | | | | <0.005 | | | | | | | |
| R-6 | | | | | <0.005 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

MAGNESIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 3.50 | 3.10 | 2.70 | 2.70 | 2.70 | 2.60 | 2.60 | 3.40 | 2.80 | 2.80 | 3.30 | 2.40 |
| MW-1000P | 5.40 | 9.90 | 7.00 | 8.20 | 6.80 | 6.60 | 6.50 | 7.20 | 7.40 | 7.80 | 7.50 | 6.50 |
| MW-1001 | 4.20 | 4.50 | 4.10 | 4.30 | 4.00 | 4.40 | 4.20 | 4.90 | 4.70 | 4.80 | 5.80 | 4.30 |
| MW-1001G | 6.70 | 6.10 | 6.10 | 6.50 | 6.10 | 6.40 | 6.10 | 7.10 | 7.50 | 7.10 | 7.20 | 6.60 |
| MW-1001P | 10.00 | 9.80 | 8.50 | 9.60 | 9.30 | 9.60 | 9.40 | 11.00 | 11.00 | 11.00 | 11.00 | 10.00 |
| MW-1002 | 8.90 | 7.50 | 6.30 | 6.80 | 5.70 | 5.60 | 5.20 | 6.10 | 5.00 | 4.70 | 4.90 | 4.30 |
| MW-1002G | 11.00 | 11.00 | 10.00 | 11.00 | 10.00 | 10.00 | 9.60 | 11.00 | 11.00 | 10.00 | 11.00 | 8.50 |
| MW-1003 | 4.20 | 3.80 | 3.50 | 3.80 | 3.50 | 3.40 | 3.60 | 4.10 | 3.60 | 3.70 | 4.00 | 2.90 |
| MW-1003P | 14.00 | 17.00 | 16.00 | 17.00 | 18.00 | 17.00 | 17.00 | 17.00 | 18.00 | 16.00 | 17.00 | 16.00 |
| MW-1004 | 3.40 | 6.00 | 3.20 | 3.70 | 3.30 | 3.20 | 3.20 | 4.10 | 3.90 | 3.80 | 4.20 | 3.40 |
| MW-1004S | 5.70 | 5.40 | 4.90 | 6.10 | 4.80 | 5.40 | 4.30 | 5.30 | 5.40 | 5.70 | 4.80 | 4.40 |
| MW-1004P | 14.00 | 15.00 | 14.00 | 15.00 | 21.00 | 14.00 | 13.00 | 15.00 | 15.00 | 15.00 | 15.00 | 13.00 |
| MW-1005 | 38.00 | 38.00 | 36.00 | 37.00 | 37.00 | 37.00 | 37.00 | 39.00 | 41.00 | 37.00 | 37.00 | 32.00 |
| MW-1005G | 14.00 | 14.00 | 14.00 | 15.00 | 15.00 | 15.00 | 14.00 | 16.00 | 15.00 | 15.00 | 16.00 | 14.00 |
| MW-1005P | 21.00 | 21.00 | 18.00 | 20.00 | 20.00 | 21.00 | 19.00 | 24.00 | 22.00 | 22.00 | 23.00 | 18.00 |
| MW-1006S | | | | | | | 12.00 | | 14.00 | | 13.00 | |
| MW-1006G | | | | | | | 13.00 | | 14.00 | | 14.00 | |
| BLANK | <0.25 | <0.05 | 0.07 | 0.17 | 0.10 | 0.10 | <0.050 | <10 | 0.08 | <0.05 | 0.59 | 0.50 |
| | 10.93 | 11.47 | 10.29 | 11.11 | 11.15 | 10.75 | 10.57 | 11.68 | 11.84 | 11.09 | 11.69 | 9.75 |
| TANK | | | 17.00 | | | | | | | | | |
| ARTESIAN | | 4.40 | | | | | | | | | | |
| R-1 | | | | | 15.00 | | | | | | | |
| R-2 | | | | | 11.00 | | | | | | | |
| R-3 | | | | | 11.00 | | | | | | | |
| R-5 | | | | | 13.00 | | | | | | | |
| R-6 | | | | | 19.00 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

MANGANESE

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 0.09 | 0.10 | 0.11 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1000P | 0.26 | 0.46 | 0.59 | 0.55 | 0.61 | 0.65 | 0.64 | 0.59 | 0.70 | 0.72 | 0.75 | 0.73 |
| MW-1001 | 0.17 | 0.15 | 0.40 | 0.35 | 0.46 | 0.60 | 0.38 | 0.29 | 0.55 | 0.64 | 0.46 | 0.68 |
| MW-1001G | 0.05 | 0.09 | 0.09 | 0.06 | <0.08 | <0.05 | 0.07 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1001P | 0.33 | 0.39 | 0.37 | 0.38 | 0.45 | 0.46 | 0.45 | 0.48 | 0.47 | 0.48 | 0.44 | 0.47 |
| MW-1002 | 0.20 | 0.21 | 0.15 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1002G | 0.09 | 0.12 | 0.09 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1003 | 0.32 | 0.45 | 0.55 | 0.60 | 0.73 | 0.67 | 0.75 | 0.67 | 0.59 | 0.59 | 0.41 | <0.05 |
| MW-1003P | 0.23 | 0.34 | 0.47 | 0.35 | 0.58 | 0.45 | 0.45 | 0.44 | 0.40 | 0.43 | 0.44 | <0.05 |
| MW-1004 | <0.05 | 0.28 | 0.07 | <0.05 | 0.05 | <0.05 | <0.05 | <0.50 | <0.05 | <0.05 | <0.05 | 0.06 |
| MW-1004S | 0.11 | 0.09 | 0.07 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1004P | 0.12 | 0.13 | 0.14 | 0.14 | 0.21 | <0.12 | 0.14 | 0.13 | 0.12 | 0.13 | 0.12 | 0.11 |
| MW-1005 | 1.40 | 1.10 | 0.75 | 0.65 | 0.75 | 0.71 | 0.63 | 0.56 | 0.62 | 0.64 | 0.45 | 0.56 |
| MW-1005G | 0.23 | 0.28 | 0.29 | 0.25 | 0.29 | 0.26 | 0.26 | 0.28 | 0.26 | 0.24 | 0.27 | 0.27 |
| MW-1005P | 0.15 | 0.24 | 0.13 | 0.25 | 0.25 | 0.20 | 0.25 | 0.26 | 0.22 | 0.25 | 0.18 | 0.15 |
| MW-1006S | | | | | | | 0.87 | | 0.85 | | 1.30 | |
| MW-1006G | | | | | | | 0.59 | | 0.12 | | 1.00 | |
| BLANK | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| TANK | | | 0.48 | | | | | | | | | |
| ARTESIAN | | <0.05 | | | | | | | | | | |
| R-1 | | | | | <0.05 | 0.025 | | | | | | |
| R-2 | | | | | 0.16 | 0.16 | | | | | | |
| R-3 | | | | | 0.23 | 0.23 | | | | | | |
| R-5 | | | | | 0.26 | 0.26 | | | | | | |
| R-6 | | | | | 0.29 | 0.29 | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

MERCURY

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1000P | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1001 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1001G | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.0024 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1001P | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1002 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1002G | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1003 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1003P | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1004 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1004S | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1004P | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.0008 | <0.0005 | <0.0005 | <0.0005 |
| MW-1005G | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1005P | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1006S | | | | | | | <0.0005 | | <0.0005 | | <0.0005 | |
| MW-1006G | | | | | | | <0.0005 | | <0.0005 | | <0.0005 | |
| BLANK | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TANK | | | <0.0005 | | | | | | | | | |
| ARTESIAN | | <0.0005 | | | | | | | | | | |
| R-1 | | | | | <0.0005 | | | | | | | |
| R-2 | | | | | <0.0005 | | | | | | | |
| R-3 | | | | | <0.0005 | | | | | | | |
| R-5 | | | | | <0.0005 | | | | | | | |
| R-6 | | | | | <0.0005 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

MOLYBDENUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.029 | 0.030 | <0.029 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | <0.029 | 0.040 | 0.056 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | <0.029 | <0.029 | <0.029 | 0.046 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | <0.029 | 0.034 | <0.029 | 0.046 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | <0.029 | <0.029 | 0.035 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.029 | 0.050 | <0.029 | 0.078 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.029 | <0.029 | <0.029 | 0.058 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | 0.049 | <0.029 | 0.029 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.029 | <0.029 | <0.029 | 0.037 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | <0.029 | <0.029 | <0.029 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | <0.029 | 0.046 | 0.043 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.029 | 0.042 | <0.029 | 0.041 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | <0.029 | 0.042 | <0.029 | 0.049 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.029 | <0.029 | <0.029 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | 0.046 | <0.029 | <0.029 | 0.051 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.029 | <0.029 | <0.029 | <0.029 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | 0.048 | 0.041 | 0.041 | 0.051 | | | | | | | | |
| TANK | | | 0.033 | | | | | | | | | |
| ARTESIAN | | <0.029 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

NICKEL

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.007 | 0.027 | 0.039 | 0.018 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1000P | <0.007 | 0.010 | <0.007 | 0.020 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1001 | <0.007 | <0.007 | 0.021 | 0.010 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1001G | <0.007 | 0.016 | 0.026 | 0.014 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1001P | <0.007 | 0.008 | 0.011 | <0.007 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1002 | 0.012 | <0.007 | 0.038 | <0.007 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1002G | 0.032 | 0.021 | 0.010 | 0.045 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1003 | 0.014 | 0.033 | <0.007 | 0.026 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1003P | <0.007 | <0.007 | 0.021 | 0.016 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1004 | <0.007 | <0.007 | 0.025 | 0.024 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1004S | 0.012 | <0.007 | 0.022 | 0.020 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1004P | <0.007 | <0.007 | <0.007 | 0.016 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1005 | 0.067 | 0.040 | 0.036 | 0.059 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1005G | <0.007 | 0.017 | 0.060 | 0.022 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1005P | 0.008 | <0.007 | <0.008 | 0.028 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | <0.030 | N/A | <0.030 | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | <0.030 | N/A | <0.030 | N/A |
| BLANK | <0.007 | <0.007 | 0.009 | 0.008 | N/A | N/A | N/A | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| | 0.024 | 0.022 | 0.028 | 0.024 | | | | | | | | |
| TANK | | | 0.016 | | | | | | | | | |
| ARTESIAN | | 0.022 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

NITROGEN

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 0.21 | 0.27 | 0.21 | 0.30 | 0.25 | 0.29 | 0.32 | 0.32 | 0.30 | 0.30 | 0.27 | 0.27 |
| MW-1000P | 0.13 | 0.11 | 0.07 | 0.10 | 0.12 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| MW-1001 | 1.00 | 0.91 | 1.00 | 0.99 | 0.83 | 1.10 | 0.78 | 0.68 | 0.86 | 1.10 | 0.80 | 0.54 |
| MW-1001G | 1.70 | 0.91 | 2.00 | 1.30 | 1.20 | 2.00 | 2.10 | 1.86 | 2.30 | 2.40 | 2.90 | 2.70 |
| MW-1001P | 0.13 | 0.22 | <0.05 | <0.05 | 0.21 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| MW-1002 | 0.47 | 1.10 | 1.00 | 0.66 | 0.64 | 1.00 | 1.80 | 1.23 | 1.20 | 0.49 | 1.20 | 1.20 |
| MW-1002G | 1.70 | 1.30 | 0.46 | 0.82 | 0.47 | 0.16 | 1.50 | 0.40 | 1.20 | 0.19 | 1.10 | 0.63 |
| MW-1003 | 0.20 | 0.59 | 0.24 | 0.21 | 0.17 | 0.13 | 0.16 | 0.15 | <0.05 | <0.18 | 0.23 | 0.25 |
| MW-1003P | 0.20 | 0.11 | <0.05 | 0.13 | 0.42 | <0.07 | <0.07 | <0.05 | 0.19 | <0.18 | <0.05 | <0.05 |
| MW-1004 | 0.07 | 0.33 | 0.28 | 0.40 | 0.38 | 0.41 | 0.55 | 0.47 | 0.68 | 0.57 | 0.40 | 0.30 |
| MW-1004S | 0.19 | 0.20 | 0.06 | 0.22 | 0.13 | 0.10 | 0.13 | 0.17 | 0.16 | <0.18 | 0.35 | 0.22 |
| MW-1004P | 0.15 | 0.35 | <0.05 | 0.16 | <0.07 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| MW-1005 | <0.05 | 0.38 | <0.05 | 0.22 | 0.16 | 0.13 | <0.07 | 0.05 | <0.05 | <0.18 | 0.14 | <0.05 |
| MW-1005G | 0.09 | 0.16 | <0.05 | 0.14 | 0.11 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| MW-1005P | 0.15 | 0.19 | 0.15 | 0.06 | 0.16 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| MW-1006S | | | | | | | 0.29 | | <0.05 | | 0.05 | |
| MW-1006G | | | | | | | <0.07 | | <0.05 | | <0.05 | |
| BLANK | <0.05 | 0.13 | <0.15 | 0.11 | <0.07 | <0.07 | <0.07 | <0.05 | <0.05 | <0.18 | <0.05 | <0.05 |
| | 0.46 | 0.48 | 0.55 | 0.41 | 0.38 | 0.59 | 0.85 | 0.59 | 0.86 | 0.84 | 0.74 | 0.76 |
| TANK | | | <0.15 | | | | | | | | | |
| ARTESIAN | | 0.25 | | | | | | | | | | |
| R-1 | | | | | 0.07 | | | | | | | |
| R-2 | | | | | 0.10 | | | | | | | |
| R-3 | | | | | 0.08 | | | | | | | |
| R-5 | | | | | 0.11 | | | | | | | |
| R-6 | | | | | 0.15 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

PH

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 6.14 | 6.05 | 5.70 | 5.86 | 5.50 | 5.54 | 6.31 | 6.55 | 6.60 | 6.04 | 6.01 | 5.72 |
| MW-1000P | 6.30 | 5.78 | 6.05 | 5.96 | 6.10 | 5.82 | 6.41 | 6.52 | 6.59 | 6.34 | 6.02 | 6.27 |
| MW-1001 | 6.22 | 6.16 | 6.45 | 6.26 | 6.13 | 6.08 | 6.48 | 6.56 | 6.81 | 6.57 | 6.19 | 6.33 |
| MW-1001G | 6.06 | 5.97 | 6.01 | 6.24 | 6.06 | 5.78 | 6.54 | 6.68 | 6.78 | 6.61 | 6.05 | 6.37 |
| MW-1001P | 6.38 | 6.21 | 6.25 | 6.65 | 6.31 | 6.43 | 6.90 | 6.81 | 7.03 | 6.80 | 6.46 | 6.67 |
| MW-1002 | 6.20 | 6.40 | 6.00 | 6.27 | 6.81 | 6.37 | 6.68 | 7.01 | 6.76 | 6.50 | 6.19 | 6.26 |
| MW-1002G | 6.16 | 6.32 | 5.88 | 5.95 | 5.97 | 6.06 | 6.38 | 6.59 | 6.61 | 6.40 | 6.14 | 6.21 |
| MW-1003 | 6.25 | 6.00 | 5.85 | 6.24 | 6.00 | 6.00 | 6.39 | 6.52 | 6.73 | 6.21 | 6.18 | 6.11 |
| MW-1003P | 6.50 | 6.26 | 6.15 | 6.64 | 6.45 | 6.50 | 6.87 | 6.33 | 6.89 | 7.05 | 7.14 | 7.00 |
| MW-1004 | 5.89 | 5.74 | 5.70 | 6.00 | 5.80 | 5.74 | 6.15 | 6.35 | 6.33 | 6.23 | 6.20 | 5.89 |
| MW-1004S | 5.96 | 6.06 | 5.78 | 6.10 | 5.58 | 5.79 | 6.77 | 6.35 | 6.47 | 6.39 | 6.22 | 6.05 |
| MW-1004P | 6.64 | 6.47 | 6.23 | 6.65 | 6.60 | 6.81 | 7.38 | 7.10 | 7.32 | 7.22 | 6.78 | 6.90 |
| MW-1005 | 5.50 | 5.60 | 5.79 | 5.60 | 5.51 | 5.25 | 5.91 | 5.96 | 6.05 | 7.01 | 6.10 | 5.58 |
| MW-1005G | 6.22 | 6.35 | 6.15 | 6.72 | 6.44 | 6.25 | 6.90 | 7.05 | 7.04 | 6.80 | 7.07 | 6.66 |
| MW-1005P | 6.46 | 6.38 | 6.22 | 6.89 | 6.53 | 6.47 | 7.14 | 7.07 | 7.01 | 5.80 | 6.99 | 6.94 |
| MW-1006S | | | | | | | 6.92 | | 7.01 | | 6.67 | |
| MW-1006G | | | | | | | 7.04 | | 7.06 | | 6.54 | |
| BLANK | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | 6.19 | 6.12 | 6.01 | 6.27 | 6.12 | 6.06 | 6.61 | 6.63 | 6.73 | 6.53 | 6.38 | 6.33 |
| TANK | | | N/A | | | | | | | | | |
| ARTESIAN | | 6.24 | | | | | | | | | | |
| R-1 | | | | | 7.02 | | | | | | | |
| R-2 | | | | | 6.77 | | | | | | | |
| R-3 | | | | | 6.56 | | | | | | | |
| R-5 | | | | | 6.93 | | | | | | | |
| R-6 | | | | | 7.04 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.
Values in standard units

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

SELENIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1000P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <5.000 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| MW-1006S | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| MW-1006G | | | | | | | <0.005 | | <0.005 | | <0.005 | |
| BLANK | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | <0.005 | | | | | | | |
| R-2 | | | | | <0.005 | | | | | | | |
| R-3 | | | | | <0.005 | | | | | | | |
| R-5 | | | | | <0.005 | | | | | | | |
| R-6 | | | | | <0.005 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

SILVER

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | 0.0028 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1000P | <0.005 | <0.005 | 0.0018 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1001 | <0.005 | <0.005 | 0.0009 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1001G | <0.005 | <0.005 | 0.0014 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1001P | <0.005 | <0.005 | 0.0038 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1002 | <0.005 | <0.005 | 0.0047 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1002G | <0.005 | <0.005 | 0.0052 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1003 | <0.005 | <0.005 | 0.0031 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1003P | <0.005 | <0.005 | 0.0070 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1004 | <0.005 | <0.005 | 0.0059 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1004S | <0.005 | <0.005 | 0.0046 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1004P | <0.005 | <0.005 | 0.0041 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1005 | <0.005 | <0.005 | 0.0073 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1005G | <0.005 | <0.005 | 0.0046 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1005P | <0.005 | <0.005 | 0.0058 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| MW-1006S | | | | | | | <0.0004 | | <0.0004 | | <0.0004 | |
| MW-1006G | | | | | | | <0.0004 | | <0.0004 | | <0.0004 | |
| BLANK | <0.005 | <0.005 | 0.0040 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 | <0.0004 |
| TANK | | | 0.0057 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | <0.0004 | | | | | | | |
| R-2 | | | | | <0.0004 | | | | | | | |
| R-3 | | | | | <0.0004 | | | | | | | |
| R-5 | | | | | <0.0004 | | | | | | | |
| R-6 | | | | | <0.0004 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

SODIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 6.10 | 3.70 | 4.10 | 4.80 | 5.60 | 4.00 | 4.60 | 4.40 | 3.70 | 4.60 | 4.90 | 3.60 |
| MW-1001 | 5.80 | 4.50 | 5.90 | 6.70 | 8.80 | 9.50 | 7.90 | 7.20 | 7.20 | 12.00 | 11.00 | 11.00 |
| MW-1001G | 7.40 | 7.00 | 5.60 | 6.50 | 7.20 | 6.70 | 5.00 | 4.90 | 6.40 | 6.40 | 6.90 | 5.90 |
| MW-1002 | 30.00 | 20.00 | 21.00 | 15.00 | 1.20 | 12.00 | 6.60 | 6.70 | 6.00 | 6.10 | 4.30 | 5.20 |
| MW-1002G | 14.00 | 6.50 | 5.90 | 5.20 | 7.50 | 5.70 | 6.50 | 6.20 | 6.70 | 5.40 | 5.50 | 6.10 |
| MW-1003 | 4.50 | 4.10 | 5.20 | 4.70 | 5.50 | 2.10 | 5.60 | 4.50 | 7.10 | 6.50 | 6.60 | 5.00 |
| MW-1004 | 4.50 | 3.90 | 6.40 | 5.50 | 5.30 | 4.60 | 3.60 | 5.80 | 4.70 | 5.90 | 5.10 | 5.00 |
| MW-1004S | 8.70 | 4.60 | 4.80 | 6.20 | 6.00 | 5.30 | 4.10 | 4.10 | 4.50 | 5.70 | 5.40 | 4.20 |
| MW-1005 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 17.00 | 15.00 | 16.00 | 9.90 | 16.00 |
| MW-1005G | 6.10 | 6.00 | 7.10 | 9.70 | 10.00 | 9.70 | 12.00 | 12.00 | 10.00 | 11.00 | 10.00 | 8.60 |
| MW-1006S | | | | | | | 5.80 | | 5.10 | | 6.10 | |
| MW-1006G | | | | | | | 7.00 | | 6.80 | | 9.60 | |
| MW-1000P | 18.00 | 14.00 | 24.00 | 21.00 | 19.00 | 15.00 | 15.00 | 22.00 | 14.00 | 14.00 | 14.00 | 11.00 |
| MW-1001P | 11.00 | 10.00 | 1.80 | 16.00 | 1.40 | 10.00 | 10.00 | 9.30 | 8.90 | 8.40 | 8.90 | 7.80 |
| MW-1003P | 18.00 | 10.00 | 11.00 | 11.00 | 1.40 | 12.00 | 11.00 | 19.00 | 21.00 | 22.00 | 20.00 | 19.00 |
| MW-1004P | 13.00 | 8.80 | 12.00 | 11.00 | 12.00 | 16.00 | 14.00 | 14.00 | 12.00 | 11.00 | 14.00 | 11.00 |
| MW-1005P | 14.00 | 15.00 | 33.00 | 20.00 | 20.00 | 17.00 | 17.00 | 18.00 | 17.00 | 13.00 | 16.00 | 19.00 |
| BLANK | 0.22 | <0.5 | 0.96 | 0.91 | 1.10 | <0.5 | <0.5 | 0.80 | 0.60 | <0.5 | <0.5 | 0.50 |
| | 11.81 | 8.94 | 10.92 | 10.62 | 8.46 | 9.71 | 8.92 | 10.34 | 9.18 | 9.87 | 9.31 | 9.23 |
| TANK | | | 6.30 | | | | | | | | | |
| ARTESIAN | | 4.60 | | | | | | | | | | |
| R-1 | | | | | 9.60 | | | | | | | |
| R-2 | | | | | 10.00 | | | | | | | |
| R-3 | | | | | 11.00 | | | | | | | |
| R-5 | | | | | 14.00 | | | | | | | |
| R-6 | | | | | 12.00 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

SPECIFIC CONDUCTIVITY

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 107 | 238 | 117 | 98 | 93 | 105 | 84 | 88 | 84 | 88 | 84 | 103 |
| MW-1000P | 268 | 129 | 245 | 235 | 247 | 225 | 199 | 251 | 223 | 209 | 194 | 207 |
| MW-1001 | 127 | 172 | 132 | 149 | 143 | 135 | 120 | 128 | 121 | 113 | 111 | 143 |
| MW-1001G | 165 | 168 | 159 | 173 | 169 | 162 | 145 | 155 | 162 | 162 | 161 | 199 |
| MW-1001P | 269 | 232 | 238 | 266 | 257 | 250 | 229 | 245 | 262 | 233 | 212 | 244 |
| MW-1002 | 316 | 292 | 238 | 233 | 226 | 194 | 180 | 152 | 144 | 140 | 137 | 166 |
| MW-1002G | 297 | 252 | 256 | 261 | 261 | 242 | 268 | 241 | 253 | 230 | 241 | 233 |
| MW-1003 | 149 | 131 | 119 | 138 | 127 | 138 | 137 | 122 | 109 | 111 | 116 | 116 |
| MW-1003P | 343 | 341 | 348 | 339 | 366 | 386 | 365 | 128 | 396 | 338 | 327 | 363 |
| MW-1004 | 125 | 125 | 109 | 107 | 138 | 125 | 105 | 144 | 133 | 110 | 106 | 138 |
| MW-1004S | 179 | 149 | 151 | 165 | 148 | 148 | 124 | 144 | 150 | 146 | 117 | 159 |
| MW-1004P | 312 | 345 | 313 | 303 | 348 | 335 | 315 | 354 | 334 | 367 | 315 | 360 |
| MW-1005 | 844 | 816 | 822 | 787 | 867 | 880 | 868 | 954 | 924 | 468 | 825 | 842 |
| MW-1005G | 314 | 330 | 321 | 313 | 360 | 348 | 344 | 371 | 362 | 355 | 333 | 411 |
| MW-1005P | 441 | 449 | 460 | 412 | 466 | 464 | 428 | 452 | 473 | 876 | 423 | 498 |
| MW-1006S | | | | | | | 284 | | 289 | | 282 | |
| MW-1006G | | | | | | | 300 | | 300 | | 252 | |
| BLANK | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| | 283.73 | 277.93 | 268.53 | 265.27 | 281.07 | 275.80 | 264.41 | 261.93 | 277.59 | 263.07 | 249.18 | 278.80 |
| TANK | | | N/A | | | | | | | | | |
| ARTESIAN | | 152 | | | | | | | | | | |
| R-1 | | | | | 346 | | | | | | | |
| R-2 | | | | | 298 | | | | | | | |
| R-3 | | | | | 299 | | | | | | | |
| R-5 | | | | | 339 | | | | | | | |
| R-6 | | | | | 439 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.
Values in u-mhos/cm

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

SULFATE

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 13 | 15 | 16 | 16 | 10 | 12 | 15 | 15 | 5 | 18 | 13 | 14 |
| MW-1001 | <5 | 8 | <5 | <5 | <50 | <50 | <5 | <10 | <10 | 46 | 9 | <50 |
| MW-1001G | 12 | 16 | 15 | 15 | 11 | 12 | 16 | 13 | 9 | 11 | 11 | 12 |
| MW-1002 | 22 | 20 | 20 | 17 | 13 | 12 | 16 | 14 | <5 | 9 | 10 | 10 |
| MW-1002G | 13 | 10 | 13 | 11 | 13 | 11 | 14 | 12 | <5 | 17 | 12 | 11 |
| MW-1003 | 10 | 7 | 9 | 15 | <50 | 9 | 12 | 12 | 5 | 10 | 10 | 13 |
| MW-1004 | <5 | <5 | 12 | 8 | <50 | <5 | 16 | 21 | 6 | 11 | 12 | 12 |
| MW-1004S | 10 | 10 | 11 | 14 | 10 | 9 | 13 | 10 | <5 | 8 | 10 | 11 |
| MW-1005 | 16 | 16 | 17 | 8 | 22 | 20 | 17 | 18 | 9 | 17 | 20 | <25 |
| MW-1005G | <5 | <5 | <5 | 6 | <5 | <5 | <5 | 7 | <5 | <5 | 7 | <5 |
| MW-1006S | | | | | | | <5 | | <5 | | 8 | |
| MW-1006G | | | | | | | <5 | | 6 | | 7 | |
| MW-1000P | 17 | 28 | 31 | 31 | 22 | 18 | 22 | 18 | 6 | 13 | 10 | 12 |
| MW-1001P | 10 | 10 | 14 | 15 | 8 | 10 | <5 | <5 | <10 | 6 | 6 | 7 |
| MW-1003P | 13 | 8 | 12 | 10 | 8 | 10 | <5 | 11 | <5 | 48 | 7 | 7 |
| MW-1004P | <5 | <5 | 8 | 6 | 5 | 10 | <5 | 11 | <5 | 9 | 9 | 8 |
| MW-1005P | <5 | 6 | 11 | 8 | 6 | <5 | <5 | 6 | <5 | <5 | <5 | 5 |
| BLANK | <5 | <5 | <5 | <5 | <1 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| TANK | 13.60 | 12.83 | 14.54 | 12.86 | 11.64 | 12.09 | 15.67 | 12.92 | 6.57 | 17.15 | 10.06 | 10.17 |
| | | | <5 | | | | | | | | | |
| ARTESIAN | | 10 | | | | | | | | | | |

| | | |
|---|---|---|
| R-1 | <5 | 2.50 |
| R-2 | 10 | 10.00 |
| R-3 | 9 | 9.00 |
| R-5 | <5 | 2.50 |
| R-6 | 5 | 5.00 |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

THALLIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.005 | <0.005 | <0.005 | <0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TANK | | | <0.005 | | | | | | | | | |
| ARTESIAN | | <0.005 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

TIN

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.067 | <0.067 | <0.067 | 0.104 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | <0.067 | <0.067 | <0.067 | 0.183 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | 0.077 | <0.067 | 0.081 | 0.098 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | <0.067 | <0.067 | <0.067 | 0.127 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.067 | <0.067 | <0.067 | 0.110 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | 0.136 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | <0.067 | <0.067 | <0.067 | 0.087 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.067 | <0.067 | <0.067 | 0.285 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.067 | <0.067 | <0.067 | <0.067 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | <0.067 | <0.067 | <0.067 | 0.098 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.067 | <0.067 | <0.067 | 0.104 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TANK | | | 0.095 | | | | | | | | | |
| ARTESIAN | | <0.067 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

TITANIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.004 | 0.005 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1000P | 0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001 | 0.028 | <0.004 | <0.004 | 0.005 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001G | 0.006 | 0.005 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1001P | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002 | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1002G | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003 | 0.012 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1003P | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004 | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004S | 0.014 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1004P | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005 | 0.007 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005G | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1005P | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BLANK | <0.004 | <0.004 | <0.004 | <0.004 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| TANK | | | <0.004 | | | | | | | | | |
| ARTESIAN | | <0.004 | | | | | | | | | | |
| R-1 | | | | | N/A | | | | | | | |
| R-2 | | | | | N/A | | | | | | | |
| R-3 | | | | | N/A | | | | | | | |
| R-5 | | | | | N/A | | | | | | | |
| R-6 | | | | | N/A | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

TOTAL DISSOLVED SOLIDS

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 110 | 250 | 64 | 100 | 67 | 64 | 33 | 120 | 120 | 120 | 100 | 50 |
| MW-1000P | 290 | 350 | 160 | 210 | 150 | 140 | 130 | 200 | 200 | 180 | 160 | 130 |
| MW-1001 | 360 | 170 | 240 | 410 | 390 | 770 | 160 | 360 | 150 | 1300 | 130 | 1400 |
| MW-1001G | 130 | 140 | 110 | 180 | 110 | 130 | 74 | 170 | 180 | 170 | 170 | 130 |
| MW-1001P | 160 | 220 | 140 | 200 | 160 | 140 | 67 | 190 | 190 | 180 | 150 | 120 |
| MW-1002 | 200 | 200 | 140 | 160 | 110 | 100 | 34 | 170 | 150 | 140 | 130 | 100 |
| MW-1002G | 200 | 250 | 170 | 170 | 170 | 140 | 88 | 220 | 220 | 190 | 200 | 140 |
| MW-1003 | 100 | 190 | 80 | 140 | 220 | 87 | 54 | 150 | 140 | 130 | 110 | 90 |
| MW-1003P | 200 | 320 | 220 | 230 | 190 | 210 | 170 | 270 | 260 | 250 | 230 | 200 |
| MW-1004 | 570 | 400 | 800 | 280 | 220 | 240 | 31 | 360 | 130 | 130 | 120 | 77 |
| MW-1004S | 120 | 180 | 120 | 130 | 99 | 100 | 14 | 150 | 160 | 150 | 130 | 91 |
| MW-1004P | 180 | 220 | 200 | 200 | 190 | 180 | 120 | 230 | 240 | 220 | 220 | 170 |
| MW-1005 | 640 | 610 | 650 | 640 | 550 | 630 | 580 | 730 | 770 | 650 | 1000 | 690 |
| MW-1005G | 204 | 300 | 210 | 220 | 220 | 230 | 220 | 260 | 270 | 270 | 220 | 220 |
| MW-1005P | 270 | 330 | 290 | 280 | 280 | 280 | 230 | 300 | 320 | 310 | 290 | 250 |
| MW-1006S | | | | | | | 150 | | 250 | | 200 | |
| MW-1006G | | | | | | | 180 | | 250 | | 230 | |
| BLANK | 4 | 55 | 8 | 10 | <1 | <20 | 58 | 40 | <20 | <20 | 5 | <10 |
| | 248.93 | 275.33 | 239.60 | 236.67 | 208.40 | 229.40 | 133.67 | 258.67 | 233.33 | 292.67 | 224.00 | 257.20 |
| TANK | | | 230 | | | | | | | | | |
| ARTESIAN | | 150 | | | | | | | | | | |
| R-1 | | | | | 200 | | | | | | | |
| R-2 | | | | | 180 | | | | | | | |
| R-3 | | | | | 190 | | | | | | | |
| R-5 | | | | | 200 | | | | | | | |
| R-6 | | | | | 280 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

URANIUM

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.001 | <0.001 | 0.001 | 0.005 | 0.001 | 0.002 | <0.001 | 0.002 | 0.002 | 0.001 | <0.001 | <0.001 |
| MW-1000P | <0.001 | <0.001 | 0.003 | <0.001 | 0.005 | 0.002 | <0.001 | 0.004 | 0.001 | 0.002 | 0.004 | <0.001 |
| MW-1001 | <0.001 | <0.001 | 0.006 | <0.001 | 0.005 | 0.002 | 0.002 | 0.004 | 0.003 | 0.005 | 0.001 | <0.001 |
| MW-1001G | <0.001 | <0.001 | 0.004 | 0.005 | 0.001 | 0.003 | 0.001 | 0.005 | 0.001 | 0.006 | <0.001 | <0.001 |
| MW-1001P | <0.001 | <0.001 | 0.008 | 0.003 | 0.005 | 0.003 | 0.002 | <0.001 | 0.002 | 0.007 | 0.002 | <0.001 |
| MW-1002 | <0.001 | 0.002 | 0.007 | 0.003 | 0.004 | 0.002 | 0.001 | 0.001 | 0.004 | 0.003 | 0.017 | <0.001 |
| MW-1002G | <0.001 | 0.003 | 0.009 | 0.002 | 0.005 | 0.003 | 0.002 | <0.001 | 0.003 | 0.003 | <0.001 | <0.001 |
| MW-1003 | <0.001 | <0.001 | <0.001 | 0.004 | 0.003 | 0.002 | 0.001 | <0.001 | 0.001 | 0.005 | <0.001 | <0.001 |
| MW-1003P | 0.002 | 0.004 | 0.003 | 0.003 | 0.007 | 0.003 | 0.003 | 0.005 | 0.003 | 0.005 | 0.003 | <0.001 |
| MW-1004 | <0.001 | <0.001 | <0.001 | 0.004 | 0.004 | <0.001 | 0.001 | 0.002 | 0.002 | 0.004 | <0.001 | <0.001 |
| MW-1004S | <0.001 | <0.001 | <0.001 | 0.002 | 0.002 | 0.003 | 0.003 | <0.001 | 0.001 | 0.002 | 0.002 | <0.001 |
| MW-1004P | <0.001 | 0.002 | 0.011 | 0.005 | 0.006 | 0.004 | 0.003 | <0.001 | 0.001 | 0.004 | 0.003 | 0.003 |
| MW-1005 | <0.001 | 0.004 | 0.002 | 0.004 | 0.009 | 0.003 | 0.001 | <0.001 | 0.002 | 0.006 | 0.005 | 0.001 |
| MW-1005G | <0.001 | <0.001 | <0.001 | 0.004 | 0.005 | 0.003 | <0.001 | <0.001 | 0.008 | <0.001 | <0.001 | 0.002 |
| MW-1005P | 0.004 | 0.006 | <0.001 | 0.004 | 0.005 | 0.006 | <0.001 | 0.002 | 0.001 | <0.001 | 0.002 | 0.003 |
| MW-1006S | N/A | N/A | N/A | N/A | N/A | N/A | 0.002 | N/A | 0.001 | N/A | 0.002 | N/A |
| MW-1006G | N/A | N/A | N/A | N/A | N/A | N/A | 0.002 | N/A | 0.001 | N/A | 0.002 | N/A |
| BLANK | <0.001 | <0.001 | <0.001 | 0.003 | 0.001 | <0.001 | <0.001 | 0.002 | <0.001 | <0.001 | <0.001 | <0.001 |
| | 0.003 | 0.004 | 0.005 | 0.004 | 0.004 | 0.003 | 0.002 | 0.003 | 0.002 | 0.004 | 0.004 | 0.002 |
| TANK | | | <0.001 | | | | | | | | | |
| ARTESIAN | | <0.001 | | | | | | | | | | |

| | |
|---|---|
| R-1 | 0.004 [WOW!] |
| R-2 | 0.007 [WOW!] |
| R-3 | 0.006 |
| R-5 | 0.005 |
| R-6 | 0.006 |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
PARAMETER REPORT

ZINC

| | OCT87 | NOV87 | DEC87 | JAN88 | FEB88 | MAR88 | APR88 | MAY88 | JUN88 | JUL88 | AUG88 | SEP88 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1000P | <0.05 | 0.11 | <0.05 | 1.80 | 0.17 | 0.08 | 0.07 | 0.16 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1001 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1001G | <0.05 | <0.05 | <0.05 | 0.13 | 0.12 | <0.05 | <0.05 | <0.05 | 0.06 | <0.05 | <0.05 | 0.09 |
| MW-1001P | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1002 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.03 | 0.02 | 0.07 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1002G | <0.05 | <0.05 | <0.05 | 0.32 | 0.18 | 0.07 | 0.03 | <0.05 | 0.07 | <0.05 | <0.05 | <0.05 |
| MW-1003 | <0.05 | <0.05 | <0.05 | 0.07 | 0.09 | <0.05 | 0.01 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1003P | <0.05 | <0.05 | <0.05 | 0.11 | 0.49 | <0.05 | <0.01 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1004 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.01 | <0.05 | <0.05 | <0.05 | <0.05 | 0.06 |
| MW-1004S | <0.05 | <0.05 | <0.05 | 0.07 | <0.05 | <0.05 | 0.02 | <0.05 | <0.05 | <0.05 | <0.05 | 0.07 |
| MW-1004P | <0.05 | <0.05 | <0.05 | 0.17 | 0.13 | <0.05 | <0.01 | <0.05 | <0.05 | <0.05 | <0.05 | 0.08 |
| MW-1005 | 0.06 | <0.05 | 0.07 | 0.14 | 0.08 | <0.05 | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.08 |
| MW-1005G | <0.05 | <0.05 | <0.05 | 0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1005P | <0.05 | <0.05 | <0.05 | 0.26 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| MW-1006S | | | | | | | 0.01 | | <0.05 | | 0.01 | |
| MW-1006G | | | | | | | 0.01 | | <0.05 | | 0.01 | |
| BLANK | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.01 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 |
| | 0.06 | 0.11 | 0.07 | 0.31 | 0.18 | 0.06 | 0.03 | 0.12 | 0.07 | 0.00 | 0.01 | 0.08 |
| TANK | | | <0.05 | | | | | | | | | |
| ARTESIAN | | <0.05 | | | | | | | | | | |
| R-1 | | | | | <0.05 | | | | | | | |
| R-2 | | | | | 0.07 | | | | | | | |
| R-3 | | | | | <0.05 | | | | | | | |
| R-5 | | | | | 0.05 | | | | | | | |
| R-6 | | | | | <0.05 | | | | | | | |

Prepared by Foth & Van Dyke and Associates, Inc.

Groundwater Quality by Month

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
OCTOBER 1987

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.005 | 6.10 |
| MW-1000P | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | 18.00 |
| MW-1001 | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | <0.005 | 5.80 |
| MW-1001G | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.70 | <0.005 | <0.005 | 7.40 |
| MW-1001P | 10/15/87 | <0.005 | <1.0 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | 11.00 |
| MW-1002 | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.005 | 30.00 |
| MW-1002G | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.70 | <0.005 | <0.005 | 14.00 |
| MW-1003 | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.50 |
| MW-1003P | 10/15/87 | <0.005 | <1.0 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 18.00 |
| MW-1004 | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.07 | <0.005 | <0.005 | 4.50 |
| MW-1004S | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 8.70 |
| MW-1004P | 10/15/87 | <0.005 | <1.0 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 13.00 |
| MW-1005 | 10/15/87 | <0.005 | <1.0 | 0.0021 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 16.00 |
| MW-1005G | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.09 | <0.005 | <0.005 | 6.10 |
| MW-1005P | 10/15/87 | <0.005 | <1.0 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 14.00 |
| BLANK | 10/15/87 | <0.005 | <1.0 | <0.0010 | 0.006 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 0.22 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 10/15/87 | <1 | 0.040 | <0.1 | 0.11 | 0.09 | 6.14 | 13 | 110 | <0.05 |
| MW-1000P | 10/15/87 | 2 | 0.048 | 0.1 | 0.12 | 0.26 | 6.30 | 17 | 290 | <0.05 |
| MW-1001 | 10/15/87 | 4 | <0.005 | <1.0 | 0.13 | 0.17 | 6.22 | <10 | 360 | <0.05 |
| MW-1001G | 10/15/87 | 2 | <0.005 | 0.1 | <0.10 | 0.05 | 6.06 | 12 | 130 | <0.05 |
| MW-1001P | 10/15/87 | 3 | <0.005 | 0.3 | <0.10 | 0.33 | 6.38 | 10 | 160 | <0.05 |
| MW-1002 | 10/15/87 | 9 | <0.005 | 0.4 | <0.10 | 0.20 | 6.20 | 22 | 200 | <0.05 |
| MW-1002G | 10/15/87 | 14 | <0.005 | 0.2 | <0.10 | 0.09 | 6.16 | 13 | 200 | <0.05 |
| MW-1003 | 10/15/87 | <1 | <0.005 | 0.3 | 0.49 | 0.32 | 6.25 | 10 | 100 | <0.05 |
| MW-1003P | 10/15/87 | 4 | <0.005 | 0.4 | <0.10 | 0.23 | 6.50 | 13 | 200 | <0.05 |
| MW-1004 | 10/15/87 | <2 | <0.005 | <5.0 | 0.21 | <0.05 | 5.89 | <10 | 570 | <0.05 |
| MW-1004S | 10/15/87 | 3 | <0.005 | 0.3 | 0.11 | 0.11 | 5.96 | 10 | 120 | <0.05 |
| MW-1004P | 10/15/87 | <1 | <0.005 | 0.4 | <0.10 | 0.12 | 6.64 | <10 | 180 | <0.05 |
| MW-1005 | 10/15/87 | 220 | <0.005 | <0.2 | 7.20 | 1.40 | 5.50 | 16 | 640 | 0.06 |
| MW-1005G | 10/15/87 | <1 | <0.005 | 0.4 | 4.00 | 0.23 | 6.22 | <10 | 204 | <0.05 |
| MW-1005P | 10/15/87 | 3 | <0.005 | 0.2 | 0.38 | 0.15 | 6.46 | <10 | 270 | <0.05 |
| BLANK | 10/15/87 | <1 | <0.005 | <0.2 | <0.10 | <0.05 | N/A | <10 | 4 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
OCTOBER 1987 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 10/15/87 | 32 | 11.0 | 10 | 41 | 107 | 3.50 | 9.0 |
| MW-1000P | 10/15/87 | 96 | 23.0 | 25 | 100 | 268 | 5.40 | 8.0 |
| MW-1001 | 10/15/87 | 43 | 12.0 | 10 | 62 | 127 | 4.20 | 9.0 |
| MW-1001G | 10/15/87 | 53 | 16.0 | 15 | 62 | 165 | 6.70 | 8.0 |
| MW-1001P | 10/15/87 | 120 | 25.0 | 35 | 100 | 269 | 10.00 | 8.0 |
| MW-1002 | 10/15/87 | 120 | 28.0 | 15 | 110 | 316 | 8.90 | 12.0 |
| MW-1002G | 10/15/87 | 120 | 34.0 | 15 | 130 | 297 | 11.00 | 9.0 |
| MW-1003 | 10/15/87 | 53 | 13.0 | 20 | 49 | 149 | 4.20 | 9.0 |
| MW-1003P | 10/15/87 | 150 | 36.0 | 40 | 140 | 343 | 14.00 | 8.0 |
| MW-1004 | 10/15/87 | 32 | 12.0 | 30 | 41 | 125 | 3.40 | 9.0 |
| MW-1004S | 10/15/87 | 64 | 18.0 | 10 | 66 | 179 | 5.70 | 8.0 |
| MW-1004P | 10/15/87 | 160 | 34.0 | 10 | 140 | 312 | 14.00 | 8.0 |
| MW-1005 | 10/15/87 | 64 | 83.0 | 25 | 370 | 844 | 38.00 | 10.0 |
| MW-1005G | 10/15/87 | 160 | 40.0 | 15 | 160 | 314 | 14.00 | 9.0 |
| MW-1005P | 10/15/87 | 230 | 53.0 | 15 | 220 | 441 | 21.00 | 8.0 |
| BLANK | 10/15/87 | <10 | 0.7 | 5 | <2 | N/A | <0.25 | N/A |

Other Parameters

| Well ID | Date | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL (feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 10/15/87 | 0.337 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,087.26 |
| MW-1000P | 10/15/87 | 0.118 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.004 | <0.001 | 1,087.20 |
| MW-1001 | 10/15/87 | 0.078 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.028 | <0.001 | 1,114.59 |
| MW-1001G | 10/15/87 | 0.102 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.006 | <0.001 | 1,113.75 |
| MW-1001P | 10/15/87 | 0.090 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.077 | <0.004 | <0.001 | 1,114.19 |
| MW-1002 | 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | <0.004 | <0.001 | 1,089.64 |
| MW-1002G | 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | 0.032 | <0.005 | <0.067 | <0.004 | <0.001 | 1,089.68 |
| MW-1003 | 10/15/87 | 0.082 | <0.001 | <0.05 | 0.049 | 0.014 | <0.005 | <0.067 | 0.012 | <0.001 | 1,111.00 |
| MW-1003P | 10/15/87 | 0.050 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,110.98 |
| MW-1004 | 10/15/87 | 0.074 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.136 | <0.004 | <0.001 | 1,108.57 |
| MW-1004S | 10/15/87 | 0.110 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | 0.014 | <0.001 | 1,108.41 |
| MW-1004P | 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,106.12 |
| MW-1005 | 10/15/87 | 0.094 | <0.001 | <0.05 | <0.029 | 0.067 | <0.005 | <0.067 | 0.007 | <0.001 | 1,137.67 |
| MW-1005G | 10/15/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,137.56 |
| MW-1005P | 10/15/87 | 0.082 | <0.001 | <0.05 | 0.046 | 0.008 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.17 |
| BLANK | 10/15/87 | 0.018 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
NOVEMBER 1987

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.005 | 3.70 |
| MW-1000P | 11/05/87 | <0.005 | <0.5 | 0.0037 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 14.00 |
| MW-1001 | 11/05/87 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 4.50 |
| MW-1001G | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 7.00 |
| MW-1001P | 11/05/87 | <0.005 | <0.5 | 0.0041 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.005 | 10.00 |
| MW-1002 | 11/05/87 | <0.005 | <0.5 | 0.0023 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.005 | 20.00 |
| MW-1002G | 11/05/87 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | 1.30 | <0.005 | <0.005 | 6.50 |
| MW-1003 | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.59 | <0.005 | <0.005 | 4.10 |
| MW-1003P | 11/05/87 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 10.00 |
| MW-1004 | 11/05/87 | 0.021 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.33 | <0.005 | <0.005 | 3.90 |
| MW-1004S | 11/05/87 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.60 |
| MW-1004P | 11/05/87 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.005 | 8.80 |
| MW-1005 | 11/05/87 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | 0.38 | <0.005 | <0.005 | 16.00 |
| MW-1005G | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.005 | 6.00 |
| MW-1005P | 11/05/87 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 15.00 |
| BLANK | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | <0.5 |
| ARTESIAN | 11/05/87 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 0.25 | <0.005 | <0.005 | 4.60 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 11/05/87 | <1 | 0.010 | <0.1 | <0.10 | 0.10 | 6.05 | 15 | 250 | <0.05 |
| MW-1000P | 11/05/87 | 1 | 0.061 | 0.2 | 0.15 | 0.46 | 5.78 | 28 | 350 | 0.11 |
| MW-1001 | 11/05/87 | 6 | <0.005 | 0.1 | 0.12 | 0.15 | 6.16 | 8 | 170 | <0.05 |
| MW-1001G | 11/05/87 | 1 | <0.005 | <0.1 | <0.10 | 0.09 | 5.97 | 16 | 140 | <0.05 |
| MW-1001P | 11/05/87 | <1 | <0.005 | 0.4 | <0.10 | 0.39 | 6.21 | 10 | 220 | <0.05 |
| MW-1002 | 11/05/87 | 4 | <0.005 | 0.2 | <0.10 | 0.21 | 6.40 | 20 | 200 | <0.05 |
| MW-1002G | 11/05/87 | 15 | <0.005 | <0.1 | <0.10 | 0.12 | 6.32 | 10 | 250 | <0.05 |
| MW-1003 | 11/05/87 | 2 | <0.005 | 0.2 | <0.10 | 0.45 | 6.00 | 7 | 190 | <0.05 |
| MW-1003P | 11/05/87 | 1 | <0.005 | 0.3 | <0.10 | 0.34 | 6.26 | 8 | 320 | <0.05 |
| MW-1004 | 11/05/87 | <1 | <0.005 | <2.0 | 0.26 | 0.28 | 5.74 | <5 | 400 | <0.05 |
| MW-1004S | 11/05/87 | 3 | <0.005 | 0.1 | <0.10 | 0.09 | 6.06 | 10 | 180 | <0.05 |
| MW-1004P | 11/05/87 | 1 | <0.005 | 0.3 | <0.10 | 0.13 | 6.47 | <5 | 220 | <0.05 |
| MW-1005 | 11/05/87 | 220 | <0.005 | 0.1 | 6.10 | 1.10 | 5.60 | 16 | 610 | <0.05 |
| MW-1005G | 11/05/87 | <1 | <0.005 | 0.3 | 3.10 | 0.28 | 6.35 | <5 | 300 | <0.05 |
| MW-1005P | 11/05/87 | 4 | <0.005 | 0.2 | 0.56 | 0.24 | 6.38 | 6 | 330 | <0.05 |
| BLANK | 11/05/87 | 1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 55 | <0.05 |
| ARTESIAN | 11/05/87 | 4 | <0.005 | <0.1 | <0.10 | <0.05 | 6.24 | 10 | 150 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
NOVEMBER 1987 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 11/05/87 | 43 | 11.0 | <5 | 39 | 238 | 3.10 | 8.0 |
| MW-1000P | 11/05/87 | 96 | 23.0 | 85 | 93 | 129 | 9.90 | 8.0 |
| MW-1001 | 11/05/87 | 53 | 13.0 | 25 | 49 | 172 | 4.50 | 8.0 |
| MW-1001G | 11/05/87 | 64 | 17.0 | 90 | 70 | 168 | 6.10 | 8.0 |
| MW-1001P | 11/05/87 | 110 | 24.0 | 30 | 100 | 232 | 9.80 | 8.0 |
| MW-1002 | 11/05/87 | 110 | 24.0 | 10 | 93 | 292 | 7.50 | 8.0 |
| MW-1002G | 11/05/87 | 96 | 28.0 | 10 | 120 | 252 | 11.00 | 8.0 |
| MW-1003 | 11/05/87 | 53 | 13.0 | 25 | 56 | 131 | 3.80 | 8.0 |
| MW-1003P | 11/05/87 | 180 | 36.0 | 80 | 170 | 341 | 17.00 | 8.0 |
| MW-1004 | 11/05/87 | 53 | 11.0 | 50 | 49 | 125 | 6.00 | 8.0 |
| MW-1004S | 11/05/87 | 53 | 15.0 | 15 | 62 | 149 | 5.40 | 8.0 |
| MW-1004P | 11/05/87 | 170 | 34.0 | 15 | 150 | 345 | 15.00 | 8.0 |
| MW-1005 | 11/05/87 | 74 | 91.0 | 30 | 380 | 816 | 38.00 | 8.0 |
| MW-1005G | 11/05/87 | 170 | 42.0 | 75 | 160 | 330 | 14.00 | 8.0 |
| MW-1005P | 11/05/87 | 250 | 56.0 | 50 | 210 | 449 | 21.00 | 8.0 |
| BLANK | 11/05/87 | <10 | <1.0 | <5 | <1 | N/A | <0.05 | N/A |
| ARTESIAN | 11/05/87 | 53 | 15.0 | <5 | 52 | 152 | 4.40 | 7.0 |

Other Parameters

| Well ID | Date | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 11/05/87 | 0.042 | 0.001 | <0.05 | 0.030 | 0.027 | <0.005 | <0.067 | 0.005 | <0.001 | 1,088.10 |
| MW-1000P | 11/05/87 | 0.090 | <0.001 | <0.05 | 0.040 | 0.010 | <0.005 | <0.067 | <0.004 | <0.001 | 1,087.66 |
| MW-1001 | 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,114.51 |
| MW-1001G | 11/05/87 | 0.102 | <0.001 | <0.05 | 0.034 | 0.016 | <0.005 | <0.067 | 0.005 | <0.001 | 1,113.79 |
| MW-1001P | 11/05/87 | 0.046 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | <0.067 | <0.004 | <0.001 | 1,114.11 |
| MW-1002 | 11/05/87 | 0.046 | <0.001 | <0.05 | 0.050 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,089.86 |
| MW-1002G | 11/05/87 | 0.074 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.003 | 1,089.89 |
| MW-1003 | 11/05/87 | 0.076 | <0.001 | <0.05 | <0.029 | 0.033 | <0.005 | <0.067 | <0.004 | <0.001 | 1,110.87 |
| MW-1003P | 11/05/87 | 0.038 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.004 | 1,110.90 |
| MW-1004 | 11/05/87 | 0.131 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.66 |
| MW-1004S | 11/05/87 | 0.058 | <0.001 | <0.05 | 0.046 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.49 |
| MW-1004P | 11/05/87 | 0.034 | <0.001 | <0.05 | 0.042 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,106.41 |
| MW-1005 | 11/05/87 | 0.086 | <0.001 | <0.05 | 0.042 | 0.040 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.89 |
| MW-1005G | 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | 0.017 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.17 |
| MW-1005P | 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.006 | 1,138.47 |
| BLANK | 11/05/87 | 0.044 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |
| ARTESIAN | 11/05/87 | 0.038 | <0.001 | <0.05 | <0.029 | 0.022 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
DECEMBER 1987

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 12/02/87 | <0.005 | <0.5 | 0.0013 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | 0.0028 | 4.10 |
| MW-1000P | 12/02/87 | <0.005 | <0.5 | 0.0190 | <0.005 | <0.005 | <0.0005 | 0.07 | <0.005 | 0.0018 | 24.00 |
| MW-1001 | 12/02/87 | <0.005 | <0.5 | 0.0018 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | 0.0009 | 5.90 |
| MW-1001G | 12/02/87 | <0.005 | <0.5 | 0.0025 | <0.005 | <0.005 | <0.0005 | 2.00 | <0.005 | 0.0014 | 5.60 |
| MW-1001P | 12/02/87 | <0.005 | <0.5 | 0.0240 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0038 | 1.80 |
| MW-1002 | 12/02/87 | <0.005 | <0.5 | 0.0026 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | 0.0047 | 21.00 |
| MW-1002G | 12/02/87 | <0.005 | <0.5 | 0.0018 | <0.005 | <0.005 | <0.0005 | 0.46 | <0.005 | 0.0052 | 5.90 |
| MW-1003 | 12/02/87 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.24 | <0.005 | 0.0031 | 5.20 |
| MW-1003P | 12/02/87 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0070 | 11.00 |
| MW-1004 | 12/02/87 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.28 | <0.005 | 0.0059 | 6.40 |
| MW-1004S | 12/02/87 | <0.005 | <0.5 | 0.0019 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | 0.0046 | 4.80 |
| MW-1004P | 12/02/87 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0041 | 12.00 |
| MW-1005 | 12/02/87 | <0.005 | <0.5 | 0.0033 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0073 | 16.00 |
| MW-1005G | 12/02/87 | <0.005 | <0.5 | 0.0080 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0046 | 7.10 |
| MW-1005P | 12/02/87 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | 0.0058 | 33.00 |
| BLANK | 12/02/87 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | <0.15 | <0.005 | 0.0040 | 0.96 |
| TANK | 12/02/87 | <0.005 | <0.5 | <0.0001 | <0.005 | <0.005 | <0.0005 | <0.15 | <0.005 | 0.0057 | 6.30 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 12/02/87 | <1 | <0.005 | <0.1 | <0.10 | 0.11 | 5.70 | 16 | 64 | <0.05 |
| MW-1000P | 12/02/87 | <1 | 0.050 | 0.2 | 0.11 | 0.59 | 6.05 | 31 | 160 | <0.05 |
| MW-1001 | 12/02/87 | <1 | <0.005 | <0.1 | 0.15 | 0.40 | 6.45 | <5 | 240 | <0.05 |
| MW-1001G | 12/02/87 | <1 | <0.005 | 0.2 | <0.10 | 0.09 | 6.01 | 15 | 110 | <0.05 |
| MW-1001P | 12/02/87 | <1 | <0.005 | 0.3 | <0.10 | 0.37 | 6.25 | 14 | 140 | <0.05 |
| MW-1002 | 12/02/87 | 1 | <0.005 | 0.2 | <0.10 | 0.15 | 6.00 | 20 | 140 | <0.05 |
| MW-1002G | 12/02/87 | 14 | <0.005 | 0.2 | <0.10 | 0.09 | 5.88 | 13 | 170 | <0.05 |
| MW-1003 | 12/02/87 | <1 | <0.005 | 0.5 | 0.18 | 0.55 | 5.85 | 9 | 80 | <0.05 |
| MW-1003P | 12/02/87 | <1 | <0.005 | 0.2 | <0.10 | 0.47 | 6.15 | 12 | 220 | <0.05 |
| MW-1004 | 12/02/87 | <1 | <0.005 | <1.0 | 0.12 | 0.07 | 5.70 | 12 | 800 | <0.05 |
| MW-1004S | 12/02/87 | 2 | <0.005 | 0.6 | <0.10 | 0.07 | 5.78 | 11 | 120 | <0.05 |
| MW-1004P | 12/02/87 | <1 | <0.005 | 0.5 | <0.10 | 0.14 | 6.23 | 8 | 200 | <0.05 |
| MW-1005 | 12/02/87 | 230 | <0.005 | 0.2 | 13.00 | 0.75 | 5.79 | 17 | 650 | 0.07 |
| MW-1005G | 12/02/87 | <1 | <0.005 | 0.3 | 4.00 | 0.29 | 6.15 | <5 | 210 | <0.05 |
| MW-1005P | 12/02/87 | 4 | <0.005 | <0.1 | 0.18 | 0.13 | 6.22 | 11 | 290 | <0.05 |
| BLANK | 12/02/87 | <1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 8 | <0.05 |
| TANK | 12/02/87 | 1 | <0.005 | 0.2 | 5.20 | 0.48 | N/A | <5 | 230 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
DECEMBER 1987 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 12/02/87 | 21 | 9.5 | 15 | 43 | 117 | 2.70 | 8.0 |
| MW-1000P | 12/02/87 | 85 | 20.0 | 25 | 93 | 245 | 7.00 | 8.0 |
| MW-1001 | 12/02/87 | 64 | 12.0 | 20 | 58 | 132 | 4.10 | 8.0 |
| MW-1001G | 12/02/87 | 53 | 15.0 | 20 | 70 | 159 | 6.10 | 8.0 |
| MW-1001P | 12/02/87 | 110 | 17.0 | 25 | 95 | 238 | 8.50 | 8.0 |
| MW-1002 | 12/02/87 | 85 | 20.0 | 10 | 82 | 238 | 6.30 | 10.0 |
| MW-1002G | 12/02/87 | 85 | 28.0 | 10 | 120 | 256 | 10.00 | 9.0 |
| MW-1003 | 12/02/87 | 43 | 11.0 | 20 | 2 | 119 | 3.50 | 8.0 |
| MW-1003P | 12/02/87 | 170 | 41.0 | 30 | 170 | 348 | 16.00 | 8.0 |
| MW-1004 | 12/02/87 | 32 | 11.0 | 30 | 58 | 109 | 3.20 | 8.0 |
| MW-1004S | 12/02/87 | 53 | 17.0 | <5 | 70 | 151 | 4.90 | 8.0 |
| MW-1004P | 12/02/87 | 160 | 36.0 | 20 | 150 | 313 | 14.00 | 8.0 |
| MW-1005 | 12/02/87 | 64 | 81.0 | 25 | 380 | 822 | 36.00 | 8.0 |
| MW-1005G | 12/02/87 | 96 | 40.0 | <5 | 200 | 321 | 14.00 | 8.0 |
| MW-1005P | 12/02/87 | 250 | 47.0 | 30 | 200 | 460 | 18.00 | 8.0 |
| BLANK | 12/02/87 | 11 | <0.2 | <5 | <2 | N/A | 0.07 | N/A |
| TANK | 12/02/87 | 190 | 50.0 | <5 | 220 | N/A | 17.00 | N/A |

Other Parameters

| Well ID | Date | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 12/02/87 | 0.083 | <0.001 | <0.05 | <0.029 | 0.039 | <0.005 | <0.067 | <0.004 | 0.001 | 1,088.47 |
| MW-1000P | 12/02/87 | 0.158 | <0.001 | <0.05 | 0.056 | <0.007 | <0.005 | <0.067 | <0.004 | 0.003 | 1,088.15 |
| MW-1001 | 12/02/87 | 0.125 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.006 | 1,114.15 |
| MW-1001G | 12/02/87 | 0.064 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | <0.067 | <0.004 | 0.004 | 1,113.43 |
| MW-1001P | 12/02/87 | 0.118 | <0.001 | <0.05 | 0.035 | 0.011 | <0.005 | 0.081 | <0.004 | 0.008 | 1,113.84 |
| MW-1002 | 12/02/87 | 0.090 | <0.001 | <0.05 | <0.029 | 0.038 | <0.005 | <0.067 | <0.004 | 0.007 | 1,089.79 |
| MW-1002G | 12/02/87 | 0.061 | <0.001 | <0.05 | <0.029 | 0.010 | <0.005 | <0.067 | <0.004 | 0.009 | 1,089.94 |
| MW-1003 | 12/02/87 | 0.086 | <0.001 | <0.05 | 0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,110.70 |
| MW-1003P | 12/02/87 | 0.106 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.003 | 1,111.22 |
| MW-1004 | 12/02/87 | 0.118 | <0.001 | <0.05 | <0.029 | 0.025 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.88 |
| MW-1004S | 12/02/87 | 0.078 | <0.001 | <0.05 | 0.043 | 0.022 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.71 |
| MW-1004P | 12/02/87 | 0.091 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.011 | 1,106.59 |
| MW-1005 | 12/02/87 | 0.110 | <0.001 | <0.05 | <0.029 | 0.036 | <0.005 | <0.067 | <0.004 | 0.002 | 1,139.36 |
| MW-1005G | 12/02/87 | 0.098 | <0.001 | <0.05 | <0.029 | 0.060 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.58 |
| MW-1005P | 12/02/87 | 0.130 | <0.001 | <0.05 | <0.029 | <0.008 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.87 |
| BLANK | 12/02/87 | 0.032 | <0.001 | <0.05 | <0.029 | 0.009 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |
| TANK | 12/02/87 | 0.086 | <0.001 | <0.05 | 0.033 | 0.016 | <0.005 | 0.095 | <0.004 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JANUARY 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 01/06/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 4.80 |
| MW-1000P | 01/06/88 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | 0.10 | <0.005 | <0.0004 | 21.00 |
| MW-1001 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.99 | <0.005 | <0.0004 | 6.70 |
| MW-1001G | 01/06/88 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | 1.30 | <0.005 | <0.0004 | 6.50 |
| MW-1001P | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.00 |
| MW-1002 | 01/06/88 | <0.005 | <0.5 | 0.0020 | <0.005 | <0.005 | <0.0005 | 0.66 | <0.005 | <0.0004 | 15.00 |
| MW-1002G | 01/06/88 | <0.005 | <0.5 | 0.0024 | <0.005 | <0.005 | <0.0005 | 0.82 | <0.005 | <0.0004 | 5.20 |
| MW-1003 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 4.70 |
| MW-1003P | 01/06/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 11.00 |
| MW-1004 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.50 |
| MW-1004S | 01/06/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 6.20 |
| MW-1004P | 01/06/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 11.00 |
| MW-1005 | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 16.00 |
| MW-1005G | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.70 |
| MW-1005P | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | <0.0004 | 20.00 |
| BLANK | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.0004 | 0.91 |

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 01/06/88 | 10 | 0.007 | <0.1 | <0.10 | <0.05 | 5.86 | 16 | 100 | <0.05 |
| MW-1000P | 01/06/88 | 1 | 0.055 | <0.2 | <0.10 | 0.55 | 5.96 | 31 | 210 | 1.80 |
| MW-1001 | 01/06/88 | 8 | <0.005 | <1.0 | 0.26 | 0.35 | 6.26 | <5 | 410 | <0.05 |
| MW-1001G | 01/06/88 | 2 | <0.005 | 0.1 | <0.10 | 0.06 | 6.24 | 15 | 180 | 0.13 |
| MW-1001P | 01/06/88 | <1 | <0.005 | 0.4 | <0.10 | 0.38 | 6.65 | 15 | 200 | <0.05 |
| MW-1002 | 01/06/88 | <1 | <0.005 | 0.2 | <0.10 | <0.05 | 6.27 | 17 | 160 | <0.05 |
| MW-1002G | 01/06/88 | 14 | <0.005 | 0.2 | <0.10 | <0.05 | 5.95 | 11 | 170 | 0.32 |
| MW-1003 | 01/06/88 | 2 | <0.005 | 0.2 | 0.17 | 0.60 | 6.24 | 15 | 140 | 0.07 |
| MW-1003P | 01/06/88 | 1 | <0.005 | 0.3 | <0.10 | 0.35 | 6.64 | 10 | 230 | 0.11 |
| MW-1004 | 01/06/88 | 1 | <0.005 | <1.0 | <0.10 | <0.05 | 6.00 | 8 | 280 | <0.05 |
| MW-1004S | 01/06/88 | 3 | <0.005 | <0.1 | <0.10 | <0.05 | 6.10 | 14 | 130 | 0.07 |
| MW-1004P | 01/06/88 | 1 | <0.005 | 0.2 | 0.10 | 0.14 | 6.65 | 6 | 200 | 0.17 |
| MW-1005 | 01/06/88 | 230 | <0.006 | <0.5 | 12.00 | 0.65 | 5.60 | 8 | 640 | 0.14 |
| MW-1005G | 01/06/88 | 1 | <0.005 | 0.3 | 3.00 | 0.25 | 6.72 | 6 | 220 | 0.05 |
| MW-1005P | 01/06/88 | 4 | <0.005 | 0.2 | 0.20 | 0.25 | 6.89 | 8 | 280 | 0.26 |
| BLANK | 01/06/88 | 1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 10 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JANUARY 1988 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 01/06/88 | 40 | 9.0 | <5 | 40 | 98 | 2.70 | 6.0 |
| MW-1000P | 01/06/88 | 120 | 22.0 | 25 | 90 | 235 | 8.20 | 7.0 |
| MW-1001 | 01/06/88 | 50 | 12.0 | <5 | 50 | 149 | 4.30 | 6.0 |
| MW-1001G | 01/06/88 | 60 | 15.0 | 10 | 70 | 173 | 6.50 | 6.0 |
| MW-1001P | 01/06/88 | 150 | 24.0 | <5 | 110 | 266 | 9.60 | 6.0 |
| MW-1002 | 01/06/88 | 110 | 20.0 | <5 | 80 | 233 | 6.80 | 7.0 |
| MW-1002G | 01/06/88 | 110 | 27.0 | <5 | 120 | 261 | 11.00 | 6.0 |
| MW-1003 | 01/06/88 | 50 | 13.0 | <5 | 50 | 138 | 3.80 | 7.0 |
| MW-1003P | 01/06/88 | 220 | 41.0 | 25 | 170 | 339 | 17.00 | 6.0 |
| MW-1004 | 01/06/88 | 40 | 12.0 | 15 | 40 | 107 | 3.70 | 7.0 |
| MW-1004S | 01/06/88 | 70 | 18.0 | <5 | 70 | 165 | 6.10 | 6.0 |
| MW-1004P | 01/06/88 | 210 | 37.0 | 5 | 150 | 303 | 15.00 | 7.0 |
| MW-1005 | 01/06/88 | 70 | 76.0 | <5 | 380 | 787 | 37.00 | 6.0 |
| MW-1005G | 01/06/88 | 210 | 42.0 | 15 | 170 | 313 | 15.00 | 6.0 |
| MW-1005P | 01/06/88 | 300 | 51.0 | 15 | 210 | 412 | 20.00 | 7.0 |
| BLANK | 01/06/88 | 10 | <0.2 | <5 | 2 | N/A | 0.17 | N/A |

==========

Other Parameters

| Well ID | Date | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 01/06/88 | 0.056 | <0.001 | <0.05 | <0.029 | 0.018 | <0.005 | 0.104 | <0.004 | 0.005 | 1,089.62 |
| MW-1000P | 01/06/88 | 0.086 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.183 | <0.004 | <0.001 | 1,089.43 |
| MW-1001 | 01/06/88 | 0.126 | <0.001 | <0.05 | 0.046 | 0.010 | <0.005 | <0.067 | 0.005 | <0.001 | 1,113.48 |
| MW-1001G | 01/06/88 | 0.091 | <0.001 | <0.05 | 0.046 | 0.014 | <0.005 | <0.067 | <0.004 | 0.005 | 1,112.85 |
| MW-1001P | 01/06/88 | 0.086 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.098 | <0.004 | 0.003 | 1,113.18 |
| MW-1002 | 01/06/88 | 0.086 | <0.001 | <0.05 | 0.078 | <0.007 | <0.005 | <0.067 | <0.004 | 0.003 | 1,090.05 |
| MW-1002G | 01/06/88 | 0.046 | <0.001 | <0.05 | 0.058 | 0.045 | <0.005 | <0.067 | <0.004 | 0.002 | 1,090.22 |
| MW-1003 | 01/06/88 | 0.061 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | 0.127 | <0.004 | 0.004 | 1,110.54 |
| MW-1003P | 01/06/88 | 0.071 | <0.001 | <0.05 | 0.037 | 0.016 | <0.005 | 0.110 | <0.004 | 0.003 | 1,110.55 |
| MW-1004 | 01/06/88 | 0.111 | <0.001 | <0.05 | <0.029 | 0.024 | <0.005 | <0.067 | <0.004 | 0.004 | 1,108.71 |
| MW-1004S | 01/06/88 | 0.035 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.087 | <0.004 | 0.002 | 1,108.55 |
| MW-1004P | 01/06/88 | 0.081 | <0.001 | <0.05 | 0.041 | 0.016 | <0.005 | 0.285 | <0.004 | 0.005 | 1,106.44 |
| MW-1005 | 01/06/88 | 0.091 | <0.001 | <0.05 | 0.049 | 0.059 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.32 |
| MW-1005G | 01/06/88 | 0.056 | <0.001 | <0.05 | <0.029 | 0.022 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.01 |
| MW-1005P | 01/06/88 | 0.101 | <0.001 | <0.05 | 0.051 | 0.028 | <0.005 | 0.098 | <0.004 | 0.004 | 1,138.42 |
| BLANK | 01/06/88 | 0.054 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | 0.104 | <0.004 | 0.003 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
FEBRUARY 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.25 | <0.005 | <0.0004 | 5.60 |
| MW-1000P | 02/03/88 | <0.005 | <0.5 | 0.0092 | <0.005 | <0.005 | <0.0005 | 0.12 | <0.005 | <0.0004 | 19.00 |
| MW-1001 | 02/03/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | 0.83 | <0.005 | <0.0004 | 8.80 |
| MW-1001G | 02/03/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 7.20 |
| MW-1001P | 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 1.40 |
| MW-1002 | 02/03/88 | <0.005 | <0.5 | 0.0044 | <0.005 | <0.005 | <0.0005 | 0.64 | <0.005 | <0.0004 | 1.20 |
| MW-1002G | 02/03/88 | <0.005 | <0.5 | 0.0170 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 7.50 |
| MW-1003 | 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 5.50 |
| MW-1003P | 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.42 | <0.005 | <0.0004 | 1.40 |
| MW-1004 | 02/03/88 | <0.005 | <0.5 | 0.0033 | <0.005 | <0.005 | <0.0005 | 0.38 | <0.005 | <0.0004 | 5.30 |
| MW-1004S | 02/03/88 | <0.005 | <0.5 | 0.0039 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 6.00 |
| MW-1004P | 02/03/88 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.00 |
| MW-1005 | 02/03/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 16.00 |
| MW-1005G | 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.0004 | 10.00 |
| MW-1005P | 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 20.00 |
| BLANK | 02/03/88 | <0.005 | <0.5 | 0.0029 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 1.10 |
| R-1 | 02/11/88 | 0.022 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | 0.07 | <0.005 | <0.0004 | 9.60 |
| R-2 | 02/11/88 | 0.010 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.10 | <0.005 | <0.0004 | 10.00 |
| R-3 | 02/11/88 | <0.005 | <0.5 | 0.0039 | <0.005 | <0.005 | <0.0005 | 0.08 | <0.005 | <0.0004 | 11.00 |
| R-5 | 02/11/88 | 0.005 | <0.5 | 0.0044 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.0004 | 14.00 |
| R-6 | 02/11/88 | 0.012 | <0.5 | 0.0045 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.0004 | 12.00 |

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 02/03/88 | 1 | 0.011 | 0.1 | <0.10 | <0.05 | 5.50 | 10 | 67 | <0.05 |
| MW-1000P | 02/03/88 | 2 | 0.052 | 0.3 | <0.10 | 0.61 | 6.10 | 22 | 150 | 0.17 |
| MW-1001 | 02/03/88 | 5 | 0.007 | <2.0 | <0.10 | 0.46 | 6.13 | <50 | 390 | <0.05 |
| MW-1001G | 02/03/88 | 4 | <0.005 | <0.1 | <0.10 | <0.08 | 6.06 | 11 | 110 | 0.12 |
| MW-1001P | 02/03/88 | 1 | 0.009 | 0.5 | 0.24 | 0.45 | 6.31 | 8 | 160 | <0.05 |
| MW-1002 | 02/03/88 | 4 | 0.008 | 0.1 | <0.10 | <0.05 | 6.81 | 13 | 110 | <0.05 |
| MW-1002G | 02/03/88 | 15 | 0.017 | <0.1 | <0.10 | <0.05 | 5.97 | 13 | 170 | 0.18 |
| MW-1003 | 02/03/88 | <2 | <0.005 | <1.0 | <0.10 | 0.73 | 6.00 | <50 | 220 | 0.09 |
| MW-1003P | 02/03/88 | 2 | <0.005 | 0.3 | 0.34 | 0.58 | 6.45 | 8 | 190 | 0.49 |
| MW-1004 | 02/03/88 | 4 | 0.009 | <1.0 | <0.10 | 0.05 | 5.80 | <50 | 220 | <0.05 |
| MW-1004S | 02/03/88 | 5 | 0.018 | <0.1 | <0.10 | <0.05 | 5.58 | 10 | 99 | <0.05 |
| MW-1004P | 02/03/88 | 2 | 0.007 | 0.3 | 0.55 | 0.21 | 6.60 | 5 | 190 | 0.13 |
| MW-1005 | 02/03/88 | 200 | 0.005 | 0.2 | 12.00 | 0.75 | 5.51 | 22 | 550 | 0.08 |
| MW-1005G | 02/03/88 | 2 | 0.015 | 0.3 | 3.10 | 0.29 | 6.44 | <5 | 220 | <0.05 |
| MW-1005P | 02/03/88 | 6 | 0.011 | 0.2 | 0.22 | 0.25 | 6.53 | 6 | 280 | <0.05 |
| BLANK | 02/03/88 | <2 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | <5 | <0.05 |
| R-1 | 02/11/88 | 2 | 0.010 | 0.3 | <0.10 | <0.05 | 7.02 | <5 | 200 | <0.05 |
| R-2 | 02/11/88 | 3 | 0.011 | 0.2 | <0.10 | 0.16 | 6.77 | 10 | 180 | 0.07 |
| R-3 | 02/11/88 | 3 | 0.031 | 0.2 | <0.10 | 0.23 | 6.56 | 9 | 190 | <0.05 |
| R-5 | 02/11/88 | 8 | 0.012 | 0.3 | <0.10 | 0.26 | 6.93 | <5 | 200 | 0.05 |
| R-6 | 02/11/88 | 9 | 0.010 | 0.3 | <0.10 | 0.29 | 7.04 | 5 | 280 | <0.05 |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
FEBRUARY 1988 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 02/03/88 | 40 | 10.0 | <5 | 30 | 93 | 2.70 | 7.0 |
| MW-1000P | 02/03/88 | 100 | 19.0 | 10 | 110 | 247 | 6.80 | 5.0 |
| MW-1001 | 02/03/88 | 50 | 11.0 | 10 | 60 | 143 | 4.00 | 7.0 |
| MW-1001G | 02/03/88 | 60 | 14.0 | <5 | 60 | 169 | 6.10 | 7.0 |
| MW-1001P | 02/03/88 | 130 | 23.0 | 35 | 100 | 257 | 9.30 | 7.0 |
| MW-1002 | 02/03/88 | 80 | 18.0 | <5 | 70 | 226 | 5.70 | 7.0 |
| MW-1002G | 02/03/88 | 100 | 26.0 | <5 | 110 | 261 | 10.00 | 7.0 |
| MW-1003 | 02/03/88 | 50 | 10.0 | <5 | 60 | 127 | 3.50 | 7.0 |
| MW-1003P | 02/03/88 | 200 | 37.0 | <5 | 170 | 366 | 18.00 | 7.0 |
| MW-1004 | 02/03/88 | 40 | 11.0 | 5 | 50 | 138 | 3.30 | 7.0 |
| MW-1004S | 02/03/88 | 60 | 14.0 | <5 | 60 | 148 | 4.80 | 7.0 |
| MW-1004P | 02/03/88 | 190 | 34.0 | 15 | 150 | 348 | 21.00 | 7.0 |
| MW-1005 | 02/03/88 | 80 | 70.0 | 16 | 390 | 867 | 37.00 | 7.0 |
| MW-1005G | 02/03/88 | 200 | 37.0 | 10 | 170 | 360 | 15.00 | 7.0 |
| MW-1005P | 02/03/88 | 280 | 46.0 | 10 | 220 | 466 | 20.00 | 7.0 |
| BLANK | 02/03/88 | <10 | <0.5 | <5 | <2 | N/A | 0.05 | N/A |
| R-1 | 02/11/88 | 190 | 40.0 | <5 | 167 | 346 | 15.00 | 6.0 |
| R-2 | 02/11/88 | 150 | 33.0 | <5 | 143 | 298 | 11.00 | 7.0 |
| R-3 | 02/11/88 | 150 | 31.0 | 5 | 1,137 | 299 | 11.00 | 7.0 |
| R-5 | 02/11/88 | 180 | 35.0 | <5 | 151 | 339 | 13.00 | 7.0 |
| R-6 | 02/11/88 | 260 | 52.0 | <5 | 245 | 439 | 19.00 | 6.0 |

Other Parameters

| Well ID | Date | U | SWL |
|---|---|---|---|
| MW-1000 | 02/03/88 | 0.001 | 1,089.90 |
| MW-1000P | 02/03/88 | 0.005 | 1,089.01 |
| MW-1001 | 02/03/88 | 0.005 | 1,113.22 |
| MW-1001G | 02/03/88 | 0.001 | 1,112.56 |
| MW-1001P | 02/03/88 | 0.005 | 1,112.85 |
| MW-1002 | 02/03/88 | 0.004 | 1,090.31 |
| MW-1002G | 02/03/88 | 0.005 | 1,090.49 |
| MW-1003 | 02/03/88 | 0.003 | 1,110.33 |
| MW-1003P | 02/03/88 | 0.007 | 1,110.36 |
| MW-1004 | 02/03/88 | 0.004 | 1,108.43 |
| MW-1004S | 02/03/88 | 0.002 | 1,108.29 |
| MW-1004P | 02/03/88 | 0.006 | 1,106.17 |
| MW-1005 | 02/03/88 | 0.009 | 1,137.30 |
| MW-1005G | 02/03/88 | 0.005 | 1,137.21 |
| MW-1005P | 02/03/88 | 0.005 | 1,137.60 |
| BLANK | 02/03/88 | 0.001 | N/A |
| R-1 | 02/11/88 | 0.004 | N/A |
| R-2 | 02/11/88 | 0.007 | N/A |
| R-3 | 02/11/88 | 0.006 | N/A |
| R-5 | 02/11/88 | 0.005 | N/A |
| R-6 | 02/11/88 | 0.005 | N/A |

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MARCH 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 03/02/88 | <0.005 | <0.5 | 0.0036 | <0.005 | <0.005 | <0.0005 | 0.29 | <0.005 | <0.0004 | 4.0 |
| MW-1000P | 03/02/88 | <0.005 | <0.5 | 0.0043 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 15.0 |
| MW-1001 | 03/02/88 | <0.005 | <0.5 | 0.0032 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 9.5 |
| MW-1001G | 03/02/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | 0.0024 | 2.00 | <0.005 | <0.0004 | 6.7 |
| MW-1001P | 03/02/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 10.0 |
| MW-1002 | 03/02/88 | <0.005 | <0.5 | 0.0037 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | <0.0004 | 12.0 |
| MW-1002G | 03/02/88 | <0.005 | <0.5 | 0.0081 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.7 |
| MW-1003 | 03/02/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 2.1 |
| MW-1003P | 03/02/88 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| MW-1004 | 03/02/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.41 | <0.005 | <0.0004 | 4.6 |
| MW-1004S | 03/02/88 | <0.005 | <0.5 | 0.0040 | <0.005 | <0.005 | <0.0005 | 0.10 | <0.005 | <0.0004 | 5.3 |
| MW-1004P | 03/02/88 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| MW-1005 | 03/02/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 03/02/88 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 9.7 |
| MW-1005P | 03/02/88 | <0.005 | <0.5 | 0.0039 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| BLANK | 03/02/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | <0.5 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 03/02/88 | <2 | 0.046 | <0.2 | 0.15 | <0.05 | 5.54 | 12 | 64 | <0.05 |
| MW-1000P | 03/02/88 | <2 | 0.034 | 0.2 | <0.10 | 0.65 | 5.82 | 18 | 140 | 0.08 |
| MW-1001 | 03/02/88 | 5 | 0.027 | <0.2 | 0.31 | 0.60 | 6.08 | <50 | 770 | <0.05 |
| MW-1001G | 03/02/88 | 3 | 0.017 | 0.2 | <0.10 | <0.05 | 5.78 | 12 | 130 | <0.05 |
| MW-1001P | 03/02/88 | <2 | 0.018 | 0.4 | 0.28 | 0.46 | 6.43 | 10 | 140 | <0.05 |
| MW-1002 | 03/02/88 | 2 | 0.023 | 0.2 | <0.10 | <0.05 | 6.37 | 12 | 100 | 0.03 |
| MW-1002G | 03/02/88 | 15 | 0.019 | 0.2 | <0.10 | 0.05 | 6.06 | 11 | 140 | 0.07 |
| MW-1003 | 03/02/88 | <2 | 0.020 | 0.2 | 0.13 | 0.67 | 6.00 | 9 | 87 | <0.05 |
| MW-1003P | 03/02/88 | <2 | 0.015 | 0.3 | <0.10 | 0.45 | 6.50 | 10 | 210 | <0.05 |
| MW-1004 | 03/02/88 | <2 | 0.016 | <0.2 | <0.10 | <0.05 | 5.74 | <5 | 240 | <0.05 |
| MW-1004S | 03/02/88 | 2 | 0.020 | <0.4 | <0.10 | <0.05 | 5.79 | 9 | 100 | <0.05 |
| MW-1004P | 03/02/88 | <2 | 0.018 | <0.4 | <0.10 | <0.12 | 6.81 | 10 | 180 | <0.05 |
| MW-1005 | 03/02/88 | 205 | 0.016 | 0.5 | 7.90 | 0.71 | 5.25 | 20 | 630 | <0.05 |
| MW-1005G | 03/02/88 | 2 | 0.018 | 0.7 | 2.60 | 0.26 | 6.25 | <5 | 230 | <0.05 |
| MW-1005P | 03/02/88 | 2 | 0.022 | 0.5 | 0.29 | 0.20 | 6.47 | <5 | 280 | <0.05 |
| BLANK | 03/02/88 | <2 | 0.020 | <0.2 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MARCH 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 03/02/88 | 20 | 8.8 | 10 | 30 | 105 | 2.60 | 6.0 |
| MW-1000P | 03/02/88 | 90 | 19.0 | 10 | 80 | 225 | 6.60 | 7.0 |
| MW-1001 | 03/02/88 | 40 | 9.9 | 50 | 80 | 135 | 4.40 | 7.0 |
| MW-1001G | 03/02/88 | 50 | 15.0 | 10 | 70 | 162 | 6.40 | 7.0 |
| MW-1001P | 03/02/88 | 110 | 23.0 | <5 | 110 | 250 | 9.60 | 7.0 |
| MW-1002 | 03/02/88 | 70 | 18.0 | <5 | 80 | 194 | 5.60 | 7.0 |
| MW-1002G | 03/02/88 | 90 | 26.0 | <5 | 110 | 242 | 10.00 | 7.0 |
| MW-1003 | 03/02/88 | 40 | 11.0 | 15 | 50 | 138 | 3.40 | 7.0 |
| MW-1003P | 03/02/88 | 230 | 39.0 | <5 | 170 | 386 | 17.00 | 7.0 |
| MW-1004 | 03/02/88 | 320 | 11.0 | 15 | 50 | 125 | 3.20 | 7.0 |
| MW-1004S | 03/02/88 | 60 | 16.0 | <5 | 60 | 148 | 5.40 | 7.0 |
| MW-1004P | 03/02/88 | 170 | 33.0 | <5 | 140 | 335 | 14.00 | 7.0 |
| MW-1005 | 03/02/88 | 60 | 73.0 | 15 | 390 | 880 | 37.00 | 5.0 |
| MW-1005G | 03/02/88 | 170 | 39.0 | 10 | 160 | 348 | 15.00 | 5.0 |
| MW-1005P | 03/02/88 | 250 | 51.0 | 15 | 220 | 464 | 21.00 | 6.0 |
| BLANK | 03/02/88 | 50 | <0.5 | <5 | <2 | N/A | 0.10 | N/A |

==========

| | | Other Parameters | |
|---|---|---|---|
| Well ID | Date | U | SWL |
| MW-1000 | 03/02/88 | 0.002 | 1,089.06 |
| MW-1000P | 03/02/88 | 0.002 | 1,088.93 |
| MW-1001 | 03/02/88 | 0.002 | 1,112.97 |
| MW-1001G | 03/02/88 | 0.003 | 1,112.32 |
| MW-1001P | 03/02/88 | 0.003 | 1,112.70 |
| MW-1002 | 03/02/88 | 0.002 | 1,090.28 |
| MW-1002G | 03/02/88 | 0.003 | 1,090.13 |
| MW-1003 | 03/02/88 | 0.002 | 1,110.02 |
| MW-1003P | 03/02/88 | 0.003 | 1,110.18 |
| MW-1004 | 03/02/88 | <0.001 | 1,108.30 |
| MW-1004S | 03/02/88 | 0.003 | 1,108.08 |
| MW-1004P | 03/02/88 | 0.004 | 1,105.87 |
| MW-1005 | 03/02/88 | 0.003 | 1,136.98 |
| MW-1005G | 03/02/88 | 0.003 | 1,136.82 |
| MW-1005P | 03/02/88 | 0.003 | 1,137.32 |
| BLANK | 03/02/88 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
APRIL 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 04/07/88 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.6 |
| MW-1000P | 04/07/88 | <0.005 | <0.5 | 0.0068 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 15.0 |
| MW-1001 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.78 | <0.005 | <0.0004 | 7.9 |
| MW-1001G | 04/07/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | 2.10 | <0.005 | <0.0004 | 5.0 |
| MW-1001P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 10.0 |
| MW-1002 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.80 | <0.005 | <0.0004 | 6.6 |
| MW-1002G | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 1.50 | <0.005 | <0.0004 | 6.5 |
| MW-1003 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.6 |
| MW-1003P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 11.0 |
| MW-1004 | 04/07/88 | <0.005 | <0.5 | <0.0004 | <0.005 | <0.005 | <0.0005 | 0.55 | <0.005 | <0.0004 | 3.6 |
| MW-1004S | 04/07/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 4.1 |
| MW-1004P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 14.0 |
| MW-1005 | 04/07/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 04/07/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| MW-1005P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| MW-1006S | 04/07/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 0.29 | <0.005 | <0.0004 | 5.8 |
| MW-1006G | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 7.0 |
| BLANK | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | <0.5 |

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 04/07/88 | <2 | 0.042 | <0.2 | <0.10 | <0.05 | 6.31 | 15 | 33 | <0.05 |
| MW-1000P | 04/07/88 | <2 | 0.031 | <0.8 | <0.10 | 0.64 | 6.41 | 22 | 130 | 0.07 |
| MW-1001 | 04/07/88 | <10 | 0.013 | <4.0 | 0.42 | 0.38 | 6.48 | <5 | 160 | <0.05 |
| MW-1001G | 04/07/88 | 3 | 0.014 | <0.2 | <0.10 | 0.07 | 6.54 | 16 | 74 | <0.05 |
| MW-1001P | 04/07/88 | <2 | 0.009 | 0.4 | 0.24 | 0.45 | 6.90 | <5 | 67 | <0.05 |
| MW-1002 | 04/07/88 | 2 | 0.007 | <0.2 | <0.10 | <0.05 | 6.68 | 16 | 34 | 0.02 |
| MW-1002G | 04/07/88 | 13 | 0.007 | <0.2 | <0.10 | <0.05 | 6.38 | 14 | 88 | 0.03 |
| MW-1003 | 04/07/88 | <2 | 0.009 | <4.0 | 0.39 | 0.75 | 6.39 | 12 | 54 | 0.01 |
| MW-1003P | 04/07/88 | <2 | <0.005 | <0.2 | 0.22 | 0.45 | 6.87 | <5 | 170 | <0.01 |
| MW-1004 | 04/07/88 | <2 | 0.014 | <4.0 | <0.10 | <0.05 | 6.15 | 16 | 31 | 0.01 |
| MW-1004S | 04/07/88 | 3 | 0.018 | <0.2 | <0.10 | <0.05 | 6.77 | 13 | 14 | 0.02 |
| MW-1004P | 04/07/88 | <2 | 0.006 | <0.2 | 0.14 | 0.14 | 7.38 | <5 | 120 | <0.01 |
| MW-1005 | 04/07/88 | 220 | 0.018 | <4.0 | 3.50 | 0.63 | 5.91 | 17 | 580 | 0.05 |
| MW-1005G | 04/07/88 | <2 | 0.014 | <0.8 | 4.30 | 0.26 | 6.90 | <5 | 220 | <0.01 |
| MW-1005P | 04/07/88 | <2 | 0.012 | <0.2 | 0.54 | 0.25 | 7.14 | <5 | 230 | <0.01 |
| MW-1006S | 04/07/88 | <2 | 0.020 | <0.2 | <0.10 | 0.87 | 6.92 | <5 | 150 | 0.01 |
| MW-1006G | 04/07/88 | <2 | 0.010 | <0.2 | <0.10 | 0.59 | 7.04 | <5 | 180 | 0.01 |
| BLANK | 04/07/88 | <2 | 0.012 | <0.2 | <0.10 | <0.05 | N/A | <5 | 58 | <0.01 |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
APRIL 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 04/07/88 | 30 | 8.2 | 10 | 34 | 84 | 2.60 | 10.0 |
| MW-1000P | 04/07/88 | 90 | 21.0 | <5 | 80 | 199 | 6.50 | 11.0 |
| MW-1001 | 04/07/88 | 40 | 10.0 | 20 | 50 | 120 | 4.20 | 11.0 |
| MW-1001G | 04/07/88 | 50 | 13.0 | <5 | 50 | 145 | 6.10 | 10.0 |
| MW-1001P | 04/07/88 | 110 | 22.0 | <5 | 100 | 229 | 9.40 | 10.0 |
| MW-1002 | 04/07/88 | 60 | 15.0 | <5 | 70 | 180 | 5.20 | 9.0 |
| MW-1002G | 04/07/88 | 80 | 24.0 | <5 | 110 | 268 | 9.60 | 9.0 |
| MW-1003 | 04/07/88 | 50 | 10.0 | <5 | 50 | 137 | 3.60 | 10.0 |
| MW-1003P | 04/07/88 | 190 | 39.0 | <5 | 180 | 365 | 17.00 | 10.0 |
| MW-1004 | 04/07/88 | 40 | 10.0 | <5 | 50 | 105 | 3.20 | 10.0 |
| MW-1004S | 04/07/88 | 50 | 13.0 | <5 | 60 | 124 | 4.30 | 10.0 |
| MW-1004P | 04/07/88 | 180 | 33.0 | <5 | 150 | 315 | 13.00 | 9.0 |
| MW-1005 | 04/07/88 | 60 | 95.0 | 10 | 360 | 868 | 37.00 | 9.0 |
| MW-1005G | 04/07/88 | 180 | 42.0 | <5 | 170 | 344 | 14.00 | 9.0 |
| MW-1005P | 04/07/88 | 250 | 49.0 | <5 | 220 | 428 | 19.00 | 9.0 |
| MW-1006S | 04/07/88 | 160 | 37.0 | <5 | 170 | 284 | 12.00 | 9.0 |
| MW-1006G | 04/07/88 | 160 | 38.0 | 5 | 160 | 300 | 13.00 | 9.0 |
| BLANK | 04/07/88 | 20 | <0.5 | <5 | <2 | N/A | <0.050 | N/A |

| | | Other Parameters | |
|---|---|---|---|
| Well ID | Date | U | SWL |
| MW-1000 | 04/07/88 | <0.001 | 1,091.06 |
| MW-1000P | 04/07/88 | <0.001 | 1,090.68 |
| MW-1001 | 04/07/88 | 0.002 | 1,112.83 |
| MW-1001G | 04/07/88 | 0.001 | 1,112.37 |
| MW-1001P | 04/07/88 | 0.002 | 1,112.74 |
| MW-1002 | 04/07/88 | 0.001 | 1,090.72 |
| MW-1002G | 04/07/88 | 0.002 | 1,090.87 |
| MW-1003 | 04/07/88 | 0.001 | 1,110.37 |
| MW-1003P | 04/07/88 | 0.003 | 1,110.35 |
| MW-1004 | 04/07/88 | 0.001 | 1,109.69 |
| MW-1004S | 04/07/88 | 0.003 | 1,109.56 |
| MW-1004P | 04/07/88 | 0.003 | 1,107.20 |
| MW-1005 | 04/07/88 | 0.001 | 1,139.10 |
| MW-1005G | 04/07/88 | <0.001 | 1,138.34 |
| MW-1005P | 04/07/88 | <0.001 | 1,138.53 |
| MW-1006S | 04/07/88 | 0.002 | 0.00 |
| MW-1006G | 04/07/88 | 0.002 | 1,133.82 |
| BLANK | 04/07/88 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MAY 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.4 |
| MW-1000P | 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 22.0 |
| MW-1001 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 7.2 |
| MW-1000G | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.86 | <0.005 | <0.0004 | 4.9 |
| MW-1001P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.3 |
| MW-1002 | 05/04/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 1.23 | <0.005 | <0.0004 | 6.7 |
| MW-1002G | 05/04/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 6.2 |
| MW-1003 | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.0004 | 4.5 |
| MW-1003P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |
| MW-1004 | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 5.8 |
| MW-1004S | 05/04/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 4.1 |
| MW-1004P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| MW-1005 | 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.05 | <0.005 | <0.0004 | 17.0 |
| MW-1005G | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 12.0 |
| MW-1005P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 18.0 |
| BLANK | 05/04/88 | <0.005 | <0.5 | <0.0004 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 0.8 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 05/04/88 | <2 | 0.018 | <0.1 | <0.10 | <0.05 | 6.55 | 15 | 120 | <0.05 |
| MW-1000P | 05/04/88 | 3 | 0.085 | 0.2 | <0.10 | 0.59 | 6.52 | 18 | 200 | 0.16 |
| MW-1001 | 05/04/88 | 7 | <0.010 | 1.4 | 0.35 | 0.29 | 6.56 | <10 | 360 | <0.05 |
| MW-1001G | 05/04/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.68 | 13 | 170 | <0.05 |
| MW-1001P | 05/04/88 | <2 | <0.010 | 0.4 | 0.50 | 0.48 | 6.81 | <5 | 190 | <0.05 |
| MW-1002 | 05/04/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 7.01 | 14 | 170 | 0.07 |
| MW-1002G | 05/04/88 | 14 | <0.010 | 0.1 | <0.10 | <0.05 | 6.59 | 12 | 220 | <0.05 |
| MW-1003 | 05/04/88 | <2 | <0.010 | 0.2 | <0.10 | 0.67 | 6.52 | 12 | 150 | <0.05 |
| MW-1003P | 05/04/88 | 3 | <0.010 | 0.3 | 0.33 | 0.44 | 6.33 | 11 | 270 | <0.05 |
| MW-1004 | 05/04/88 | 2 | <0.010 | 1.0 | <0.10 | <0.05 | 6.35 | 21 | 360 | <0.05 |
| MW-1004S | 05/04/88 | 3 | <0.010 | 0.1 | <0.10 | <0.05 | 6.35 | 10 | 150 | <0.05 |
| MW-1004P | 05/04/88 | <2 | <0.010 | 0.3 | <0.10 | 0.13 | 7.10 | 11 | 230 | <0.05 |
| MW-1005 | 05/04/88 | 217 | <0.010 | 0.5 | 15.00 | 0.56 | 5.96 | 18 | 730 | <0.05 |
| MW-1005G | 05/04/88 | <2 | <0.010 | <0.8 | 2.10 | 0.28 | 7.05 | 7 | 260 | <0.05 |
| MW-1005P | 05/04/88 | 6 | <0.010 | 0.2 | 0.72 | 0.26 | 7.07 | 6 | 300 | <0.05 |
| BLANK | 05/04/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | 40 | <0.05 |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MAY 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 05/04/88 | 27 | 11.0 | 12 | 37 | 88 | 3.40 | 9.0 |
| MW-1000P | 05/04/88 | 81 | 20.0 | 45 | 63 | 251 | 7.20 | 9.0 |
| MW-1001 | 05/04/88 | 36 | 30.0 | 27 | 50 | 128 | 4.90 | 9.0 |
| MW-1000G | 05/04/88 | 40 | 15.0 | 20 | 65 | 155 | 7.10 | 9.0 |
| MW-1001P | 05/04/88 | 110 | 26.0 | 25 | 110 | 245 | 11.00 | 9.0 |
| MW-1002 | 05/04/88 | 63 | 18.0 | <5 | 68 | 152 | 6.10 | 9.0 |
| MW-1002G | 05/04/88 | 90 | 29.0 | 9 | 110 | 241 | 11.00 | 9.0 |
| MW-1003 | 05/04/88 | 45 | 12.0 | 20 | 41 | 122 | 4.10 | 9.0 |
| MW-1003P | 05/04/88 | 180 | 41.0 | 8 | 171 | 128 | 17.00 | 9.0 |
| MW-1004 | 05/04/88 | 38 | 15.0 | 36 | 45 | 144 | 4.10 | 9.0 |
| MW-1004S | 05/04/88 | 45 | 16.0 | 31 | 55 | 144 | 5.30 | 9.0 |
| MW-1004P | 05/04/88 | 160 | 40.0 | 26 | 150 | 354 | 15.00 | 9.0 |
| MW-1005 | 05/04/88 | 72 | 81.0 | 25 | 400 | 954 | 39.00 | 9.0 |
| MW-1005G | 05/04/88 | 190 | 47.0 | 31 | 170 | 371 | 16.00 | 9.0 |
| MW-1005P | 05/04/88 | 250 | 54.0 | 11 | 240 | 452 | 24.00 | 9.0 |
| BLANK | 05/04/88 | <10 | <0.5 | 5 | <2 | N/A | 0.06 | N/A |

==========

| | | Other Parameters | | |
|---|---|---|---|---|
| Well ID | Date | Ni | U | SWL |
| MW-1000 | 05/04/88 | <0.030 | 0.002 | 1,089.56 |
| MW-1000P | 05/04/88 | <0.030 | 0.004 | 1,088.73 |
| MW-1001 | 05/04/88 | <0.030 | 0.004 | 1,112.75 |
| MW-1000G | 05/04/88 | <0.030 | 0.005 | 1,112.34 |
| MW-1001P | 05/04/88 | <0.030 | <0.001 | 1,112.60 |
| MW-1002 | 05/04/88 | <0.030 | 0.001 | 1,090.39 |
| MW-1002G | 05/04/88 | <0.030 | <0.001 | 1,090.66 |
| MW-1003 | 05/04/88 | <0.030 | <0.001 | 1,110.73 |
| MW-1003P | 05/04/88 | <0.030 | 0.005 | 1,110.75 |
| MW-1004 | 05/04/88 | <0.030 | 0.002 | 1,109.63 |
| MW-1004S | 05/04/88 | <0.030 | <0.001 | 1,109.46 |
| MW-1004P | 05/04/88 | <0.030 | <0.001 | 1,107.25 |
| MW-1005 | 05/04/88 | <0.030 | <0.001 | 1,139.42 |
| MW-1005G | 05/04/88 | <0.030 | <0.001 | 1,138.76 |
| MW-1005P | 05/04/88 | <0.030 | 0.002 | 1,139.05 |
| BLANK | 05/04/88 | <0.030 | 0.002 | N/A |

All values in milligrams per liter unless indicated otherwise

"N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JUNE 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 3.7 |
| MW-1000P | 06/02/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| MW-1001 | 06/02/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.86 | <0.005 | <0.0004 | 7.2 |
| MW-1001G | 06/02/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 2.30 | <0.005 | <0.0004 | 6.4 |
| MW-1001P | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.9 |
| MW-1002 | 06/02/88 | <0.005 | <0.5 | 0.0007 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 6.0 |
| MW-1002G | 06/02/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 5.7 |
| MW-1003 | 06/02/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 7.1 |
| MW-1003P | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.0004 | 21.0 |
| MW-1004 | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 4.7 |
| MW-1004S | 06/02/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 4.5 |
| MW-1004P | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 12.0 |
| MW-1005 | 06/02/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | 0.0008 | <0.05 | <0.005 | <0.0004 | 15.0 |
| MW-1005G | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 10.0 |
| MW-1005P | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 17.0 |
| MW-1006S | 06/02/88 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 5.1 |
| MW-1006G | 06/02/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 6.8 |
| BLANK | 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 0.6 |

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 06/02/88 | <2 | 0.026 | 0.2 | <0.10 | <0.05 | 6.60 | 5 | 120 | <0.05 |
| MW-1000P | 06/02/88 | <2 | 0.042 | 0.2 | <0.10 | 0.70 | 6.59 | 6 | 200 | <0.05 |
| MW-1001 | 06/02/88 | 6 | <0.010 | 0.2 | 0.18 | 0.55 | 6.81 | <10 | 150 | <0.05 |
| MW-1001G | 06/02/88 | 5 | <0.010 | <0.1 | <0.10 | <0.05 | 6.78 | 9 | 180 | 0.06 |
| MW-1001P | 06/02/88 | <2 | <0.010 | 0.6 | 0.29 | 0.47 | 7.03 | <10 | 190 | <0.05 |
| MW-1002 | 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | 6.76 | <5 | 150 | <0.05 |
| MW-1002G | 06/02/88 | 14 | <0.010 | <0.1 | <0.10 | <0.05 | 6.61 | <5 | 220 | 0.07 |
| MW-1003 | 06/02/88 | <2 | <0.010 | 0.1 | 0.29 | 0.59 | 6.73 | 5 | 140 | <0.05 |
| MW-1003P | 06/02/88 | <2 | <0.010 | 0.3 | <0.10 | 0.40 | 6.89 | <5 | 260 | <0.05 |
| MW-1004 | 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | 6.33 | 6 | 130 | <0.05 |
| MW-1004S | 06/02/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.47 | <5 | 160 | <0.05 |
| MW-1004P | 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.12 | 7.32 | <5 | 240 | <0.05 |
| MW-1005 | 06/02/88 | 213 | <0.010 | <0.1 | 21.00 | 0.62 | 6.05 | 9 | 770 | <0.05 |
| MW-1005G | 06/02/88 | 4 | <0.010 | 0.3 | 1.90 | 0.26 | 7.04 | <5 | 270 | <0.05 |
| MW-1005P | 06/02/88 | 4 | <0.010 | 0.1 | 0.27 | 0.22 | 7.01 | <5 | 320 | <0.05 |
| MW-1006S | 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.85 | 7.01 | <5 | 250 | <0.05 |
| MW-1006G | 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.12 | 7.06 | 6 | 250 | <0.05 |
| BLANK | 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JUNE 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 06/02/88 | 18 | 11.0 | <5 | 30 | 84 | 2.80 | 9.0 |
| MW-1000P | 06/02/88 | 84 | 25.0 | <5 | 76 | 223 | 7.40 | 9.0 |
| MW-1001 | 06/02/88 | 36 | 12.0 | <5 | 40 | 121 | 4.70 | 9.0 |
| MW-1001G | 06/02/88 | 45 | 17.0 | <5 | 64 | 162 | 7.50 | 9.0 |
| MW-1001P | 06/02/88 | 110 | 27.0 | <5 | 100 | 262 | 11.00 | 9.0 |
| MW-1002 | 06/02/88 | 45 | 17.0 | <5 | 56 | 144 | 5.00 | 9.0 |
| MW-1002G | 06/02/88 | 81 | 28.0 | <5 | 110 | 253 | 11.00 | 9.0 |
| MW-1003 | 06/02/88 | 36 | 11.0 | 14 | 43 | 109 | 3.60 | 9.0 |
| MW-1003P | 06/02/88 | 180 | 44.0 | 22 | 150 | 396 | 18.00 | 9.0 |
| MW-1004 | 06/02/88 | 27 | 13.0 | 5 | 52 | 133 | 3.90 | 9.0 |
| MW-1004S | 06/02/88 | 54 | 16.0 | <5 | 120 | 150 | 5.40 | 9.0 |
| MW-1004P | 06/02/88 | 160 | 38.0 | 16 | 150 | 334 | 15.00 | 9.0 |
| MW-1005 | 06/02/88 | 81 | 79.0 | 15 | 350 | 924 | 41.00 | 9.0 |
| MW-1005G | 06/02/88 | 170 | 44.0 | 12 | 160 | 362 | 15.00 | 9.0 |
| MW-1005P | 06/02/88 | 240 | 56.0 | 6 | 200 | 473 | 22.00 | 9.0 |
| MW-1006S | 06/02/88 | 140 | 39.0 | 8 | 150 | 289 | 14.00 | 9.0 |
| MW-1006G | 06/02/88 | 140 | 38.0 | 13 | 150 | 300 | 14.00 | 9.0 |
| BLANK | 06/02/88 | <10 | <0.5 | <5 | <2 | N/A | 0.08 | N/A |

| | | Other Parameters | | |
|---|---|---|---|---|
| Well ID | Date | Ni | U | SWL |
| MW-1000 | 06/02/88 | <0.030 | 0.002 | 1,088.51 |
| MW-1000P | 06/02/88 | <0.030 | 0.001 | 1,088.11 |
| MW-1001 | 06/02/88 | <0.030 | 0.003 | 1,112.62 |
| MW-1001G | 06/02/88 | <0.030 | 0.001 | 1,112.14 |
| MW-1001P | 06/02/88 | <0.030 | 0.002 | 1,112.41 |
| MW-1002 | 06/02/88 | <0.030 | 0.004 | 1,090.03 |
| MW-1002G | 06/02/88 | <0.030 | 0.003 | 1,090.07 |
| MW-1003 | 06/02/88 | <0.030 | 0.001 | 1,110.65 |
| MW-1003P | 06/02/88 | <0.030 | 0.003 | 1,110.63 |
| MW-1004 | 06/02/88 | <0.030 | 0.002 | 1,109.02 |
| MW-1004S | 06/02/88 | <0.030 | 0.001 | 1,108.85 |
| MW-1004P | 06/02/88 | <0.030 | 0.001 | 1,106.65 |
| MW-1005 | 06/02/88 | <0.030 | 0.002 | 1,138.65 |
| MW-1005G | 06/02/88 | <0.030 | 0.008 | 1,138.29 |
| MW-1005P | 06/02/88 | <0.030 | 0.001 | 1,138.69 |
| MW-1006S | 06/02/88 | <0.030 | 0.001 | 1,132.43 |
| MW-1006G | 06/02/88 | <0.030 | 0.001 | 1,133.97 |
| BLANK | 06/02/88 | <0.030 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JULY 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 07/06/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 4.6 |
| MW-1000P | 07/06/88 | <0.005 | <0.5 | 0.0047 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 14.0 |
| MW-1001 | 07/06/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 12.0 |
| MW-1001G | 07/06/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 2.40 | <0.005 | <0.0004 | 6.4 |
| MW-1001P | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 8.4 |
| MW-1002 | 07/06/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.49 | <0.005 | <0.0004 | 6.1 |
| MW-1002G | 07/06/88 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.0004 | 5.4 |
| MW-1003 | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 6.5 |
| MW-1003P | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 22.0 |
| MW-1004 | 07/06/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.57 | <0.005 | <0.0004 | 5.9 |
| MW-1004S | 07/06/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 5.7 |
| MW-1004P | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 11.0 |
| MW-1005 | 07/06/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 11.0 |
| MW-1005P | 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 13.0 |
| BLANK | 07/06/88 | <0.003 | <0.08 | <0.0003 | <0.002 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | <0.5 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 07/06/88 | 5 | 0.031 | 0.1 | 0.16 | <0.05 | 6.04 | 18 | 120 | <0.05 |
| MW-1000P | 07/06/88 | 3 | <0.010 | <0.1 | 0.20 | 0.72 | 6.34 | 13 | 180 | <0.05 |
| MW-1001 | 07/06/88 | 14 | 0.011 | <4.0 | 1.30 | 0.64 | 6.57 | 46 | 1,300 | <0.05 |
| MW-1001G | 07/06/88 | 6 | <0.010 | <0.1 | <0.06 | <0.05 | 6.61 | 11 | 170 | <0.05 |
| MW-1001P | 07/06/88 | <2 | <0.010 | 0.3 | 0.58 | 0.48 | 6.80 | 6 | 180 | <0.05 |
| MW-1002 | 07/06/88 | <2 | <0.010 | 0.2 | <0.10 | <0.05 | 6.50 | 9 | 140 | <0.05 |
| MW-1002G | 07/06/88 | 13 | <0.010 | 0.1 | <0.10 | <0.05 | 6.40 | 17 | 190 | <0.05 |
| MW-1003 | 07/06/88 | 7 | <0.010 | <4.0 | 0.34 | 0.59 | 6.21 | 10 | 130 | <0.05 |
| MW-1003P | 07/06/88 | <2 | <0.010 | 0.3 | 0.25 | 0.43 | 7.05 | 48 | 250 | <0.05 |
| MW-1004 | 07/06/88 | 6 | <0.010 | <4.0 | 0.12 | <0.05 | 6.23 | 11 | 130 | <0.05 |
| MW-1004S | 07/06/88 | 5 | <0.010 | 0.1 | <0.10 | <0.05 | 6.39 | 8 | 150 | <0.05 |
| MW-1004P | 07/06/88 | <2 | <0.010 | 0.2 | 0.19 | 0.13 | 7.22 | 9 | 220 | <0.05 |
| MW-1005 | 07/06/88 | 210 | 0.025 | <2.0 | 19.00 | 0.64 | 7.01 | 17 | 650 | <0.05 |
| MW-1005G | 07/06/88 | 3 | <0.010 | 0.3 | 4.00 | 0.24 | 6.80 | <5 | 270 | <0.05 |
| MW-1005P | 07/06/88 | 4 | <0.010 | 0.2 | 0.63 | 0.25 | 5.80 | <5 | 310 | <0.05 |
| BLANK | 07/06/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |

All values in milligrams per liter unless indicated otherwise

N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
JULY 1988 (continued)

Indicator Parameters

| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|---|
| MW-1000 | 07/06/88 | 29 | 9.6 | 14 | 52 | 88 | 2.80 | 9.0 |
| MW-1000P | 07/06/88 | 100 | 23.0 | 5 | 92 | 209 | 7.80 | 9.0 |
| MW-1001 | 07/06/88 | 38 | 11.0 | 76 | 68 | 113 | 4.80 | 9.0 |
| MW-1001G | 07/06/88 | 62 | 16.0 | 13 | 72 | 162 | 7.10 | 9.0 |
| MW-1001P | 07/06/88 | 120 | 26.0 | <5 | 100 | 233 | 11.00 | 9.0 |
| MW-1002 | 07/06/88 | 53 | 15.0 | <5 | 68 | 140 | 4.70 | 9.0 |
| MW-1002G | 07/06/88 | 110 | 27.0 | <5 | 120 | 230 | 10.00 | 9.0 |
| MW-1003 | 07/06/88 | 53 | 11.0 | 13 | 36 | 111 | 3.70 | 9.0 |
| MW-1003P | 07/06/88 | 210 | 38.0 | 6 | 150 | 338 | 16.00 | 9.0 |
| MW-1004 | 07/06/88 | 14 | 12.0 | 7 | 44 | 110 | 3.80 | 9.0 |
| MW-1004S | 07/06/88 | 76 | 17.0 | 7 | 64 | 146 | 5.70 | 9.0 |
| MW-1004P | 07/06/88 | 180 | 38.0 | 6 | 140 | 367 | 15.00 | 9.0 |
| MW-1005 | 07/06/88 | 81 | 81.0 | 12 | 340 | 468 | 37.00 | 9.0 |
| MW-1005G | 07/06/88 | 210 | 45.0 | 9 | 160 | 355 | 15.00 | 9.0 |
| MW-1005P | 07/06/88 | 280 | 55.0 | 6 | 210 | 876 | 22.00 | 9.0 |
| BLANK | 07/06/88 | 10 | <0.2 | <5 | <2 | N/A | <0.05 | N/A |

==========

Other Parameters

| Well ID | Date | Ni | U | SWL |
|---|---|---|---|---|
| MW-1000 | 07/06/88 | <0.030 | 0.001 | 1,087.37 |
| MW-1000P | 07/06/88 | <0.030 | 0.002 | 1,087.74 |
| MW-1001 | 07/06/88 | <0.030 | 0.005 | 1,112.37 |
| MW-1001G | 07/06/88 | <0.030 | 0.006 | 1,111.89 |
| MW-1001P | 07/06/88 | <0.030 | 0.007 | 1,112.24 |
| MW-1002 | 07/06/88 | <0.030 | 0.003 | 1,089.39 |
| MW-1002G | 07/06/88 | <0.030 | 0.003 | 1,089.53 |
| MW-1003 | 07/06/88 | <0.030 | 0.005 | 1,110.31 |
| MW-1003P | 07/06/88 | <0.030 | 0.005 | 1,110.31 |
| MW-1004 | 07/06/88 | <0.030 | 0.004 | 1,108.26 |
| MW-1004S | 07/06/88 | <0.030 | 0.002 | 1,108.05 |
| MW-1004P | 07/06/88 | <0.030 | 0.004 | 1,105.79 |
| MW-1005 | 07/06/88 | <0.030 | 0.006 | 1,137.27 |
| MW-1005G | 07/06/88 | <0.030 | <0.001 | 1,137.26 |
| MW-1005P | 07/06/88 | <0.030 | <0.001 | 1,137.80 |
| BLANK | 07/06/88 | <0.030 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
AUGUST 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 08/10/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.0004 | 4.9 |
| MW-1000P | 08/10/88 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| MW-1001 | 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.80 | <0.005 | <0.0004 | 11.0 |
| MW-1001G | 08/10/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 2.90 | <0.005 | <0.0004 | 6.9 |
| MW-1001P | 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.9 |
| MW-1002 | 08/10/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 4.3 |
| MW-1002G | 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 5.5 |
| MW-1003 | 08/10/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.23 | <0.005 | <0.0004 | 6.6 |
| MW-1003P | 08/10/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 20.0 |
| MW-1004 | 08/10/88 | <0.005 | <0.5 | 0.0006 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.1 |
| MW-1004S | 08/10/88 | <0.005 | <0.5 | 0.0029 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.0004 | 5.4 |
| MW-1004P | 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| MW-1005 | 08/10/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.9 |
| MW-1005G | 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 10.0 |
| MW-1005P | 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.0 |
| MW-1006S | 08/10/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 0.05 | <0.005 | <0.0004 | 6.1 |
| MW-1006G | 08/10/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.6 |
| BLANK | 08/10/88 | <0.005 | <0.5 | 0.0007 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | <0.5 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 08/10/88 | <2 | 0.034 | 0.1 | 0.20 | <0.05 | 6.01 | 13 | 100 | <0.05 |
| MW-1000P | 08/10/88 | <2 | <0.010 | 0.2 | 0.11 | 0.75 | 6.02 | 10 | 160 | <0.05 |
| MW-1001 | 08/10/88 | 6 | <0.010 | 0.2 | 0.53 | 0.46 | 6.19 | 9 | 130 | <0.05 |
| MW-1001G | 08/10/88 | 6 | <0.010 | 0.1 | <0.06 | <0.05 | 6.05 | 11 | 170 | <0.05 |
| MW-1001P | 08/10/88 | <2 | <0.010 | 0.2 | 0.46 | 0.44 | 6.46 | 6 | 150 | <0.05 |
| MW-1002 | 08/10/88 | 3 | <0.010 | 0.1 | <0.06 | <0.05 | 6.19 | 10 | 130 | <0.05 |
| MW-1002G | 08/10/88 | 13 | <0.010 | 0.1 | <0.06 | <0.05 | 6.14 | 12 | 200 | <0.05 |
| MW-1003 | 08/10/88 | <2 | 0.011 | 0.2 | 0.10 | 0.41 | 6.18 | 10 | 110 | <0.05 |
| MW-1003P | 08/10/88 | <2 | 0.012 | 0.4 | 0.20 | 0.44 | 7.14 | 7 | 230 | <0.05 |
| MW-1004 | 08/10/88 | <2 | 0.015 | 0.2 | <0.06 | <0.05 | 6.20 | 12 | 120 | <0.05 |
| MW-1004S | 08/10/88 | 3 | 0.015 | 0.2 | <0.06 | <0.05 | 6.22 | 10 | 130 | <0.05 |
| MW-1004P | 08/10/88 | <2 | 0.012 | 0.3 | <0.06 | 0.12 | 6.78 | 9 | 220 | <0.05 |
| MW-1005 | 08/10/88 | 210 | 0.015 | 0.2 | 1.10 | 0.45 | 6.10 | 20 | 1,000 | <0.05 |
| MW-1005G | 08/10/88 | 3 | <0.010 | 0.4 | 3.40 | 0.27 | 7.07 | 7 | 220 | <0.05 |
| MW-1005P | 08/10/88 | 4 | <0.010 | 0.1 | 0.95 | 0.18 | 6.99 | <5 | 290 | <0.05 |
| MW-1006S | 08/10/88 | <2 | 0.011 | 0.2 | <0.06 | 1.30 | 6.67 | 8 | 200 | 0.01 |
| MW-1006G | 08/10/88 | <2 | 0.014 | <0.3 | <0.06 | 1.00 | 6.54 | 7 | 230 | 0.01 |
| BLANK | 08/10/88 | <2 | 0.010 | <0.1 | <0.06 | <0.05 | N/A | <5 | 5 | <0.05 |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
AUGUST 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 08/10/88 | 27 | 13.0 | <5 | 47 | 84 | 3.30 | 12.0 |
| MW-1000P | 08/10/88 | 98 | 22.0 | <5 | 78 | 194 | 7.50 | 12.0 |
| MW-1001 | 08/10/88 | 48 | 13.0 | 12 | 59 | 111 | 5.80 | 12.0 |
| MW-1001G | 08/10/88 | 55 | 18.0 | 5 | 67 | 161 | 7.20 | 12.0 |
| MW-1001P | 08/10/88 | 120 | 27.0 | <5 | 120 | 212 | 11.00 | 12.0 |
| MW-1002 | 08/10/88 | 50 | 16.0 | <5 | 55 | 137 | 4.90 | 12.0 |
| MW-1002G | 08/10/88 | 89 | 29.0 | <5 | 110 | 241 | 11.00 | 12.0 |
| MW-1003 | 08/10/88 | 44 | 13.0 | <5 | 47 | 116 | 4.00 | 10.0 |
| MW-1003P | 08/10/88 | 200 | 39.0 | <5 | 150 | 327 | 17.00 | 10.0 |
| MW-1004 | 08/10/88 | 39 | 14.0 | 19 | 47 | 106 | 4.20 | 9.0 |
| MW-1004S | 08/10/88 | 46 | 16.0 | 11 | 82 | 117 | 4.80 | 10.0 |
| MW-1004P | 08/10/88 | 190 | 40.0 | 10 | 160 | 315 | 15.00 | 10.0 |
| MW-1005 | 08/10/88 | 60 | 77.0 | 12 | 330 | 825 | 37.00 | 9.0 |
| MW-1005G | 08/10/88 | 200 | 47.0 | 11 | 170 | 333 | 16.00 | 10.0 |
| MW-1005P | 08/10/88 | 270 | 56.0 | 8 | 220 | 423 | 23.00 | 9.0 |
| MW-1006S | 08/10/88 | 150 | 37.0 | 14 | 150 | 282 | 13.00 | N/A |
| MW-1006G | 08/10/88 | 170 | 40.0 | 12 | 150 | 252 | 14.00 | N/A |
| BLANK | 08/10/88 | <10 | 4.1 | 13 | <2 | N/A | 0.59 | N/A |

==========

| | | Other Parameters | | |
|---|---|---|---|---|
| Well ID | Date | Ni | U | SWL |
| MW-1000 | 08/10/88 | <0.030 | <0.001 | 1,088.00 |
| MW-1000P | 08/10/88 | <0.030 | 0.004 | 1,088.01 |
| MW-1001 | 08/10/88 | <0.030 | 0.001 | 1,112.00 |
| MW-1001G | 08/10/88 | <0.030 | <0.001 | 1,111.72 |
| MW-1001P | 08/10/88 | <0.030 | 0.002 | 1,112.04 |
| MW-1002 | 08/10/88 | <0.030 | 0.017 | 1,089.89 |
| MW-1002G | 08/10/88 | <0.030 | <0.001 | 1,089.97 |
| MW-1003 | 08/10/88 | <0.030 | <0.001 | 1,110.01 |
| MW-1003P | 08/10/88 | <0.030 | 0.003 | 1,110.02 |
| MW-1004 | 08/10/88 | <0.030 | <0.001 | 1,107.93 |
| MW-1004S | 08/10/88 | <0.030 | 0.002 | 1,107.79 |
| MW-1004P | 08/10/88 | <0.030 | 0.003 | 1,105.43 |
| MW-1005 | 08/10/88 | <0.030 | 0.005 | 1,137.07 |
| MW-1005G | 08/10/88 | <0.030 | <0.001 | 1,136.84 |
| MW-1005P | 08/10/88 | <0.030 | 0.002 | 1,137.33 |
| MW-1006S | 08/10/88 | <0.030 | 0.002 | 1,131.57 |
| MW-1006G | 08/10/88 | <0.030 | 0.002 | 1,133.07 |
| BLANK | 08/10/88 | <0.030 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
SEPTEMBER 1988

Primary Drinking Water Standards

| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.0004 | 3.6 |
| MW-1000P | 09/08/88 | <0.005 | <0.5 | 0.0013 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 11.0 |
| MW-1001 | 09/08/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.54 | <0.005 | <0.0004 | 11.0 |
| MW-1001G | 09/08/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 2.70 | <0.005 | <0.0004 | 5.9 |
| MW-1001P | 09/08/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 7.8 |
| MW-1002 | 09/08/88 | <0.005 | <0.5 | 0.0020 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 5.2 |
| MW-1002G | 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.63 | <0.005 | <0.0004 | 6.1 |
| MW-1003 | 09/08/88 | <0.005 | <0.5 | 0.0006 | <0.005 | <0.005 | <0.0005 | 0.25 | <0.005 | <0.0004 | 5.0 |
| MW-1003P | 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |
| MW-1004 | 09/08/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 5.0 |
| MW-1004S | 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 4.2 |
| MW-1004P | 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 11.0 |
| MW-1005 | 09/08/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.6 |
| MW-1005P | 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |
| BLANK | 09/08/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | <0.5 |

==========

Secondary Drinking Water Standards

| Well ID | Date | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1000 | 09/08/88 | <2 | 0.019 | <0.1 | <0.10 | <0.05 | 5.72 | 14 | 50 | <0.05 |
| MW-1000P | 09/08/88 | <2 | 0.010 | 0.1 | 0.45 | 0.73 | 6.27 | 12 | 130 | <0.05 |
| MW-1001 | 09/08/88 | 19 | 0.014 | 0.9 | 0.27 | 0.68 | 6.33 | <50 | 1,400 | <0.05 |
| MW-1001G | 09/08/88 | 6 | 0.011 | 0.2 | <0.10 | <0.05 | 6.37 | 12 | 130 | 0.09 |
| MW-1001P | 09/08/88 | <2 | <0.010 | 0.2 | 0.59 | 0.47 | 6.67 | 7 | 120 | <0.05 |
| MW-1002 | 09/08/88 | 3 | <0.010 | 0.2 | <0.10 | <0.05 | 6.26 | 10 | 100 | <0.05 |
| MW-1002G | 09/08/88 | 12 | <0.010 | 0.2 | <0.10 | <0.05 | 6.21 | 11 | 140 | <0.05 |
| MW-1003 | 09/08/88 | <2 | <0.010 | <0.1 | 0.12 | <0.05 | 6.11 | 13 | 90 | <0.05 |
| MW-1003P | 09/08/88 | <2 | <0.010 | 0.3 | 0.27 | <0.05 | 7.00 | 7 | 200 | <0.05 |
| MW-1004 | 09/08/88 | <2 | <0.010 | 0.4 | <0.10 | 0.06 | 5.89 | 14 | 77 | 0.06 |
| MW-1004S | 09/08/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.05 | 11 | 91 | 0.07 |
| MW-1004P | 09/08/88 | <2 | <0.010 | 0.4 | <0.10 | 0.11 | 6.90 | 8 | 170 | 0.08 |
| MW-1005 | 09/08/88 | 210 | <0.010 | <0.1 | 12.00 | 0.56 | 5.58 | <25 | 690 | 0.08 |
| MW-1005G | 09/08/88 | 3 | <0.010 | 0.3 | 3.10 | 0.27 | 6.66 | <5 | 220 | <0.05 |
| MW-1005P | 09/08/88 | 4 | <0.010 | <0.1 | <0.10 | 0.15 | 6.94 | 5 | 250 | <0.05 |
| BLANK | 09/08/88 | <2 | <0.010 | 0.1 | <0.10 | <0.05 | N/A | <5 | <10 | <0.05 |

All values in milligrams per liter unless indicated otherwise

N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
SEPTEMBER 1988 (continued)

| | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
| MW-1000 | 09/08/88 | 36 | 9.5 | 18 | 63 | 103 | 2.40 | 9.0 |
| MW-1000P | 09/08/88 | 120 | 20.0 | 7 | 150 | 207 | 6.50 | 9.0 |
| MW-1001 | 09/08/88 | 69 | 12.0 | 22 | 390 | 143 | 4.30 | 9.0 |
| MW-1001G | 09/08/88 | 69 | 18.0 | <5 | 78 | 199 | 6.60 | 8.0 |
| MW-1001P | 09/08/88 | 160 | 27.0 | 13 | 110 | 244 | 10.00 | 8.0 |
| MW-1002 | 09/08/88 | 66 | 15.0 | 13 | 74 | 166 | 4.30 | 11.0 |
| MW-1002G | 09/08/88 | 110 | 26.0 | 13 | 110 | 233 | 8.50 | 10.0 |
| MW-1003 | 09/08/88 | 54 | 11.0 | 14 | 43 | 116 | 2.90 | 9.0 |
| MW-1003P | 09/08/88 | 250 | 37.0 | 5 | 170 | 363 | 16.00 | 9.0 |
| MW-1004 | 09/08/88 | 54 | 13.0 | 8 | 63 | 138 | 3.40 | 8.0 |
| MW-1004S | 09/08/88 | 75 | 16.0 | <5 | 67 | 159 | 4.40 | 8.0 |
| MW-1004P | 09/08/88 | 230 | 39.0 | 7 | 150 | 360 | 13.00 | 8.0 |
| MW-1005 | 09/08/88 | 93 | 68.0 | 23 | 380 | 842 | 32.00 | 10.0 |
| MW-1005G | 09/08/88 | 260 | 44.0 | 28 | 170 | 411 | 14.00 | 10.0 |
| MW-1005P | 09/08/88 | 340 | 50.0 | 16 | 210 | 498 | 18.00 | 9.0 |
| BLANK | 09/08/88 | <10 | 0.4 | <5 | <2 | N/A | 0.50 | N/A |

| | | Other Parameters | | |
|---|---|---|---|---|
| Well ID | Date | Ni | U | SWL |
| MW-1000 | 09/08/88 | <0.030 | <0.001 | 1,087.96 |
| MW-1000P | 09/08/88 | <0.030 | <0.001 | 1,088.71 |
| MW-1001 | 09/08/88 | <0.030 | <0.001 | 1,110.94 |
| MW-1001G | 09/08/88 | <0.030 | <0.001 | 1,111.61 |
| MW-1001P | 09/08/88 | <0.030 | <0.001 | 1,111.91 |
| MW-1002 | 09/08/88 | <0.030 | <0.001 | 1,089.44 |
| MW-1002G | 09/08/88 | <0.030 | <0.001 | 1,089.53 |
| MW-1003 | 09/08/88 | <0.030 | <0.001 | 1,109.91 |
| MW-1003P | 09/08/88 | <0.030 | <0.001 | 1,109.88 |
| MW-1004 | 09/08/88 | <0.030 | <0.001 | 1,107.70 |
| MW-1004S | 09/08/88 | <0.030 | <0.001 | 1,107.49 |
| MW-1004P | 09/08/88 | <0.030 | 0.003 | 1,105.17 |
| MW-1005 | 09/08/88 | <0.030 | 0.001 | 1,136.71 |
| MW-1005G | 09/08/88 | <0.030 | 0.002 | 1,136.51 |
| MW-1005P | 09/08/88 | <0.030 | 0.003 | 1,136.97 |
| BLANK | 09/08/88 | <0.030 | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise

N/A" is "Not Applicable" or "Not Available"

Prepared by Foth & Van Dyke and Associates, Inc.

Groundwater Quality by Well

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1000

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.005 | 6.1 |
| 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.005 | 3.7 |
| 12/02/87 | <0.005 | <0.5 | 0.0013 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | 0.0028 | 4.1 |
| 01/06/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 4.8 |
| 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.25 | <0.005 | <0.0004 | 5.6 |
| 03/02/88 | <0.005 | <0.5 | 0.0036 | <0.005 | <0.005 | <0.0005 | 0.29 | <0.005 | <0.0004 | 4.0 |
| 04/07/88 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.6 |
| 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.4 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 3.7 |
| 07/06/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 4.6 |
| 08/10/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.0004 | 4.9 |
| 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.27 | <0.005 | <0.0004 | 3.6 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <1 | 0.040 | <0.1 | 0.11 | 0.09 | 6.14 | 13 | 110 | <0.05 |
| 11/05/87 | <1 | 0.010 | <0.1 | <0.10 | 0.10 | 6.05 | 15 | 250 | <0.05 |
| 12/02/87 | <1 | <0.005 | <0.1 | <0.10 | 0.11 | 5.70 | 16 | 64 | <0.05 |
| 01/06/88 | 10 | 0.007 | <0.1 | <0.10 | <0.05 | 5.86 | 16 | 100 | <0.05 |
| 02/03/88 | 1 | 0.011 | 0.1 | <0.10 | <0.05 | 5.50 | 10 | 67 | <0.05 |
| 03/02/88 | <2 | 0.046 | <0.2 | 0.15 | <0.05 | 5.54 | 12 | 64 | <0.05 |
| 04/07/88 | <2 | 0.042 | <0.2 | <0.10 | <0.05 | 6.31 | 15 | 33 | <0.05 |
| 05/04/88 | <2 | 0.018 | <0.1 | <0.10 | <0.05 | 6.55 | 15 | 120 | <0.05 |
| 06/02/88 | <2 | 0.026 | 0.2 | <0.10 | <0.05 | 6.60 | 5 | 120 | <0.05 |
| 07/06/88 | 5 | 0.031 | 0.1 | 0.16 | <0.05 | 6.04 | 18 | 120 | <0.05 |
| 08/10/88 | <2 | 0.034 | 0.1 | 0.20 | <0.05 | 6.01 | 13 | 100 | <0.05 |
| 09/08/88 | <2 | 0.019 | <0.1 | <0.10 | <0.05 | 5.72 | 14 | 50 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1000 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 32 | 11.0 | 10 | 41 | 107 | 3.50 | 9.0 |
| 11/05/87 | 43 | 11.0 | <5 | 39 | 238 | 3.10 | 8.0 |
| 12/02/87 | 21 | 9.5 | 15 | 43 | 117 | 2.70 | 8.0 |
| 01/06/88 | 40 | 9.0 | <5 | 40 | 98 | 2.70 | 6.0 |
| 02/03/88 | 40 | 10.0 | <5 | 30 | 93 | 2.70 | 7.0 |
| 03/02/88 | 20 | 8.8 | 10 | 30 | 105 | 2.60 | 6.0 |
| 04/07/88 | 30 | 8.2 | 10 | 34 | 84 | 2.60 | 10.0 |
| 05/04/88 | 27 | 11.0 | 12 | 37 | 88 | 3.40 | 9.0 |
| 06/02/88 | 18 | 11.0 | <5 | 30 | 84 | 2.80 | 9.0 |
| 07/06/88 | 29 | 9.6 | 14 | 52 | 88 | 2.80 | 9.0 |
| 08/10/88 | 27 | 13.0 | <5 | 47 | 84 | 3.30 | 12.0 |
| 09/08/88 | 36 | 9.5 | 18 | 63 | 103 | 2.40 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.337 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,087.26 |
| 11/05/87 | 0.042 | 0.001 | <0.05 | 0.030 | 0.027 | <0.005 | <0.067 | 0.005 | <0.001 | 1,088.10 |
| 12/02/87 | 0.083 | <0.001 | <0.05 | <0.029 | 0.039 | <0.005 | <0.067 | <0.004 | 0.001 | 1,088.47 |
| 01/06/88 | 0.056 | <0.001 | <0.05 | <0.029 | 0.018 | <0.005 | 0.104 | <0.004 | 0.005 | 1,089.62 |
| 02/03/88 | | | | | | | | | 0.001 | 1,089.90 |
| 03/02/88 | | | | | | | | | 0.002 | 1,089.06 |
| 04/07/88 | | | | | | | | | <0.001 | 1,091.06 |
| 05/04/88 | | | | | <0.030 | | | | 0.002 | 1,089.56 |
| 06/02/88 | | | | | <0.030 | | | | 0.002 | 1,088.51 |
| 07/06/88 | | | | | <0.030 | | | | 0.001 | 1,087.37 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,088.00 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,087.96 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1000P

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | 18.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0037 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 14.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0190 | <0.005 | <0.005 | <0.0005 | 0.07 | <0.005 | 0.0018 | 24.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | 0.10 | <0.005 | <0.0004 | 21.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0092 | <0.005 | <0.005 | <0.0005 | 0.12 | <0.005 | <0.0004 | 19.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0043 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 15.0 |
| 04/07/88 | <0.005 | <0.5 | 0.0068 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 15.0 |
| 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 22.0 |
| 06/02/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| 07/06/88 | <0.005 | <0.5 | 0.0047 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 14.0 |
| 08/10/88 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| 09/08/88 | <0.005 | <0.5 | 0.0013 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 11.0 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 2 | 0.048 | 0.1 | 0.12 | 0.26 | 6.30 | 17 | 290 | <0.05 |
| 11/05/87 | 1 | 0.061 | 0.2 | 0.15 | 0.46 | 5.78 | 28 | 350 | 0.11 |
| 12/02/87 | <1 | 0.050 | 0.2 | 0.11 | 0.59 | 6.05 | 31 | 160 | <0.05 |
| 01/06/88 | 1 | 0.055 | <0.2 | <0.10 | 0.55 | 5.96 | 31 | 210 | 1.80 |
| 02/03/88 | 2 | 0.052 | 0.3 | <0.10 | 0.61 | 6.10 | 22 | 150 | 0.17 |
| 03/02/88 | <2 | 0.034 | 0.2 | <0.10 | 0.65 | 5.82 | 18 | 140 | 0.08 |
| 04/07/88 | <2 | 0.031 | <0.8 | <0.10 | 0.64 | 6.41 | 22 | 130 | 0.07 |
| 05/04/88 | 3 | 0.085 | 0.2 | <0.10 | 0.59 | 6.52 | 18 | 200 | 0.16 |
| 06/02/88 | <2 | 0.042 | 0.2 | <0.10 | 0.70 | 6.59 | 6 | 200 | <0.05 |
| 07/06/88 | 3 | <0.010 | <0.1 | 0.20 | 0.72 | 6.34 | 13 | 180 | <0.05 |
| 08/10/88 | <2 | <0.010 | 0.2 | 0.11 | 0.75 | 6.02 | 10 | 160 | <0.05 |
| 09/08/88 | <2 | 0.010 | 0.1 | 0.45 | 0.73 | 6.27 | 12 | 130 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1000P (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 96 | 23.0 | 25 | 100 | 268 | 5.40 | 8.0 |
| 11/05/87 | 96 | 23.0 | 85 | 93 | 129 | 9.90 | 8.0 |
| 12/02/87 | 85 | 20.0 | 25 | 93 | 245 | 7.00 | 8.0 |
| 01/06/88 | 120 | 22.0 | 25 | 90 | 235 | 8.20 | 7.0 |
| 02/03/88 | 100 | 19.0 | 10 | 110 | 247 | 6.80 | 5.0 |
| 03/02/88 | 90 | 19.0 | 10 | 80 | 225 | 6.60 | 7.0 |
| 04/07/88 | 90 | 21.0 | <5 | 80 | 199 | 6.50 | 11.0 |
| 05/04/88 | 81 | 20.0 | 45 | 63 | 251 | 7.20 | 9.0 |
| 06/02/88 | 84 | 25.0 | <5 | 76 | 223 | 7.40 | 9.0 |
| 07/06/88 | 100 | 23.0 | 5 | 92 | 209 | 7.80 | 9.0 |
| 08/10/88 | 98 | 22.0 | <5 | 78 | 194 | 7.50 | 12.0 |
| 09/08/88 | 120 | 20.0 | 7 | 150 | 207 | 6.50 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.118 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.004 | <0.001 | 1,087.20 |
| 11/05/87 | 0.090 | <0.001 | <0.05 | 0.040 | 0.010 | <0.005 | <0.067 | <0.004 | <0.001 | 1,087.66 |
| 12/02/87 | 0.158 | <0.001 | <0.05 | 0.056 | <0.007 | <0.005 | <0.067 | <0.004 | 0.003 | 1,088.15 |
| 01/06/88 | 0.086 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.183 | <0.004 | <0.001 | 1,089.43 |
| 02/03/88 | | | | | | | | | 0.005 | 1,089.01 |
| 03/02/88 | | | | | | | | | 0.002 | 1,088.93 |
| 04/07/88 | | | | | | | | | <0.001 | 1,090.68 |
| 05/04/88 | | | | | <0.030 | | | | 0.004 | 1,088.73 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,088.11 |
| 07/06/88 | | | | | <0.030 | | | | 0.002 | 1,087.74 |
| 08/10/88 | | | | | <0.030 | | | | 0.004 | 1,088.01 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,088.71 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | <0.005 | 5.8 |
| 11/05/87 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 4.5 |
| 12/02/87 | <0.005 | <0.5 | 0.0018 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | 0.0009 | 5.9 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.99 | <0.005 | <0.0004 | 6.7 |
| 02/03/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | 0.83 | <0.005 | <0.0004 | 8.8 |
| 03/02/88 | <0.005 | <0.5 | 0.0032 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 9.5 |
| 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.78 | <0.005 | <0.0004 | 7.9 |
| 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 7.2 |
| 06/02/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.86 | <0.005 | <0.0004 | 7.2 |
| 07/06/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 12.0 |
| 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.80 | <0.005 | <0.0004 | 11.0 |
| 09/08/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.54 | <0.005 | <0.0004 | 11.0 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 4 | <0.005 | <1.0 | 0.13 | 0.17 | 6.22 | <10 | 360 | <0.05 |
| 11/05/87 | 6 | <0.005 | 0.1 | 0.12 | 0.15 | 6.16 | 8 | 170 | <0.05 |
| 12/02/87 | <1 | <0.005 | <0.1 | 0.15 | 0.40 | 6.45 | <5 | 240 | <0.05 |
| 01/06/88 | 8 | <0.005 | <1.0 | 0.26 | 0.35 | 6.26 | <5 | 410 | <0.05 |
| 02/03/88 | 5 | 0.007 | <2.0 | <0.10 | 0.46 | 6.13 | <50 | 390 | <0.05 |
| 03/02/88 | 5 | 0.027 | <0.2 | 0.31 | 0.60 | 6.08 | <50 | 770 | <0.05 |
| 04/07/88 | <10 | 0.013 | <4.0 | 0.42 | 0.38 | 6.48 | <5 | 160 | <0.05 |
| 05/04/88 | 7 | <0.010 | 1.4 | 0.35 | 0.29 | 6.56 | <10 | 360 | <0.05 |
| 06/02/88 | 6 | <0.010 | 0.2 | 0.18 | 0.55 | 6.81 | <10 | 150 | <0.05 |
| 07/06/88 | 14 | 0.011 | <4.0 | 1.30 | 0.64 | 6.57 | 46 | 1,300 | <0.05 |
| 08/10/88 | 6 | <0.010 | 0.2 | 0.53 | 0.46 | 6.19 | 9 | 130 | <0.05 |
| 09/08/88 | 19 | 0.014 | 0.9 | 0.27 | 0.68 | 6.33 | <50 | 1,400 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 43 | 12.0 | 10 | 62 | 127 | 4.20 | 9.0 |
| 11/05/87 | 53 | 13.0 | 25 | 49 | 172 | 4.50 | 8.0 |
| 12/02/87 | 64 | 12.0 | 20 | 58 | 132 | 4.10 | 8.0 |
| 01/06/88 | 50 | 12.0 | <5 | 50 | 149 | 4.30 | 6.0 |
| 02/03/88 | 50 | 11.0 | 10 | 60 | 143 | 4.00 | 7.0 |
| 03/02/88 | 40 | 9.9 | 50 | 80 | 135 | 4.40 | 7.0 |
| 04/07/88 | 40 | 10.0 | 20 | 50 | 120 | 4.20 | 11.0 |
| 05/04/88 | 36 | 30.0 | 27 | 50 | 128 | 4.90 | 9.0 |
| 06/02/88 | 36 | 12.0 | <5 | 40 | 121 | 4.70 | 9.0 |
| 07/06/88 | 38 | 11.0 | 76 | 68 | 113 | 4.80 | 9.0 |
| 08/10/88 | 48 | 13.0 | 12 | 59 | 111 | 5.80 | 12.0 |
| 09/08/88 | 69 | 12.0 | 22 | 390 | 143 | 4.30 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.078 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.028 | <0.001 | 1,114.59 |
| 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,114.51 |
| 12/02/87 | 0.125 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.006 | 1,114.15 |
| 01/06/88 | 0.126 | <0.001 | <0.05 | 0.046 | 0.010 | <0.005 | <0.067 | 0.005 | <0.001 | 1,113.48 |
| 02/03/88 | | | | | | | | | 0.005 | 1,113.22 |
| 03/02/88 | | | | | | | | | 0.002 | 1,112.97 |
| 04/07/88 | | | | | | | | | 0.002 | 1,112.83 |
| 05/04/88 | | | | | <0.030 | | | | 0.004 | 1,112.75 |
| 06/02/88 | | | | | <0.030 | | | | 0.003 | 1,112.62 |
| 07/06/88 | | | | | <0.030 | | | | 0.005 | 1,112.37 |
| 08/10/88 | | | | | <0.030 | | | | 0.001 | 1,112.00 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,110.94 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001G

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.70 | <0.005 | <0.005 | 7.4 |
| 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 7.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0025 | <0.005 | <0.005 | <0.0005 | 2.00 | <0.005 | 0.0014 | 5.6 |
| 01/06/88 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | 1.30 | <0.005 | <0.0004 | 6.5 |
| 02/03/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 7.2 |
| 03/02/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | 0.0024 | 2.00 | <0.005 | <0.0004 | 6.7 |
| 04/07/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | 2.10 | <0.005 | <0.0004 | 5.0 |
| 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.86 | <0.005 | <0.0004 | 4.9 |
| 06/02/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 2.30 | <0.005 | <0.0004 | 6.4 |
| 07/06/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 2.40 | <0.005 | <0.0004 | 6.4 |
| 08/10/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 2.90 | <0.005 | <0.0004 | 6.9 |
| 09/08/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 2.70 | <0.005 | <0.0004 | 5.9 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 2 | <0.005 | 0.1 | <0.10 | 0.05 | 6.06 | 12 | 130 | <0.05 |
| 11/05/87 | 1 | <0.005 | <0.1 | <0.10 | 0.09 | 5.97 | 16 | 140 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.2 | <0.10 | 0.09 | 6.01 | 15 | 110 | <0.05 |
| 01/06/88 | 2 | <0.005 | 0.1 | <0.10 | 0.06 | 6.24 | 15 | 180 | 0.13 |
| 02/03/88 | 4 | <0.005 | <0.1 | <0.10 | <0.08 | 6.06 | 11 | 110 | 0.12 |
| 03/02/88 | 3 | 0.017 | 0.2 | <0.10 | <0.05 | 5.78 | 12 | 130 | <0.05 |
| 04/07/88 | 3 | 0.014 | <0.2 | <0.10 | 0.07 | 6.54 | 16 | 74 | <0.05 |
| 05/04/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.68 | 13 | 170 | <0.05 |
| 06/02/88 | 5 | <0.010 | <0.1 | <0.10 | <0.05 | 6.78 | 9 | 180 | 0.06 |
| 07/06/88 | 6 | <0.010 | <0.1 | <0.06 | <0.05 | 6.61 | 11 | 170 | <0.05 |
| 08/10/88 | 6 | <0.010 | 0.1 | <0.06 | <0.05 | 6.05 | 11 | 170 | <0.05 |
| 09/08/88 | 6 | 0.011 | 0.2 | <0.10 | <0.05 | 6.37 | 12 | 130 | 0.09 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001G (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 53 | 16.0 | 15 | 62 | 165 | 6.70 | 8.0 |
| 11/05/87 | 64 | 17.0 | 90 | 70 | 168 | 6.10 | 8.0 |
| 12/02/87 | 53 | 15.0 | 20 | 70 | 159 | 6.10 | 8.0 |
| 01/06/88 | 60 | 15.0 | 10 | 70 | 173 | 6.50 | 6.0 |
| 02/03/88 | 60 | 14.0 | <5 | 60 | 169 | 6.10 | 7.0 |
| 03/02/88 | 50 | 15.0 | 10 | 70 | 162 | 6.40 | 7.0 |
| 04/07/88 | 50 | 13.0 | <5 | 50 | 145 | 6.10 | 10.0 |
| 05/04/88 | 40 | 15.0 | 20 | 65 | 155 | 7.10 | 9.0 |
| 06/02/88 | 45 | 17.0 | <5 | 64 | 162 | 7.50 | 9.0 |
| 07/06/88 | 62 | 16.0 | 13 | 72 | 162 | 7.10 | 9.0 |
| 08/10/88 | 55 | 18.0 | 5 | 67 | 161 | 7.20 | 12.0 |
| 09/08/88 | 69 | 18.0 | <5 | 78 | 199 | 6.60 | 8.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.102 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | 0.006 | <0.001 | 1,113.75 |
| 11/05/87 | 0.102 | <0.001 | <0.05 | 0.034 | 0.016 | <0.005 | <0.067 | 0.005 | <0.001 | 1,113.79 |
| 12/02/87 | 0.064 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | <0.067 | <0.004 | 0.004 | 1,113.43 |
| 01/06/88 | 0.091 | <0.001 | <0.05 | 0.046 | 0.014 | <0.005 | <0.067 | <0.004 | 0.005 | 1,112.85 |
| 02/03/88 | | | | | | | | | 0.001 | 1,112.56 |
| 03/02/88 | | | | | | | | | 0.003 | 1,112.32 |
| 04/07/88 | | | | | | | | | 0.001 | 1,112.37 |
| 05/04/88 | | | | | <0.030 | | | | 0.005 | 1,112.34 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,112.14 |
| 07/06/88 | | | | | <0.030 | | | | 0.006 | 1,111.89 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,111.72 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,111.61 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001P

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | 11.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0041 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.005 | 10.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0240 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0038 | 1.8 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 1.4 |
| 03/02/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 10.0 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 10.0 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.3 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.9 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 8.4 |
| 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.9 |
| 09/08/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 7.8 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 3 | <0.005 | 0.3 | <0.10 | 0.33 | 6.38 | 10 | 160 | <0.05 |
| 11/05/87 | <1 | <0.005 | 0.4 | <0.10 | 0.39 | 6.21 | 10 | 220 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.3 | <0.10 | 0.37 | 6.25 | 14 | 140 | <0.05 |
| 01/06/88 | <1 | <0.005 | 0.4 | <0.10 | 0.38 | 6.65 | 15 | 200 | <0.05 |
| 02/03/88 | 1 | 0.009 | 0.5 | 0.24 | 0.45 | 6.31 | 8 | 160 | <0.05 |
| 03/02/88 | <2 | 0.018 | 0.4 | 0.28 | 0.46 | 6.43 | 10 | 140 | <0.05 |
| 04/07/88 | <2 | 0.009 | 0.4 | 0.24 | 0.45 | 6.90 | <5 | 67 | <0.05 |
| 05/04/88 | <2 | <0.010 | 0.4 | 0.50 | 0.48 | 6.81 | <5 | 190 | <0.05 |
| 06/02/88 | <2 | <0.010 | 0.6 | 0.29 | 0.47 | 7.03 | <10 | 190 | <0.05 |
| 07/06/88 | <2 | <0.010 | 0.3 | 0.58 | 0.48 | 6.80 | 6 | 180 | <0.05 |
| 08/10/88 | <2 | <0.010 | 0.2 | 0.46 | 0.44 | 6.46 | 6 | 150 | <0.05 |
| 09/08/88 | <2 | <0.010 | 0.2 | 0.59 | 0.47 | 6.67 | 7 | 120 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1001P (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 120 | 25.0 | 35 | 100 | 269 | 10.00 | 8.0 |
| 11/05/87 | 110 | 24.0 | 30 | 100 | 232 | 9.80 | 8.0 |
| 12/02/87 | 110 | 17.0 | 25 | 95 | 238 | 8.50 | 8.0 |
| 01/06/88 | 150 | 24.0 | <5 | 110 | 266 | 9.60 | 6.0 |
| 02/03/88 | 130 | 23.0 | 35 | 100 | 257 | 9.30 | 7.0 |
| 03/02/88 | 110 | 23.0 | <5 | 110 | 250 | 9.60 | 7.0 |
| 04/07/88 | 110 | 22.0 | <5 | 100 | 229 | 9.40 | 10.0 |
| 05/04/88 | 110 | 26.0 | 25 | 110 | 245 | 11.00 | 9.0 |
| 06/02/88 | 110 | 27.0 | <5 | 100 | 262 | 11.00 | 9.0 |
| 07/06/88 | 120 | 26.0 | <5 | 100 | 233 | 11.00 | 9.0 |
| 08/10/88 | 120 | 27.0 | <5 | 120 | 212 | 11.00 | 12.0 |
| 09/08/88 | 160 | 27.0 | 13 | 110 | 244 | 10.00 | 8.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.090 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.077 | <0.004 | <0.001 | 1,114.19 |
| 11/05/87 | 0.046 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | <0.067 | <0.004 | <0.001 | 1,114.11 |
| 12/02/87 | 0.118 | <0.001 | <0.05 | 0.035 | 0.011 | <0.005 | 0.081 | <0.004 | 0.008 | 1,113.84 |
| 01/06/88 | 0.086 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.098 | <0.004 | 0.003 | 1,113.18 |
| 02/03/88 | | | | | | | | | 0.005 | 1,112.85 |
| 03/02/88 | | | | | | | | | 0.003 | 1,112.70 |
| 04/07/88 | | | | | | | | | 0.002 | 1,112.74 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,112.60 |
| 06/02/88 | | | | | <0.030 | | | | 0.002 | 1,112.41 |
| 07/06/88 | | | | | <0.030 | | | | 0.007 | 1,112.24 |
| 08/10/88 | | | | | <0.030 | | | | 0.002 | 1,112.04 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,111.91 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1002

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.005 | 30.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0023 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.005 | 20.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0026 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | 0.0047 | 21.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0020 | <0.005 | <0.005 | <0.0005 | 0.66 | <0.005 | <0.0004 | 15.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0044 | <0.005 | <0.005 | <0.0005 | 0.64 | <0.005 | <0.0004 | 1.2 |
| 03/02/88 | <0.005 | <0.5 | 0.0037 | <0.005 | <0.005 | <0.0005 | 1.00 | <0.005 | <0.0004 | 12.0 |
| 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.80 | <0.005 | <0.0004 | 6.6 |
| 05/04/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 1.23 | <0.005 | <0.0004 | 6.7 |
| 06/02/88 | <0.005 | <0.5 | 0.0007 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 6.0 |
| 07/06/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.49 | <0.005 | <0.0004 | 6.1 |
| 08/10/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 4.3 |
| 09/08/88 | <0.005 | <0.5 | 0.0020 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 5.2 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 9 | <0.005 | 0.4 | <0.10 | 0.20 | 6.20 | 22 | 200 | <0.05 |
| 11/05/87 | 4 | <0.005 | 0.2 | <0.10 | 0.21 | 6.40 | 20 | 200 | <0.05 |
| 12/02/87 | 1 | <0.005 | 0.2 | <0.10 | 0.15 | 6.00 | 20 | 140 | <0.05 |
| 01/06/88 | <1 | <0.005 | 0.2 | <0.10 | <0.05 | 6.27 | 17 | 160 | <0.05 |
| 02/03/88 | 4 | 0.008 | 0.1 | <0.10 | <0.05 | 6.81 | 13 | 110 | <0.05 |
| 03/02/88 | 2 | 0.023 | 0.2 | <0.10 | <0.05 | 6.37 | 12 | 100 | 0.03 |
| 04/07/88 | 2 | 0.007 | <0.2 | <0.10 | <0.05 | 6.68 | 16 | 34 | 0.02 |
| 05/04/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 7.01 | 14 | 170 | 0.07 |
| 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | 6.76 | <5 | 150 | <0.05 |
| 07/06/88 | <2 | <0.010 | 0.2 | <0.10 | <0.05 | 6.50 | 9 | 140 | <0.05 |
| 08/10/88 | 3 | <0.010 | 0.1 | <0.06 | <0.05 | 6.19 | 10 | 130 | <0.05 |
| 09/08/88 | 3 | <0.010 | 0.2 | <0.10 | <0.05 | 6.26 | 10 | 100 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1002 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 120 | 28.0 | 15 | 110 | 316 | 8.90 | 12.0 |
| 11/05/87 | 110 | 24.0 | 10 | 93 | 292 | 7.50 | 8.0 |
| 12/02/87 | 85 | 20.0 | 10 | 82 | 238 | 6.30 | 10.0 |
| 01/06/88 | 110 | 20.0 | <5 | 80 | 233 | 6.80 | 7.0 |
| 02/03/88 | 80 | 18.0 | <5 | 70 | 226 | 5.70 | 7.0 |
| 03/02/88 | 70 | 18.0 | <5 | 80 | 194 | 5.60 | 7.0 |
| 04/07/88 | 60 | 15.0 | <5 | 70 | 180 | 5.20 | 9.0 |
| 05/04/88 | 63 | 18.0 | <5 | 68 | 152 | 6.10 | 9.0 |
| 06/02/88 | 45 | 17.0 | <5 | 56 | 144 | 5.00 | 9.0 |
| 07/06/88 | 53 | 15.0 | <5 | 68 | 140 | 4.70 | 9.0 |
| 08/10/88 | 50 | 16.0 | <5 | 55 | 137 | 4.90 | 12.0 |
| 09/08/88 | 66 | 15.0 | 13 | 74 | 166 | 4.30 | 11.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | <0.004 | <0.001 | 1,089.64 |
| 11/05/87 | 0.046 | <0.001 | <0.05 | 0.050 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,089.86 |
| 12/02/87 | 0.090 | <0.001 | <0.05 | <0.029 | 0.038 | <0.005 | <0.067 | <0.004 | 0.007 | 1,089.79 |
| 01/06/88 | 0.086 | <0.001 | <0.05 | 0.078 | <0.007 | <0.005 | <0.067 | <0.004 | 0.003 | 1,090.05 |
| 02/03/88 | | | | | | | | | 0.004 | 1,090.31 |
| 03/02/88 | | | | | | | | | 0.002 | 1,090.28 |
| 04/07/88 | | | | | | | | | 0.001 | 1,090.72 |
| 05/04/88 | | | | | <0.030 | | | | 0.001 | 1,090.39 |
| 06/02/88 | | | | | <0.030 | | | | 0.004 | 1,090.03 |
| 07/06/88 | | | | | <0.030 | | | | 0.003 | 1,089.39 |
| 08/10/88 | | | | | <0.030 | | | | 0.017 | 1,089.89 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,089.44 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1002G

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 1.70 | <0.005 | <0.005 | 14.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | 1.30 | <0.005 | <0.005 | 6.5 |
| 12/02/87 | <0.005 | <0.5 | 0.0018 | <0.005 | <0.005 | <0.0005 | 0.46 | <0.005 | 0.0052 | 5.9 |
| 01/06/88 | <0.005 | <0.5 | 0.0024 | <0.005 | <0.005 | <0.0005 | 0.82 | <0.005 | <0.0004 | 5.2 |
| 02/03/88 | <0.005 | <0.5 | 0.0170 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 7.5 |
| 03/02/88 | <0.005 | <0.5 | 0.0081 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.7 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 1.50 | <0.005 | <0.0004 | 6.5 |
| 05/04/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 6.2 |
| 06/02/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | 1.20 | <0.005 | <0.0004 | 5.7 |
| 07/06/88 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.0004 | 5.4 |
| 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.10 | <0.005 | <0.0004 | 5.5 |
| 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.63 | <0.005 | <0.0004 | 6.1 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 14 | <0.005 | 0.2 | <0.10 | 0.09 | 6.16 | 13 | 200 | <0.05 |
| 11/05/87 | 15 | <0.005 | <0.1 | <0.10 | 0.12 | 6.32 | 10 | 250 | <0.05 |
| 12/02/87 | 14 | <0.005 | 0.2 | <0.10 | 0.09 | 5.88 | 13 | 170 | <0.05 |
| 01/06/88 | 14 | <0.005 | 0.2 | <0.10 | <0.05 | 5.95 | 11 | 170 | 0.32 |
| 02/03/88 | 15 | 0.017 | <0.1 | <0.10 | <0.05 | 5.97 | 13 | 170 | 0.18 |
| 03/02/88 | 15 | 0.019 | 0.2 | <0.10 | 0.05 | 6.06 | 11 | 140 | 0.07 |
| 04/07/88 | 13 | 0.007 | <0.2 | <0.10 | <0.05 | 6.38 | 14 | 88 | 0.03 |
| 05/04/88 | 14 | <0.010 | 0.1 | <0.10 | <0.05 | 6.59 | 12 | 220 | <0.05 |
| 06/02/88 | 14 | <0.010 | <0.1 | <0.10 | <0.05 | 6.61 | <5 | 220 | 0.07 |
| 07/06/88 | 13 | <0.010 | 0.1 | <0.10 | <0.05 | 6.40 | 17 | 190 | <0.05 |
| 08/10/88 | 13 | <0.010 | 0.1 | <0.06 | <0.05 | 6.14 | 12 | 200 | <0.05 |
| 09/08/88 | 12 | <0.010 | 0.2 | <0.10 | <0.05 | 6.21 | 11 | 140 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1002G (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 120 | 34.0 | 15 | 130 | 297 | 11.00 | 9.0 |
| 11/05/87 | 96 | 28.0 | 10 | 120 | 252 | 11.00 | 8.0 |
| 12/02/87 | 85 | 28.0 | 10 | 120 | 256 | 10.00 | 9.0 |
| 01/06/88 | 110 | 27.0 | <5 | 120 | 261 | 11.00 | 6.0 |
| 02/03/88 | 100 | 26.0 | <5 | 110 | 261 | 10.00 | 7.0 |
| 03/02/88 | 90 | 26.0 | <5 | 110 | 242 | 10.00 | 7.0 |
| 04/07/88 | 80 | 24.0 | <5 | 110 | 268 | 9.60 | 9.0 |
| 05/04/88 | 90 | 29.0 | 9 | 110 | 241 | 11.00 | 9.0 |
| 06/02/88 | 81 | 28.0 | <5 | 110 | 253 | 11.00 | 9.0 |
| 07/06/88 | 110 | 27.0 | <5 | 120 | 230 | 10.00 | 9.0 |
| 08/10/88 | 89 | 29.0 | <5 | 110 | 241 | 11.00 | 12.0 |
| 09/08/88 | 110 | 26.0 | 13 | 110 | 233 | 8.50 | 10.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | 0.032 | <0.005 | <0.067 | <0.004 | <0.001 | 1,089.68 |
| 11/05/87 | 0.074 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.003 | 1,089.89 |
| 12/02/87 | 0.061 | <0.001 | <0.05 | <0.029 | 0.010 | <0.005 | <0.067 | <0.004 | 0.009 | 1,089.94 |
| 01/06/88 | 0.046 | <0.001 | <0.05 | 0.058 | 0.045 | <0.005 | <0.067 | <0.004 | 0.002 | 1,090.22 |
| 02/03/88 | | | | | | | | | 0.005 | 1,090.49 |
| 03/02/88 | | | | | | | | | 0.003 | 1,090.13 |
| 04/07/88 | | | | | | | | | 0.002 | 1,090.87 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,090.66 |
| 06/02/88 | | | | | <0.030 | | | | 0.003 | 1,090.07 |
| 07/06/88 | | | | | <0.030 | | | | 0.003 | 1,089.53 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,089.97 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,089.53 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1003

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.5 |
| 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.59 | <0.005 | <0.005 | 4.1 |
| 12/02/87 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.24 | <0.005 | 0.0031 | 5.2 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 4.7 |
| 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 5.5 |
| 03/02/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 2.1 |
| 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.6 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.0004 | 4.5 |
| 06/02/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 7.1 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 6.5 |
| 08/10/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.23 | <0.005 | <0.0004 | 6.6 |
| 09/08/88 | <0.005 | <0.5 | 0.0006 | <0.005 | <0.005 | <0.0005 | 0.25 | <0.005 | <0.0004 | 5.0 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <1 | <0.005 | 0.3 | 0.49 | 0.32 | 6.25 | 10 | 100 | <0.05 |
| 11/05/87 | 2 | <0.005 | 0.2 | <0.10 | 0.45 | 6.00 | 7 | 190 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.5 | 0.18 | 0.55 | 5.85 | 9 | 80 | <0.05 |
| 01/06/88 | 2 | <0.005 | 0.2 | 0.17 | 0.60 | 6.24 | 15 | 140 | 0.07 |
| 02/03/88 | <2 | <0.005 | <1.0 | <0.10 | 0.73 | 6.00 | <50 | 220 | 0.09 |
| 03/02/88 | <2 | 0.020 | 0.2 | 0.13 | 0.67 | 6.00 | 9 | 87 | <0.05 |
| 04/07/88 | <2 | 0.009 | <4.0 | 0.39 | 0.75 | 6.39 | 12 | 54 | 0.01 |
| 05/04/88 | <2 | <0.010 | 0.2 | <0.10 | 0.67 | 6.52 | 12 | 150 | <0.05 |
| 06/02/88 | <2 | <0.010 | 0.1 | 0.29 | 0.59 | 6.73 | 5 | 140 | <0.05 |
| 07/06/88 | 7 | <0.010 | <4.0 | 0.34 | 0.59 | 6.21 | 10 | 130 | <0.05 |
| 08/10/88 | <2 | 0.011 | 0.2 | 0.10 | 0.41 | 6.18 | 10 | 110 | <0.05 |
| 09/08/88 | <2 | <0.010 | <0.1 | 0.12 | <0.05 | 6.11 | 13 | 90 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1003 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 53 | 13.0 | 20 | 49 | 149 | 4.20 | 9.0 |
| 11/05/87 | 53 | 13.0 | 25 | 56 | 131 | 3.80 | 8.0 |
| 12/02/87 | 43 | 11.0 | 20 | 2 | 119 | 3.50 | 8.0 |
| 01/06/88 | 50 | 13.0 | <5 | 50 | 138 | 3.80 | 7.0 |
| 02/03/88 | 50 | 10.0 | <5 | 60 | 127 | 3.50 | 7.0 |
| 03/02/88 | 40 | 11.0 | 15 | 50 | 138 | 3.40 | 7.0 |
| 04/07/88 | 50 | 10.0 | <5 | 50 | 137 | 3.60 | 10.0 |
| 05/04/88 | 45 | 12.0 | 20 | 41 | 122 | 4.10 | 9.0 |
| 06/02/88 | 36 | 11.0 | 14 | 43 | 109 | 3.60 | 9.0 |
| 07/06/88 | 53 | 11.0 | 13 | 36 | 111 | 3.70 | 9.0 |
| 08/10/88 | 44 | 13.0 | <5 | 47 | 116 | 4.00 | 10.0 |
| 09/08/88 | 54 | 11.0 | 14 | 43 | 116 | 2.90 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.082 | <0.001 | <0.05 | 0.049 | 0.014 | <0.005 | <0.067 | 0.012 | <0.001 | 1,111.00 |
| 11/05/87 | 0.076 | <0.001 | <0.05 | <0.029 | 0.033 | <0.005 | <0.067 | <0.004 | <0.001 | 1,110.87 |
| 12/02/87 | 0.086 | <0.001 | <0.05 | 0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,110.70 |
| 01/06/88 | 0.061 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | 0.127 | <0.004 | 0.004 | 1,110.54 |
| 02/03/88 | | | | | | | | | 0.003 | 1,110.33 |
| 03/02/88 | | | | | | | | | 0.002 | 1,110.02 |
| 04/07/88 | | | | | | | | | 0.001 | 1,110.37 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,110.73 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,110.65 |
| 07/06/88 | | | | | <0.030 | | | | 0.005 | 1,110.31 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,110.01 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,109.91 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1003P

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 18.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 10.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0070 | 11.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 11.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.42 | <0.005 | <0.0004 | 1.4 |
| 03/02/88 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 11.0 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.0004 | 21.0 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 22.0 |
| 08/10/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 20.0 |
| 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 4 | <0.005 | 0.4 | <0.10 | 0.23 | 6.50 | 13 | 200 | <0.05 |
| 11/05/87 | 1 | <0.005 | 0.3 | <0.10 | 0.34 | 6.26 | 8 | 320 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.2 | <0.10 | 0.47 | 6.15 | 12 | 220 | <0.05 |
| 01/06/88 | 1 | <0.005 | 0.3 | <0.10 | 0.35 | 6.64 | 10 | 230 | 0.11 |
| 02/03/88 | 2 | <0.005 | 0.3 | 0.34 | 0.58 | 6.45 | 8 | 190 | 0.49 |
| 03/02/88 | <2 | 0.015 | 0.3 | <0.10 | 0.45 | 6.50 | 10 | 210 | <0.05 |
| 04/07/88 | <2 | <0.005 | <0.2 | 0.22 | 0.45 | 6.87 | <5 | 170 | <0.01 |
| 05/04/88 | 3 | <0.010 | 0.3 | 0.33 | 0.44 | 6.33 | 11 | 270 | <0.05 |
| 06/02/88 | <2 | <0.010 | 0.3 | <0.10 | 0.40 | 6.89 | <5 | 260 | <0.05 |
| 07/06/88 | <2 | <0.010 | 0.3 | 0.25 | 0.43 | 7.05 | 48 | 250 | <0.05 |
| 08/10/88 | <2 | 0.012 | 0.4 | 0.20 | 0.44 | 7.14 | 7 | 230 | <0.05 |
| 09/08/88 | <2 | <0.010 | 0.3 | 0.27 | <0.05 | 7.00 | 7 | 200 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1003P (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 150 | 36.0 | 40 | 140 | 343 | 14.00 | 8.0 |
| 11/05/87 | 180 | 36.0 | 80 | 170 | 341 | 17.00 | 8.0 |
| 12/02/87 | 170 | 41.0 | 30 | 170 | 348 | 16.00 | 8.0 |
| 01/06/88 | 220 | 41.0 | 25 | 170 | 339 | 17.00 | 6.0 |
| 02/03/88 | 200 | 37.0 | <5 | 170 | 366 | 18.00 | 7.0 |
| 03/02/88 | 230 | 39.0 | <5 | 170 | 386 | 17.00 | 7.0 |
| 04/07/88 | 190 | 39.0 | <5 | 180 | 365 | 17.00 | 10.0 |
| 05/04/88 | 180 | 41.0 | 8 | 171 | 128 | 17.00 | 9.0 |
| 06/02/88 | 180 | 44.0 | 22 | 150 | 396 | 18.00 | 9.0 |
| 07/06/88 | 210 | 38.0 | 6 | 150 | 338 | 16.00 | 9.0 |
| 08/10/88 | 200 | 39.0 | <5 | 150 | 327 | 17.00 | 10.0 |
| 09/08/88 | 250 | 37.0 | 5 | 170 | 363 | 16.00 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.050 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,110.98 |
| 11/05/87 | 0.038 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.004 | 1,110.90 |
| 12/02/87 | 0.106 | <0.001 | <0.05 | <0.029 | 0.021 | <0.005 | <0.067 | <0.004 | 0.003 | 1,111.22 |
| 01/06/88 | 0.071 | <0.001 | <0.05 | 0.037 | 0.016 | <0.005 | 0.110 | <0.004 | 0.003 | 1,110.55 |
| 02/03/88 | | | | | | | | | 0.007 | 1,110.36 |
| 03/02/88 | | | | | | | | | 0.003 | 1,110.18 |
| 04/07/88 | | | | | | | | | 0.003 | 1,110.35 |
| 05/04/88 | | | | | <0.030 | | | | 0.005 | 1,110.75 |
| 06/02/88 | | | | | <0.030 | | | | 0.003 | 1,110.63 |
| 07/06/88 | | | | | <0.030 | | | | 0.005 | 1,110.31 |
| 08/10/88 | | | | | <0.030 | | | | 0.003 | 1,110.02 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,109.88 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.07 | <0.005 | <0.005 | 4.5 |
| 11/05/87 | 0.021 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.33 | <0.005 | <0.005 | 3.9 |
| 12/02/87 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.28 | <0.005 | 0.0059 | 6.4 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.5 |
| 02/03/88 | <0.005 | <0.5 | 0.0033 | <0.005 | <0.005 | <0.0005 | 0.38 | <0.005 | <0.0004 | 5.3 |
| 03/02/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.41 | <0.005 | <0.0004 | 4.6 |
| 04/07/88 | <0.005 | <0.5 | <0.0004 | <0.005 | <0.005 | <0.0005 | 0.55 | <0.005 | <0.0004 | 3.6 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 5.8 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 4.7 |
| 07/06/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.57 | <0.005 | <0.0004 | 5.9 |
| 08/10/88 | <0.005 | <0.5 | 0.0006 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.1 |
| 09/08/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | 0.30 | <0.005 | <0.0004 | 5.0 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <2 | <0.005 | <5.0 | 0.21 | <0.05 | 5.89 | <10 | 570 | <0.05 |
| 11/05/87 | <1 | <0.005 | <2.0 | 0.26 | 0.28 | 5.74 | <5 | 400 | <0.05 |
| 12/02/87 | <1 | <0.005 | <1.0 | 0.12 | 0.07 | 5.70 | 12 | 800 | <0.05 |
| 01/06/88 | 1 | <0.005 | <1.0 | <0.10 | <0.05 | 6.00 | 8 | 280 | <0.05 |
| 02/03/88 | 4 | 0.009 | <1.0 | <0.10 | 0.05 | 5.80 | <50 | 220 | <0.05 |
| 03/02/88 | <2 | 0.016 | <0.2 | <0.10 | <0.05 | 5.74 | <5 | 240 | <0.05 |
| 04/07/88 | <2 | 0.014 | <4.0 | <0.10 | <0.05 | 6.15 | 16 | 31 | 0.01 |
| 05/04/88 | 2 | <0.010 | 1.0 | <0.10 | <0.05 | 6.35 | 21 | 360 | <0.05 |
| 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | 6.33 | 6 | 130 | <0.05 |
| 07/06/88 | 6 | <0.010 | <4.0 | 0.12 | <0.05 | 6.23 | 11 | 130 | <0.05 |
| 08/10/88 | <2 | 0.015 | 0.2 | <0.06 | <0.05 | 6.20 | 12 | 120 | <0.05 |
| 09/08/88 | <2 | <0.010 | 0.4 | <0.10 | 0.06 | 5.89 | 14 | 77 | 0.06 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 32 | 12.0 | 30 | 41 | 125 | 3.40 | 9.0 |
| 11/05/87 | 53 | 11.0 | 50 | 49 | 125 | 6.00 | 8.0 |
| 12/02/87 | 32 | 11.0 | 30 | 58 | 109 | 3.20 | 8.0 |
| 01/06/88 | 40 | 12.0 | 15 | 40 | 107 | 3.70 | 7.0 |
| 02/03/88 | 40 | 11.0 | 5 | 50 | 138 | 3.30 | 7.0 |
| 03/02/88 | 320 | 11.0 | 15 | 50 | 125 | 3.20 | 7.0 |
| 04/07/88 | 40 | 10.0 | <5 | 50 | 105 | 3.20 | 10.0 |
| 05/04/88 | 38 | 15.0 | 36 | 45 | 144 | 4.10 | 9.0 |
| 06/02/88 | 27 | 13.0 | 5 | 52 | 133 | 3.90 | 9.0 |
| 07/06/88 | 14 | 12.0 | 7 | 44 | 110 | 3.80 | 9.0 |
| 08/10/88 | 39 | 14.0 | 19 | 47 | 106 | 4.20 | 9.0 |
| 09/08/88 | 54 | 13.0 | 8 | 63 | 138 | 3.40 | 8.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.074 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | 0.136 | <0.004 | <0.001 | 1,108.57 |
| 11/05/87 | 0.131 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.66 |
| 12/02/87 | 0.118 | <0.001 | <0.05 | <0.029 | 0.025 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.88 |
| 01/06/88 | 0.111 | <0.001 | <0.05 | <0.029 | 0.024 | <0.005 | <0.067 | <0.004 | 0.004 | 1,108.71 |
| 02/03/88 | | | | | | | | | 0.004 | 1,108.43 |
| 03/02/88 | | | | | | | | | <0.001 | 1,108.30 |
| 04/07/88 | | | | | | | | | 0.001 | 1,109.69 |
| 05/04/88 | | | | | <0.030 | | | | 0.002 | 1,109.63 |
| 06/02/88 | | | | | <0.030 | | | | 0.002 | 1,109.02 |
| 07/06/88 | | | | | <0.030 | | | | 0.004 | 1,108.26 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,107.93 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,107.70 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004S

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 8.7 |
| 11/05/87 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.6 |
| 12/02/87 | <0.005 | <0.5 | 0.0019 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | 0.0046 | 4.8 |
| 01/06/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 6.2 |
| 02/03/88 | <0.005 | <0.5 | 0.0039 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 6.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0040 | <0.005 | <0.005 | <0.0005 | 0.10 | <0.005 | <0.0004 | 5.3 |
| 04/07/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 4.1 |
| 05/04/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 4.1 |
| 06/02/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 4.5 |
| 07/06/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 5.7 |
| 08/10/88 | <0.005 | <0.5 | 0.0029 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.0004 | 5.4 |
| 09/08/88 | <0.005 | <0.5 | 0.0016 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 4.2 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 3 | <0.005 | 0.3 | 0.11 | 0.11 | 5.96 | 10 | 120 | <0.05 |
| 11/05/87 | 3 | <0.005 | 0.1 | <0.10 | 0.09 | 6.06 | 10 | 180 | <0.05 |
| 12/02/87 | 2 | <0.005 | 0.6 | <0.10 | 0.07 | 5.78 | 11 | 120 | <0.05 |
| 01/06/88 | 3 | <0.005 | <0.1 | <0.10 | <0.05 | 6.10 | 14 | 130 | 0.07 |
| 02/03/88 | 5 | 0.018 | <0.1 | <0.10 | <0.05 | 5.58 | 10 | 99 | <0.05 |
| 03/02/88 | 2 | 0.020 | <0.4 | <0.10 | <0.05 | 5.79 | 9 | 100 | <0.05 |
| 04/07/88 | 3 | 0.018 | <0.2 | <0.10 | <0.05 | 6.77 | 13 | 14 | 0.02 |
| 05/04/88 | 3 | <0.010 | 0.1 | <0.10 | <0.05 | 6.35 | 10 | 150 | <0.05 |
| 06/02/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.47 | <5 | 160 | <0.05 |
| 07/06/88 | 5 | <0.010 | 0.1 | <0.10 | <0.05 | 6.39 | 8 | 150 | <0.05 |
| 08/10/88 | 3 | 0.015 | 0.2 | <0.06 | <0.05 | 6.22 | 10 | 130 | <0.05 |
| 09/08/88 | 3 | <0.010 | <0.1 | <0.10 | <0.05 | 6.05 | 11 | 91 | 0.07 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004S (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 64 | 18.0 | 10 | 66 | 179 | 5.70 | 8.0 |
| 11/05/87 | 53 | 15.0 | 15 | 62 | 149 | 5.40 | 8.0 |
| 12/02/87 | 53 | 17.0 | <5 | 70 | 151 | 4.90 | 8.0 |
| 01/06/88 | 70 | 18.0 | <5 | 70 | 165 | 6.10 | 6.0 |
| 02/03/88 | 60 | 14.0 | <5 | 60 | 148 | 4.80 | 7.0 |
| 03/02/88 | 60 | 16.0 | <5 | 60 | 148 | 5.40 | 7.0 |
| 04/07/88 | 50 | 13.0 | <5 | 60 | 124 | 4.30 | 10.0 |
| 05/04/88 | 45 | 16.0 | 31 | 55 | 144 | 5.30 | 9.0 |
| 06/02/88 | 54 | 16.0 | <5 | 120 | 150 | 5.40 | 9.0 |
| 07/06/88 | 76 | 17.0 | 7 | 64 | 146 | 5.70 | 9.0 |
| 08/10/88 | 46 | 16.0 | 11 | 82 | 117 | 4.80 | 10.0 |
| 09/08/88 | 75 | 16.0 | <5 | 67 | 159 | 4.40 | 8.0 |

==========

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.110 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | 0.014 | <0.001 | 1,108.41 |
| 11/05/87 | 0.058 | <0.001 | <0.05 | 0.046 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.49 |
| 12/02/87 | 0.078 | <0.001 | <0.05 | 0.043 | 0.022 | <0.005 | <0.067 | <0.004 | <0.001 | 1,108.71 |
| 01/06/88 | 0.035 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.087 | <0.004 | 0.002 | 1,108.55 |
| 02/03/88 | | | | | | | | | 0.002 | 1,108.29 |
| 03/02/88 | | | | | | | | | 0.003 | 1,108.08 |
| 04/07/88 | | | | | | | | | 0.003 | 1,109.56 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,109.46 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,108.85 |
| 07/06/88 | | | | | <0.030 | | | | 0.002 | 1,108.05 |
| 08/10/88 | | | | | <0.030 | | | | 0.002 | 1,107.79 |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | 1,107.49 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004P

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 13.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.005 | 8.8 |
| 12/02/87 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0041 | 12.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 11.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 14.0 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 12.0 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 11.0 |
| 08/10/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 11.0 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <1 | <0.005 | 0.4 | <0.10 | 0.12 | 6.64 | <10 | 180 | <0.05 |
| 11/05/87 | 1 | <0.005 | 0.3 | <0.10 | 0.13 | 6.47 | <5 | 220 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.5 | <0.10 | 0.14 | 6.23 | 8 | 200 | <0.05 |
| 01/06/88 | 1 | <0.005 | 0.2 | 0.10 | 0.14 | 6.65 | 6 | 200 | 0.17 |
| 02/03/88 | 2 | 0.007 | 0.3 | 0.55 | 0.21 | 6.60 | 5 | 190 | 0.13 |
| 03/02/88 | <2 | 0.018 | <0.4 | <0.10 | <0.12 | 6.81 | 10 | 180 | <0.05 |
| 04/07/88 | <2 | 0.006 | <0.2 | 0.14 | 0.14 | 7.38 | <5 | 120 | <0.01 |
| 05/04/88 | <2 | <0.010 | 0.3 | <0.10 | 0.13 | 7.10 | 11 | 230 | <0.05 |
| 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.12 | 7.32 | <5 | 240 | <0.05 |
| 07/06/88 | <2 | <0.010 | 0.2 | 0.19 | 0.13 | 7.22 | 9 | 220 | <0.05 |
| 08/10/88 | <2 | 0.012 | 0.3 | <0.06 | 0.12 | 6.78 | 9 | 220 | <0.05 |
| 09/08/88 | <2 | <0.010 | 0.4 | <0.10 | 0.11 | 6.90 | 8 | 170 | 0.08 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1004P (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 160 | 34.0 | 10 | 140 | 312 | 14.00 | 8.0 |
| 11/05/87 | 170 | 34.0 | 15 | 150 | 345 | 15.00 | 8.0 |
| 12/02/87 | 160 | 36.0 | 20 | 150 | 313 | 14.00 | 8.0 |
| 01/06/88 | 210 | 37.0 | 5 | 150 | 303 | 15.00 | 7.0 |
| 02/03/88 | 190 | 34.0 | 15 | 150 | 348 | 21.00 | 7.0 |
| 03/02/88 | 170 | 33.0 | <5 | 140 | 335 | 14.00 | 7.0 |
| 04/07/88 | 180 | 33.0 | <5 | 150 | 315 | 13.00 | 9.0 |
| 05/04/88 | 160 | 40.0 | 26 | 150 | 354 | 15.00 | 9.0 |
| 06/02/88 | 160 | 38.0 | 16 | 150 | 334 | 15.00 | 9.0 |
| 07/06/88 | 180 | 38.0 | 6 | 140 | 367 | 15.00 | 9.0 |
| 08/10/88 | 190 | 40.0 | 10 | 160 | 315 | 15.00 | 10.0 |
| 09/08/88 | 230 | 39.0 | 7 | 150 | 360 | 13.00 | 8.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.034 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,106.12 |
| 11/05/87 | 0.034 | <0.001 | <0.05 | 0.042 | <0.007 | <0.005 | <0.067 | <0.004 | 0.002 | 1,106.41 |
| 12/02/87 | 0.091 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.011 | 1,106.59 |
| 01/06/88 | 0.081 | <0.001 | <0.05 | 0.041 | 0.016 | <0.005 | 0.285 | <0.004 | 0.005 | 1,106.44 |
| 02/03/88 | | | | | | | | | 0.006 | 1,106.17 |
| 03/02/88 | | | | | | | | | 0.004 | 1,105.87 |
| 04/07/88 | | | | | | | | | 0.003 | 1,107.20 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,107.25 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,106.65 |
| 07/06/88 | | | | | <0.030 | | | | 0.004 | 1,105.79 |
| 08/10/88 | | | | | <0.030 | | | | 0.003 | 1,105.43 |
| 09/08/88 | | | | | <0.030 | | | | 0.00 | 1,105.17 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | 0.0021 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 16.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | 0.38 | <0.005 | <0.005 | 16.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0033 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0073 | 16.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 16.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0034 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 16.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 16.0 |
| 04/07/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.05 | <0.005 | <0.0004 | 17.0 |
| 06/02/88 | <0.005 | <0.5 | 0.0011 | <0.005 | <0.005 | 0.0008 | <0.05 | <0.005 | <0.0004 | 15.0 |
| 07/06/88 | <0.005 | <0.5 | 0.0008 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 16.0 |
| 08/10/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.9 |
| 09/08/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.0 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 220 | <0.005 | <0.2 | 7.20 | 1.40 | 5.50 | 16 | 640 | 0.06 |
| 11/05/87 | 220 | <0.005 | 0.1 | 6.10 | 1.10 | 5.60 | 16 | 610 | <0.05 |
| 12/02/87 | 230 | <0.005 | 0.2 | 13.00 | 0.75 | 5.79 | 17 | 650 | 0.07 |
| 01/06/88 | 230 | <0.006 | <0.5 | 12.00 | 0.65 | 5.60 | 8 | 640 | 0.14 |
| 02/03/88 | 200 | 0.005 | 0.2 | 12.00 | 0.75 | 5.51 | 22 | 550 | 0.08 |
| 03/02/88 | 205 | 0.016 | 0.5 | 7.90 | 0.71 | 5.25 | 20 | 630 | <0.05 |
| 04/07/88 | 220 | 0.018 | <4.0 | 3.50 | 0.63 | 5.91 | 17 | 580 | 0.05 |
| 05/04/88 | 217 | <0.010 | 0.5 | 15.00 | 0.56 | 5.96 | 18 | 730 | <0.05 |
| 06/02/88 | 213 | <0.010 | <0.1 | 21.00 | 0.62 | 6.05 | 9 | 770 | <0.05 |
| 07/06/88 | 210 | 0.025 | <2.0 | 19.00 | 0.64 | 7.01 | 17 | 650 | <0.05 |
| 08/10/88 | 210 | 0.015 | 0.2 | 1.10 | 0.45 | 6.10 | 20 | 1,000 | <0.05 |
| 09/08/88 | 210 | <0.010 | <0.1 | 12.00 | 0.56 | 5.58 | <25 | 690 | 0.08 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005 (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 64 | 83.0 | 25 | 370 | 844 | 38.00 | 10.0 |
| 11/05/87 | 74 | 91.0 | 30 | 380 | 816 | 38.00 | 8.0 |
| 12/02/87 | 64 | 81.0 | 25 | 380 | 822 | 36.00 | 8.0 |
| 01/06/88 | 70 | 76.0 | <5 | 380 | 787 | 37.00 | 6.0 |
| 02/03/88 | 80 | 70.0 | 16 | 390 | 867 | 37.00 | 7.0 |
| 03/02/88 | 60 | 73.0 | 15 | 390 | 880 | 37.00 | 5.0 |
| 04/07/88 | 60 | 95.0 | 10 | 360 | 868 | 37.00 | 9.0 |
| 05/04/88 | 72 | 81.0 | 25 | 400 | 954 | 39.00 | 9.0 |
| 06/02/88 | 81 | 79.0 | 15 | 350 | 924 | 41.00 | 9.0 |
| 07/06/88 | 81 | 81.0 | 12 | 340 | 468 | 37.00 | 9.0 |
| 08/10/88 | 60 | 77.0 | 12 | 330 | 825 | 37.00 | 9.0 |
| 09/08/88 | 93 | 68.0 | 23 | 380 | 842 | 32.00 | 10.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.094 | <0.001 | <0.05 | <0.029 | 0.067 | <0.005 | <0.067 | 0.007 | <0.001 | 1,137.67 |
| 11/05/87 | 0.086 | <0.001 | <0.05 | 0.042 | 0.040 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.89 |
| 12/02/87 | 0.110 | <0.001 | <0.05 | <0.029 | 0.036 | <0.005 | <0.067 | <0.004 | 0.002 | 1,139.36 |
| 01/06/88 | 0.091 | <0.001 | <0.05 | 0.049 | 0.059 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.32 |
| 02/03/88 | | | | | | | | | 0.009 | 1,137.30 |
| 03/02/88 | | | | | | | | | 0.003 | 1,136.98 |
| 04/07/88 | | | | | | | | | 0.001 | 1,139.10 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,139.42 |
| 06/02/88 | | | | | <0.030 | | | | 0.002 | 1,138.65 |
| 07/06/88 | | | | | <0.030 | | | | 0.006 | 1,137.27 |
| 08/10/88 | | | | | <0.030 | | | | 0.005 | 1,137.07 |
| 09/08/88 | | | | | <0.030 | | | | 0.001 | 1,136.71 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005S

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.09 | <0.005 | <0.005 | 6.1 |
| 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.005 | 6.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0080 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | 0.0046 | 7.1 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.7 |
| 02/03/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.0004 | 10.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 9.7 |
| 04/07/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 12.0 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 10.0 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 11.0 |
| 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 10.0 |
| 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 8.6 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <1 | <0.005 | 0.4 | 4.00 | 0.23 | 6.22 | <10 | 204 | <0.05 |
| 11/05/87 | <1 | <0.005 | 0.3 | 3.10 | 0.28 | 6.35 | <5 | 300 | <0.05 |
| 12/02/87 | <1 | <0.005 | 0.3 | 4.00 | 0.29 | 6.15 | <5 | 210 | <0.05 |
| 01/06/88 | 1 | <0.005 | 0.3 | 3.00 | 0.25 | 6.72 | 6 | 220 | 0.05 |
| 02/03/88 | 2 | 0.015 | 0.3 | 3.10 | 0.29 | 6.44 | <5 | 220 | <0.05 |
| 03/02/88 | 2 | 0.018 | 0.7 | 2.60 | 0.26 | 6.25 | <5 | 230 | <0.05 |
| 04/07/88 | <2 | 0.014 | <0.8 | 4.30 | 0.26 | 6.90 | <5 | 220 | <0.01 |
| 05/04/88 | <2 | <0.010 | <0.8 | 2.10 | 0.28 | 7.05 | 7 | 260 | <0.05 |
| 06/02/88 | 4 | <0.010 | 0.3 | 1.90 | 0.26 | 7.04 | <5 | 270 | <0.05 |
| 07/06/88 | 3 | <0.010 | 0.3 | 4.00 | 0.24 | 6.80 | <5 | 270 | <0.05 |
| 08/10/88 | 3 | <0.010 | 0.4 | 3.40 | 0.27 | 7.07 | 7 | 220 | <0.05 |
| 09/08/88 | 3 | <0.010 | 0.3 | 3.10 | 0.27 | 6.66 | <5 | 220 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005S (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 160 | 40.0 | 15 | 160 | 314 | 14.00 | 9.0 |
| 11/05/87 | 170 | 42.0 | 75 | 160 | 330 | 14.00 | 8.0 |
| 12/02/87 | 96 | 40.0 | <5 | 200 | 321 | 14.00 | 8.0 |
| 01/06/88 | 210 | 42.0 | 15 | 170 | 313 | 15.00 | 6.0 |
| 02/03/88 | 200 | 37.0 | 10 | 170 | 360 | 15.00 | 7.0 |
| 03/02/88 | 170 | 39.0 | 10 | 160 | 348 | 15.00 | 5.0 |
| 04/07/88 | 180 | 42.0 | <5 | 170 | 344 | 14.00 | 9.0 |
| 05/04/88 | 190 | 47.0 | 31 | 170 | 371 | 16.00 | 9.0 |
| 06/02/88 | 170 | 44.0 | 12 | 160 | 362 | 15.00 | 9.0 |
| 07/06/88 | 210 | 45.0 | 9 | 160 | 355 | 15.00 | 9.0 |
| 08/10/88 | 200 | 47.0 | 11 | 170 | 333 | 16.00 | 10.0 |
| 09/08/88 | 260 | 44.0 | 28 | 170 | 411 | 14.00 | 10.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | 1,137.56 |
| 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | 0.017 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.17 |
| 12/02/87 | 0.098 | <0.001 | <0.05 | <0.029 | 0.060 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.58 |
| 01/06/88 | 0.056 | <0.001 | <0.05 | <0.029 | 0.022 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.01 |
| 02/03/88 | | | | | | | | | 0.005 | 1,137.21 |
| 03/02/88 | | | | | | | | | 0.003 | 1,136.82 |
| 04/07/88 | | | | | | | | | <0.001 | 1,138.34 |
| 05/04/88 | | | | | <0.030 | | | | <0.001 | 1,138.76 |
| 06/02/88 | | | | | <0.030 | | | | 0.008 | 1,138.29 |
| 07/06/88 | | | | | <0.030 | | | | <0.001 | 1,137.26 |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | 1,136.84 |
| 09/08/88 | | | | | <0.030 | | | | 0.002 | 1,136.51 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005P

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 14.0 |
| 11/05/87 | <0.005 | <0.5 | 0.0031 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 15.0 |
| 12/02/87 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | 0.0058 | 33.0 |
| 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | <0.0004 | 20.0 |
| 02/03/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 20.0 |
| 03/02/88 | <0.005 | <0.5 | 0.0039 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 18.0 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 17.0 |
| 07/06/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | 13.0 |
| 08/10/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 16.0 |
| 09/08/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 19.0 |

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 3 | <0.005 | 0.2 | 0.38 | 0.15 | 6.46 | <10 | 270 | <0.05 |
| 11/05/87 | 4 | <0.005 | 0.2 | 0.56 | 0.24 | 6.38 | 6 | 330 | <0.05 |
| 12/02/87 | 4 | <0.005 | <0.1 | 0.18 | 0.13 | 6.22 | 11 | 290 | <0.05 |
| 01/06/88 | 4 | <0.005 | 0.2 | 0.20 | 0.25 | 6.89 | 8 | 280 | 0.26 |
| 02/03/88 | 6 | 0.011 | 0.2 | 0.22 | 0.25 | 6.53 | 6 | 280 | <0.05 |
| 03/02/88 | 2 | 0.022 | 0.5 | 0.29 | 0.20 | 6.47 | <5 | 280 | <0.05 |
| 04/07/88 | <2 | 0.012 | <0.2 | 0.54 | 0.25 | 7.14 | <5 | 230 | <0.01 |
| 05/04/88 | 6 | <0.010 | 0.2 | 0.72 | 0.26 | 7.07 | 6 | 300 | <0.05 |
| 06/02/88 | 4 | <0.010 | 0.1 | 0.27 | 0.22 | 7.01 | <5 | 320 | <0.05 |
| 07/06/88 | 4 | <0.010 | 0.2 | 0.63 | 0.25 | 5.80 | <5 | 310 | <0.05 |
| 08/10/88 | 4 | <0.010 | 0.1 | 0.95 | 0.18 | 6.99 | <5 | 290 | <0.05 |
| 09/08/88 | 4 | <0.010 | <0.1 | <0.10 | 0.15 | 6.94 | 5 | 250 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1005P (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | 230 | 53.0 | 15 | 220 | 441 | 21.00 | 8.0 |
| 11/05/87 | 250 | 56.0 | 50 | 210 | 449 | 21.00 | 8.0 |
| 12/02/87 | 250 | 47.0 | 30 | 200 | 460 | 18.00 | 8.0 |
| 01/06/88 | 300 | 51.0 | 15 | 210 | 412 | 20.00 | 7.0 |
| 02/03/88 | 280 | 46.0 | 10 | 220 | 466 | 20.00 | 7.0 |
| 03/02/88 | 250 | 51.0 | 15 | 220 | 464 | 21.00 | 6.0 |
| 04/07/88 | 250 | 49.0 | <5 | 220 | 428 | 19.00 | 9.0 |
| 05/04/88 | 250 | 54.0 | 11 | 240 | 452 | 24.00 | 9.0 |
| 06/02/88 | 240 | 56.0 | 6 | 200 | 473 | 22.00 | 9.0 |
| 07/06/88 | 280 | 55.0 | 6 | 210 | 876 | 22.00 | 9.0 |
| 08/10/88 | 270 | 56.0 | 8 | 220 | 423 | 23.00 | 9.0 |
| 09/08/88 | 340 | 50.0 | 16 | 210 | 498 | 18.00 | 9.0 |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.082 | <0.001 | <0.05 | 0.046 | 0.008 | <0.005 | <0.067 | <0.004 | 0.004 | 1,138.17 |
| 11/05/87 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | 0.006 | 1,138.47 |
| 12/02/87 | 0.130 | <0.001 | <0.05 | <0.029 | <0.008 | <0.005 | <0.067 | <0.004 | <0.001 | 1,138.87 |
| 01/06/88 | 0.101 | <0.001 | <0.05 | 0.051 | 0.028 | <0.005 | 0.098 | <0.004 | 0.004 | 1,138.42 |
| 02/03/88 | | | | | | | | | 0.005 | 1,137.60 |
| 03/02/88 | | | | | | | | | 0.003 | 1,137.32 |
| 04/07/88 | | | | | | | | | <0.001 | 1,138.53 |
| 05/04/88 | | | | | <0.030 | | | | 0.002 | 1,139.05 |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,138.69 |
| 07/06/88 | | | | | <0.030 | | | | <0.001 | 1,137.80 |
| 08/10/88 | | | | | <0.030 | | | | 0.002 | 1,137.33 |
| 09/08/88 | | | | | <0.030 | | | | 0.003 | 1,136.97 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1006G

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 7.0 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 6.8 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | <0.005 | <0.5 | 0.0017 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.6 |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | <2 | 0.01 | <0.2 | <0.10 | 0.59 | 7.04 | <5 | 180 | 0.01 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.12 | 7.06 | 6 | 250 | <0.05 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | <2 | 0.014 | <0.3 | <0.06 | 1.00 | 6.54 | 7 | 230 | 0.01 |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1006G (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | 160 | 38.0 | 5 | 160 | 300 | 13.00 | 9.0 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | 140 | 38.0 | 13 | 150 | 300 | 14.00 | 9.0 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | 170 | 40.0 | 12 | 150 | 252 | 14.00 | N/A |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | | | | | | | | | N/A | N/A |
| 03/02/88 | | | | | | | | | N/A | N/A |
| 04/07/88 | | | | | | | | | 0.002 | 1,133.82 |
| 05/04/88 | | | | | N/A | | | | N/A | N/A |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,133.97 |
| 07/06/88 | | | | | N/A | | | | N/A | N/A |
| 08/10/88 | | | | | <0.030 | | | | 0.002 | 1,133.07 |
| 09/08/88 | | | | | N/A | | | | N/A | N/A |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1006S

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 0.29 | <0.005 | <0.0004 | 5.8 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | <0.005 | <0.5 | 0.0010 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 5.1 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | <0.005 | <0.5 | 0.0009 | <0.005 | <0.005 | <0.0005 | 0.05 | <0.005 | <0.0004 | 6.1 |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | <2 | 0.02 | <0.2 | <0.10 | 0.87 | 6.92 | <5 | 150.00 | 0.01 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | <2 | <0.010 | 0.2 | <0.10 | 0.85 | 7.01 | <5 | 250 | <0.05 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | <2 | 0.011 | 0.2 | <0.06 | 1.30 | 6.67 | 8 | 200 | 0.01 |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
WELL NO. MW-1006S (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 03/02/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 04/07/88 | 160 | 37.0 | <5 | 170 | 284 | 12.00 | 9.0 |
| 05/04/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 06/02/88 | 140 | 39.0 | 8 | 150 | 289 | 14.00 | 9.0 |
| 07/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 08/10/88 | 150 | 37.0 | 14 | 150 | 282 | 13.00 | N/A |
| 09/08/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 11/05/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 12/02/87 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 01/06/88 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 02/03/88 | | | | | | | | | N/A | N/A |
| 03/02/88 | | | | | | | | | N/A | N/A |
| 04/07/88 | | | | | | | | | 0.002 | 0.00 |
| 05/04/88 | | | | | N/A | | | | N/A | N/A |
| 06/02/88 | | | | | <0.030 | | | | 0.001 | 1,132.43 |
| 07/06/88 | | | | | N/A | | | | N/A | N/A |
| 08/10/88 | | | | | <0.030 | | | | 0.002 | 1,131.57 |
| 09/08/88 | | | | | N/A | | | | N/A | N/A |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MONITORING WELL BLANKS

Primary Drinking Water Standards

| DATE | As | Ba | Cd | Cr | Pb | Hg | NO2+NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 0.2 |
| 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | <0.5 |
| 12/02/87 | <0.005 | <0.5 | 0.0038 | <0.005 | <0.005 | <0.0005 | <0.15 | <0.005 | 0.0040 | 1.0 |
| 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.0004 | 0.9 |
| 02/03/88 | <0.005 | <0.5 | 0.0029 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 1.1 |
| 03/02/88 | <0.005 | <0.5 | 0.0028 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | <0.5 |
| 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | <0.5 |
| 05/04/88 | <0.005 | <0.5 | <0.0004 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 0.8 |
| 06/02/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 0.6 |
| 07/06/88 | <0.005 | <0.08 | <0.0003 | <0.002 | <0.005 | <0.0005 | <0.18 | <0.005 | <0.0004 | <0.5 |
| 08/10/88 | <0.005 | <0.5 | 0.0007 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | <0.5 |
| 09/08/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | <0.5 |

==========

Secondary Drinking Water Standards

| DATE | Cl | Cu | Fl | Fe | Mn | pH(fld) | SO4 | TDS | Zn |
|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | <1 | <0.005 | <0.2 | <0.10 | <0.05 | N/A | <10 | 4 | <0.05 |
| 11/05/87 | 1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 55 | <0.05 |
| 12/02/87 | <1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 8 | <0.05 |
| 01/06/88 | 1 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | 10 | <0.05 |
| 02/03/88 | <2 | <0.005 | <0.1 | <0.10 | <0.05 | N/A | <5 | <5 | <0.05 |
| 03/02/88 | <2 | 0.020 | <0.2 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |
| 04/07/88 | <2 | 0.012 | <0.2 | <0.10 | <0.05 | N/A | <5 | 58 | <0.01 |
| 05/04/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | 40 | <0.05 |
| 06/02/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |
| 07/06/88 | <2 | <0.010 | <0.1 | <0.10 | <0.05 | N/A | <5 | <20 | <0.05 |
| 08/10/88 | <2 | 0.010 | <0.1 | <0.06 | <0.05 | N/A | <5 | 5 | <0.05 |
| 09/08/88 | <2 | <0.010 | 0.1 | <0.10 | <0.05 | N/A | <5 | <10 | <0.05 |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

KENNECOTT FLAMBEAU PROJECT
BASELINE GROUNDWATER MONITORING
MONITORING WELL BLANKS (Cont.)

Indicator Parameters

| DATE | Alk | Ca | COD | Hard | SpCnd (u-mhos/cm) | Mg | Temp (deg C) |
|---|---|---|---|---|---|---|---|
| 10/15/87 | <10 | 0.7 | 5 | <2 | N/A | <0.25 | N/A |
| 11/05/87 | <10 | <1.0 | <5 | <1 | N/A | <0.05 | N/A |
| 12/02/87 | 11 | <0.2 | <5 | <2 | N/A | 0.07 | N/A |
| 01/06/88 | 10 | <0.2 | <5 | 2 | N/A | 0.17 | N/A |
| 02/03/88 | <10 | <0.5 | <5 | <2 | N/A | 0.05 | N/A |
| 03/02/88 | 50 | <0.5 | <5 | <2 | N/A | 0.10 | N/A |
| 04/07/88 | 20 | <0.5 | <5 | <2 | N/A | <0.050 | N/A |
| 05/04/88 | <10 | <0.5 | 5 | <2 | N/A | 0.06 | N/A |
| 06/02/88 | <10 | <0.5 | <5 | <2 | N/A | 0.08 | N/A |
| 07/06/88 | 10 | <0.2 | <5 | <2 | N/A | <0.05 | N/A |
| 08/10/88 | <10 | 4.1 | 13 | <2 | N/A | 0.59 | N/A |
| 09/08/88 | <10 | 0.4 | <5 | <2 | N/A | 0.50 | N/A |

Other Parameters

| DATE | Al | Be | Co | Mo | Ni | Th | Sn | Ti | U | SWL |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/15/87 | 0.018 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |
| 11/05/87 | 0.044 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |
| 12/02/87 | 0.032 | <0.001 | <0.05 | <0.029 | 0.009 | <0.005 | <0.067 | <0.004 | <0.001 | N/A |
| 01/06/88 | 0.054 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | 0.104 | <0.004 | 0.003 | N/A |
| 02/03/88 | | | | | | | | | 0.001 | N/A |
| 03/02/88 | | | | | | | | | <0.001 | N/A |
| 04/07/88 | | | | | | | | | <0.001 | N/A |
| 05/04/88 | | | | | <0.030 | | | | 0.002 | N/A |
| 06/02/88 | | | | | <0.030 | | | | <0.001 | N/A |
| 07/06/88 | | | | | <0.030 | | | | <0.001 | N/A |
| 08/10/88 | | | | | <0.030 | | | | <0.001 | N/A |
| 09/08/88 | | | | | <0.030 | | | | <0.001 | N/A |

All values in milligrams per liter unless indicated otherwise.

Prepared by Foth & Van Dyke and Associates, Inc.

# Evaluation of WDNR Groundwater Sample Splits

MEMORANDUM

March 28, 1989

TO: Kennecott Project File

FR: Boyd Possin - Foth & Van Dyke and Associates, Inc.

RE: Evaluation of DNR Groundwater Sample Splits

In October and November of 1987, and in January, April, and May of 1988 Jim Hansen of the Wisconsin Department of Natural Resources (WDNR) split baseline monitoring samples with Mike Hastreiter in the field at the Flambeau Mine site. For each event Jim typically split about half the samples. From one round to the next he varied which samples he split so that, by the end of the baseline sampling program, he had collected at least one split on every well.

Attached are five tables, one for each month, showing a comparison of the Kennecott lab results to the WDNR lab results. Each table consists of two pages of information, the second simply being a continuation of the parameters evaluated from the first page.

Each table consists of three blocks of information. The first block contains the Kennecott results. The second contains the WDNR results. The third compares each individual data point in the first two blocks by taking the Kennecott data value and dividing it by the WDNR data value. If one of the two values was a no-detection, then the message "ONE<" is displayed. If both of the values are no-detections, then the message "BOTH<" is displayed.

Data inconsistencies are shown in the comparison blocks as underlined values. A data inconsistency is defined herein as the two values differing by more than a factor of two. In other words, if the data value in the comparison block is greater than 2.00 or less than 0.50, then it is underscored. Some of the "ONE<" messages are also underlined. This occurs if the no-detection limit is less than half the value it is being compared to. For

example, if the two values were <0.40 and 1.00, then the "ONE<" would be underlined, since 0.40 is less than half 1.00. If, however, the two values were <0.80 and 1.00, then the "ONE<" block would not be underscored since 0.80 is more than half of 1.00.

The "BOTH<" blocks are assumed not to be inconsistent.

Overall, the correlation is very good. The total number of data points evaluated across the five months is 1,027. Of these, 78 (7.6%) are inconsistent as defined above. Of the inconsistencies, nearly half are accounted for by three parameters, COD, aluminum, and nickel, none of which is critical to the investigation. The remaining inconsistencies are spread randomly across the data set.

This view of the data confirms that the data sets are consistent. Minor inconsistencies, such as those shown herein, are expected in any large data set. My professional opinion, based on fifteen years experience reviewing such data, is that the consistency match between the two data sets is very good.

TABLE NO. 1

Comparison of October 1987 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | Secondary Drinking Water Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 8.70 | 3 | <0.005 | 0.3 | 0.11 | 0.11 | 10 | 120 | <0.05 |
| MW-1005 | 10/15/87 | <0.005 | <1.0 | 0.002 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 16.00 | 220 | <0.005 | <0.2 | 7.20 | 1.40 | 16 | 640 | 0.060 |
| MW-1005G | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.09 | <0.005 | <0.005 | 6.10 | <1 | <0.005 | 0.4 | 4.00 | 0.23 | <10 | 204 | <0.05 |
| MW-1005P | 10/15/87 | <0.005 | <1.0 | 0.001 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 14.00 | 3 | <0.005 | 0.2 | 0.38 | 0.15 | <10 | 270 | <0.05 |
| BLANK | 10/15/87 | <0.005 | <1.0 | <0.0010 | 0.006 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 0.22 | <1 | <0.005 | <0.2 | <0.10 | <0.05 | <10 | 4 | <0.05 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | <0.01 | <0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.00 | 4 | <0.05 | 0.20 | <0.1 | 0.11 | 12.0 | 120 | 0.035 |
| MW-1005 | 10/15/87 | <0.01 | 0.4 | 0.0019 | <0.003 | <0.003 | <0.2 | 0.10 | <0.005 | <0.0005 | 17.00 | 220 | <0.05 | 0.10 | 6.50 | 1.30 | 18.0 | 608 | 0.080 |
| MW-1005G | 10/15/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 8.00 | 3 | <0.05 | 0.20 | 3.40 | 0.22 | 7.5 | 216 | 0.023 |
| MW-1005P | 10/15/87 | <0.01 | <0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 14.00 | 5 | <0.05 | 0.10 | 0.50 | 0.14 | 4.8 | 260 | 0.027 |
| BLANK | 10/15/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | NA | 0.10 | <0.005 | <0.0005 | 2.00 | <0.3 | <0.05 | <0.1 | <0.1 | <0.04 | <1 | 2 | <0.02 |
| Comparison of Results<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.90 | BOTH< | BOTH< | 0.87 | 0.83 | BOTH< | 1.50 | ONE< | 1.00 | 0.83 | 1.00 | ONE< |
| MW-1005 | 10/15/87 | BOTH< | ONE< | 1.11 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.94 | 1.00 | BOTH< | ONE< | 1.11 | 1.08 | 0.89 | 1.05 | 0.75 |
| MW-1005G | 10/15/87 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 0.90 | BOTH< | BOTH< | 0.76 | ONE< | BOTH< | 2.00 | 1.18 | 1.05 | ONE< | 0.94 | ONE< |
| MW-1005P | 10/15/87 | BOTH< | BOTH< | 0.92 | BOTH< | BOTH< | BOTH< | 1.50 | BOTH< | BOTH< | 1.00 | 0.64 | BOTH< | 2.00 | 0.76 | 1.07 | ONE< | 1.04 | ONE< |
| BLANK | 10/15/87 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | 0.11 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 2.00 | BOTH< |

TABLE NO. 1

Comparison of October 1987 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kennecott Data<br>Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| MW-1004S | 10/15/87 | 64 | 18.0 | 10 | 66 | 5.7 | 0.110 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | 0.014 |
| MW-1005 | 10/15/87 | 64 | 83.0 | 25 | 370 | 38.0 | 0.094 | <0.001 | <0.05 | <0.029 | 0.067 | <0.005 | <0.067 | 0.007 |
| MW-1005G | 10/15/87 | 160 | 40.0 | 15 | 160 | 14.0 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1005P | 10/15/87 | 230 | 53.0 | 15 | 220 | 21.0 | 0.082 | <0.001 | <0.05 | 0.046 | 0.008 | <0.005 | <0.067 | <0.004 |
| BLANK | 10/15/87 | <10 | 0.7 | 5 | <2 | <0.25 | 0.018 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | 72 | 17.0 | <5 | 62 | 5.0 | 0.100 | <0.003 | <0.02 | <0.05 | 0.015 | <0.13 | <0.12 | <0.01 |
| MW-1005 | 10/15/87 | 68 | 80.0 | 16 | 340 | 33.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.031 | <0.13 | <0.12 | <0.01 |
| MW-1005G | 10/15/87 | 164 | 38.0 | 13 | 150 | 13.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005P | 10/15/87 | 246 | 50.0 | 7 | 200 | 19.0 | 0.053 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| BLANK | 10/15/87 | 4 | <1 | <5 | NA | <1 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | 0.89 | 1.06 | ONE< | 1.06 | 1.14 | 1.10 | BOTH< | BOTH< | BOTH< | 0.80 | BOTH< | BOTH< | ONE< |
| MW-1005 | 10/15/87 | 0.94 | 1.04 | 1.56 | 1.09 | 1.15 | ONE< | BOTH< | BOTH< | BOTH< | 2.16 | BOTH< | BOTH< | ONE< |
| MW-1005G | 10/15/87 | 0.98 | 1.05 | 1.15 | 1.07 | 1.08 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1005P | 10/15/87 | 0.93 | 1.06 | 2.14 | 1.10 | 1.11 | 1.55 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< |
| BLANK | 10/15/87 | ONE< | ONE< | ONE< | ONE< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |

TABLE NO. 2

Comparison of November 1987 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | Secondary Drinking Water Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 4.5 | 6.0 | <0.005 | 0.1 | 0.12 | 0.15 | 8 | 170 | <0.05 |
| MW-1001G | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 7.0 | 1.0 | <0.005 | <0.1 | <0.10 | 0.09 | 16 | 140 | <0.05 |
| MW-1001P | 11/05/87 | <0.005 | <0.5 | 0.0041 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.005 | 10.0 | <1 | <0.005 | 0.4 | <0.10 | 0.39 | 10 | 220 | <0.05 |
| MW-1003 | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.59 | <0.005 | <0.005 | 4.1 | 2.0 | <0.005 | 0.2 | <0.10 | 0.45 | 7 | 190 | <0.05 |
| MW-1003P | 11/05/87 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 10.0 | 1.0 | <0.005 | 0.3 | <0.10 | 0.34 | 8 | 320 | <0.05 |
| MW-1004 | 11/05/87 | 0.021 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.33 | <0.005 | <0.005 | 3.9 | <1 | <0.005 | <2.0 | 0.26 | 0.28 | <5 | 400 | <0.05 |
| MW-1004S | 11/05/87 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.6 | 3.0 | <0.005 | 0.1 | <0.10 | 0.09 | 10 | 180 | <0.05 |
| MW-1004P | 11/05/87 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.005 | 8.8 | 1.0 | <0.005 | 0.3 | <0.10 | 0.13 | <5 | 220 | <0.05 |
| BLANK | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | <0.5 | 1.0 | <0.005 | <0.1 | <0.10 | <0.05 | <5 | 55 | <0.05 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | <0.01 | <0.4 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.90 | <0.005 | <0.0005 | 7.0 | 6.6 | <0.003 | 0.1 | <0.1 | 0.09 | 9 | 162 | 0.02 |
| MW-1001G | 11/05/87 | <0.01 | <0.4 | 0.0026 | <0.003 | <0.003 | <0.0002 | 0.90 | <0.005 | <0.0005 | 5.0 | 2.6 | <0.003 | 0.1 | 0.20 | 0.14 | 16 | 132 | <0.02 |
| MW-1001P | 11/05/87 | <0.01 | <0.4 | 0.0038 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.0 | 2.4 | 0.006 | 0.3 | <0.1 | 0.37 | 8 | 152 | 0.02 |
| MW-1003 | 11/05/87 | <0.01 | <0.4 | 0.0010 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 5.0 | 2.7 | <0.003 | 0.2 | <0.1 | 0.44 | 8 | 98 | 0.05 |
| MW-1003P | 11/05/87 | <0.01 | <0.4 | 0.0027 | <0.003 | 0.010 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.0 | 1.8 | <0.005 | 0.2 | <0.1 | 0.31 | 9 | 206 | <0.02 |
| MW-1004 | 11/05/87 | <0.01 | 0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.20 | <0.005 | <0.0005 | 6.0 | 2.4 | 0.004 | 0.1 | 0.40 | 0.06 | 15 | 106 | 0.02 |
| MW-1004S | 11/05/87 | <0.01 | <0.4 | 0.0032 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 | 5.0 | 0.010 | 0.1 | <0.1 | 0.06 | 10 | 110 | 0.02 |
| MW-1004P | 11/05/87 | <0.01 | <0.4 | 0.0026 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 9.0 | 2.4 | 0.004 | 0.2 | <0.1 | 0.12 | 5 | 190 | <0.02 |
| BLANK | 11/05/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | <1 | <0.3 | <0.003 | <0.1 | <0.1 | <0.04 | <1 | 2 | <0.02 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | BOTH< | BOTH< | 4.20 | BOTH< | BOTH< | BOTH< | 1.01 | BOTH< | BOTH< | 0.64 | 0.91 | BOTH< | 1.00 | ONE< | 1.67 | 0.87 | 1.05 | ONE< |
| MW-1001G | 11/05/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.01 | BOTH< | BOTH< | 1.40 | 0.38 | BOTH< | ONE< | ONE< | 0.64 | 1.00 | 1.06 | BOTH< |
| MW-1001P | 11/05/87 | BOTH< | BOTH< | 1.08 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.00 | ONE< | ONE< | 1.33 | BOTH< | 1.05 | 1.28 | 1.45 | ONE< |
| MW-1003 | 11/05/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 5.90 | BOTH< | BOTH< | 0.82 | 0.74 | BOTH< | 1.00 | BOTH< | 1.02 | 0.88 | 1.94 | ONE< |
| MW-1003P | 11/05/87 | BOTH< | BOTH< | 1.00 | BOTH< | ONE< | BOTH< | 1.10 | BOTH< | BOTH< | 1.00 | 0.56 | BOTH< | 1.50 | BOTH< | 1.10 | 0.90 | 1.55 | BOTH< |
| MW-1004 | 11/05/87 | ONE< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 1.65 | BOTH< | BOTH< | 0.65 | ONE< | ONE< | ONE< | 0.65 | 4.67 | ONE< | 3.77 | ONE< |
| MW-1004S | 11/05/87 | BOTH< | BOTH< | 0.94 | BOTH< | BOTH< | BOTH< | 2.00 | BOTH< | BOTH< | 1.15 | 0.60 | ONE< | 1.00 | BOTH< | 1.41 | 1.00 | 1.64 | ONE< |
| MW-1004P | 11/05/87 | BOTH< | BOTH< | 0.85 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.98 | 0.42 | ONE< | 1.50 | BOTH< | 1.08 | ONE< | 1.16 | BOTH< |
| BLANK | 11/05/87 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 27.50 | BOTH< |

TABLE NO. 2

Comparison of November 1987 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 53 | 13.0 | 25 | 49 | 4.5 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1001G | 11/05/87 | 64 | 17.0 | 90 | 70 | 6.1 | 0.102 | <0.001 | <0.05 | 0.034 | 0.016 | <0.005 | <0.067 | 0.005 |
| MW-1001P | 11/05/87 | 110 | 24.0 | 30 | 100 | 9.8 | 0.046 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | <0.067 | <0.004 |
| MW-1003 | 11/05/87 | 53 | 13.0 | 25 | 56 | 3.8 | 0.076 | <0.001 | <0.05 | <0.029 | 0.033 | <0.005 | <0.067 | <0.004 |
| MW-1003P | 11/05/87 | 180 | 36.0 | 80 | 170 | 17.0 | 0.038 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004 | 11/05/87 | 53 | 11.0 | 50 | 49 | 6.0 | 0.131 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004S | 11/05/87 | 53 | 15.0 | 15 | 62 | 5.4 | 0.058 | <0.001 | <0.05 | 0.046 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004P | 11/05/87 | 170 | 34.0 | 15 | 150 | 15.0 | 0.034 | <0.001 | <0.05 | 0.042 | <0.007 | <0.005 | <0.067 | <0.004 |
| BLANK | 11/05/87 | <10 | <1.0 | <5 | <1 | <0.05 | 0.044 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 44 | 17.0 | 15 | 47 | 6.0 | 0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1001G | 11/05/87 | 66 | 13.0 | 54 | 48 | 4.0 | 0.240 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | 0.010 |
| MW-1001P | 11/05/87 | 118 | 24.0 | 83 | 97 | 9.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1003 | 11/05/87 | 52 | 13.0 | 16 | 48 | 4.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.007 | <0.13 | <0.12 | <0.01 |
| MW-1003P | 11/05/87 | 190 | 40.0 | 45 | 170 | 17.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004 | 11/05/87 | 42 | 13.0 | 35 | 48 | 4.0 | 0.600 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | 0.029 |
| MW-1004S | 11/05/87 | 60 | 17.0 | 24 | 62 | 5.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.013 | <0.13 | <0.12 | <0.01 |
| MW-1004P | 11/05/87 | 174 | 36.0 | 13 | 150 | 14.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| BLANK | 11/05/87 | 2 | <1 | <5 | <6 | <1 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 1.20 | 0.76 | 1.67 | 1.04 | 0.75 | 2.80 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1001G | 11/05/87 | 0.97 | 1.31 | 1.67 | 1.46 | 1.53 | 0.43 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | 0.50 |
| MW-1001P | 11/05/87 | 0.93 | 1.00 | 0.36 | 1.03 | 1.09 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1003 | 11/05/87 | 1.02 | 1.00 | 1.56 | 1.17 | 0.95 | ONE< | BOTH< | BOTH< | BOTH< | 4.71 | BOTH< | BOTH< | BOTH< |
| MW-1003P | 11/05/87 | 0.95 | 0.90 | 1.78 | 1.00 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1004 | 11/05/87 | 1.26 | 0.85 | 1.43 | 1.02 | 1.50 | 0.22 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< |
| MW-1004S | 11/05/87 | 0.88 | 0.88 | 0.63 | 1.00 | 1.08 | ONE< | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1004P | 11/05/87 | 0.98 | 0.94 | 1.15 | 1.00 | 1.07 | ONE< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< |
| BLANK | 11/05/87 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |

TABLE NO. 3

Comparison of January 1988 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | Secondary Drinking Water Standards | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 4.70 | 2.0 | <0.005 | 0.2 | 0.17 | 0.60 | 15.0 | 140 | 0.07 |
| MW-1003P | 01/06/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 11.00 | 1.0 | <0.005 | 0.3 | <0.10 | 0.35 | 10.0 | 230 | 0.11 |
| MW-1004 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.50 | 1.0 | <0.005 | <1.0 | <0.10 | <0.05 | 8.0 | 280 | <0.05 |
| MW-1004S | 01/06/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 6.20 | 3.0 | <0.005 | <0.1 | <0.10 | <0.05 | 14.0 | 130 | 0.07 |
| MW-1004P | 01/06/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 11.00 | 1.0 | <0.005 | 0.2 | 0.10 | 0.14 | 6.0 | 200 | 0.17 |
| MW-1005 | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 16.00 | 230.0 | <0.006 | <0.5 | 12.00 | 0.65 | 8.0 | 640 | 0.14 |
| MW-1005G | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.70 | 1.0 | <0.005 | 0.3 | 3.00 | 0.25 | 6.0 | 220 | 0.05 |
| MW-1005P | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | <0.0004 | 20.00 | 4.0 | <0.005 | 0.2 | 0.20 | 0.25 | 8.0 | 280 | 0.26 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | <0.01 | 0.07 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.00 | 2.0 | <0.003 | 0.22 | <0.1 | 0.66 | 11.0 | 104 | 0.13 |
| MW-1003P | 01/06/88 | <0.01 | 0.06 | 0.0058 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 9.00 | 2.3 | 0.008 | 0.25 | <0.1 | 0.39 | 7.8 | 208 | 0.15 |
| MW-1004 | 01/06/88 | <0.1 | <0.40 | 0.0009 | <0.003 | <0.003 | <0.0002 | 0.40 | <0.005 | <0.0005 | 8.00 | 2.4 | 0.004 | 0.16 | <0.1 | <0.04 | 16.0 | 98 | 0.02 |
| MW-1004S | 01/06/88 | <0.1 | 0.07 | 0.0008 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 5.00 | 3.9 | 0.004 | 0.11 | <0.1 | <0..04 | 10.0 | 114 | 0.10 |
| MW-1004P | 01/06/88 | <0.01 | 0.08 | 0.0033 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.00 | 1.3 | <0.003 | 0.27 | <0.1 | 0.13 | 5.1 | 186 | 0.21 |
| MW-1005 | 01/06/88 | <0.01 | 0.20 | 0.0016 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 14.00 | 220.0 | 0.004 | 0.08 | 12.00 | 0.65 | 16.0 | 544 | 0.18 |
| MW-1005G | 01/06/88 | <0.01 | 0.07 | 0.0003 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 8.00 | 3.5 | <0.003 | 0.24 | 2.80 | 0.27 | 6.9 | 224 | 0.06 |
| MW-1005P | 01/06/88 | <0.01 | 0.12 | 0.0011 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 18.00 | 4.6 | 0.007 | 0.17 | 0.20 | 0.25 | 7.4 | 274 | 0.27 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 2.10 | BOTH< | BOTH< | 1.18 | 1.00 | BOTH< | 0.91 | ONE< | 0.91 | 1.36 | 1.35 | 0.54 |
| MW-1003P | 01/06/88 | BOTH< | ONE< | 0.84 | BOTH< | BOTH< | BOTH< | 1.30 | BOTH< | BOTH< | 1.22 | 0.43 | ONE< | 1.20 | BOTH< | 0.90 | 1.28 | 1.11 | 0.73 |
| MW-1004 | 01/06/88 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.00 | BOTH< | BOTH< | 0.69 | 0.42 | ONE< | ONE< | BOTH< | BOTH< | 0.50 | 2.86 | ONE< |
| MW-1004S | 01/06/88 | BOTH< | ONE< | 1.88 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.24 | 0.77 | ONE< | ONE< | BOTH< | BOTH< | 1.40 | 1.14 | 0.70 |
| MW-1004P | 01/06/88 | BOTH< | ONE< | 1.06 | BOTH< | BOTH< | BOTH< | 1.60 | BOTH< | BOTH< | 1.10 | 0.77 | BOTH< | 0.74 | ONE< | 1.08 | 1.18 | 1.08 | 0.81 |
| MW-1005 | 01/06/88 | BOTH< | ONE< | 0.75 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.14 | 1.05 | ONE< | ONE< | 1.00 | 1.00 | 0.50 | 1.18 | 0.78 |
| MW-1005G | 01/06/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 1.21 | 0.29 | BOTH< | 1.25 | 1.07 | 0.93 | 0.87 | 0.98 | 0.83 |
| MW-1005P | 01/06/88 | BOTH< | ONE< | 1.09 | BOTH< | BOTH< | BOTH< | 0.60 | BOTH< | BOTH< | 1.11 | 0.87 | ONE< | 1.18 | 1.00 | 1.00 | 1.08 | 1.02 | 0.96 |

TABLE NO. 3

Comparison of January 1988 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 50 | 13.0 | <5 | 50 | 3.8 | 0.061 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | 0.127 | <0.004 |
| MW-1003P | 01/06/88 | 220 | 41.0 | 25 | 170 | 17.0 | 0.071 | <0.001 | <0.05 | 0.037 | 0.016 | <0.005 | 0.110 | <0.004 |
| MW-1004 | 01/06/88 | 40 | 12.0 | 15 | 40 | 3.7 | 0.111 | <0.001 | <0.05 | <0.029 | 0.024 | <0.005 | <0.067 | <0.004 |
| MW-1004S | 01/06/88 | 70 | 18.0 | <5 | 70 | 6.1 | 0.035 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.087 | <0.004 |
| MW-1004P | 01/06/88 | 210 | 37.0 | 5 | 150 | 15.0 | 0.081 | <0.001 | <0.05 | 0.041 | 0.016 | <0.005 | 0.285 | <0.004 |
| MW-1005 | 01/06/88 | 70 | 76.0 | <5 | 380 | 37.0 | 0.091 | <0.001 | <0.05 | 0.049 | 0.059 | <0.005 | <0.067 | <0.004 |
| MW-1005G | 01/06/88 | 210 | 42.0 | 15 | 170 | 15.0 | 0.056 | <0.001 | <0.05 | <0.029 | 0.022 | <0.005 | <0.067 | <0.004 |
| MW-1005P | 01/06/88 | 300 | 51.0 | 15 | 210 | 20.0 | 0.101 | <0.001 | <0.05 | 0.051 | 0.028 | <0.005 | 0.098 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 44 | 11.0 | 12 | 43 | 4.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1003P | 01/06/88 | 190 | 39.0 | 31 | 160 | 16.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004 | 01/06/88 | 40 | 10.0 | 12 | 37 | 3.0 | 0.11 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004S | 01/06/88 | 67 | 17.0 | 7 | 77 | 6.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004P | 01/06/88 | 174 | 34.0 | 12 | 140 | 14.0 | 0.26 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005 | 01/06/88 | 64 | 74.0 | 12 | 340 | 36.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.02 | <0.13 | <0.12 | <0.01 |
| MW-1005G | 01/06/88 | 188 | 41.0 | 10 | 160 | 15.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005P | 01/06/88 | 254 | 48.0 | 12 | 200 | 19.0 | 0.28 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 1.14 | 1.18 | ONE< | 1.16 | 0.95 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1003P | 01/06/88 | 1.16 | 1.05 | 0.81 | 1.06 | 1.06 | ONE< | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1004 | 01/06/88 | 1.00 | 1.20 | 1.25 | 1.08 | 1.23 | 1.01 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1004S | 01/06/88 | 1.04 | 1.06 | ONE< | 0.91 | 1.02 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1004P | 01/06/88 | 1.21 | 1.09 | 0.42 | 1.07 | 1.07 | 0.31 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1005 | 01/06/88 | 1.09 | 1.03 | ONE< | 1.12 | 1.03 | ONE< | BOTH< | BOTH< | ONE< | 2.81 | BOTH< | BOTH< | BOTH< |
| MW-1005G | 01/06/88 | 1.12 | 1.02 | 1.50 | 1.06 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1005P | 01/06/88 | 1.18 | 1.06 | 1.25 | 1.05 | 1.05 | 0.36 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |

TABLE NO. 4

Comparison of April 1988 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na |
| Kennecott Data | | | | | | | | | | | |
| MW-1002 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.80 | <0.005 | <0.0004 | 6.6 |
| MW-1002G | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 1.50 | <0.005 | <0.0004 | 6.5 |
| MW-1003 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.6 |
| MW-1003P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 11.0 |
| MW-1005 | 04/07/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 04/07/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| MW-1005P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| DNR Data | | | | | | | | | | | |
| MW-1002 | 04/07/88 | <0.01 | 0.051 | 0.0006 | <0.003 | <0.003 | <0.0002 | 1.30 | <0.005 | <0.0005 | 6.0 |
| MW-1002G | 04/07/88 | <0.01 | 0.043 | 0.0002 | <0.003 | <0.003 | <0.0002 | 1.10 | <0.005 | <0.0005 | 5.0 |
| MW-1003 | 04/07/88 | <0.01 | 0.062 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 |
| MW-1003P | 04/07/88 | <0.01 | 0.073 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 11.0 |
| MW-1005 | 04/07/88 | <0.01 | 0.210 | 0.0023 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 14.0 |
| MW-1005G | 04/07/88 | <0.01 | 0.071 | 0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 10.0 |
| MW-1005P | 04/07/88 | <0.01 | 0.130 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 16.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | |
| MW-1002 | 04/07/88 | BOTH< | ONE< | 0.67 | BOTH< | BOTH< | BOTH< | 1.38 | BOTH< | BOTH< | 1.10 |
| MW-1002G | 04/07/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 1.36 | BOTH< | BOTH< | 1.30 |
| MW-1003 | 04/07/88 | BOTH< | ONE< | 0.80 | BOTH< | BOTH< | BOTH< | 1.60 | BOTH< | BOTH< | 1.40 |
| MW-1003P | 04/07/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.00 |
| MW-1005 | 04/07/88 | BOTH< | ONE< | 1.30 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.14 |
| MW-1005G | 04/07/88 | BOTH< | ONE< | 1.50 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.20 |
| MW-1005P | 04/07/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.06 |

TABLE NO. 4

Comparison of April 1988 Split Sample Groundwater Monitoring Data

| | | Secondary Drinking Water Standards | | | | | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn | Alk | Ca | COD | Hard | Mg |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 2 | 0.007 | <0.2 | <0.10 | <0.05 | 16.0 | 34 | 0.020 | 60 | 15 | <5 | 70 | 5.2 |
| MW-1002G | 04/07/88 | 13 | 0.007 | <0.2 | <0.10 | <0.05 | 14.0 | 88 | 0.030 | 80 | 24 | <5 | 110 | 9.6 |
| MW-1003 | 04/07/88 | <2 | 0.009 | <4.0 | 0.39 | 0.75 | 12.0 | 54 | 0.010 | 50 | 10 | <5 | 50 | 3.6 |
| MW-1003P | 04/07/88 | <2 | <0.005 | <0.2 | 0.22 | 0.45 | <5 | 170 | <0.01 | 190 | 39 | <5 | 180 | 17.0 |
| MW-1005 | 04/07/88 | 220 | 0.018 | <4.0 | 3.50 | 0.63 | 17.0 | 580 | 0.050 | 60 | 95 | 10 | 360 | 37.0 |
| MW-1005G | 04/07/88 | <2 | 0.014 | <0.8 | 4.30 | 0.26 | <5 | 220 | <0.01 | 180 | 42 | <5 | 170 | 14.0 |
| MW-1005P | 04/07/88 | <2 | 0.012 | <0.2 | 0.54 | 0.25 | <5 | 230 | <0.01 | 250 | 49 | <5 | 220 | 19.0 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 2 | <0.003 | <0.1 | <0.1 | <0.04 | 12.0 | 102 | <0.020 | 62 | 17 | 20 | 67 | 6.0 |
| MW-1002G | 04/07/88 | 13 | <0.003 | <0.1 | <0.1 | <0.04 | 11.0 | 150 | <0.020 | 88 | 27 | 26 | 110 | 10.0 |
| MW-1003 | 04/07/88 | 2 | <0.003 | 0.1 | <0.1 | 0.78 | 11.0 | 100 | <0.020 | 50 | 11 | 16 | 44 | 4.0 |
| MW-1003P | 04/07/88 | 2 | <0.003 | 0.2 | 0.30 | 0.42 | 7.9 | 196 | <0.020 | 188 | 40 | 17 | 170 | 17.0 |
| MW-1005 | 04/07/88 | 220 | <0.003 | <0.1 | 16.00 | 0.59 | 14.0 | 560 | 0.022 | 69 | 77 | 44 | 350 | 38.0 |
| MW-1005G | 04/07/88 | 3 | <0.003 | 0.2 | 4.10 | 0.26 | 9.0 | 218 | <0.020 | 182 | 41 | 44 | 160 | 15.0 |
| MW-1005P | 04/07/88 | 4 | <0.003 | 0.2 | 0.50 | 0.23 | 5.4 | 264 | <0.020 | 252 | 52 | 10 | 220 | 21.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 0.83 | ONE< | BOTH< | BOTH< | BOTH< | 1.33 | 0.33 | ONE< | 0.97 | 0.88 | ONE< | 1.04 | 0.87 |
| MW-1002G | 04/07/88 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | 1.27 | 0.59 | ONE< | 0.91 | 0.89 | ONE< | 1.00 | 0.96 |
| MW-1003 | 04/07/88 | ONE< | ONE< | ONE< | ONE< | 0.96 | 1.09 | 0.54 | ONE< | 1.00 | 0.91 | ONE< | 1.14 | 0.90 |
| MW-1003P | 04/07/88 | ONE< | BOTH< | ONE< | 0.73 | 1.07 | ONE< | 0.87 | BOTH< | 1.01 | 0.98 | ONE< | 1.06 | 1.00 |
| MW-1005 | 04/07/88 | 1.00 | ONE< | BOTH< | 0.22 | 1.07 | 1.21 | 1.04 | 2.27 | 0.87 | 1.23 | 0.23 | 1.03 | 0.97 |
| MW-1005G | 04/07/88 | ONE< | ONE< | ONE< | 1.05 | 1.00 | ONE< | 1.01 | BOTH< | 0.99 | 1.02 | ONE< | 1.06 | 0.93 |
| MW-1005P | 04/07/88 | ONE< | ONE< | ONE< | 1.08 | 1.09 | ONE< | 0.87 | BOTH< | 0.99 | 0.94 | ONE< | 1.00 | 0.90 |

TABLE NO. 5

Comparison of May 1988 Split Sample Groundwater Monitoring Data

| Well ID | Date | Primary Drinking Water Standards As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Kennecott Data | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.4 |
| MW-1000P | 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 22.0 |
| MW-1001 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 7.2 |
| MW-1001G | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.86 | <0.005 | <0.0004 | 4.9 |
| MW-1001P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.3 |
| MW-1004 | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 5.8 |
| MW-1004S | 05/04/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 4.1 |
| MW-1004P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| DNR Data | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <0.01 | 0.045 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.30 | <0.005 | <0.0005 | 3.0 |
| MW-1000P | 05/04/88 | <0.01 | 0.087 | 0.0016 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 26.0 |
| MW-1001 | 05/04/88 | <0.01 | 0.053 | 0.0004 | <0.003 | <0.003 | <0.0002 | 0.70 | <0.005 | <0.0005 | 11.0 |
| MW-1001G | 05/04/88 | <0.01 | <0.04 | 0.0007 | <0.003 | <0.003 | <0.0002 | 1.90 | <0.005 | <0.0005 | 5.0 |
| MW-1001P | 05/04/88 | <0.01 | 0.047 | 0.0002 | <0.003 | 0.006 | <0.0002 | 0.10 | <0.005 | <0.0005 | 9.0 |
| MW-1004 | 05/04/88 | <0.01 | <0.04 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.50 | <0.005 | <0.0005 | 8.0 |
| MW-1004S | 05/04/88 | <0.01 | 0.076 | 0.0010 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 |
| MW-1004P | 05/04/88 | <0.01 | 0.100 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 12.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | |
| MW-1000 | 05/04/88 | BOTH< | ONE< | 0.80 | BOTH< | BOTH< | BOTH< | 1.07 | BOTH< | BOTH< | 1.47 |
| MW-1000P | 05/04/88 | BOTH< | ONE< | 0.94 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.85 |
| MW-1001 | 05/04/88 | BOTH< | ONE< | 1.00 | BOTH< | BOTH< | BOTH< | 0.97 | BOTH< | BOTH< | 0.65 |
| MW-1001G | 05/04/88 | BOTH< | BOTH< | 0.57 | BOTH< | BOTH< | BOTH< | 0.98 | BOTH< | BOTH< | 0.98 |
| MW-1001P | 05/04/88 | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< | ONE< | BOTH< | BOTH< | 1.03 |
| MW-1004 | 05/04/88 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 0.94 | BOTH< | BOTH< | 0.73 |
| MW-1004S | 05/04/88 | BOTH< | ONE< | 0.50 | BOTH< | BOTH< | BOTH< | 1.70 | BOTH< | BOTH< | 1.03 |
| MW-1004P | 05/04/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 1.17 |

TABLE NO. 5

Comparison of May 1988 Split Sample Groundwater Monitoring Data

| | | Secondary Drinking Water Standards | | | | | | Indicator Parameters | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn | Alk | Ca | COD | Hard | Mg |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <2 | 0.018 | <0.1 | <0.10 | <0.05 | 15.0 | 120 | <0.05 | 27 | 11 | 12 | 37 | 3.4 |
| MW-1000P | 05/04/88 | 3.0 | 0.085 | 0.2 | <0.10 | 0.59 | 18.0 | 200 | 0.16 | 81 | 20 | 45 | 63 | 7.2 |
| MW-1001 | 05/04/88 | 7.0 | <0.010 | 1.4 | 0.4 | 0.29 | <10 | 360 | <0.05 | 36 | 30 | 27 | 50 | 4.9 |
| MW-1001G | 05/04/88 | 3.0 | <0.010 | <0.1 | <0.10 | <0.05 | 13.0 | 170 | <0.05 | 40 | 15 | 20 | 65 | 7.1 |
| MW-1001P | 05/04/88 | <2 | <0.010 | 0.4 | 0.5 | 0.48 | <5 | 190 | <0.05 | 110 | 26 | 25 | 110 | 11.0 |
| MW-1004 | 05/04/88 | 2.0 | <0.010 | 1.0 | <0.10 | <0.05 | 21.0 | 360 | <0.05 | 38 | 15 | 36 | 45 | 4.1 |
| MW-1004S | 05/04/88 | 3.0 | <0.010 | 0.1 | <0.10 | <0.05 | 10.0 | 150 | <0.05 | 45 | 16 | 31 | 55 | 5.3 |
| MW-1004P | 05/04/88 | <2 | <0.010 | 0.3 | <0.10 | 0.13 | 11.0 | 230 | <0.05 | 160 | 40 | 26 | 150 | 15.0 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | 1.3 | 0.010 | <0.1 | <0.1 | <0.04 | 13.0 | 64 | <0.020 | 30 | 9 | 8 | 35 | 3.0 |
| MW-1000P | 05/04/88 | 2.5 | 0.066 | 0.2 | <0.1 | 0.52 | 20.0 | 164 | <0.020 | 108 | 18 | 25 | 70 | 6.0 |
| MW-1001 | 05/04/88 | 5.9 | <0.003 | 0.1 | 0.4 | 0.24 | 9.9 | 98 | <0.020 | 36 | 10 | 12 | 41 | 4.0 |
| MW-1001G | 05/04/88 | 3.1 | <0.003 | 0.1 | <0.1 | <0.04 | 12.0 | 108 | <0.020 | 54 | 14 | 8 | 60 | 5.0 |
| MW-1001P | 05/04/88 | 1.1 | <0.003 | 0.3 | 1.3 | 0.46 | 7.3 | 144 | <0.020 | 120 | 25 | 11 | 100 | 10.0 |
| MW-1004 | 05/04/88 | 2.1 | <0.003 | 0.1 | 0.2 | <0.04 | 16.0 | 90 | <0.020 | 42 | 11 | 29 | 40 | 3.0 |
| MW-1004S | 05/04/88 | 2.6 | <0.003 | <0.1 | 0.1 | <0.04 | 11.0 | 94 | <0.020 | 53 | 14 | 5 | 56 | 5.0 |
| MW-1004P | 05/04/88 | 1.7 | <0.003 | 0.2 | <0.1 | 0.13 | 11.0 | 196 | <0.020 | 106 | 36 | 10 | 150 | 14.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | ONE< | 1.80 | BOTH< | BOTH< | BOTH< | 1.15 | 1.88 | BOTH< | 0.90 | 1.22 | 1.50 | 1.06 | 1.13 |
| MW-1000P | 05/04/88 | 1.20 | 1.29 | 1.00 | BOTH< | 1.13 | 0.90 | 1.22 | ONE< | 0.75 | 1.11 | 1.80 | 0.90 | 1.20 |
| MW-1001 | 05/04/88 | 1.19 | BOTH< | 14.00 | 0.88 | 1.21 | ONE< | 3.67 | BOTH< | 1.00 | 3.00 | 2.25 | 1.22 | 1.23 |
| MW-1001G | 05/04/88 | 0.97 | BOTH< | ONE< | BOTH< | BOTH< | 1.08 | 1.57 | BOTH< | 0.74 | 1.07 | 2.50 | 1.08 | 1.42 |
| MW-1001P | 05/04/88 | ONE< | BOTH< | 1.33 | 0.38 | 1.04 | ONE< | 1.32 | BOTH< | 0.92 | 1.04 | 2.27 | 1.10 | 1.10 |
| MW-1004 | 05/04/88 | 0.95 | BOTH< | 10.00 | ONE< | BOTH< | 1.31 | 4.00 | BOTH< | 0.90 | 1.36 | 1.24 | 1.13 | 1.37 |
| MW-1004S | 05/04/88 | 1.15 | BOTH< | ONE< | ONE< | BOTH< | 0.91 | 1.60 | BOTH< | 0.85 | 1.14 | 6.20 | 0.98 | 1.06 |
| MW-1004P | 05/04/88 | ONE< | BOTH< | 1.50 | BOTH< | 1.00 | 1.00 | 1.17 | BOTH< | 1.51 | 1.11 | 2.60 | 1.00 | 1.07 |

MEMORANDUM

March 28, 1989

TO: Kennecott Project File

FR: Boyd Possin - Foth & Van Dyke and Associates, Inc.

RE: Evaluation of DNR Groundwater Sample Splits

In October and November of 1987, and in January, April, and May of 1988 Jim Hansen of the Wisconsin Department of Natural Resources (WDNR) split baseline monitoring samples with Mike Hastreiter in the filed at the Flambeau Mine site. For each event Jim typically split about half the samples. From one round to the next he varied which samples he split so that, by the end of the baseline sampling program, he had collected at least one split on every well.

Attached are five tables, one for each month, showing a comparison of the Kennecott lab results to the WDNR lab results. Each table consists of two pages of information, the second simply being a continuation of the parameters evaluated from the first page.

Each table consists of three blocks of information. The first block contains the Kennecott results. The second contains the WDNR results. The third compares the each individual data point in the first two blocks by taking the Kennecott data value and dividing it by the WDNR data value. If one of the two values was a no-detection, then the message "ONE<" is displayed. If both of the values are no-detections, then the message "BOTH<" is displayed.

Data inconsistencies are shown in the comparison blocks as underlined values. A data inconsistency is defined herein as the two values differing by more than a factor of two. In other words, if the data value in the comparison block is greater than 2.00 or less than 0.50, then it is underscored. Some of the "ONE<" messages are also underlined. This occurs if the no-detection limit is less than half the value it is being compared to. For

example, if the two values were <0.40 and 1.00, then the "ONE<" would be underlined, since 0.40 is less than half 1.00. If, however, the two values were <0.80 and 1.00, then the "ONE<" block would not be underscored since 0.80 is more than half of 1.00.

The "BOTH<" blocks are assumed not to be inconsistent.

Overall, the correlation is very good. The total number of data points evaluated across the five months is 1,027. Of these, 78 (7.6%) are inconsistent as defined above. Of the inconsistencies, nearly half are accounted for by three parameters, COD, aluminum, and nickel, none of which is critical to the investigation. The remaining inconsistencies are spread randomly across the data set.

This view of the data confirms that the data sets are consistent. Minor inconsistencies, such as those shown herein, are expected in any large data set. My professional opinion, based on fifteen years experience reviewing such data, is that the consistency match between the two data sets is very good.

TABLE NO. 1

Comparison of October 1987 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | Secondary Drinking Water Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.19 | <0.005 | <0.005 | 8.70 | 3 | <0.005 | 0.3 | 0.11 | 0.11 | 10 | 120 | <0.05 |
| MW-1005 | 10/15/87 | <0.005 | <1.0 | 0.002 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 16.00 | 220 | <0.005 | <0.2 | 7.20 | 1.40 | 16 | 640 | 0.060 |
| MW-1005G | 10/15/87 | <0.005 | <1.0 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.09 | <0.005 | <0.005 | 6.10 | <1 | <0.005 | 0.4 | 4.00 | 0.23 | <10 | 204 | <0.05 |
| MW-1005P | 10/15/87 | <0.005 | <1.0 | 0.001 | <0.005 | <0.005 | <0.0005 | 0.15 | <0.005 | <0.005 | 14.00 | 3 | <0.005 | 0.2 | 0.38 | 0.15 | <10 | 270 | <0.05 |
| BLANK | 10/15/87 | <0.005 | <1.0 | <0.0010 | 0.006 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.005 | 0.22 | <1 | <0.005 | <0.2 | <0.10 | <0.05 | <10 | 4 | <0.05 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | <0.01 | <0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.00 | 4 | <0.05 | 0.20 | <0.1 | 0.11 | 12.0 | 120 | 0.035 |
| MW-1005 | 10/15/87 | <0.01 | 0.4 | 0.0019 | <0.003 | <0.003 | <0.2 | 0.10 | <0.005 | <0.0005 | 17.00 | 220 | <0.05 | 0.10 | 6.50 | 1.30 | 18.0 | 608 | 0.080 |
| MW-1005G | 10/15/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 8.00 | 3 | <0.05 | 0.20 | 3.40 | 0.22 | 7.5 | 216 | 0.023 |
| MW-1005P | 10/15/87 | <0.01 | <0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 14.00 | 5 | <0.05 | 0.10 | 0.50 | 0.14 | 4.8 | 260 | 0.027 |
| BLANK | 10/15/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | NA | 0.10 | <0.005 | <0.0005 | 2.00 | <0.3 | <0.05 | <0.1 | <0.1 | <0.04 | <1 | 2 | <0.02 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.90 | BOTH< | BOTH< | 0.87 | 0.83 | BOTH< | 1.50 | ONE< | 1.00 | 0.83 | 1.00 | ONE< |
| MW-1005 | 10/15/87 | BOTH< | ONE< | 1.11 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.94 | 1.00 | BOTH< | ONE< | 1.11 | 1.08 | 0.89 | 1.05 | 0.75 |
| MW-1005G | 10/15/87 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 0.90 | BOTH< | BOTH< | 0.76 | ONE< | BOTH< | 2.00 | 1.18 | 1.05 | ONE< | 0.94 | ONE< |
| MW-1005P | 10/15/87 | BOTH< | BOTH< | 0.92 | BOTH< | BOTH< | BOTH< | 1.50 | BOTH< | BOTH< | 1.00 | 0.64 | BOTH< | 2.00 | 0.76 | 1.07 | ONE< | 1.04 | ONE< |
| BLANK | 10/15/87 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | 0.11 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 2.00 | BOTH< |

TABLE NO. 1

Comparison of October 1987 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kennecott Data<br>Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| MW-1004S | 10/15/87 | 64 | 18.0 | 10 | 66 | 5.7 | 0.110 | <0.001 | <0.05 | <0.029 | 0.012 | <0.005 | <0.067 | 0.014 |
| MW-1005 | 10/15/87 | 64 | 83.0 | 25 | 370 | 38.0 | 0.094 | <0.001 | <0.05 | <0.029 | 0.067 | <0.005 | <0.067 | 0.007 |
| MW-1005G | 10/15/87 | 160 | 40.0 | 15 | 160 | 14.0 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1005P | 10/15/87 | 230 | 53.0 | 15 | 220 | 21.0 | 0.082 | <0.001 | <0.05 | 0.046 | 0.008 | <0.005 | <0.067 | <0.004 |
| BLANK | 10/15/87 | <10 | 0.7 | 5 | <2 | <0.25 | 0.018 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | 72 | 17.0 | <5 | 62 | 5.0 | 0.100 | <0.003 | <0.02 | <0.05 | 0.015 | <0.13 | <0.12 | <0.01 |
| MW-1005 | 10/15/87 | 68 | 80.0 | 16 | 340 | 33.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.031 | <0.13 | <0.12 | <0.01 |
| MW-1005G | 10/15/87 | 164 | 38.0 | 13 | 150 | 13.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005P | 10/15/87 | 246 | 50.0 | 7 | 200 | 19.0 | 0.053 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| BLANK | 10/15/87 | 4 | <1 | <5 | NA | <1 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1004S | 10/15/87 | 0.89 | 1.06 | ONE< | 1.06 | 1.14 | 1.10 | BOTH< | BOTH< | BOTH< | 0.80 | BOTH< | BOTH< | ONE< |
| MW-1005 | 10/15/87 | 0.94 | 1.04 | 1.56 | 1.09 | 1.15 | ONE< | BOTH< | BOTH< | BOTH< | 2.16 | BOTH< | BOTH< | ONE< |
| MW-1005G | 10/15/87 | 0.98 | 1.05 | 1.15 | 1.07 | 1.08 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1005P | 10/15/87 | 0.93 | 1.06 | 2.14 | 1.10 | 1.11 | 1.55 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< |
| BLANK | 10/15/87 | ONE< | ONE< | ONE< | ONE< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |

TABLE NO. 2

Comparison of November 1987 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | | | Secondary Drinking Water Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | <0.005 | <0.5 | 0.0021 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 4.5 | 6.0 | <0.005 | 0.1 | 0.12 | 0.15 | 8 | 170 | <0.05 |
| MW-1001G | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.91 | <0.005 | <0.005 | 7.0 | 1.0 | <0.005 | <0.1 | <0.10 | 0.09 | 16 | 140 | <0.05 |
| MW-1001P | 11/05/87 | <0.005 | <0.5 | 0.0041 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.005 | 10.0 | <1 | <0.005 | 0.4 | <0.10 | 0.39 | 10 | 220 | <0.05 |
| MW-1003 | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.59 | <0.005 | <0.005 | 4.1 | 2.0 | <0.005 | 0.2 | <0.10 | 0.45 | 7 | 190 | <0.05 |
| MW-1003P | 11/05/87 | <0.005 | <0.5 | 0.0027 | <0.005 | <0.005 | <0.0005 | 0.11 | <0.005 | <0.005 | 10.0 | 1.0 | <0.005 | 0.3 | <0.10 | 0.34 | 8 | 320 | <0.05 |
| MW-1004 | 11/05/87 | 0.021 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.33 | <0.005 | <0.005 | 3.9 | <1 | <0.005 | <2.0 | 0.26 | 0.28 | <5 | 400 | <0.05 |
| MW-1004S | 11/05/87 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | 0.20 | <0.005 | <0.005 | 4.6 | 3.0 | <0.005 | 0.1 | <0.10 | 0.09 | 10 | 180 | <0.05 |
| MW-1004P | 11/05/87 | <0.005 | <0.5 | 0.0022 | <0.005 | <0.005 | <0.0005 | 0.35 | <0.005 | <0.005 | 8.8 | 1.0 | <0.005 | 0.3 | <0.10 | 0.13 | <5 | 220 | <0.05 |
| BLANK | 11/05/87 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.005 | <0.5 | 1.0 | <0.005 | <0.1 | <0.10 | <0.05 | <5 | 55 | <0.05 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | <0.01 | <0.4 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.90 | <0.005 | <0.0005 | 7.0 | 6.6 | <0.003 | 0.1 | <0.1 | 0.09 | 9 | 162 | 0.02 |
| MW-1001G | 11/05/87 | <0.01 | <0.4 | 0.0026 | <0.003 | <0.003 | <0.0002 | 0.90 | <0.005 | <0.0005 | 5.0 | 2.6 | <0.003 | 0.1 | 0.20 | 0.14 | 16 | 132 | <0.02 |
| MW-1001P | 11/05/87 | <0.01 | <0.4 | 0.0038 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.0 | 2.4 | 0.006 | 0.3 | <0.1 | 0.37 | 8 | 152 | 0.02 |
| MW-1003 | 11/05/87 | <0.01 | <0.4 | 0.0010 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 5.0 | 2.7 | <0.003 | 0.2 | <0.1 | 0.44 | 8 | 98 | 0.05 |
| MW-1003P | 11/05/87 | <0.01 | <0.4 | 0.0027 | <0.003 | 0.010 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.0 | 1.8 | <0.005 | 0.2 | <0.1 | 0.31 | 9 | 206 | <0.02 |
| MW-1004 | 11/05/87 | <0.01 | 0.4 | 0.0013 | <0.003 | <0.003 | <0.0002 | 0.20 | <0.005 | <0.0005 | 6.0 | 2.4 | 0.004 | 0.1 | 0.40 | 0.06 | 15 | 106 | 0.02 |
| MW-1004S | 11/05/87 | <0.01 | <0.4 | 0.0032 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 | 5.0 | 0.010 | 0.1 | <0.1 | 0.06 | 10 | 110 | 0.02 |
| MW-1004P | 11/05/87 | <0.01 | <0.4 | 0.0026 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 9.0 | 2.4 | 0.004 | 0.2 | <0.1 | 0.12 | 5 | 190 | <0.02 |
| BLANK | 11/05/87 | <0.01 | <0.4 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | <1 | <0.3 | <0.003 | <0.1 | <0.1 | <0.04 | <1 | 2 | <0.02 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | BOTH< | BOTH< | 4.20 | BOTH< | BOTH< | BOTH< | 1.01 | BOTH< | BOTH< | 0.64 | 0.91 | BOTH< | 1.00 | ONE< | 1.67 | 0.87 | 1.05 | ONE< |
| MW-1001G | 11/05/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.01 | BOTH< | BOTH< | 1.40 | 0.38 | BOTH< | ONE< | ONE< | 0.64 | 1.00 | 1.06 | BOTH< |
| MW-1001P | 11/05/87 | BOTH< | BOTH< | 1.08 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.00 | ONE< | ONE< | 1.33 | BOTH< | 1.05 | 1.28 | 1.45 | ONE< |
| MW-1003 | 11/05/87 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 5.90 | BOTH< | BOTH< | 0.82 | 0.74 | BOTH< | 1.00 | BOTH< | 1.02 | 0.88 | 1.94 | ONE< |
| MW-1003P | 11/05/87 | BOTH< | BOTH< | 1.00 | BOTH< | ONE< | BOTH< | 1.10 | BOTH< | BOTH< | 1.00 | 0.56 | BOTH< | 1.50 | BOTH< | 1.10 | 0.90 | 1.55 | BOTH< |
| MW-1004 | 11/05/87 | ONE< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 1.65 | BOTH< | BOTH< | 0.65 | ONE< | ONE< | ONE< | 0.65 | 4.67 | ONE< | 3.77 | ONE< |
| MW-1004S | 11/05/87 | BOTH< | BOTH< | 0.94 | BOTH< | BOTH< | BOTH< | 2.00 | BOTH< | BOTH< | 1.15 | 0.60 | ONE< | 1.00 | BOTH< | 1.41 | 1.00 | 1.64 | ONE< |
| MW-1004P | 11/05/87 | BOTH< | BOTH< | 0.85 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.98 | 0.42 | ONE< | 1.50 | BOTH< | 1.08 | ONE< | 1.16 | BOTH< |
| BLANK | 11/05/87 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 27.50 | BOTH< |

TABLE NO. 2

Comparison of November 1987 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 53 | 13.0 | 25 | 49 | 4.5 | 0.070 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1001G | 11/05/87 | 64 | 17.0 | 90 | 70 | 6.1 | 0.102 | <0.001 | <0.05 | 0.034 | 0.016 | <0.005 | <0.067 | 0.005 |
| MW-1001P | 11/05/87 | 110 | 24.0 | 30 | 100 | 9.8 | 0.046 | <0.001 | <0.05 | <0.029 | 0.008 | <0.005 | <0.067 | <0.004 |
| MW-1003 | 11/05/87 | 53 | 13.0 | 25 | 56 | 3.8 | 0.076 | <0.001 | <0.05 | <0.029 | 0.033 | <0.005 | <0.067 | <0.004 |
| MW-1003P | 11/05/87 | 180 | 36.0 | 80 | 170 | 17.0 | 0.038 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004 | 11/05/87 | 53 | 11.0 | 50 | 49 | 6.0 | 0.131 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004S | 11/05/87 | 53 | 15.0 | 15 | 62 | 5.4 | 0.058 | <0.001 | <0.05 | 0.046 | <0.007 | <0.005 | <0.067 | <0.004 |
| MW-1004P | 11/05/87 | 170 | 34.0 | 15 | 150 | 15.0 | 0.034 | <0.001 | <0.05 | 0.042 | <0.007 | <0.005 | <0.067 | <0.004 |
| BLANK | 11/05/87 | <10 | <1.0 | <5 | <1 | <0.05 | 0.044 | <0.001 | <0.05 | <0.029 | <0.007 | <0.005 | <0.067 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 44 | 17.0 | 15 | 47 | 6.0 | 0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1001G | 11/05/87 | 66 | 13.0 | 54 | 48 | 4.0 | 0.240 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | 0.010 |
| MW-1001P | 11/05/87 | 118 | 24.0 | 83 | 97 | 9.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1003 | 11/05/87 | 52 | 13.0 | 16 | 48 | 4.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.007 | <0.13 | <0.12 | <0.01 |
| MW-1003P | 11/05/87 | 190 | 40.0 | 45 | 170 | 17.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004 | 11/05/87 | 42 | 13.0 | 35 | 48 | 4.0 | 0.600 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | 0.029 |
| MW-1004S | 11/05/87 | 60 | 17.0 | 24 | 62 | 5.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.013 | <0.13 | <0.12 | <0.01 |
| MW-1004P | 11/05/87 | 174 | 36.0 | 13 | 150 | 14.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| BLANK | 11/05/87 | 2 | <1 | <5 | <6 | <1 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1001 | 11/05/87 | 1.20 | 0.76 | 1.67 | 1.04 | 0.75 | 2.80 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1001G | 11/05/87 | 0.97 | 1.31 | 1.67 | 1.46 | 1.53 | 0.43 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | 0.50 |
| MW-1001P | 11/05/87 | 0.93 | 1.00 | 0.36 | 1.03 | 1.09 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1003 | 11/05/87 | 1.02 | 1.00 | 1.56 | 1.17 | 0.95 | ONE< | BOTH< | BOTH< | BOTH< | 4.71 | BOTH< | BOTH< | BOTH< |
| MW-1003P | 11/05/87 | 0.95 | 0.90 | 1.78 | 1.00 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |
| MW-1004 | 11/05/87 | 1.26 | 0.85 | 1.43 | 1.02 | 1.50 | 0.22 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< |
| MW-1004S | 11/05/87 | 0.88 | 0.88 | 0.63 | 1.00 | 1.08 | ONE< | BOTH< | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1004P | 11/05/87 | 0.98 | 0.94 | 1.15 | 1.00 | 1.07 | ONE< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< |
| BLANK | 11/05/87 | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< |

TABLE NO. 3

Comparison of January 1988 Split Sample Groundwater Monitoring Data

| | | Primary Drinking Water Standards | | | | | | | Secondary Drinking Water Standards | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn |
| Kennecott Data | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.21 | <0.005 | <0.0004 | 4.70 | 2.0 | <0.005 | 0.2 | 0.17 | 0.60 | 15.0 | 140 | 0.07 |
| MW-1003P | 01/06/88 | <0.005 | <0.5 | 0.0049 | <0.005 | <0.005 | <0.0005 | 0.13 | <0.005 | <0.0004 | 11.00 | 1.0 | <0.005 | 0.3 | <0.10 | 0.35 | 10.0 | 230 | 0.11 |
| MW-1004 | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.40 | <0.005 | <0.0004 | 5.50 | 1.0 | <0.005 | <1.0 | <0.10 | <0.05 | 8.0 | 280 | <0.05 |
| MW-1004S | 01/06/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 6.20 | 3.0 | <0.005 | <0.1 | <0.10 | <0.05 | 14.0 | 130 | 0.07 |
| MW-1004P | 01/06/88 | <0.005 | <0.5 | 0.0035 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 11.00 | 1.0 | <0.005 | 0.2 | 0.10 | 0.14 | 6.0 | 200 | 0.17 |
| MW-1005 | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.22 | <0.005 | <0.0004 | 16.00 | 230.0 | <0.006 | <0.5 | 12.00 | 0.65 | 8.0 | 640 | 0.14 |
| MW-1005G | 01/06/88 | <0.005 | <0.5 | <0.0010 | <0.005 | <0.005 | <0.0005 | 0.14 | <0.005 | <0.0004 | 9.70 | 1.0 | <0.005 | 0.3 | 3.00 | 0.25 | 6.0 | 220 | 0.05 |
| MW-1005P | 01/06/88 | <0.005 | <0.5 | 0.0012 | <0.005 | <0.005 | <0.0005 | 0.06 | <0.005 | <0.0004 | 20.00 | 4.0 | <0.005 | 0.2 | 0.20 | 0.25 | 8.0 | 280 | 0.26 |
| DNR Data | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | <0.01 | 0.07 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.00 | 2.0 | <0.003 | 0.22 | <0.1 | 0.66 | 11.0 | 104 | 0.13 |
| MW-1003P | 01/06/88 | <0.01 | 0.06 | 0.0058 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 9.00 | 2.3 | 0.008 | 0.25 | <0.1 | 0.39 | 7.8 | 208 | 0.15 |
| MW-1004 | 01/06/88 | <0.1 | <0.40 | 0.0009 | <0.003 | <0.003 | <0.0002 | 0.40 | <0.005 | <0.0005 | 8.00 | 2.4 | 0.004 | 0.16 | <0.1 | <0.04 | 16.0 | 98 | 0.02 |
| MW-1004S | 01/06/88 | <0.1 | 0.07 | 0.0008 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 5.00 | 3.9 | 0.004 | 0.11 | <0.1 | <0..04 | 10.0 | 114 | 0.10 |
| MW-1004P | 01/06/88 | <0.01 | 0.08 | 0.0033 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 10.00 | 1.3 | <0.003 | 0.27 | <0.1 | 0.13 | 5.1 | 186 | 0.21 |
| MW-1005 | 01/06/88 | <0.01 | 0.20 | 0.0016 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 14.00 | 220.0 | 0.004 | 0.08 | 12.00 | 0.65 | 16.0 | 544 | 0.18 |
| MW-1005G | 01/06/88 | <0.01 | 0.07 | 0.0003 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 8.00 | 3.5 | <0.003 | 0.24 | 2.80 | 0.27 | 6.9 | 224 | 0.06 |
| MW-1005P | 01/06/88 | <0.01 | 0.12 | 0.0011 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 18.00 | 4.6 | 0.007 | 0.17 | 0.20 | 0.25 | 7.4 | 274 | 0.27 |
| Comparison of Results Kennecott Value / DNR Value | | | | | | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 2.10 | BOTH< | BOTH< | 1.18 | 1.00 | BOTH< | 0.91 | ONE< | 0.91 | 1.36 | 1.35 | 0.54 |
| MW-1003P | 01/06/88 | BOTH< | ONE< | 0.84 | BOTH< | BOTH< | BOTH< | 1.30 | BOTH< | BOTH< | 1.22 | 0.43 | ONE< | 1.20 | BOTH< | 0.90 | 1.28 | 1.11 | 0.73 |
| MW-1004 | 01/06/88 | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | 1.00 | BOTH< | BOTH< | 0.69 | 0.42 | ONE< | ONE< | BOTH< | BOTH< | 0.50 | 2.86 | ONE< |
| MW-1004S | 01/06/88 | BOTH< | ONE< | 1.88 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.24 | 0.77 | ONE< | ONE< | BOTH< | BOTH< | 1.40 | 1.14 | 0.70 |
| MW-1004P | 01/06/88 | BOTH< | ONE< | 1.06 | BOTH< | BOTH< | BOTH< | 1.60 | BOTH< | BOTH< | 1.10 | 0.77 | BOTH< | 0.74 | ONE< | 1.08 | 1.18 | 1.08 | 0.81 |
| MW-1005 | 01/06/88 | BOTH< | ONE< | 0.75 | BOTH< | BOTH< | BOTH< | 2.20 | BOTH< | BOTH< | 1.14 | 1.05 | ONE< | ONE< | 1.00 | 1.00 | 0.50 | 1.18 | 0.78 |
| MW-1005G | 01/06/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 1.21 | 0.29 | BOTH< | 1.25 | 1.07 | 0.93 | 0.87 | 0.98 | 0.83 |
| MW-1005P | 01/06/88 | BOTH< | ONE< | 1.09 | BOTH< | BOTH< | BOTH< | 0.60 | BOTH< | BOTH< | 1.11 | 0.87 | ONE< | 1.18 | 1.00 | 1.00 | 1.08 | 1.02 | 0.96 |

TABLE NO. 3

Comparison of January 1988 Split Sample Groundwater Monitoring Data

| | | Indicator Parameters | | | | Other Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Alk | Ca | COD | Hard | Mg | Al | Be | Co | Mo | Ni | Th | Sn | Ti |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 50 | 13.0 | <5 | 50 | 3.8 | 0.061 | <0.001 | <0.05 | <0.029 | 0.026 | <0.005 | 0.127 | <0.004 |
| MW-1003P | 01/06/88 | 220 | 41.0 | 25 | 170 | 17.0 | 0.071 | <0.001 | <0.05 | 0.037 | 0.016 | <0.005 | 0.110 | <0.004 |
| MW-1004 | 01/06/88 | 40 | 12.0 | 15 | 40 | 3.7 | 0.111 | <0.001 | <0.05 | <0.029 | 0.024 | <0.005 | <0.067 | <0.004 |
| MW-1004S | 01/06/88 | 70 | 18.0 | <5 | 70 | 6.1 | 0.035 | <0.001 | <0.05 | <0.029 | 0.020 | <0.005 | 0.087 | <0.004 |
| MW-1004P | 01/06/88 | 210 | 37.0 | 5 | 150 | 15.0 | 0.081 | <0.001 | <0.05 | 0.041 | 0.016 | <0.005 | 0.285 | <0.004 |
| MW-1005 | 01/06/88 | 70 | 76.0 | <5 | 380 | 37.0 | 0.091 | <0.001 | <0.05 | 0.049 | 0.059 | <0.005 | <0.067 | <0.004 |
| MW-1005G | 01/06/88 | 210 | 42.0 | 15 | 170 | 15.0 | 0.056 | <0.001 | <0.05 | <0.029 | 0.022 | <0.005 | <0.067 | <0.004 |
| MW-1005P | 01/06/88 | 300 | 51.0 | 15 | 210 | 20.0 | 0.101 | <0.001 | <0.05 | 0.051 | 0.028 | <0.005 | 0.098 | <0.004 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 44 | 11.0 | 12 | 43 | 4.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1003P | 01/06/88 | 190 | 39.0 | 31 | 160 | 16.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004 | 01/06/88 | 40 | 10.0 | 12 | 37 | 3.0 | 0.11 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004S | 01/06/88 | 67 | 17.0 | 7 | 77 | 6.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1004P | 01/06/88 | 174 | 34.0 | 12 | 140 | 14.0 | 0.26 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005 | 01/06/88 | 64 | 74.0 | 12 | 340 | 36.0 | <0.025 | <0.003 | <0.02 | <0.05 | 0.02 | <0.13 | <0.12 | <0.01 |
| MW-1005G | 01/06/88 | 188 | 41.0 | 10 | 160 | 15.0 | <0.025 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| MW-1005P | 01/06/88 | 254 | 48.0 | 12 | 200 | 19.0 | 0.28 | <0.003 | <0.02 | <0.05 | <0.004 | <0.13 | <0.12 | <0.01 |
| Comparison of Results<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1003 | 01/06/88 | 1.14 | 1.18 | ONE< | 1.16 | 0.95 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1003P | 01/06/88 | 1.16 | 1.05 | 0.81 | 1.06 | 1.06 | ONE< | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1004 | 01/06/88 | 1.00 | 1.20 | 1.25 | 1.08 | 1.23 | 1.01 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1004S | 01/06/88 | 1.04 | 1.06 | ONE< | 0.91 | 1.02 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1004P | 01/06/88 | 1.21 | 1.09 | 0.42 | 1.07 | 1.07 | 0.31 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |
| MW-1005 | 01/06/88 | 1.09 | 1.03 | ONE< | 1.12 | 1.03 | ONE< | BOTH< | BOTH< | ONE< | 2.81 | BOTH< | BOTH< | BOTH< |
| MW-1005G | 01/06/88 | 1.12 | 1.02 | 1.50 | 1.06 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | BOTH< |
| MW-1005P | 01/06/88 | 1.18 | 1.06 | 1.25 | 1.05 | 1.05 | 0.36 | BOTH< | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< |

TABLE NO. 4

Comparison of April 1988 Split Sample Groundwater Monitoring Data

| Well ID | Date | Primary Drinking Water Standards As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Kennecott Data | | | | | | | | | | | |
| MW-1002 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.80 | <0.005 | <0.0004 | 6.6 |
| MW-1002G | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 1.50 | <0.005 | <0.0004 | 6.5 |
| MW-1003 | 04/07/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.16 | <0.005 | <0.0004 | 5.6 |
| MW-1003P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 11.0 |
| MW-1005 | 04/07/88 | <0.005 | <0.5 | 0.0030 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 16.0 |
| MW-1005G | 04/07/88 | <0.005 | <0.5 | 0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 12.0 |
| MW-1005P | 04/07/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.07 | <0.005 | <0.0004 | 17.0 |
| DNR Data | | | | | | | | | | | |
| MW-1002 | 04/07/88 | <0.01 | 0.051 | 0.0006 | <0.003 | <0.003 | <0.0002 | 1.30 | <0.005 | <0.0005 | 6.0 |
| MW-1002G | 04/07/88 | <0.01 | 0.043 | 0.0002 | <0.003 | <0.003 | <0.0002 | 1.10 | <0.005 | <0.0005 | 5.0 |
| MW-1003 | 04/07/88 | <0.01 | 0.062 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 |
| MW-1003P | 04/07/88 | <0.01 | 0.073 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 11.0 |
| MW-1005 | 04/07/88 | <0.01 | 0.210 | 0.0023 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 14.0 |
| MW-1005G | 04/07/88 | <0.01 | 0.071 | 0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 10.0 |
| MW-1005P | 04/07/88 | <0.01 | 0.130 | <0.0002 | <0.003 | <0.003 | <0.0002 | <0.1 | <0.005 | <0.0005 | 16.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | |
| MW-1002 | 04/07/88 | BOTH< | ONE< | 0.67 | BOTH< | BOTH< | BOTH< | 1.38 | BOTH< | BOTH< | 1.10 |
| MW-1002G | 04/07/88 | BOTH< | ONE< | ONE< | BOTH< | BOTH< | BOTH< | 1.36 | BOTH< | BOTH< | 1.30 |
| MW-1003 | 04/07/88 | BOTH< | ONE< | 0.80 | BOTH< | BOTH< | BOTH< | 1.60 | BOTH< | BOTH< | 1.40 |
| MW-1003P | 04/07/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.00 |
| MW-1005 | 04/07/88 | BOTH< | ONE< | 1.30 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.14 |
| MW-1005G | 04/07/88 | BOTH< | ONE< | 1.50 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.20 |
| MW-1005P | 04/07/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 1.06 |

TABLE NO. 4

Comparison of April 1988 Split Sample Groundwater Monitoring Data

| | | Secondary Drinking Water Standards | | | | | Indicator Parameters | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn | Alk | Ca | COD | Hard | Mg |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 2 | 0.007 | <0.2 | <0.10 | <0.05 | 16.0 | 34 | 0.020 | 60 | 15 | <5 | 70 | 5.2 |
| MW-1002G | 04/07/88 | 13 | 0.007 | <0.2 | <0.10 | <0.05 | 14.0 | 88 | 0.030 | 80 | 24 | <5 | 110 | 9.6 |
| MW-1003 | 04/07/88 | <2 | 0.009 | <4.0 | 0.39 | 0.75 | 12.0 | 54 | 0.010 | 50 | 10 | <5 | 50 | 3.6 |
| MW-1003P | 04/07/88 | <2 | <0.005 | <0.2 | 0.22 | 0.45 | <5 | 170 | <0.01 | 190 | 39 | <5 | 180 | 17.0 |
| MW-1005 | 04/07/88 | 220 | 0.018 | <4.0 | 3.50 | 0.63 | 17.0 | 580 | 0.050 | 60 | 95 | 10 | 360 | 37.0 |
| MW-1005G | 04/07/88 | <2 | 0.014 | <0.8 | 4.30 | 0.26 | <5 | 220 | <0.01 | 180 | 42 | <5 | 170 | 14.0 |
| MW-1005P | 04/07/88 | <2 | 0.012 | <0.2 | 0.54 | 0.25 | <5 | 230 | <0.01 | 250 | 49 | <5 | 220 | 19.0 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 2 | <0.003 | <0.1 | <0.1 | <0.04 | 12.0 | 102 | <0.020 | 62 | 17 | 20 | 67 | 6.0 |
| MW-1002G | 04/07/88 | 13 | <0.003 | <0.1 | <0.1 | <0.04 | 11.0 | 150 | <0.020 | 88 | 27 | 26 | 110 | 10.0 |
| MW-1003 | 04/07/88 | 2 | <0.003 | 0.1 | <0.1 | 0.78 | 11.0 | 100 | <0.020 | 50 | 11 | 16 | 44 | 4.0 |
| MW-1003P | 04/07/88 | 2 | <0.003 | 0.2 | 0.30 | 0.42 | 7.9 | 196 | <0.020 | 188 | 40 | 17 | 170 | 17.0 |
| MW-1005 | 04/07/88 | 220 | <0.003 | <0.1 | 16.00 | 0.59 | 14.0 | 560 | 0.022 | 69 | 77 | 44 | 350 | 38.0 |
| MW-1005G | 04/07/88 | 3 | <0.003 | 0.2 | 4.10 | 0.26 | 9.0 | 218 | <0.020 | 182 | 41 | 44 | 160 | 15.0 |
| MW-1005P | 04/07/88 | 4 | <0.003 | 0.2 | 0.50 | 0.23 | 5.4 | 264 | <0.020 | 252 | 52 | 10 | 220 | 21.0 |
| Data Comparison<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1002 | 04/07/88 | 0.83 | ONE< | BOTH< | BOTH< | BOTH< | 1.33 | 0.33 | ONE< | 0.97 | 0.88 | ONE< | 1.04 | 0.87 |
| MW-1002G | 04/07/88 | 1.00 | ONE< | BOTH< | BOTH< | BOTH< | 1.27 | 0.59 | ONE< | 0.91 | 0.89 | ONE< | 1.00 | 0.96 |
| MW-1003 | 04/07/88 | ONE< | ONE< | ONE< | ONE< | 0.96 | 1.09 | 0.54 | ONE< | 1.00 | 0.91 | ONE< | 1.14 | 0.90 |
| MW-1003P | 04/07/88 | ONE< | BOTH< | ONE< | 0.73 | 1.07 | ONE< | 0.87 | BOTH< | 1.01 | 0.98 | ONE< | 1.06 | 1.00 |
| MW-1005 | 04/07/88 | 1.00 | ONE< | BOTH< | 0.22 | 1.07 | 1.21 | 1.04 | 2.27 | 0.87 | 1.23 | 0.23 | 1.03 | 0.97 |
| MW-1005G | 04/07/88 | ONE< | ONE< | ONE< | 1.05 | 1.00 | ONE< | 1.01 | BOTH< | 0.99 | 1.02 | ONE< | 1.06 | 0.93 |
| MW-1005P | 04/07/88 | ONE< | ONE< | ONE< | 1.08 | 1.09 | ONE< | 0.87 | BOTH< | 0.99 | 0.94 | ONE< | 1.00 | 0.90 |

TABLE NO. 5

Comparison of May 1988 Split Sample Groundwater Monitoring Data

| Well ID | Date | Primary Drinking Water Standards As | Ba | Cd | Cr | Pb | Hg | NO2+ NO3-N | Se | Ag | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Kennecott Data | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.32 | <0.005 | <0.0004 | 4.4 |
| MW-1000P | 05/04/88 | <0.005 | <0.5 | 0.0015 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 22.0 |
| MW-1001 | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 0.68 | <0.005 | <0.0004 | 7.2 |
| MW-1001G | 05/04/88 | <0.005 | <0.5 | 0.0004 | <0.005 | <0.005 | <0.0005 | 1.86 | <0.005 | <0.0004 | 4.9 |
| MW-1001P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 9.3 |
| MW-1004 | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | 0.47 | <0.005 | <0.0004 | 5.8 |
| MW-1004S | 05/04/88 | <0.005 | <0.5 | 0.0005 | <0.005 | <0.005 | <0.0005 | 0.17 | <0.005 | <0.0004 | 4.1 |
| MW-1004P | 05/04/88 | <0.005 | <0.5 | <0.0003 | <0.005 | <0.005 | <0.0005 | <0.05 | <0.005 | <0.0004 | 14.0 |
| DNR Data | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <0.01 | 0.045 | 0.0005 | <0.003 | <0.003 | <0.0002 | 0.30 | <0.005 | <0.0005 | 3.0 |
| MW-1000P | 05/04/88 | <0.01 | 0.087 | 0.0016 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 26.0 |
| MW-1001 | 05/04/88 | <0.01 | 0.053 | 0.0004 | <0.003 | <0.003 | <0.0002 | 0.70 | <0.005 | <0.0005 | 11.0 |
| MW-1001G | 05/04/88 | <0.01 | <0.04 | 0.0007 | <0.003 | <0.003 | <0.0002 | 1.90 | <0.005 | <0.0005 | 5.0 |
| MW-1001P | 05/04/88 | <0.01 | 0.047 | 0.0002 | <0.003 | 0.006 | <0.0002 | 0.10 | <0.005 | <0.0005 | 9.0 |
| MW-1004 | 05/04/88 | <0.01 | <0.04 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.50 | <0.005 | <0.0005 | 8.0 |
| MW-1004S | 05/04/88 | <0.01 | 0.076 | 0.0010 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 4.0 |
| MW-1004P | 05/04/88 | <0.01 | 0.100 | <0.0002 | <0.003 | <0.003 | <0.0002 | 0.10 | <0.005 | <0.0005 | 12.0 |
| Data Comparison Kennecott Value / DNR Value | | | | | | | | | | | |
| MW-1000 | 05/04/88 | BOTH< | ONE< | 0.80 | BOTH< | BOTH< | BOTH< | 1.07 | BOTH< | BOTH< | 1.47 |
| MW-1000P | 05/04/88 | BOTH< | ONE< | 0.94 | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 0.85 |
| MW-1001 | 05/04/88 | BOTH< | ONE< | 1.00 | BOTH< | BOTH< | BOTH< | 0.97 | BOTH< | BOTH< | 0.65 |
| MW-1001G | 05/04/88 | BOTH< | BOTH< | 0.57 | BOTH< | BOTH< | BOTH< | 0.98 | BOTH< | BOTH< | 0.98 |
| MW-1001P | 05/04/88 | BOTH< | ONE< | ONE< | BOTH< | ONE< | BOTH< | ONE< | BOTH< | BOTH< | 1.03 |
| MW-1004 | 05/04/88 | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | BOTH< | 0.94 | BOTH< | BOTH< | 0.73 |
| MW-1004S | 05/04/88 | BOTH< | ONE< | 0.50 | BOTH< | BOTH< | BOTH< | 1.70 | BOTH< | BOTH< | 1.03 |
| MW-1004P | 05/04/88 | BOTH< | ONE< | BOTH< | BOTH< | BOTH< | BOTH< | ONE< | BOTH< | BOTH< | 1.17 |

TABLE NO. 5

Comparison of May 1988 Split Sample Groundwater Monitoring Data

| | | Secondary Drinking Water Standards | | | | | | | Indicator Parameters | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Date | Cl | Cu | Fl | Fe | Mn | SO4 | TDS | Zn | Alk | Ca | COD | Hard | Mg |
| Kennecott Data | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | <2 | 0.018 | <0.1 | <0.10 | <0.05 | 15.0 | 120 | <0.05 | 27 | 11 | 12 | 37 | 3.4 |
| MW-1000P | 05/04/88 | 3.0 | 0.085 | 0.2 | <0.10 | 0.59 | 18.0 | 200 | 0.16 | 81 | 20 | 45 | 63 | 7.2 |
| MW-1001 | 05/04/88 | 7.0 | <0.010 | 1.4 | 0.4 | 0.29 | <10 | 360 | <0.05 | 36 | 30 | 27 | 50 | 4.9 |
| MW-1001G | 05/04/88 | 3.0 | <0.010 | <0.1 | <0.10 | <0.05 | 13.0 | 170 | <0.05 | 40 | 15 | 20 | 65 | 7.1 |
| MW-1001P | 05/04/88 | <2 | <0.010 | 0.4 | 0.5 | 0.48 | <5 | 190 | <0.05 | 110 | 26 | 25 | 110 | 11.0 |
| MW-1004 | 05/04/88 | 2.0 | <0.010 | 1.0 | <0.10 | <0.05 | 21.0 | 360 | <0.05 | 38 | 15 | 36 | 45 | 4.1 |
| MW-1004S | 05/04/88 | 3.0 | <0.010 | 0.1 | <0.10 | <0.05 | 10.0 | 150 | <0.05 | 45 | 16 | 31 | 55 | 5.3 |
| MW-1004P | 05/04/88 | <2 | <0.010 | 0.3 | <0.10 | 0.13 | 11.0 | 230 | <0.05 | 160 | 40 | 26 | 150 | 15.0 |
| DNR Data | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | 1.3 | 0.010 | <0.1 | <0.1 | <0.04 | 13.0 | 64 | <0.020 | 30 | 9 | 8 | 35 | 3.0 |
| MW-1000P | 05/04/88 | 2.5 | 0.066 | 0.2 | <0.1 | 0.52 | 20.0 | 164 | <0.020 | 108 | 18 | 25 | 70 | 6.0 |
| MW-1001 | 05/04/88 | 5.9 | <0.003 | 0.1 | 0.4 | 0.24 | 9.9 | 98 | <0.020 | 36 | 10 | 12 | 41 | 4.0 |
| MW-1001G | 05/04/88 | 3.1 | <0.003 | 0.1 | <0.1 | <0.04 | 12.0 | 108 | <0.020 | 54 | 14 | 8 | 60 | 5.0 |
| MW-1001P | 05/04/88 | 1.1 | <0.003 | 0.3 | 1.3 | 0.46 | 7.3 | 144 | <0.020 | 120 | 25 | 11 | 100 | 10.0 |
| MW-1004 | 05/04/88 | 2.1 | <0.003 | 0.1 | 0.2 | <0.04 | 16.0 | 90 | <0.020 | 42 | 11 | 29 | 40 | 3.0 |
| MW-1004S | 05/04/88 | 2.6 | <0.003 | <0.1 | 0.1 | <0.04 | 11.0 | 94 | <0.020 | 53 | 14 | 5 | 56 | 5.0 |
| MW-1004P | 05/04/88 | 1.7 | <0.003 | 0.2 | <0.1 | 0.13 | 11.0 | 196 | <0.020 | 106 | 36 | 10 | 150 | 14.0 |
| Data Comparison<br>Kennecott Value / DNR Value | | | | | | | | | | | | | | |
| MW-1000 | 05/04/88 | ONE< | 1.80 | BOTH< | BOTH< | BOTH< | 1.15 | 1.88 | BOTH< | 0.90 | 1.22 | 1.50 | 1.06 | 1.13 |
| MW-1000P | 05/04/88 | 1.20 | 1.29 | 1.00 | BOTH< | 1.13 | 0.90 | 1.22 | ONE< | 0.75 | 1.11 | 1.80 | 0.90 | 1.20 |
| MW-1001 | 05/04/88 | 1.19 | BOTH< | 14.00 | 0.88 | 1.21 | ONE< | 3.67 | BOTH< | 1.00 | 3.00 | 2.25 | 1.22 | 1.23 |
| MW-1001G | 05/04/88 | 0.97 | BOTH< | ONE< | BOTH< | BOTH< | 1.08 | 1.57 | BOTH< | 0.74 | 1.07 | 2.50 | 1.08 | 1.42 |
| MW-1001P | 05/04/88 | ONE< | BOTH< | 1.33 | 0.38 | 1.04 | ONE< | 1.32 | BOTH< | 0.92 | 1.04 | 2.27 | 1.10 | 1.10 |
| MW-1004 | 05/04/88 | 0.95 | BOTH< | 10.00 | ONE< | BOTH< | 1.31 | 4.00 | BOTH< | 0.90 | 1.36 | 1.24 | 1.13 | 1.37 |
| MW-1004S | 05/04/88 | 1.15 | BOTH< | ONE< | ONE< | BOTH< | 0.91 | 1.60 | BOTH< | 0.85 | 1.14 | 6.20 | 0.98 | 1.06 |
| MW-1004P | 05/04/88 | ONE< | BOTH< | 1.50 | BOTH< | 1.00 | 1.00 | 1.17 | BOTH< | 1.51 | 1.11 | 2.60 | 1.00 | 1.07 |

UW-STEVENS POINT
3 1775 677570 5