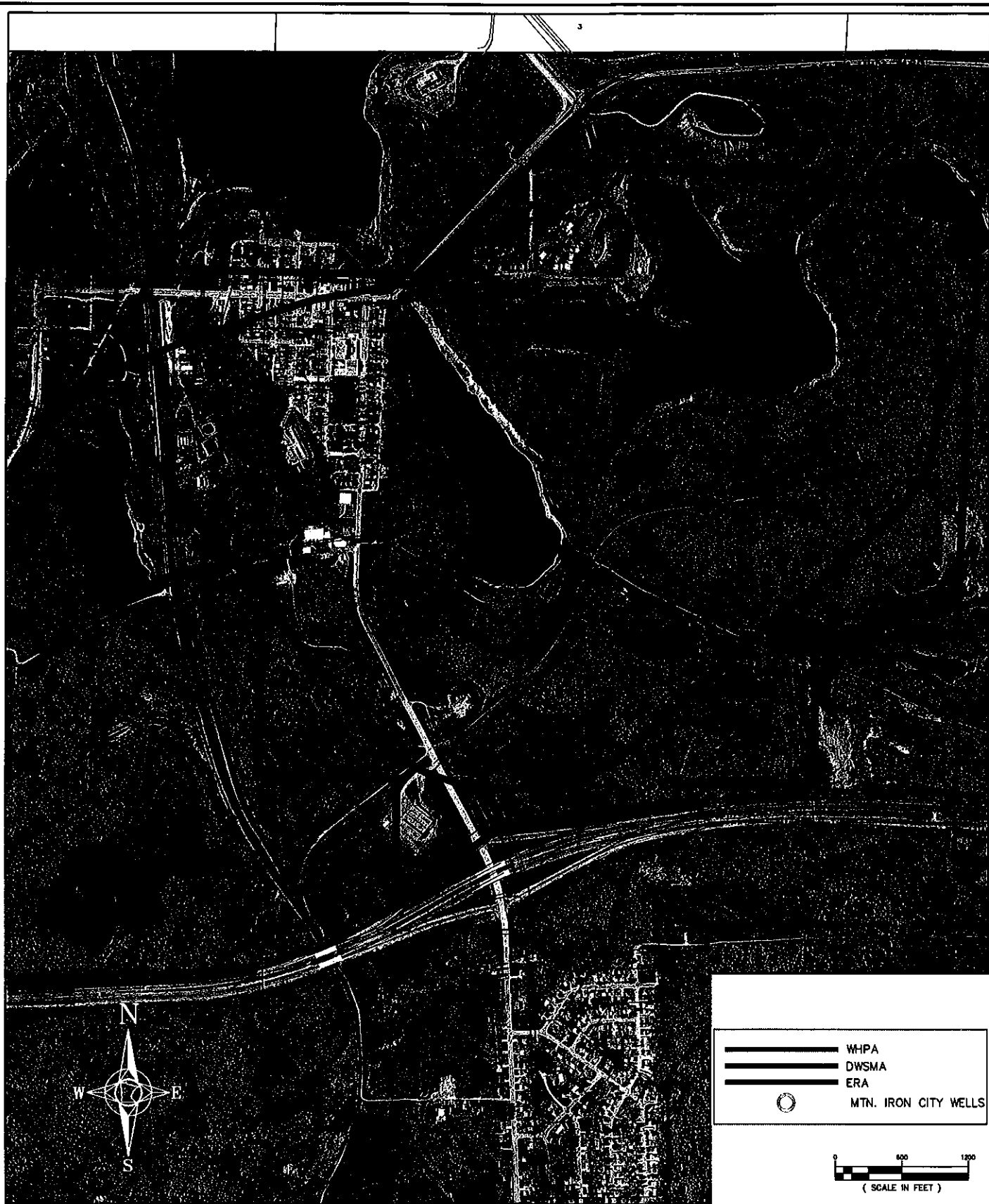


APPENDIX A:

REFERENCE DATA & MAPS FOR PART II OF THE CITY OF MOUNTAIN IRON WELLHEAD PROTECTION PLAN

EXHIBIT A:

**BOUNDARIES OF DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA),
WELLHEAD PROTECTION AREA (WHPA),
AND THE EMERGENCY RESPONSE AREA (ERA)**



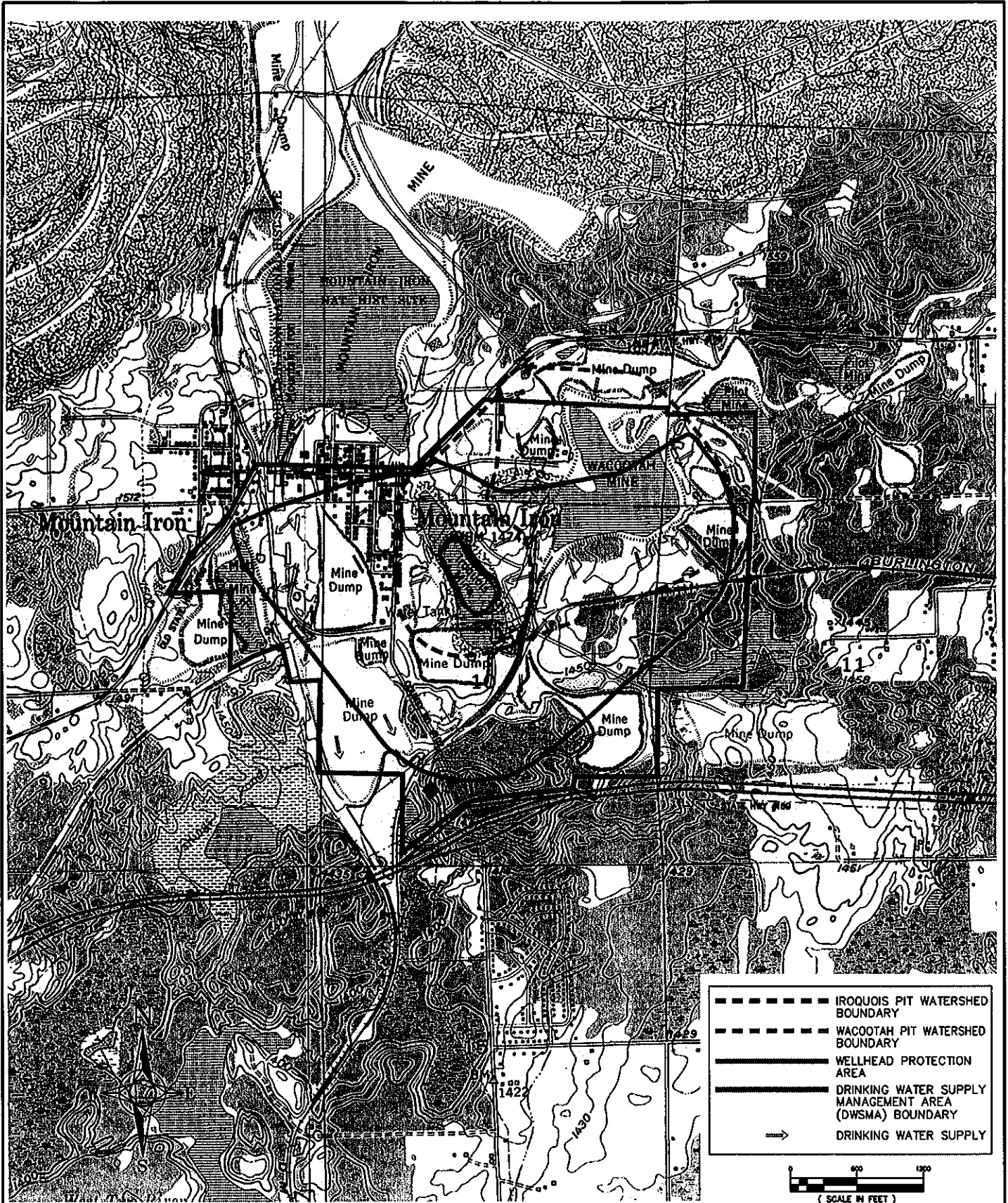
WHP PLAN, MOUNTAIN IRON, MINNESOTA
DRINKING WATER SUPPLY MANAGEMENT AREA,
WELLHEAD PROTECTION AREA, &
EMERGENCY RESPONSE AREA



EXHIBIT A
OCTOBER 2011

EXHIBIT B:

**IROQUOIS MINE PIT LAKE WATERSHED MAP
(FLOW DIRECTIONS)**



WHP PLAN, MOUNTAIN IRON, MINNESOTA

IROQUOIS MINE PIT LAKE WATERSHED



BENCHMARK
ENGINEERING, INC.

EXHIBIT B

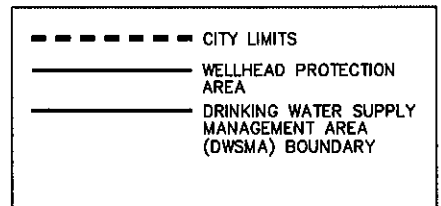
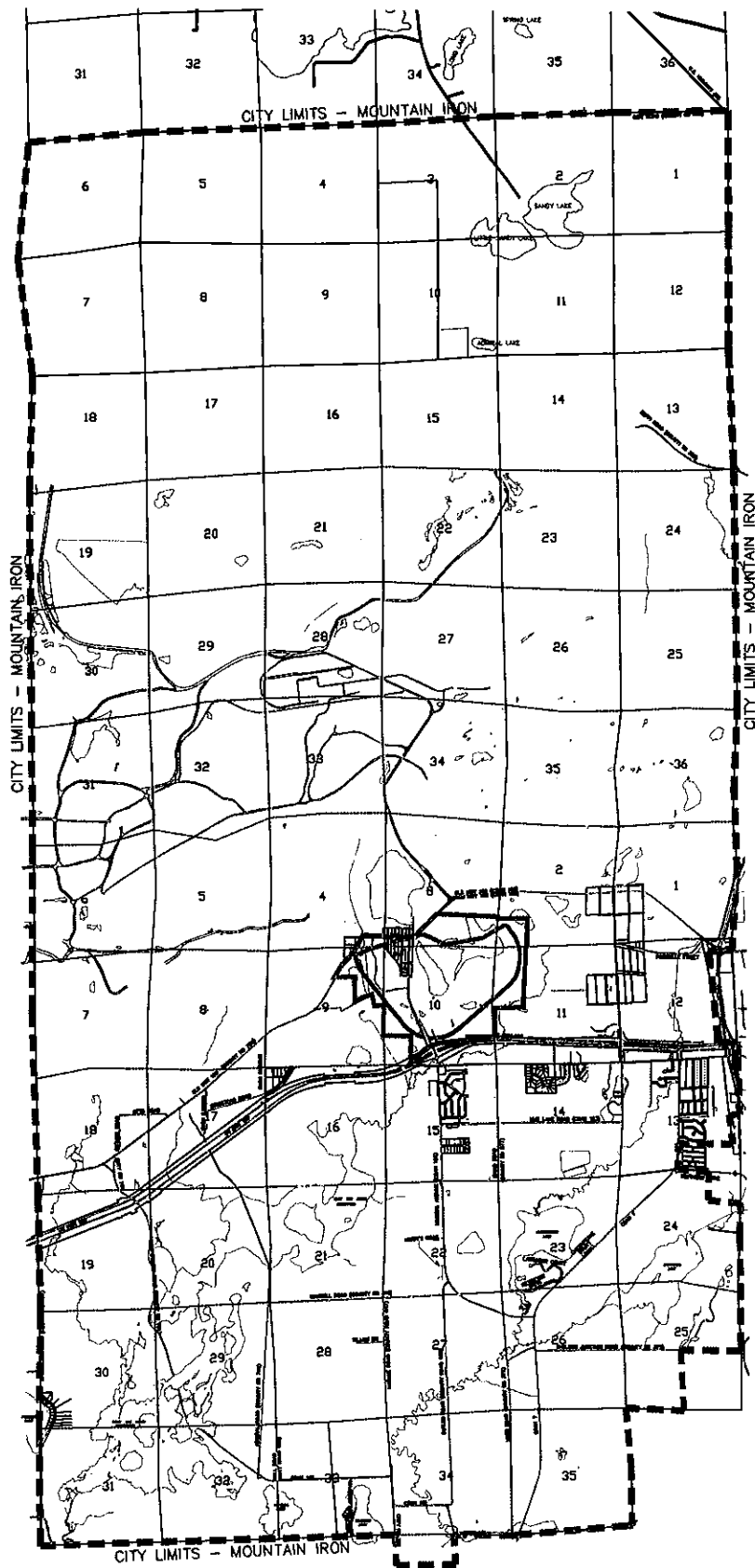
OCTOBER 2011

EXHIBIT C:

PARCEL BOUNDARIES MAP

EXHIBIT D:

POLITICAL BOUNDARIES MAP



WHP PLAN, MOUNTAIN IRON, MINNESOTA

POLITICAL BOUNDARIES



BENCHMARK
ENGINEERING, INC.

EXHIBIT D

OCTOBER 2011

EXHIBIT E:

LAND USE MAP & SUMMARY TABLE

Mountain Iron Drinking Water Supply Management Area (DWSMA) MN-00489 - Land Cover 2001

Mountain Iron
St. Louis County
Minnesota



WHP PLAN, MOUNTAIN IRON, MINNESOTA

LAND USE MAP



EXHIBIT E

OCTOBER 2011

Mountain Iron DWSMA (MN-00489) 2001 Land Cover Statistics

| LAND COVER | ACRES | PERCENT | YEAR |
|------------------------------|---------------|----------------|-------------|
| Open Water | 134.22 | 16.20 | 2001 |
| Developed, Open Space | 29.43 | 3.55 | 2001 |
| Developed, Low Intensity | 57.53 | 6.95 | 2001 |
| Developed, Medium Intensity | 27.87 | 3.36 | 2001 |
| Developed, High Intensity | 13.15 | 1.59 | 2001 |
| Barren Land (Rock/Sand/Clay) | 16.50 | 1.99 | 2001 |
| Deciduous Forest | 199.11 | 24.04 | 2001 |
| Evergreen Forest | 157.63 | 19.03 | 2001 |
| Shrub/Scrub | 94.54 | 11.41 | 2001 |
| Grassland/Herbaceous | 48.38 | 5.84 | 2001 |
| Pasture/Hay | 3.12 | 0.38 | 2001 |
| Cultivated Crops | 1.56 | 0.19 | 2001 |
| Woody Wetlands | 6.02 | 0.73 | 2001 |
| Emergent Herbaceous Wetlands | 39.24 | 4.74 | 2001 |
| Total | 828.31 | 100.00 | 2001 |

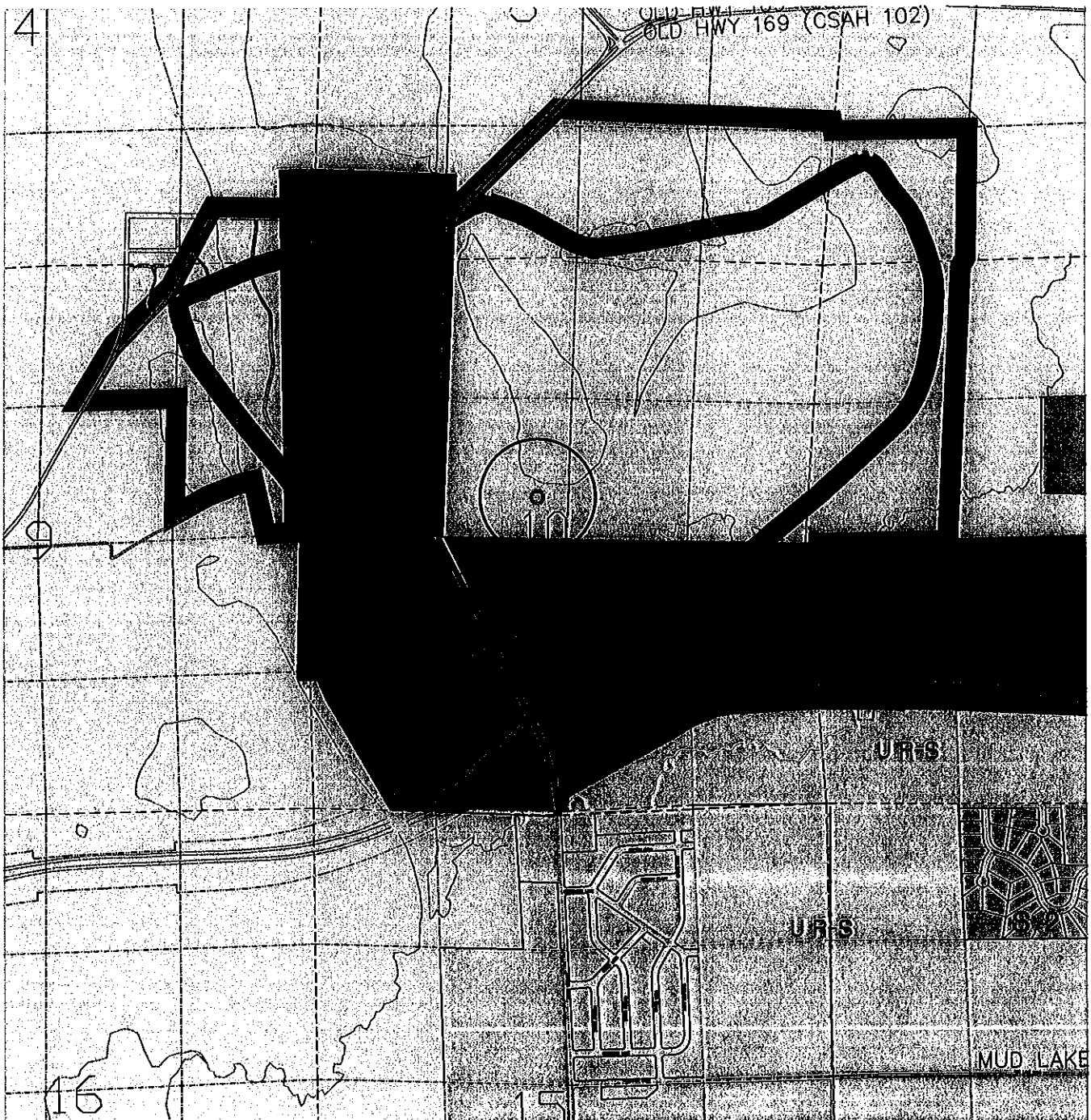
These statistics are geographically derived from the 2001 National Land Use/Land Cover dataset. They may not reflect current conditions and are only an approximation of land cover.

EXHIBIT F:

EXISTING ZONING MAP

4

OLD HWY 169 (CSAH 102)



ZONING LEGEND

| | | |
|-------|-------------------------------|--|
| UR-NS | URBAN-RESIDENTIAL NON-SEWERED | |
| UR-S | URBAN-RESIDENTIAL SEWERED | |
| MF-2 | MULTI FAMILY 2 | |
| C | COMMERCIAL | |
| I | INDUSTRIAL | |
| MM | MINERAL MINING | |
| S | SPECIAL ZONING DISTRICT | |



0 750 1500
(SCALE IN FEET)

WHP PLAN, MOUNTAIN IRON, MINNESOTA

EXISTING ZONING MAP



BENCHMARK
ENGINEERING, INC.

EXHIBIT F

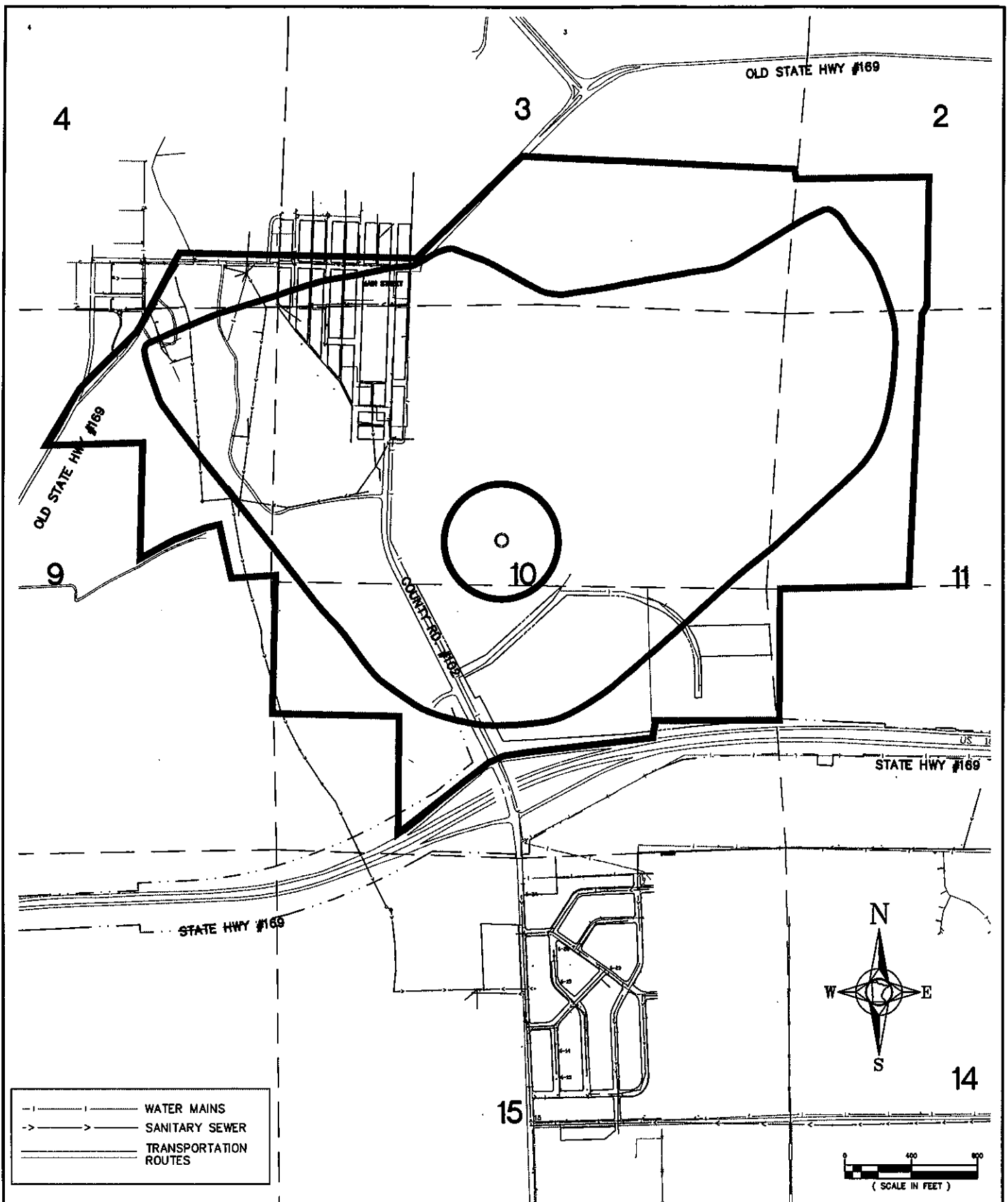
OCTOBER 2011

EXHIBIT G:

PUBLIC UTILITY SERVICES MAPS

EXHIBIT G-1: SANTIARY SEWER, WATER, & TRANSPORTATION CORRIDORS

EXHIBIT G-2: GAS & OIL PIPELINE LOCATION MAP



WHP PLAN, MOUNTAIN IRON, MINNESOTA

SANITARY SEWER, WATER, AND
TRANSPORTATION CORRIDORS



EXHIBIT G-1

OCTOBER 2011



WHP PLAN, MOUNTAIN IRON, MINNESOTA

GAS AND OIL PIPELINE LOCATIONS



EXHIBIT G-2

OCTOBER 2011

EXHIBIT H:

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) FORMS

WELL NUMBERS:

#1 – 150524

#2 – 150526

#3 – 239976

#4 – 229166



INNER WELLHEAD MANAGEMENT ZONE (IWMZ) - POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

| | | |
|----------------|---|------------------|
| PWS ID | 1690035 | COMMUNITY |
| NAME | Mountain Iron | |
| ADDRESS | Mountain Iron Water Superintendent, City Hall, 8586 Enterprise Drive South, Mountain Iron, MN 55768 | |

WELL INFORMATION

| | | |
|------------------------|-----------|--|
| NAME | Well #1 | IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE? |
| FACILITY ID | S01 | <input type="checkbox"/> YES (Please attach a copy) |
| UNIQUE WELL NO. | 150524 | <input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED |
| COUNTY | St. Louis | |

| | | | | |
|----------------------|---------|-----|------------------------|--------|
| EXTENDED HEAD | 1690035 | S01 | UNIQUE WELL NO. | 150524 |
|----------------------|---------|-----|------------------------|--------|

| ISOLATION DISTANCES (FEET) | LOCATION | Minimum Distances | | Sensitive Well | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
|----------------------------|----------|-------------------|---------------|----------------|--------------------------|-----------------|----------|
| | | Community | Non-community | | | | |

Agricultural Related

| | | | | | | | |
|------|---|----------------|----------------|--------|---|--|--|
| *AC1 | Agricultural chemical buried piping | 50 | 50 | | N | | |
| *AC2 | Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight | 50 | 50 | | N | | |
| ACP | Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards | 150 | 150 | | N | | |
| ACS | Agricultural chemical storage or equipment filling or cleaning area with safeguards | 100 | 100 | | N | | |
| ACR | Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed | 50 | 50 | | N | | |
| ADW | Agricultural drainage well (Class V well - illegal) | 50 | 50 | | N | | |
| AAT | Anhydrous ammonia tank (stationary tank) | 50 | 50 | | N | | |
| AB1 | Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard) | 50 | 20 | 100/40 | N | | |
| AB2 | Animal building or poultry building, including a horse riding area, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| ABS | Animal burial area, more than 1.0 animal unit | 50 | 50 | | N | | |
| FWP | Animal feeding or watering area within a pasture, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| AF1 | Animal feedlot, unroofed, 300 or more animal units (stockyard) | 100 | 100 | 200 | N | | |
| AF2 | Animal feedlot, more than 1.0, but less than 300 animal units (stockyard) | 50 | 50 | 100 | N | | |
| AMA | Animal manure application | use discretion | use discretion | | N | | |
| REN | Animal rendering plant | 50 | 50 | | N | | |
| MS1 | Manure (liquid) storage basin or lagoon, unpermitted or noncertified | 300 | 300 | 600 | N | | |
| MS2 | Manure (liquid) storage basin or lagoon, approved earthen liner | 150 | 150 | 300 | N | | |
| MS3 | Manure (liquid) storage basin or lagoon, approved concrete or composite liner | 100 | 100 | 200 | N | | |
| MS4 | Manure (solid) storage area, not covered with a roof | 100 | 100 | 200 | N | | |
| OSC | Open storage for crops | use discretion | use discretion | | N | | |

Sanitary Related

| | | | | | | | |
|------|--|-------------------------|-------------------------|--------------------------|---|--|--|
| AA1 | Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day | 300 | 300 | 600 | N | | |
| AA2 | Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less | 150 | 150 | 300 | N | | |
| AA3 | Absorption area of a soil dispersal system, average flow 10,000 gal./day or less | 50 | 50 | 100 | N | | |
| AA4 | Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well) ² | 50/300/150 ⁴ | 50/300/150 ⁴ | 100/600/300 ⁴ | N | | |
| CSP | Cesspool | 75 | 75 | 150 | N | | |
| AGG | Dry well, leaching pit, seepage pit | 75 | 75 | 150 | N | | |
| *FD1 | Floor drain, grate, or trough connected to a buried sewer | 50 | 50 | | N | | |
| *FD2 | Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| *GW1 | Gray-water dispersal area | 50 | 50 | 100 | N | | |
| LC1 | Large capacity cesspools (Class V well - illegal) ² | 75 | 75 | 150 | N | | |

| | | | | |
|----------------------|---------|-----|-----------------|--------|
| PWS ID / FACILITY ID | 1690035 | S01 | UNIQUE WELL NO. | 150524 |
|----------------------|---------|-----|-----------------|--------|

| RCR CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | | LOCATION | |
|----------------------------|--|----------------------------|----------------------|-----------------------------|--------------------------|-----------------|----------|
| | | Minimum Distances | | Sensitive Well ¹ | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| | | Community | Non-community | | | | |
| MVW | Motor vehicle waste disposal (Class V well - illegal) ² | illegal | illegal | | N | | |
| PR1 | Privy, nonportable | 50 | 50 | 100 | N | | |
| PR2 | Portable (privy) or toilet | 50 | 20 | | N | | |
| *SF1 | Watertight sand filter; peat filter; or constructed wetland | 50 | 50 | | N | | |
| SET | Septic tank | 50 | 50 | | N | | |
| HTK | Sewage holding tank, watertight | 50 | 50 | | N | | |
| SS1 | Sewage sump capacity 100 gal. or more | 50 | 50 | | N | | |
| SS2 | Sewage sump capacity less than 100 gal., tested, conforming to rule | 50 | 20 | | N | | |
| *ST1 | Sewage treatment device, watertight | 50 | 50 | | N | | |
| SB1 | Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| SB2 | Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials | 50 | 50 | | N | | |
| *WB1 | Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection | 50 | 50 | | N | | |
| *WB2 | Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection | 20 | 20 | | N | | |
| Land Application | | | | | | | |
| SPT | Land spreading area for sewage, septage, or sludge | 50 | 50 | 100 | N | | |
| Solid Waste Related | | | | | | | |
| COS | Commercial compost site | 50 | 50 | | N | | |
| CD1 | Construction or demolition debris disposal area | 50 | 50 | 100 | N | | |
| *HW1 | Household solid waste disposal area, single residence | 50 | 50 | 100 | N | | |
| LF1 | Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons | 300 | 300 | 600 | N | | |
| SVY | Scrap yard | 50 | 50 | | N | | |
| SWT | Solid waste transfer station | 50 | 50 | | N | | |
| Storm Water Related | | | | | | | |
| SD1 | Storm water drain pipe, 8 inches or greater in diameter | 50 | 20 | | N | | |
| SWI | Storm water drainage well ² (Class V well - illegal) ² | 50 | 50 | | N | | |
| SM1 | Storm water pond greater than 5000 gal. | 50 | 35 | | N | | |
| Wells and Borings | | | | | | | |
| *EB1 | Elevator boring, not conforming to rule | 50 | 50 | | N | | |
| *EB2 | Elevator boring, conforming to rule | 20 | 20 | | N | | |
| MON | Monitoring well | record dist. | record dist. | | N | | |
| WEL | Operating well | record dist. | record dist. | | Y | 10 | |
| UUW | Unused, unsealed well or boring | 50 | 50 | | Y | 151 | |
| General | | | | | | | |
| *CR1 | Cistern or reservoir, buried, nonpressurized water supply | 20 | 20 | | N | | |
| PLM | Contaminant plume | 50 | 50 | | N | | |
| *CW1 | Cooling water pond, industrial | 50 | 50 | 100 | N | | |
| DC1 | Deicing chemicals, bulk road | 50 | 50 | 100 | N | | |
| *ET1 | Electrical transformer storage area, oil-filled | 50 | 50 | | N | | |
| GRV | Grave or mausoleum | 50 | 50 | | N | | |
| GP1 | Gravel pocket or French drain for clear water drainage only | 20 | 20 | | N | | |
| *HS1 | Hazardous substance buried piping | 50 | 50 | | N | | |
| HS2 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards | 150 | 150 | | N | | |
| HS3 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards | 100 | 100 | | N | | |
| HS4 | Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding | 50 | 50 | | N | | |
| HWF | Highest water or flood level | 50 | N/A | | N | | |
| *HG1 | Horizontal ground source closed loop heat exchanger buried piping | 50 | 50 | | N | | |
| *HG2 | Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid | 50 | 10 | | N | | |
| IWD | Industrial waste disposal well (Class V well) ² | illegal ³ | illegal ³ | | N | | |
| IWS | Interceptor, including a flammable waste or sediment | 50 | 50 | | N | | |
| OH1 | Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more) | 50 | 35 | | Y | 175 | Y |

PWS ID / FACILITY ID

1690035 S01

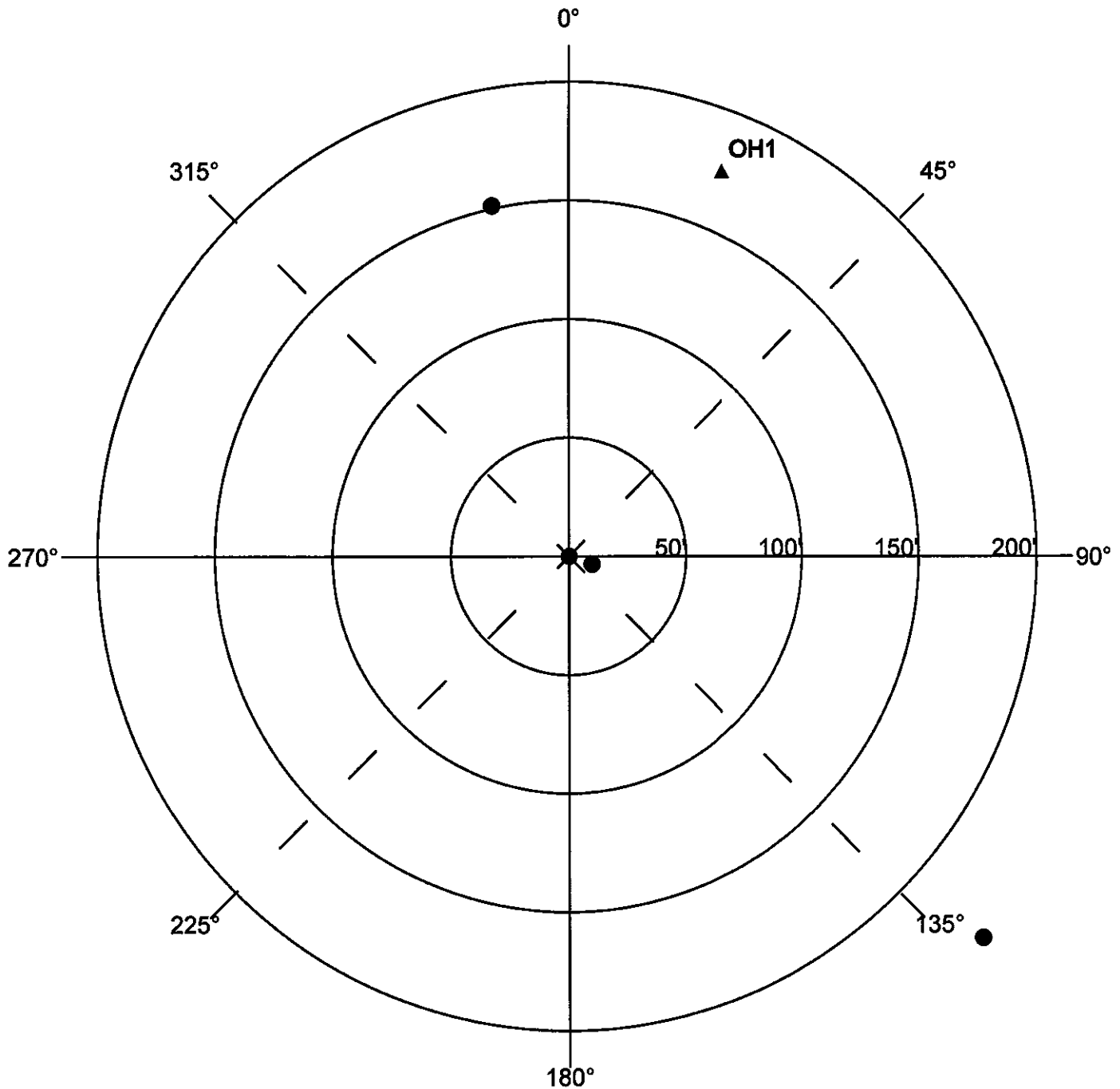
UNIQUE WELL NO.

150524

SETBACK DISTANCES

All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



Were the isolation distances maintained for the new sources of contamination?

Y

N

N/A

Is the system monitoring existing nonconforming sources of contamination?

Y

N

N/A

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR

Kluthe, Beth

DATE

3 - 3 - 2011

| | | | | |
|--------------------|---------|-----|-----------------|--------|
| PWS ID/FACILITY ID | 1690035 | S01 | UNIQUE WELL NO. | 150524 |
|--------------------|---------|-----|-----------------|--------|

| RECOMMENDED WELL HEAD PROTECTION (WHP) MEASURES | WHP MEASURE IMPLEMENTED? Y or N | DATE VERIFIED |
|---|---------------------------------|---------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| COMMENTS |
|---|
| <p>9/7/2003 - Location for PCSI Type OHW (bearing = 0, distance = 0 , inventory date: 5/26/1999) could not be determined.</p> <p>9/7/2003 - Location for PCSI Type HWF (bearing = 0, distance = 0 , inventory date: 5/26/1999) could not be determined.</p> <p>Well #310333 is an old exploratory mine boring and the status is unknown. Common practice was to drill a small diameter (2 1/2" diameter or smaller) core hole, and any surface casing was generally pulled after completion which probably led to collapse of the portion of the hole drilled through unconsolidated sediments. Because there is no casing left behind, there is nothing to find with a magnetometer and there is probably no other surface expression due to the small diameter, likelihood of collapse, and passage of time. Locational accuracy is estimated and errors could be on the scale of tens of feet because the bore hole information was derived from old mining company maps and then converted to UTM coordinates. This borehole is considered abandoned and unsealed, but with little chance of locating to seal properly.</p> |

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
(612) 651-5773
SDA PUM Unit Fax: 651-201-5773

Section Reception: 651-201-4700
Division TDD: 651-201-5773 or MN Relay (800) 627-3529 and TDD: 651-201-5000



INNER WELLHEAD MANAGEMENT ZONE (IWMZ) -
POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

| PUBLIC WATER SYSTEM INFORMATION | | | | | | | |
|---------------------------------|--|---|-------------------------|--------------------------|--------------------------|-----------------|----------|
| PWS ID | 1690035 | COMMUNITY | | | | | |
| NAME | Mountain Iron | | | | | | |
| ADDRESS | Mountain Iron Water Superintendent, City Hall, 8586 Enterprise Drive South, Mountain Iron, MN 55768 | | | | | | |
| FACILITY (WELL) INFORMATION | | | | | | | |
| NAME | Well #2 | IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE? | | | | | |
| FACILITY ID | S02 | <input type="checkbox"/> YES (Please attach a copy) | | | | | |
| UNIQUE WELL NO. | 150526 | <input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED | | | | | |
| COUNTY | St. Louis | | | | | | |
| PWS ID/FACILITY ID | 1690035 S02 | UNIQUE WELL NO. | 150526 | | | | |
| PCSI CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | LOCATION | | |
| | | Minimum Distances | | Sensitive Well | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| Community | Non-community | | | | | | |
| Agricultural Related | | | | | | | |
| *AC1 | Agricultural chemical buried piping | 50 | 50 | | N | | |
| *AC2 | Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight | 50 | 50 | | N | | |
| ACP | Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards | 150 | 150 | | N | | |
| ACS | Agricultural chemical storage or equipment filling or cleaning area with safeguards | 100 | 100 | | N | | |
| ACR | Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed | 50 | 50 | | N | | |
| ADW | Agricultural drainage well ² (Class V well - illegal ³) | 50 | 50 | | N | | |
| AAT | Anhydrous ammonia tank (stationary tank) | 50 | 50 | | N | | |
| AB1 | Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard) | 50 | 20 | 100/40 | N | | |
| AB2 | Animal building or poultry building, including a horse riding area, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| ABS | Animal burial area, more than 1.0 animal unit | 50 | 50 | | N | | |
| FWP | Animal feeding or watering area within a pasture, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| AF1 | Animal feedlot, unroofed, 300 or more animal units (stockyard) | 100 | 100 | 200 | N | | |
| AF2 | Animal feedlot, more than 1.0, but less than 300 animal units (stockyard) | 50 | 50 | 100 | N | | |
| AMA | Animal manure application | use discretion | use discretion | | N | | |
| REN | Animal rendering plant | 50 | 50 | | N | | |
| MS1 | Manure (liquid) storage basin or lagoon, unpermitted or noncertified | 300 | 300 | 600 | N | | |
| MS2 | Manure (liquid) storage basin or lagoon, approved earthen liner | 150 | 150 | 300 | N | | |
| MS3 | Manure (liquid) storage basin or lagoon, approved concrete or composite liner | 100 | 100 | 200 | N | | |
| MS4 | Manure (solid) storage area, not covered with a roof | 100 | 100 | 200 | N | | |
| OSC | Open storage for crops | use discretion | use discretion | | N | | |
| SSTS Related | | | | | | | |
| AA1 | Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day | 300 | 300 | 600 | N | | |
| AA2 | Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less | 150 | 150 | 300 | N | | |
| AA3 | Absorption area of a soil dispersal system, average flow 10,000 gal./day or less | 50 | 50 | 100 | N | | |
| AA4 | Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well) ² | 50/300/150 ⁴ | 50/300/150 ⁴ | 100/600/300 ⁴ | N | | |
| CSP | Cesspool | 75 | 75 | 150 | N | | |
| AGG | Dry well, leaching pit, seepage pit | 75 | 75 | 150 | N | | |
| *FD1 | Floor drain, grate, or trough connected to a buried sewer | 50 | 50 | | N | | |
| *FD2 | Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| *GW1 | Gray-water dispersal area | 50 | 50 | 100 | N | | |
| LC1 | Large capacity cesspools (Class V well - illegal) ² | 75 | 75 | 150 | N | | |

| | | | | |
|----------------------|---------|-----|-----------------|--------|
| PWS ID / FACILITY ID | 1690035 | S02 | UNIQUE WELL NO. | 150526 |
|----------------------|---------|-----|-----------------|--------|

| PCB CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | | LOCATION | |
|----------------------------|--|----------------------------|---------------|-----------------|--------------------------|-----------------|----------|
| | | Minimum Distances | | Sensitive Well' | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| | | Community | Non-community | | | | |
| MVW | Motor vehicle waste disposal (Class V well - illegal)* | illegal | illegal | | N | | |
| PR1 | Privy, nonportable | 50 | 50 | 100 | N | | |
| PR2 | Portable (privy) or toilet | 50 | 20 | | N | | |
| *SF1 | Watertight sand filter; peat filter; or constructed wetland | 50 | 50 | | N | | |
| SET | Septic tank | 50 | 50 | | N | | |
| HTK | Sewage holding tank, watertight | 50 | 50 | | N | | |
| SS1 | Sewage sump capacity 100 gal. or more | 50 | 50 | | N | | |
| SS2 | Sewage sump capacity less than 100 gal., tested, conforming to rule | 50 | 20 | | N | | |
| *ST1 | Sewage treatment device, watertight | 50 | 50 | | N | | |
| SB1 | Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| SB2 | Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials | 50 | 50 | | N | | |
| *WB1 | Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection | 50 | 50 | | N | | |
| *WB2 | Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection | 20 | 20 | | N | | |
| Land Application | | | | | | | |
| SPT | Land spreading area for sewage, septage, or sludge | 50 | 50 | 100 | N | | |
| Solid Waste Related | | | | | | | |
| COS | Commercial compost site | 50 | 50 | | N | | |
| CD1 | Construction or demolition debris disposal area | 50 | 50 | 100 | N | | |
| *HW1 | Household solid waste disposal area, single residence | 50 | 50 | 100 | N | | |
| LF1 | Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons | 300 | 300 | 600 | N | | |
| SVY | Scrap yard | 50 | 50 | | N | | |
| SWT | Solid waste transfer station | 50 | 50 | | N | | |
| Storm Water Related | | | | | | | |
| SD1 | Storm water drain pipe, 8 inches or greater in diameter | 50 | 20 | | N | | |
| SWI | Storm water drainage well* (Class V well - illegal*) | 50 | 50 | | N | | |
| SM1 | Storm water pond greater than 5000 gal. | 50 | 35 | | N | | |
| Wells and Borings | | | | | | | |
| *EB1 | Elevator boring, not conforming to rule | 50 | 50 | | N | | |
| *EB2 | Elevator boring, conforming to rule | 20 | 20 | | N | | |
| MON | Monitoring well | record dist. | record dist. | | N | | |
| WEL | Operating well | record dist. | record dist. | | Y | 10 | |
| UUW | Unused, unsealed well or boring | 50 | 50 | | Y | 157 | |
| General | | | | | | | |
| *CR1 | Cistern or reservoir, buried, nonpressurized water supply | 20 | 20 | | N | | |
| PLM | Contaminant plume | 50 | 50 | | N | | |
| *CW1 | Cooling water pond, industrial | 50 | 50 | 100 | N | | |
| DC1 | Deicing chemicals, bulk road | 50 | 50 | 100 | N | | |
| *ET1 | Electrical transformer storage area, oil-filled | 50 | 50 | | N | | |
| GRV | Grave or mausoleum | 50 | 50 | | N | | |
| GP1 | Gravel pocket or French drain for clear water drainage only | 20 | 20 | | N | | |
| *HS1 | Hazardous substance buried piping | 50 | 50 | | N | | |
| HS2 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards | 150 | 150 | | N | | |
| HS3 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards | 100 | 100 | | N | | |
| HS4 | Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding | 50 | 50 | | N | | |
| HWF | Highest water or flood level | 50 | N/A | | N | | |
| *HG1 | Horizontal ground source closed loop heat exchanger buried piping | 50 | 50 | | N | | |
| *HG2 | Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid | 50 | 10 | | N | | |
| IWD | Industrial waste disposal well (Class V well)* | illegal* | illegal* | | N | | |
| IWS | Interceptor, including a flammable waste or sediment | 50 | 50 | | N | | |
| OH1 | Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more) | 50 | 35 | | Y | 175 | Y** |

| ECS (CODE) | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | | LOCATION | |
|---------------|--|----------------------------|-------------------|--------------------|--------------------------------|-----------------------|-------------|
| | | Minimum Distances | | Sensitive Well' | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| | | Community | Non- community | | | | |
| *PP1 | Petroleum buried piping | 50 | 50 | | N | | |
| *PP2 | Petroleum or crude oil pipeline to a refinery or distribution center | 100 | 100 | | N | | |
| PT1 | Petroleum tank or container, 1100 gal. or more, without safeguards | 150 | 150 | | N | | |
| PT2 | Petroleum tank or container, 1100 gal. or more, with safeguards | 100 | 100 | | N | | |
| PT3 | Petroleum tank or container, buried, between 56 and 1100 gal. | 50 | 50 | | N | | |
| PT4 | Petroleum tank or container, not buried, between 56 and 1100 gal. | 50 ^s | 20 | | N | | |
| PU1 | Pit or unfilled space more than four feet in depth | 20 | 20 | | N | | |
| PC1 | Pollutant or contaminant that may drain into the soil | 50 | 50 | 100 | N | | |
| SP1 | Swimming pool, in-ground | 20 | 20 | | N | | |
| *VH1 | Vertical heat exchanger, horizontal piping conforming to rule | 50 | 10 | | N | | |
| *VH2 | Vertical heat exchanger (vertical) piping, conforming to rule | 50 | 35 | | N | | |
| *WR1 | Wastewater rapid infiltration basin, municipal or industrial | 300 | 300 | 600 | N | | |
| *WA1 | Wastewater spray irrigation area, municipal or industrial | 150 | 150 | 300 | N | | |
| *WS1 | Wastewater stabilization pond, industrial | 150 | 150 | 300 | N | | |
| *WS2 | Wastewater stabilization pond, municipal, 500 or more gal./acre/day of leakage | 300 | 300 | 600 | N | | |
| *WS3 | Wastewater stabilization pond, municipal, less than 500 gal./acre/day of leakage | 150 | 150 | 300 | N | | |
| *WT1 | Wastewater treatment unit tanks, vessels and components (Package plant) | 100 | 100 | | N | | |
| *WT2 | Water treatment backwash disposal area | 50 | 50 | 100 | N | | |

Additional Sources (If there is more than one source listed above, please indicate here):

[illegible]

| | | | | | | |
|--------------------------------------|--|--|--|--|--|--|
| none found within 200' of this well. | | | | | | |
|--------------------------------------|--|--|--|--|--|--|

⁵ A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings, adopted August 4, 2008, and Minnesota Rules, Chapter 4720, related to well head protection.

PWS ID / FACILITY ID

1690035 S02

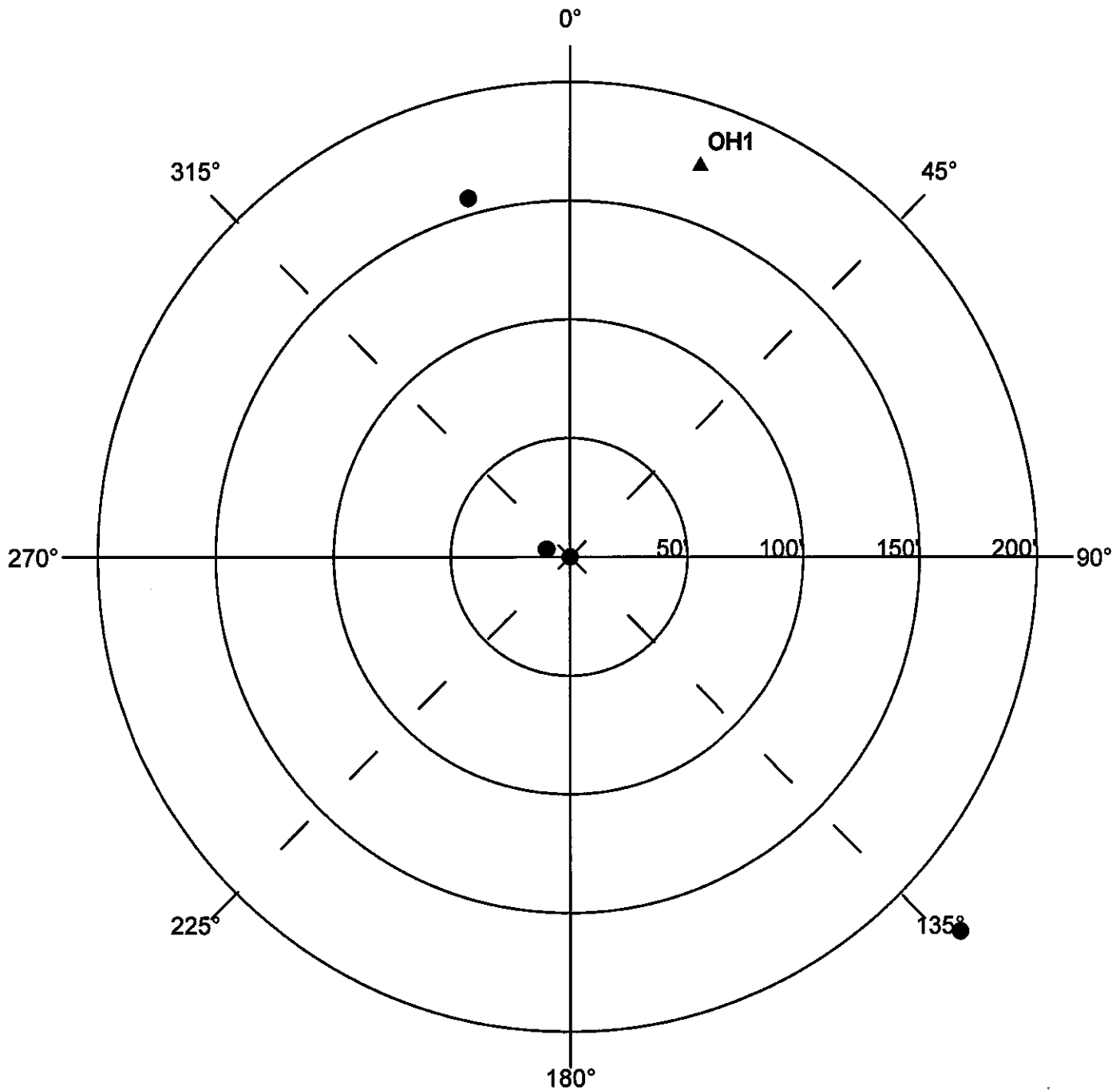
UNIQUE WELL NO.

150526

SETBACK DISTANCES

All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



Were the isolation distances maintained for the new sources of contamination?

Y

N

N/A

Is the system monitoring existing nonconforming sources of contamination?

Y

N

N/A

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR

Kluthe, Beth

DATE

3 - 3 - 2011

| | | | |
|----------------------|-------------|----------------|--------|
| PWS ID / FACILITY ID | 1690035 S02 | UNIQUE WELL NO | 150526 |
|----------------------|-------------|----------------|--------|

| RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES | WHP MEASURE IMPLEMENTED? Y or N | DATE VERIFIED |
|--|---------------------------------|---------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| COMMENTS |
|--|
| <p>9/7/2003 - Location for PCSI Type OHW (bearing = 0, distance = 0 , inventory date: 5/26/1999) could not be determined.</p> <p>9/7/2003 - Location for PCSI Type HWF (bearing = 0, distance = 0 , inventory date: 5/26/1999) could not be determined.</p> <p>Well #310333, located approximately 150 ft. northwest of Well #2, is an old exploratory mine boring and the status is unknown. Common practice was to drill a small diameter (2 1/2" diameter or smaller) core hole, and any surface casing was generally pulled after completion which probably led to collapse of the portion of the hole drilled through unconsolidated sediments. Because there is no casing left behind, there is nothing to find with a magnetometer and there is probably no other surface expression due to the small diameter, likelihood of collapse, and passage of time. Locational accuracy is estimated and errors could be on the scale of tens of feet because the bore hole information was derived from old mining company maps and then converted to UTM coordinates. This borehole is considered abandoned and unsealed, but with little chance of locating to seal properly.</p> |

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Surface Water Protection Unit
PO Box 60773
St Paul, Minnesota 55162-0773

Section Reception (651) 201-4700
Division (651) 201-6797 or MNReadyService@1.800.627.6529 and (651) 201-6000

INNER WELLHEAD MANAGEMENT ZONE (IWMZ) -
POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

PUBLIC WATER SYSTEM INFORMATION

| | | |
|----------------|---|------------------|
| PWS ID | 1690035 | COMMUNITY |
| NAME | Mountain Iron | |
| ADDRESS | Mountain Iron Water Superintendent, City Hall, 8586 Enterprise Drive South, Mountain Iron, MN 55768 | |

FACILITY (WELL) INFORMATION

| | | |
|------------------------|-----------|--|
| NAME | Well #3 | IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE? <input type="checkbox"/> YES (Please attach a copy) <input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED |
| FACILITY ID | S03 | |
| UNIQUE WELL NO. | 239976 | |
| COUNTY | St. Louis | |

| | | | |
|-----------------------------|----------------|------------------------|--------|
| PWS ID / FACILITY ID | 1690035 S03 | UNIQUE WELL NO. | 239976 |
|-----------------------------|----------------|------------------------|--------|

| PCSI CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | LOCATION | | |
|-----------|--|--------------------------------|---------------|-----------------|-----------------------------|-----------------|----------|
| | | Minimum Distances Community | Non-community | Sensitive Well' | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |

Agricultural Related

| | | | | | | | |
|------|---|----------------|----------------|--------|---|--|--|
| *AC1 | Agricultural chemical buried piping | 50 | 50 | | N | | |
| *AC2 | Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight | 50 | 50 | | N | | |
| ACP | Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards | 150 | 150 | | N | | |
| ACS | Agricultural chemical storage or equipment filling or cleaning area with safeguards | 100 | 100 | | N | | |
| ACR | Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed | 50 | 50 | | N | | |
| ADW | Agricultural drainage well? (Class V well - illegal) | 50 | 50 | | N | | |
| AAT | Anhydrous ammonia tank (stationary tank) | 50 | 50 | | N | | |
| AB1 | Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard) | 50 | 20 | 100/40 | N | | |
| AB2 | Animal building or poultry building, including a horse riding area, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| ABS | Animal burial area, more than 1.0 animal unit | 50 | 50 | | N | | |
| FWP | Animal feeding or watering area within a pasture, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| AF1 | Animal feedlot, unroofed, 300 or more animal units (stockyard) | 100 | 100 | 200 | N | | |
| AF2 | Animal feedlot, more than 1.0, but less than 300 animal units (stockyard) | 50 | 50 | 100 | N | | |
| AMA | Animal manure application | use discretion | use discretion | | N | | |
| REN | Animal rendering plant | 50 | 50 | | N | | |
| MS1 | Manure (liquid) storage basin or lagoon, unpermitted or noncertified | 300 | 300 | 600 | N | | |
| MS2 | Manure (liquid) storage basin or lagoon, approved earthen liner | 150 | 150 | 300 | N | | |
| MS3 | Manure (liquid) storage basin or lagoon, approved concrete or composite liner | 100 | 100 | 200 | N | | |
| MS4 | Manure (solid) storage area, not covered with a roof | 100 | 100 | 200 | N | | |
| OSC | Open storage for crops | use discretion | use discretion | | N | | |

SSTS Related

| | | | | | | | |
|------|--|-------------------------|-------------------------|--------------------------|---|--|--|
| AA1 | Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day | 300 | 300 | 600 | N | | |
| AA2 | Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less | 150 | 150 | 300 | N | | |
| AA3 | Absorption area of a soil dispersal system, average flow 10,000 gal./day or less | 50 | 50 | 100 | N | | |
| AA4 | Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well) ² | 50/300/150 ⁴ | 50/300/150 ⁴ | 100/600/300 ⁴ | N | | |
| CSP | Cesspool | 75 | 75 | 150 | N | | |
| AGG | Dry well, leaching pit, seepage pit | 75 | 75 | 150 | N | | |
| *FD1 | Floor drain, grate, or trough connected to a buried sewer | 50 | 50 | | N | | |
| *FD2 | Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| *GW1 | Gray-water dispersal area | 50 | 50 | 100 | N | | |
| LC1 | Large capacity cesspools (Class V well - illegal) ² | 75 | 75 | 150 | N | | |

| | | | |
|----------------------|-------------|-----------------|--------|
| PWS ID / FACILITY ID | 1690035 S03 | UNIQUE WELL NO. | 239976 |
|----------------------|-------------|-----------------|--------|

| PWS CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | LOCATION | |
|----------------------------|--|--------------------------------|----------------------|-----------------------------|-----------------------------|-----------------------------|
| | | Minimum Distances Community | Non-community | Sensitive Well ¹ | Within 200 Ft. Y / N / U | Dist. from Well Est. (?) |
| MVW | Motor vehicle waste disposal (Class V well - illegal) ² | illegal | illegal | | N | |
| PR1 | Privy, nonportable | 50 | 50 | 100 | N | |
| PR2 | Portable (privy) or toilet | 50 | 20 | | N | |
| *SF1 | Watertight sand filter; peat filter; or constructed wetland | 50 | 50 | | N | |
| SET | Septic tank | 50 | 50 | | N | |
| HTK | Sewage holding tank, watertight | 50 | 50 | | N | |
| SS1 | Sewage sump capacity 100 gal. or more | 50 | 50 | | N | |
| SS2 | Sewage sump capacity less than 100 gal., tested, conforming to rule | 50 | 20 | | N | |
| *ST1 | Sewage treatment device, watertight | 50 | 50 | | N | |
| SB1 | Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences | 50 | 20 | | N | |
| SB2 | Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials | 50 | 50 | | N | |
| *WB1 | Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection | 50 | 50 | | N | |
| *WB2 | Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection | 20 | 20 | | N | |
| Land Application | | | | | | |
| SPT | Land spreading area for sewage, septage, or sludge | 50 | 50 | 100 | N | |
| Solid Waste Related | | | | | | |
| COS | Commercial compost site | 50 | 50 | | N | |
| CD1 | Construction or demolition debris disposal area | 50 | 50 | 100 | N | |
| *HW1 | Household solid waste disposal area, single residence | 50 | 50 | 100 | N | |
| LF1 | Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons | 300 | 300 | 600 | N | |
| SVY | Scrap yard | 50 | 50 | | N | |
| SWT | Solid waste transfer station | 50 | 50 | | N | |
| Storm Water Related | | | | | | |
| SD1 | Storm water drain pipe, 8 inches or greater in diameter | 50 | 20 | | N | |
| SWI | Storm water drainage well ² (Class V well - illegal) ³ | 50 | 50 | | N | |
| SM1 | Storm water pond greater than 5000 gal. | 50 | 35 | | N | |
| Wells and Borings | | | | | | |
| *EB1 | Elevator boring, not conforming to rule | 50 | 50 | | N | |
| *EB2 | Elevator boring, conforming to rule | 20 | 20 | | N | |
| MON | Monitoring well | record dist. | record dist. | | N | |
| WEL | Operating well | record dist. | record dist. | | Y | 109 |
| UUW | Unused, unsealed well or boring | 50 | 50 | | N | |
| General | | | | | | |
| *CR1 | Cistern or reservoir, buried, nonpressurized water supply | 20 | 20 | | N | |
| PLM | Contaminant plume | 50 | 50 | | N | |
| *CW1 | Cooling water pond, industrial | 50 | 50 | 100 | N | |
| DC1 | Deicing chemicals, bulk road | 50 | 50 | 100 | N | |
| *ET1 | Electrical transformer storage area, oil-filled | 50 | 50 | | N | |
| GRV | Grave or mausoleum | 50 | 50 | | N | |
| GP1 | Gravel pocket or French drain for clear water drainage only | 20 | 20 | | N | |
| *HS1 | Hazardous substance buried piping | 50 | 50 | | N | |
| HS2 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards | 150 | 150 | | N | |
| HS3 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards | 100 | 100 | | N | |
| HS4 | Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding | 50 | 50 | | N | |
| HWF | Highest water or flood level | 50 | N/A | | N | |
| *HG1 | Horizontal ground source closed loop heat exchanger buried piping | 50 | 50 | | N | |
| *HG2 | Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid | 50 | 10 | | N | |
| IWD | Industrial waste disposal well (Class V well) ² | illegal ³ | illegal ³ | | N | |
| IWS | Interceptor, including a flammable waste or sediment | 50 | 50 | | N | |
| OH1 | Ordinary high water level of a stream, river, pond, lake, reservoir, or drainage ditch (holds water six months or more) | 50 | 35 | | N | |

PWS ID / FACILITY ID

1690035 S03

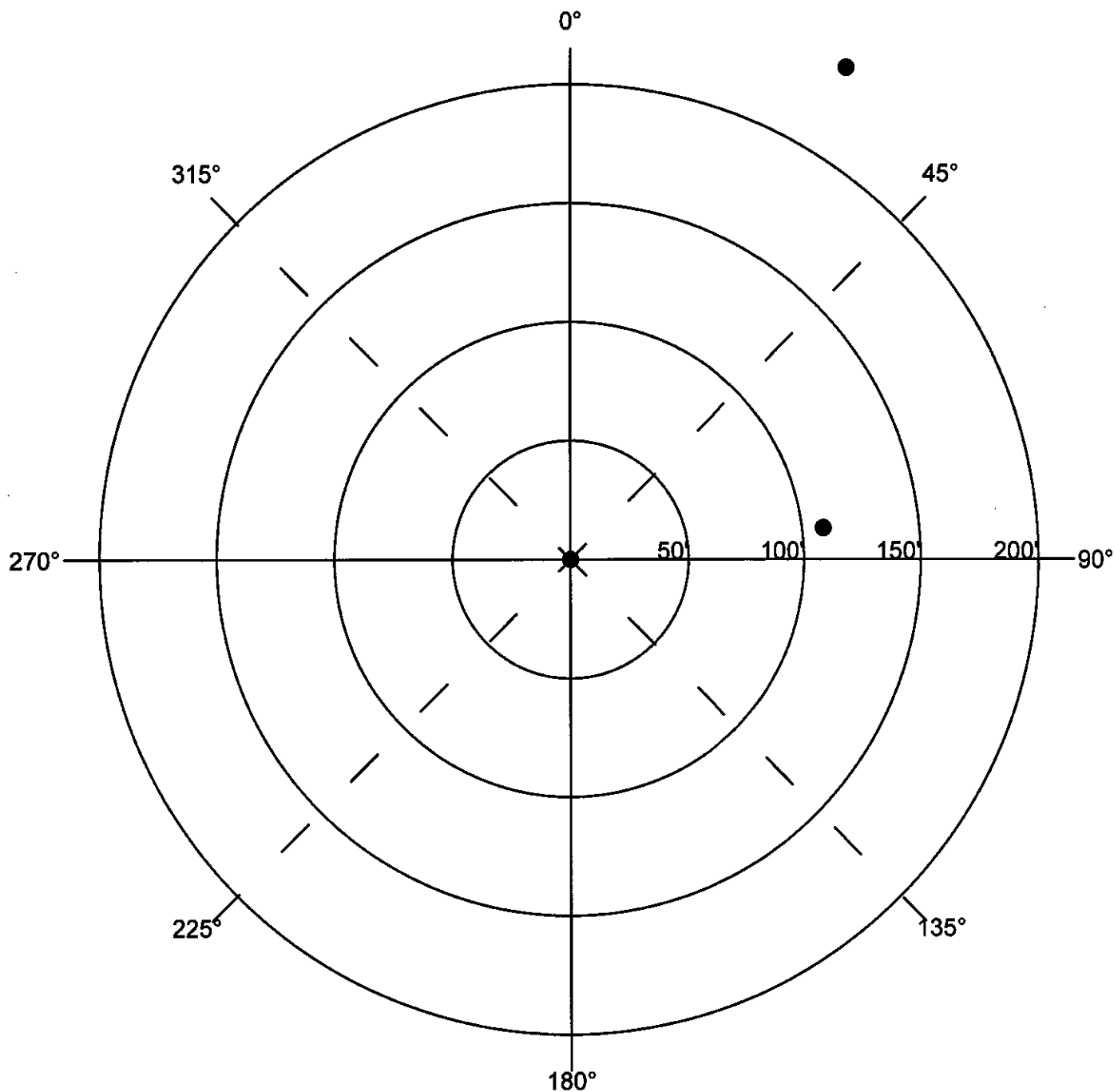
UNIQUE WELL NO.

239976

SETBACK DISTANCES

All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



Were the isolation distances maintained for the new sources of contamination?

Y

N

N/A

Is the system monitoring existing nonconforming sources of contamination?

Y

N

N/A

Reminder Question: Were the wellhead protection measure(s) implemented?

INSPECTOR

Kluthe, Beth

DATE

3 - 3 - 2011

| | | | |
|----------------------|-------------|-----------------|--------|
| PWS ID / FACILITY ID | 1690035 S03 | UNIQUE WELL NO. | 239976 |
|----------------------|-------------|-----------------|--------|

| RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES | WHP MEASURE IMPLEMENTED? Y or N | DATE VERIFIED |
|--|------------------------------------|---------------|
| | | |
| | | |
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| | | |
| | | |

| COMMENTS |
|---|
| <p>9/7/2003 - Location for PCSI Type SBM (bearing = 0, distance = 0, inventory date: 5/26/1999) could not be determined.</p> <p>The existing supply line has been re-plumbed and this well has been disconnected and is isolated from the distribution system per water operator on 3/3/11. Thus, an inventory of potential contaminant sources was not conducted.</p> |

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
Rt. 1, Box 62973
St. Paul, MN 55162-0973

Shelton Reception: (651) 201-4700
Division TDD: (651) 201-6797 or MN Relay Service: @ 1-800-627-3529 and as (651) 201-5000



INNER WELLHEAD MANAGEMENT ZONE (IWMZ) -
POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI) REPORT

| PUBLIC WATER SYSTEM INFORMATION | | | | | | | |
|---------------------------------|--|---|-------------------------|--------------------------|--------------------------|-----------------|----------|
| PWS ID | 1690035 | COMMUNITY | | | | | |
| NAME | Mountain Iron | | | | | | |
| ADDRESS | Mountain Iron Water Superintendent, City Hall, 8586 Enterprise Drive South, Mountain Iron, MN 55768 | | | | | | |
| FACILITY (WELL) INFORMATION | | | | | | | |
| NAME | Well #4 | IS THERE A WELL LOG OR ADDITIONAL CONSTRUCTION INFORMATION AVAILABLE? | | | | | |
| FACILITY ID | S04 | <input type="checkbox"/> YES (Please attach a copy) | | | | | |
| UNIQUE WELL NO. | 229166 | <input type="checkbox"/> NO <input type="checkbox"/> UNDETERMINED | | | | | |
| COUNTY | St. Louis | | | | | | |
| PWS ID / FACILITY ID | 1690035 S04 | UNIQUE WELL NO. | 229166 | | | | |
| PCSI CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | LOCATION | | |
| | | Minimum Distances | | Sensitive Well' | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| Community | Non-community | | | | | | |
| Agricultural Related | | | | | | | |
| *AC1 | Agricultural chemical buried piping | 50 | 50 | | N | | |
| *AC2 | Agricultural chemical multiple tanks or containers for residential retail sale or use, no single tank or container exceeding, but aggregate volume exceeding 56 gal. or 100 lbs. dry weight | 50 | 50 | | N | | |
| ACP | Agricultural chemical tank or container with 25 gal. or more or 100 lbs. or more dry weight, or equipment filling or cleaning area without safeguards | 150 | 150 | | N | | |
| ACS | Agricultural chemical storage or equipment filling or cleaning area with safeguards | 100 | 100 | | N | | |
| ACR | Agricultural chemical storage or equipment filling or cleaning area with safeguards and roofed | 50 | 50 | | N | | |
| ADW | Agricultural drainage well ² (Class V well - illegal ³) | 50 | 50 | | N | | |
| AAT | Anhydrous ammonia tank (stationary tank) | 50 | 50 | | N | | |
| AB1 | Animal building, feedlot, confinement area, or kennel, 0.1 to 1.0 animal unit (stockyard) | 50 | 20 | 100/40 | N | | |
| AB2 | Animal building or poultry building, including a horse riding area, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| ABS | Animal burial area, more than 1.0 animal unit | 50 | 50 | | N | | |
| FVP | Animal feeding or watering area within a pasture, more than 1.0 animal unit | 50 | 50 | 100 | N | | |
| AF1 | Animal feedlot, unroofed, 300 or more animal units (stockyard) | 100 | 100 | 200 | N | | |
| AF2 | Animal feedlot, more than 1.0, but less than 300 animal units (stockyard) | 50 | 50 | 100 | N | | |
| AMA | Animal manure application | use discretion | use discretion | | N | | |
| REN | Animal rendering plant | 50 | 50 | | N | | |
| MS1 | Manure (liquid) storage basin or lagoon, unpermitted or noncertified | 300 | 300 | 600 | N | | |
| MS2 | Manure (liquid) storage basin or lagoon, approved earthen liner | 150 | 150 | 300 | N | | |
| MS3 | Manure (liquid) storage basin or lagoon, approved concrete or composite liner | 100 | 100 | 200 | N | | |
| MS4 | Manure (solid) storage area, not covered with a roof | 100 | 100 | 200 | N | | |
| OSC | Open storage for crops | use discretion | use discretion | | N | | |
| SSTS Related | | | | | | | |
| AA1 | Absorption area of a soil dispersal system, average flow greater than 10,000 gal./day | 300 | 300 | 600 | N | | |
| AA2 | Absorption area of a soil dispersal system serving a facility handling infectious or pathological wastes, average flow 10,000 gal./day or less | 150 | 150 | 300 | N | | |
| AA3 | Absorption area of a soil dispersal system, average flow 10,000 gal./day or less | 50 | 50 | 100 | N | | |
| AA4 | Absorption area of a soil dispersal system serving multiple family residences or a non-residential facility and has the capacity to serve 20 or more persons per day (Class V well) ² | 50/300/150 ⁴ | 50/300/150 ⁴ | 100/600/300 ⁴ | N | | |
| CSP | Cesspool | 75 | 75 | 150 | N | | |
| AGG | Dry well, leaching pit, seepage pit | 75 | 75 | 150 | N | | |
| *FD1 | Floor drain, grate, or trough connected to a buried sewer | 50 | 50 | | N | | |
| *FD2 | Floor drain, grate, or trough if buried sewer is air-tested, approved materials, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| *GW1 | Gray-water dispersal area | 50 | 50 | 100 | N | | |
| LC1 | Large capacity cesspools (Class V well - illegal) ² | 75 | 75 | 150 | N | | |

| PWS ID / FACILITY ID | | 1690035 | S04 | UNIQUE WELL NO. | | 229166 | |
|----------------------|--|--------------------------------|---------------|-----------------|-----------------------------|-----------------|----------|
| PWS CODE | ACTUAL OR POTENTIAL CONTAMINATION SOURCE | ISOLATION DISTANCES (FEET) | | | | LOCATION | |
| | | Minimum Distances Community | Non-community | Sensitive Well¹ | Within 200 Ft. Y / N / U | Dist. from Well | Est. (?) |
| MVW | Motor vehicle waste disposal (Class V well - illegal)² | illegal | illegal | | N | | |
| PR1 | Privy, nonportable | 50 | 50 | 100 | N | | |
| PR2 | Portable (privy) or toilet | 50 | 20 | | N | | |
| *SF1 | Watertight sand filter; peat filter; or constructed wetland | 50 | 50 | | N | | |
| SET | Septic tank | 50 | 50 | | N | | |
| HTK | Sewage holding tank, watertight | 50 | 50 | | N | | |
| SS1 | Sewage sump capacity 100 gal. or more | 50 | 50 | | N | | |
| SS2 | Sewage sump capacity less than 100 gal., tested, conforming to rule | 50 | 20 | | N | | |
| *ST1 | Sewage treatment device, watertight | 50 | 50 | | N | | |
| SB1 | Sewer, buried, approved materials, tested, serving one building, or two or less single-family residences | 50 | 20 | | N | | |
| SB2 | Sewer, buried, collector, municipal, serving a facility handling infectious or pathological wastes, open-jointed or unapproved materials | 50 | 50 | | N | | |
| *WB1 | Water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection | 50 | 50 | | N | | |
| *WB2 | Water treatment backwash holding basin, reclaim basin, or surge tank with a backflow protected sewer connection | 20 | 20 | | N | | |
| Land Application | | | | | | | |
| SPT | Land spreading area for sewage, septage, or sludge | 50 | 50 | 100 | N | | |
| Solid Waste Related | | | | | | | |
| COS | Commercial compost site | 50 | 50 | | N | | |
| CD1 | Construction or demolition debris disposal area | 50 | 50 | 100 | N | | |
| *HW1 | Household solid waste disposal area, single residence | 50 | 50 | 100 | N | | |
| LF1 | Landfill, permitted demolition debris, dump, or mixed municipal solid waste from multiple persons | 300 | 300 | 600 | N | | |
| SVY | Scrap yard | 50 | 50 | | N | | |
| SWT | Solid waste transfer station | 50 | 50 | | N | | |
| Storm Water Related | | | | | | | |
| SD1 | Storm water drain pipe, 8 inches or greater in diameter | 50 | 20 | | N | | |
| SWI | Storm water drainage well² (Class V well - illegal³) | 50 | 50 | | N | | |
| SM1 | Storm water pond greater than 5000 gal. | 50 | 35 | | N | | |
| Wells and Borings | | | | | | | |
| *EB1 | Elevator boring, not conforming to rule | 50 | 50 | | N | | |
| *EB2 | Elevator boring, conforming to rule | 20 | 20 | | N | | |
| MON | Monitoring well | record dist. | record dist. | | N | | |
| WEL | Operating well | record dist. | record dist. | | Y | 109 | |
| WEL | Operating well | record dist. | record dist. | | Y | 194 | |
| UUW | Unused, unsealed well or boring | 50 | 50 | | N | | |
| General | | | | | | | |
| *CR1 | Cistern or reservoir, buried, nonpressurized water supply | 20 | 20 | | N | | |
| PLM | Contaminant plume | 50 | 50 | | N | | |
| *CW1 | Cooling water pond, industrial | 50 | 50 | 100 | N | | |
| DC1 | Deicing chemicals, bulk road | 50 | 50 | 100 | N | | |
| *ET1 | Electrical transformer storage area, oil-filled | 50 | 50 | | N | | |
| GRV | Grave or mausoleum | 50 | 50 | | N | | |
| GP1 | Gravel pocket or French drain for clear water drainage only | 20 | 20 | | N | | |
| *HS1 | Hazardous substance buried piping | 50 | 50 | | N | | |
| HS2 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight, without safeguards | 150 | 150 | | N | | |
| HS3 | Hazardous substance tank or container, above ground or underground, 56 gal. or more, or 100 lbs. or more dry weight with safeguards | 100 | 100 | | N | | |
| HS4 | Hazardous substance multiple storage tanks or containers for residential retail sale or use, no single tank or container exceeding 56 gal. or 100 lbs., but aggregate volume exceeding | 50 | 50 | | N | | |
| HWF | Highest water or flood level | 50 | N/A | | N | | |
| *HG1 | Horizontal ground source closed loop heat exchanger buried piping | 50 | 50 | | N | | |
| *HG2 | Horizontal ground source closed loop heat exchanger buried piping and horizontal piping, approved materials and heat transfer fluid | 50 | 10 | | N | | |
| IWD | Industrial waste disposal well (Class V well)² | illegal³ | illegal³ | | N | | |
| IWS | Interceptor, including a flammable waste or sediment | 50 | 50 | | N | | |

* New potential contaminant source.

1 A sensitive well has less than 50 feet of watertight casing, and which is not cased below a confining layer or confining materials of at least 10' in thickness.

2 These sources, known as Class V underground injection wells, are regulated by the federal U.S. Environmental Protection Agency.

3 These sources are classified as Illegal by Minnesota Rules, Chapter 4725.

4 Isolation distance is determined by average flow per day or if a facility handles infectious or pathological wastes.

5 A community public water-supply well must be a minimum of 50 feet from a petroleum tank or container, unless the tank or container is used for emergency pumping and is located in a room or building separate from the community well; and is of double-wall construction with leak detection between walls; or is protected with secondary containment.

This form is based on the new Isolation distances in Minnesota Rules, Chapter 4725, related to wells and borings adopted August 4, 2006, and Minnesota Rules, Chapter 4720, related to wellhead protection.

PWS ID / FACILITY ID

1690035 S04

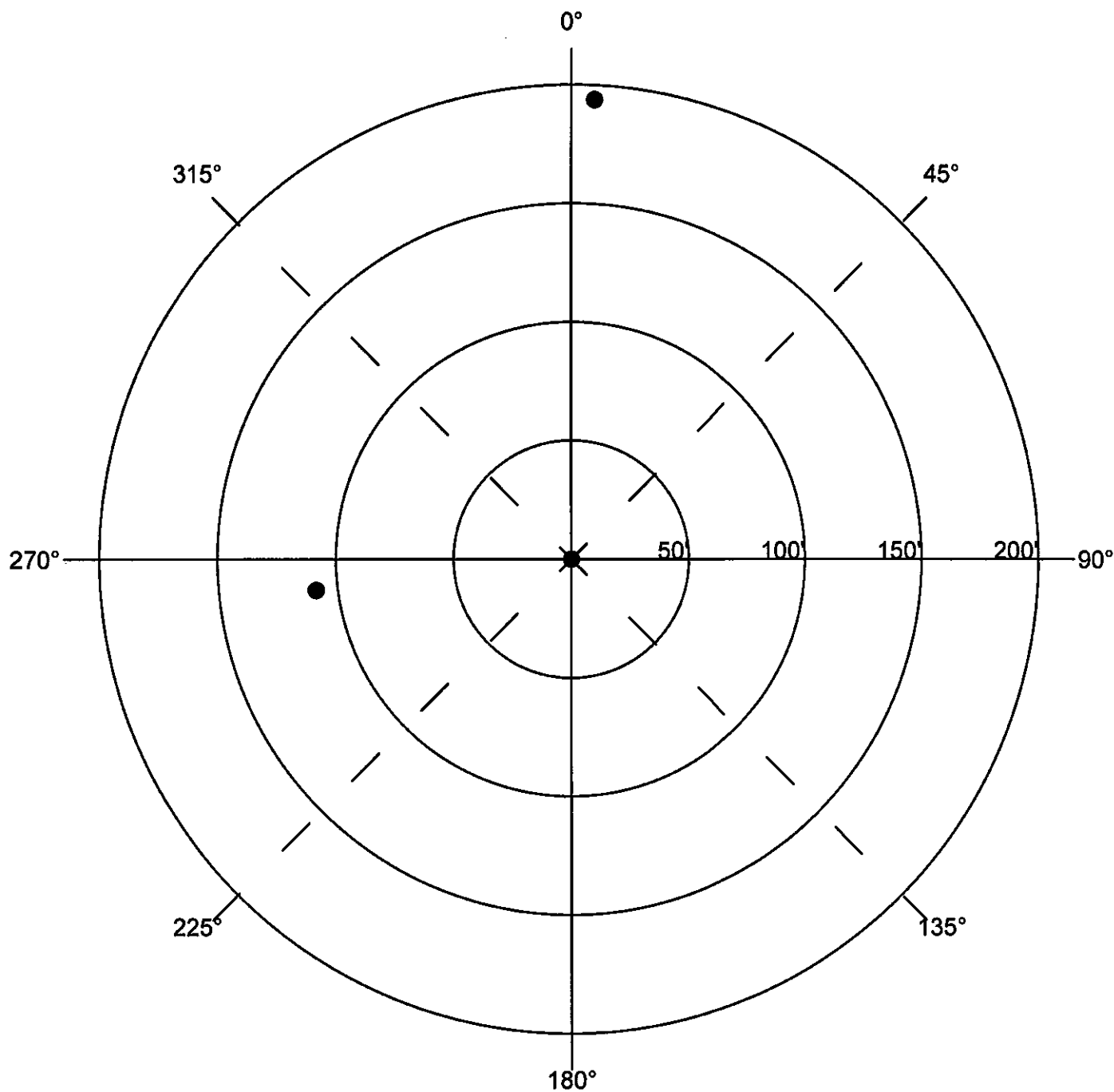
UNIQUE WELL NO.

229166

SETBACK DISTANCES

All potential contaminant sources must be noted on sketch.

Record the distance and approximate compass bearing of each potential contaminant source from the well, and identify the source using the "Source Code". Unlabeled points on the map are unsealed wells.



Were the isolation distances maintained for the new sources of contamination?

Y

N

N/A

Is the system monitoring existing nonconforming sources of contamination?

Y

N

N/A

Reminder Question: Were the Wellhead protection measure(s) implemented?

INSPECTOR

Kluthe, Beth

DATE

3 - 3 - 2011

| | | | |
|-----------------------|-------------|-----------------|--------|
| WPWS ID / FACILITY ID | 1690035 S04 | UNIQUE WELL NO. | 229166 |
|-----------------------|-------------|-----------------|--------|

| RECOMMENDED WELLHEAD PROTECTION (WHP) MEASURES | WHP MEASURE IMPLEMENTED? Y or N | DATE VERIFIED |
|--|------------------------------------|---------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

COMMENTS

9/7/2003 - Location for PCSI Type SBM (bearing = 0, distance = 0 , inventory date: 5/26/1999) could not be determined.

The existing supply line has been re-plumbed and this well has been disconnected and is isolated from the distribution system per water operator on 3/3/11. Thus, an inventory of potential contaminant sources was not conducted.

For further information, please contact:

Minnesota Department of Health
Drinking Water Protection Section
Source Water Protection Unit
PO Box 4974
St. Paul, Minnesota 55104-0974

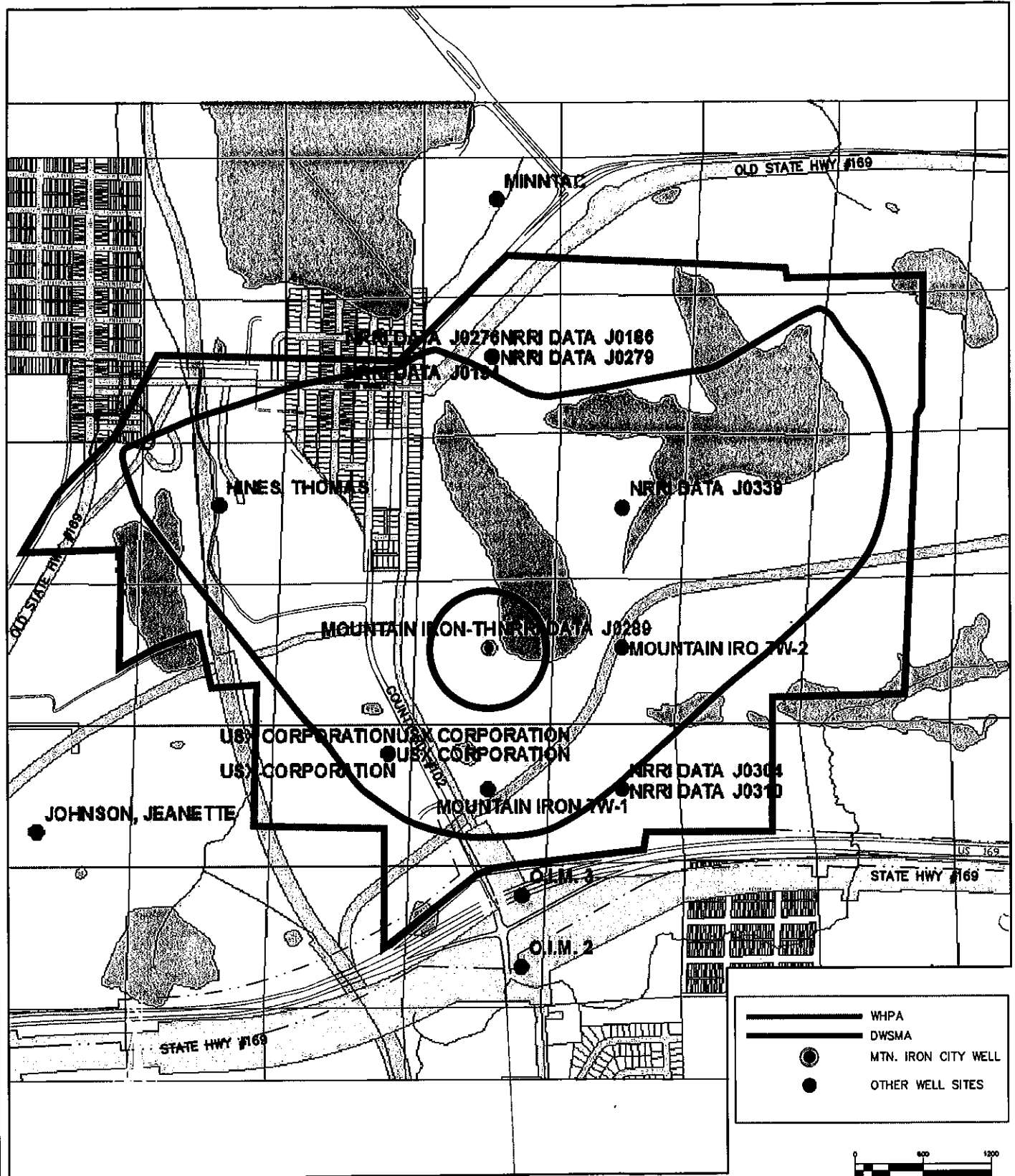
Section Receptionist: 651-201-4700
Division DD: 651-201-5797 or MN Relay Service @ 1-800-327-3529 and ask for 651-201-5000

EXHIBIT J:

**POTENTIAL CONTAMINANT SOURCE INVENTORY (PCSI)
LIST & MAPS**

EXHIBIT J-1: WELL SITES IN DWSMA

EXHIBIT J-2: MPCA PERMIT SITES IN DWSMA



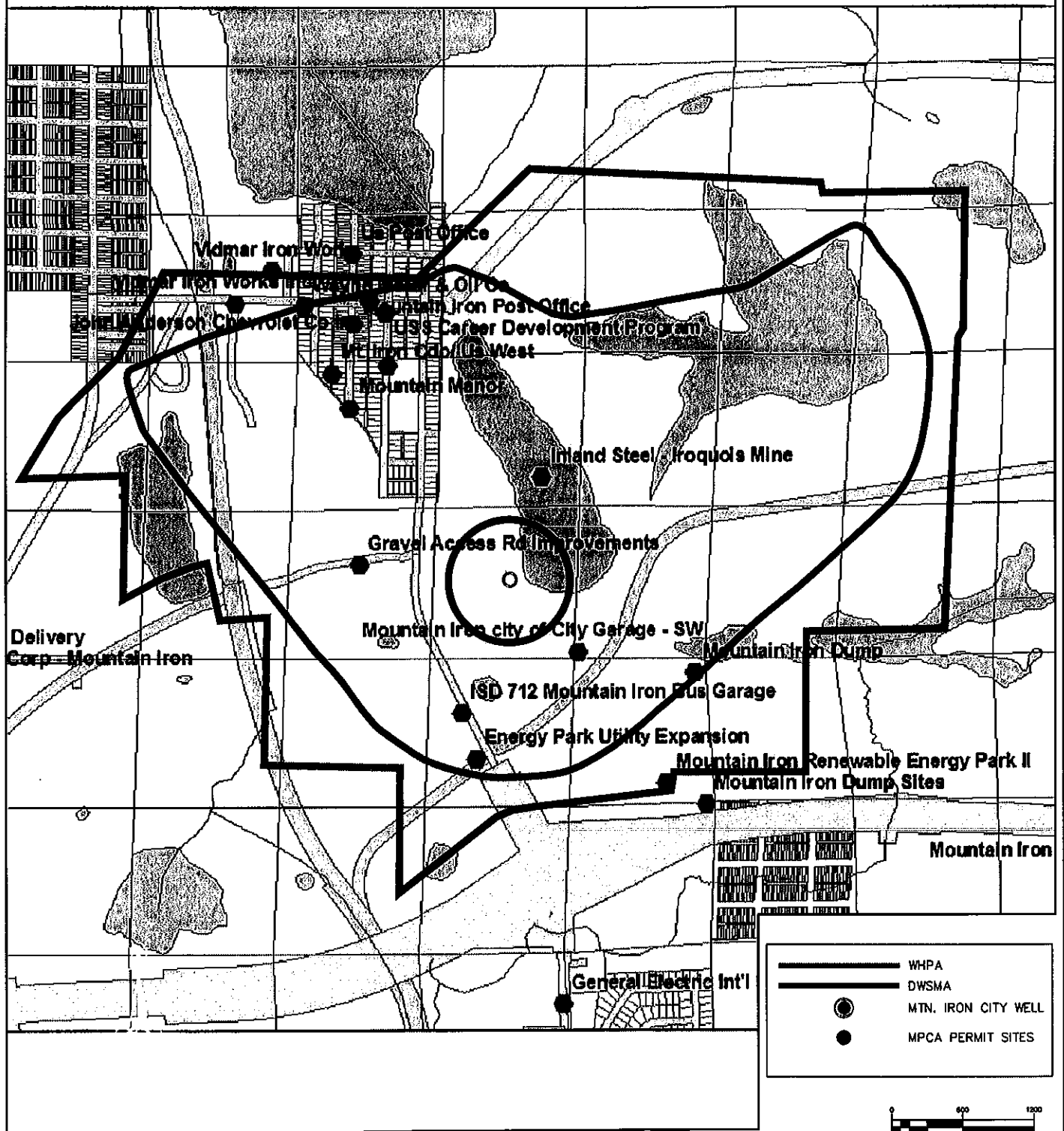
WHP PLAN, MOUNTAIN IRON, MINNESOTA

WELL SITES IN DWSMA



EXHIBIT J-1

OCTOBER 2011



WHP PLAN, MOUNTAIN IRON, MINNESOTA

MPCA PERMIT SITES IN DWSMA



EXHIBIT J-2

OCTOBER 2011

Drinking Water Supply Management Area
Final Potential Contaminant Source Inventory

| Facility Name | Unique Well No. | PCS Code | Material Code | Facility Code | Address | PLS Info | Source | Status | MAPPED |
|-------------------------------------|-----------------|----------|---------------|-------------------------|--|----------------|----------|----------|--------|
| | | | | Type Description | | | | | |
| City of Mountain Iron Well #1 | 150524 | WEL | PWS | S01 City Well No. 1 | 8586 Enterprise Drive South, Mountain Iron, MN 55768 Public Water Supply | T58N R18W S10 | IWMZ | Active | YES |
| City of Mountain Iron Well #2 | 150526 | WEL | PWS | S02 City Well No. 2 | 8586 Enterprise Drive South, Mountain Iron, MN 55768 Public Water Supply | T58N R18W S10 | IWMZ | Active | Yes |
| City of Mountain Iron Well #3 | 239976 | WEL | PWS | S03 City Well No. 3 | 8586 Enterprise Drive South, Mountain Iron, MN 55768 Public Water supply | T58N R18W S10 | IWMZ | Inactive | Yes |
| City of Mountain Iron Well #4 | 229166 | WEL | PWS | S04 City Well No. 4 | 8586 Enterprise Drive South, Mountain Iron, MN 55768 Public water supply | T58N R18W S10 | IWMZ | Inactive | Yes |
| City of Mountain Iron - Other wells | | | | 4000 | 8586 Enterprise Drive South, Mountain Iron, MN 55768 | T58N R18W S10 | | | |
| | 181612 | WEL | Unknown | Test Well | City of Mountain Iron - TW -1 | CWI | Unknown | | |
| | 181613 | WEL | Unknown | Test Well | City of Mountain Iron - TW -2 | CWI | Unknown | | |
| | 181614 | WEL | Unknown | Test Well | City of Mountain Iron - TW -3 | CWI | Unknown | | |
| | 174546 | WEL | Unknown | Test Well | City of Mountain Iron - TW | CWI | Unknown | | |
| | 780676 | WEL, VIC | w000 | Monitoring Well | MW-1 | Benchmark | Active | | |
| | 780677 | WEL, VIC | w000 | Monitoring Well | MW-2 | Benchmark | Active | | |
| | 780678 | WEL, VIC | w000 | Monitoring Well | MW-3 | Benchmark | Active | | |
| | 780679 | WEL, VIC | w000 | Monitoring Well | MW-4 | Benchmark | Active | | |
| Hines, Thomas | 168762 | WEL | Water | 1000-01 Private Well | 15 Laura Lane, Eveleth, MN 55734 17515 | T58N R18W S9 | CWI | Active | YES |
| Inland Steel - Iroquois Mine | 503865 | PCS | W000 | 3000 CERCLIS Site | Unknown MND98D609929 | T58N R18W S 10 | MPCA | Inactive | |
| ISO 712 Mountain Iron Bus Garage | | SQG | F000 | 6000 MNR000103002 | 5635 Mineral Avenue, Mountain Iron, MN 55768 Generator of hazardous materials. | T58N R18W S 3 | MPCA | active | |
| John Anderson Chevrolet Co Inc | | SQG | F000 | 2110-01 | 8873 Main Street, Mountain Iron, MN 55768 Generator of hazardous materials MND982619249 | T58N R18W S 3 | MPCA | Inactive | |
| Mountain Iron CDO/ US West | | AST | F000 | 4000 | 5726 Mill Avenue, Mountain Iron, MN 55768 Above ground tank, 119550 | T58N R18W S 10 | MPCA | active | |
| Mountain Manor | | SQG | W000 | 1100-02 148132343 | 5700 Main Street, Mountain Iron, MN 55768 This facility generated a small amount of Hazardous Waste | T58N R18W S 10 | MPCA | Inactive | |
| Mountain Iron Dump Sites | | PCS | W000 | 4346-06 NFRAP, VIC | 8586 Enterprise Drive South, Mountain Iron, MN 55768 Cleanup occurred, VP17060 | T58N R18W S 10 | MPCA | Inactive | |
| | | PCS | W000 | VIC | County Road 102 (NE side), VP17061 | | MPCA | active | |
| US Post Office | | UST | F000 | 4000 | Mountain Ave N & 1st S, Mountain Iron, MN 55768 | T58N R18W S 3 | MPCA | Removed | |
| | | LUST | F000 | 4000 | Former tank site, 15537 Leak Site, 4497 | | MPCA | Inactive | |
| USS Career Development Program | | SQG | W000 | 5000 | 5739 Marble Ave, Mountain Iron, MN 55768 Generator of hazardous materials. MNS000145979 | T58N R18W S 3 | MPCA | active | |
| USX Corporation | | | | 8000 | PO Box 417, Mountain Iron, MN 55768 | T58N R18W S10 | | | |
| | 607209 | WEL | unknown | 8000 | Monitoring well, 118073 | CWI | abandon | Yes | |
| | 607210 | WEL | unknown | 8000 | Monitoring well, 118074 | CWI | abandon | Yes | |
| | 607211 | WEL | unknown | 8000 | Monitoring well, 114778 | CWI | abandon | Yes | |
| | 607212 | WEL | unknown | 8000 | Monitoring well, 123595 | CWI | abandon | Yes | |
| | 607213 | WEL | unknown | 8000 | Monitoring well, 123596 | CWI | abandon | Yes | |
| Minntac | | | | 8000 | PO Box 417, Mountain Iron, MN 55768 | T58N R18W S3 | | | |
| | 233047 | Unknown | unknown | 8000 | Unknown, 35261 | CWI | unknown | Yes | |
| Vidmar Iron Works | | SQG | W000 | 3000 | 8975 Main Street, Mountain Iron, MN 55768 | T58N R18W S 4 | MPCA | Inactive | |
| | Storm Water | Unknown | | 3000 | This facility generated a small amount of Hazardous Waste | MPCA | Inactive | | |
| | LUST | F000 | | 3000 | This facility had a industrial stormwater permit, MN0000080804 | MPCA | Inactive | | |
| | UST | F000 | | 3000 | Fuel Oil Leak, 16984 | MPCA | active | | |
| | LUST | F000 | | 3000 | Former tank site, 18275 | MPCA | Removed | | |
| | LUST | F000 | | 3000 | Fuel Oil Leak, 6537 | MPCA | Inactive | | |
| | LUST | F000 | | 3000 | Fuel Oil Leak, 6991 | MPCA | Inactive | | |
| Wayne Motors & Oil Co. | | SQG | F000 | 2110-01 | 8904 Main Street, Mountain Iron, MN 55768 | T58N R18W S 3 | | | |
| | LUST | F000 | | 2110-01 | This facility generated a small amount of Hazardous Waste | MPCA | Inactive | | |
| | UST/AGT | F000 | | 2110-01 | Leak Site, 12169 | MPCA | Inactive | | |
| | | | | 2110-01 | Former tank site | MPCA | active | | |

| | | | | | | | |
|----------------|--------|-----|---------|----------------------------|---------------|---------|-----|
| USGS NRRI DATA | | | 9000 | USGS - none listed | T58N R18W S 3 | | |
| | 310189 | WEL | unknown | J0193, unknown | CWI | Unknown | |
| | 310188 | WEL | unknown | J0192, unknown | CWI | Unknown | |
| | 310183 | WEL | unknown | J0187, unknown | CWI | Unknown | |
| | 310275 | WEL | unknown | J0279, unknown | CWI | Unknown | Yes |
| | 310272 | WEL | unknown | J276, unknown | CWI | Unknown | Yes |
| | 310182 | WEL | unknown | J0186, unknown | CWI | Unknown | Yes |
| | 310190 | WEL | unknown | J0194, unknown | CWI | Unknown | Yes |
| | 310274 | WEL | unknown | J0278, unknown | CWI | Unknown | |
| | 250724 | WEL | unknown | J0277, unknown | CWI | Unknown | |
| USGS NRRI DATA | | | 9000 | USGS - none listed | T58N R18W S10 | | |
| | 310335 | WEL | unknown | J0339, unknown | CWI | Unknown | Yes |
| | 310306 | WEL | unknown | J0310, unknown | CWI | Unknown | |
| | 310300 | WEL | unknown | J0304, Unknown | CWI | Unknown | |
| | 310285 | WEL | unknown | J0289, unknown | CWI | Unknown | Yes |
| | 239153 | WEL | unknown | 10L-1, Unknown | CWI | Unknown | |
| | 239154 | WEL | unknown | USGS 10L-TH1, unknown | CWI | Unknown | |
| | 239156 | WEL | unknown | OIM 17572 (17071), unknown | CWI | Unknown | |
| | 239157 | WEL | unknown | USGS 10N-TH1, unknown | CWI | Unknown | |
| | 239158 | WEL | unknown | 10P-3, unknown | CWI | Unknown | |
| | 239159 | WEL | unknown | USGS 10P-TH1, unknown | CWI | Unknown | |
| | 250723 | WEL | unknown | OIM 3, unknown | CWI | Unknown | Yes |
| | 250724 | WEL | unknown | OIM 2, Unknown | CWI | Unknown | Yes |

Minnesota Unique Well No.

168762County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 03/11/2005
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|---------|--|--|-----------------------------------|
| Well Name HINES, THOMAS | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 135 ft. | 135 ft. | 08/21/1979 |
| 58 18 W 9 AA Elevation Method | | Drilling Method Non-specified Rotary | | |
| Well Address 15 LAURA LA EVELETH MN 55734 | | Drilling Fluid -- | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No From Ft. to Ft. | |
| Geological Material | | Use Domestic | | |
| BIG ROCK & SAND | BROWN | SFT-HRD | Casing Type Steel (black or low carbon) Joint Threaded Drive Shoe? <input checked="" type="checkbox"/> | |
| SAND CLAY | BROWN | SOFT | Yes <input type="checkbox"/> No Above/Below 1 ft. | |
| SLATE & LEDGE | BLACK | HARD | Casing Diameter Weight Hole Diameter | |
| LEDGE | BLACK | HARD | 6 in. to 114 ft. 19.18 lbs./ft. | |
| From To | | Open Hole from 114 ft. to 135 ft. | | |
| 0 15 | 15 105 | Screen NO Make Type | | |
| 105 113 | 113 135 | Diameter Slot/Gauze Length Set Between | | |
| | | Static Water Level | | |
| | | 25 ft. from Land surface Date Measured 08/21/1979 | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | 30 ft. after 1 hrs. pumping 20 g.p.m. | | |
| | | Well Head Completion | | |
| | | Pitless adapter manufacturer Model | | |
| | | <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| VILLAGE OF MOUNTAIN IRON | | Nearest Known Source of Contamination | | |
| | | 100 feet W direction Septic tank/drain field type | | |
| | | Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed 08/30/1979 | | |
| | | Manufacturer's name REDA Model number 7D18P HP 0.75 Volts 220 | | |
| | | Length of drop Pipe 20 ft. Capacity 18 g.p.m. | | |
| | | Type Submersible Material Plastic | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Well Contractor Certification | | |
| | | North Star Drilling 48038 EXSTED, H. | | |
| | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| First Bedrock | | | | |
| Last Strat | | | | |
| Aquifer | | | | |
| Depth to Bedrock ft. | | | | |
| County Well Index Online Report | | 168762 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

181613County St. Louis
Quad
Quad IDMINNESOTA DEPARTMENT OF HEALTH
**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 03/11/2005
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|-----------|--|---|-----------------------------------|
| Well Name MOUNTAIN IRO TW-2 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 35 ft. | 35 ft. | 08/12/1981 |
| 58 18 W 10 AC Elevation Method | | Drilling Method Non-specified Rotary | | |
| Well Address | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| MOUNTAIN IRON MN 55768 | | -- | From Ft. to Ft. | |
| Geological Material | | Use | Casing Type Joint Threaded Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| CLAY | Color RED | | No Above/Below 1 ft. | |
| HARDPAN & BOULDERS | BROWN | | Casing Diameter Weight Hole Diameter | |
| SAND | BROWN | | | |
| | Hardness | | Open Hole from ft. to ft. | |
| | From 0 | To 20 | Screen YES Make Type | |
| | 20 | 32 | Diameter Slot/Gauze Length Set Between | |
| | 32 | 35 | ft. and ft. | |
| | | Static Water Level | | |
| | | 13.7 ft. from Land surface Date Measured 08/12/1981 | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion | | |
| | | Pitless adapter manufacturer Model | | |
| | | <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| NO REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Well Contractor Certification | | |
| | | Petersen Well Co. 69183 PETERSEN, D. | | |
| | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| First Bedrock | | | | |
| Last Strat | | | | |
| Aquifer | | | | |
| Depth to Bedrock ft. | | | | |
| County Well Index Online Report | | 181613 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

174546County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 08/25/1992
Update Date 03/11/2005
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|-----------|--|---|---------------------|
| Well Name MOUNTAIN IRON-TH | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 325 ft. | 325 ft. | 01/20/1981 |
| 58 18 W 10 BD Elevation Method | | Drilling Method Air Rotary | | |
| Well Address | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| MOUNTAIN IRON MN 55768 | | -- | From Ft. to Ft. | |
| Geological Material | | Use Test well | | |
| FILL & BOULDERS | Color RED | Casing Type Steel (black or low carbon) Joint Threaded Drive Shoes? <input checked="" type="checkbox"/> | | |
| CLAY | GRAY | Yes <input type="checkbox"/> No Above/Below 1 ft. | | |
| HARDPAN | | Casing Diameter Weight Hole Diameter | | |
| SAND & GRAVEL | BROWN | 6 in. to 107 ft. 20 lbs./ft. 6 in. to 325 ft. | | |
| PAINT ROCK | RED | Open Hole from 107 ft. to 325 ft. | | |
| BROKEN ORE | RED | Screen NO Make Type | | |
| | GRY/RED | Diameter Slot/Gauze Length Set Between | | |
| | GRAY | Static Water Level | | |
| | GRAY | 7 ft. from Land surface Date Measured 01/20/1981 | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion | | |
| | | Pileless adapter manufacturer Model | | |
| | | <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| PICKED UP WATER 220-230 FT. MORE WATER AT 320 FT. | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Well Contractor Certification | | |
| | | Petersen Well Co. 69183 OLSON, D. | | |
| | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| First Bedrock | | County Well Index Online Report | | |
| Last Strat | | 174546 | | |
| Aquifer | | Printed 10/18/2011 | | |
| Depth to Bedrock ft. | | HE-01205-07 | | |

Minnesota Unique Well No.

181612County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 08/25/1992
Update Date 03/11/2005
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------------|--|--|---------------------|
| Well Name MOUNTAIN IRON TW-1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 40 ft. | 40 ft. | 08/17/1981 |
| 58 18 W 10 CA Elevation Method | | Drilling Method Non-specified Rotary | | |
| Well Address | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| MOUNTAIN IRON MN 55768 | | -- | From Ft. to Ft. | |
| Geological Material | | Use | Test well | |
| SAND & CLAY | Color BROWN | Casing Type | Joint No Information Drive Shoes? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| CLAY | RED | No Above/Below 1 ft. | | |
| CLAY | GRAY | Casing Diameter | Weight | Hole Diameter |
| SAND | BROWN | 2 in. to 40 ft. | lbs./ft. | |
| Hardness | From | To | Open Hole from ft. to ft. | |
| | 0 | 3 | Screen YES Make Type | |
| | 3 | 22 | Diameter Slot/Gauze Length Set Between | |
| | 22 | 33 | | |
| | 33 | 40 | | |
| NO REMARKS | | Static Water Level | | |
| | | 22.5 ft. from Land surface Date Measured 08/17/1981 | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion | | |
| | | Pitless adapter manufacturer Model | | |
| | | <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| First Bedrock | | Well Contractor Certification | | |
| Aquifer | Depth to Bedrock ft. | Petersen Well Co. 69183 PETERSEN, D. | | |
| Last Strat | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| County Well Index Online Report | | 181612 Printed 10/18/2011 HE-01205-07 | | |

Minnesota Unique Well No.

181614County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**

Minnesota Statutes Chapter 103I

Entry Date 02/22/1988
Update Date 03/11/2005
Received Date

| | | | | |
|--|--------------|--|---|---|
| Well Name MOUNTAIN IRON TW-3 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 14 ft. | 14 ft. | 08/18/1981 |
| 58 18 W 10 CA Elevation Method | | Drilling Method Non-specified Rotary | | |
| Well Address | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| MOUNTAIN IRON MN 55768 | | -- | From Ft. to Ft. | |
| Geological Material | | Use | Test well | |
| GRAVEL FILL | Color RED | Casing Type | Joint Threaded | Drive Shoe? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| CLAY | Hardness RED | No Above/Below 1 ft. | | |
| From 0 | To 3 | Casing Diameter | Weight | Hole Diameter |
| 3 | 14 | 2 in. to 14 ft. | lbs./ft. | |
| Open Hole from ft. to ft. | | | | |
| Screen YES Make Type plastic | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| | | | 5 | ft. and ft. |
| Static Water Level | | | | |
| 9.5 ft. from Land surface Date Measured 08/18/1981 | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pileless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Grout Material: Bentonite from 0 to 5 ft. | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Well Contractor Certification | | |
| | | Petersen Well Co. 69183 PETERSEN, D. | | |
| | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| First Bedrock | | Aquitifer | | |
| Last Strat | | Depth to Bedrock ft. | | |
| County Well Index Online Report | | 181614 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

239153County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------|---|------------------|-----------------------------------|
| Well Name 10L-1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 70 ft. | 70 ft. | 06/04/1956 |
| 58 | 18 W 10 CACADA | Elevation Method 7.5 minute topographic map (+/- 5 feet) | | |
| Drilling Method Non-specified Rotary | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Steel (black or low carbon) Joint No Information Drive Shoe? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No Above/Below 0.8 ft. | | | | |
| Casing Diameter | | Weight | Hole Diameter | |
| 12 in. to 55.5 ft. | | lbs./ft. | 12 in. to 70 ft. | |
| Open Hole from 56 ft. to 70 ft. | | | | |
| Screen NO Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | | | |
| 11.5 ft. from Land surface Date Measured 06/07/1956 | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| 12.1 ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pitless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Nearest Known Source of Contamination | | | | |
| _feet _direction _type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number HP Volts | | | | |
| Length of drop Pipe ft. Capacity g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| United States Geological Survey USGS | | | | |
| License Business Name Lic. Or Reg. No. Name of Driller | | | | |
| First Bedrock Virginia Formation | | Aquifer Virginia Formation | | |
| Last Strat Virginia Formation | | Depth to Bedrock 54 ft. | | |
| County Well Index Online Report | | 239153 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

239154

County St. Louis
 Quad Virginia
 Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**

Entry Date 02/22/1988
 Update Date 04/10/2001
 Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|--------------------------------|---|-----------------------------------|---------------------|
| Well Name USGS 10L-TH1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 67 ft. | 67 ft. | 07/25/1956 |
| 58 | 18 W 10 CACDA Elevation Method | 7.5 minute topographic map (+/- 5 feet) | | |
| Drilling Method Hand Auger | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| No Above/Below ft. | | | | |
| Casing Diameter | | Weight | Hole Diameter | |
| 6 in. to 67 ft. | | lbs./ft. | | |
| Open Hole from ft. to ft. | | | | |
| Screen Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | | | |
| ft. from Date Measured | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pitless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Nearest Known Source of Contamination | | | | |
| _feet _direction _type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number HP Volts | | | | |
| Length of drop Pipe ft. Capacity g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| United States Geological Survey | | USGS | ELLIS, T. | |
| License Business Name | | Lic. Or Reg. No. | Name of Driller | |
| First Bedrock Virginia Formation | | Aquifer | | |
| Last Strat Virginia Formation | | Depth to Bedrock 63 ft. | | |
| County Well Index Online Report | | 239154 | Printed 10/18/2011 HE-01205-07 | |

Minnesota Unique Well No.

239156

County St. Louis
 Quad Virginia
 Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**

Entry Date 02/22/1988
 Update Date 04/10/2001
 Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------|---|-----------------|-----------------------------------|
| Well Name OIM 17572 (17071) | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 115 ft. | 115 ft. | |
| 58 | 18 W 10 CDAAAB | Elevation Method 7.5 minute topographic map (+/- 5 feet) | | |
| Drilling Method -- | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type | | Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| No Above/Below ft. | | | | |
| Casing Diameter | | Weight | Hole Diameter | |
| Open Hole from ft. to ft. | | | | |
| Screen Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | | | |
| ft. from Date Measured | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pitless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Nearest Known Source of Contamination | | | | |
| _feet _direction _type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number __ HP __ Volts | | | | |
| Length of drop Pipe __ ft. Capacity __ g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| United States Geological Survey | | USGS | | |
| License Business Name | | Lic. Or Reg. No. | | Name of Driller |
| First Bedrock Virginia Formation | | Aquifer | | |
| Last Strat Virginia Formation | | Depth to Bedrock 115 ft. | | |
| County Well Index Online Report | | 239156 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

239157County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|---------------------------------|---|-----------------|---------------------|
| Well Name USGS 10N-TH1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 58 ft. | 58 ft. | 07/30/1957 |
| 58 | 18 W 10 CCDCDC Elevation Method | Drilling Method Non-specified Rotary | | |
| 1400 ft. 7.5 minute topographic map (+/- 5 feet) | | | | |
| Geological Material SAND (VC) TO GRAVEL (GRAN) CLAY TI CLAY TILL SAND (VC) & GRAVEL (GRAN-PEB) TILL, SANDY & DECOMP. SLATE SLATE | | Drilling Fluid - | | |
| | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No From Ft. to Ft. | | |
| | | Use Test well | | |
| | | Casing Type Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No No Above/Below ft. | | |
| | | Casing Diameter Weight Hole Diameter 4.5 in. to 58 ft. | | |
| | | Open Hole from ft. to ft. | | |
| | | Screen Make Type | | |
| | | Diameter Slot/Gauze Length Set Between | | |
| | | Static Water Level ft. from Date Measured | | |
| | | PUMPING LEVEL (below land surface) ft. after hrs. pumping g.p.m. | | |
| NO REMARKS | | Well Head Completion Pileless adapter manufacturer Model <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Nearest Known Source of Contamination _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed Manufacturer's name Model number __ HP _ Volts Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| First Bedrock Virginia Formation Last Strat Virginia Formation | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Well Contractor Certification United States Geological Survey USGS ZURMILLER, V. License Business Name Lic. Or Reg. No. Name of Driller | | |
| Aquifer Depth to Bedrock 58 ft. | | | | |
| County Well Index Online Report | | 239157 | | |
| | | Printed 10/18/2011 HE-01205-07 | | |

Minnesota Unique Well No.

239158County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|---|---------------------------------|--|-----------------|-----------------------------------|
| Well Name 10P-3 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 120 ft. | 120 ft. | 06/14/1956 |
| 58 | 18 W 10 CDABCB Elevation Method | 7.5 minute topographic map (+/- 5 feet) | | |
| Drilling Method Non-specified Rotary | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| .. | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | No Above/Below ft. | | |
| Casing Diameter | | Weight | Hole Diameter | |
| Open Hole from ft. to ft. | | | | |
| Screen Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | ft. from Date Measured | | |
| PUMPING LEVEL (below land surface) | | ft. after hrs. pumping g.p.m. | | |
| Well Head Completion | | Pitless adapter manufacturer Model | | |
| <input type="checkbox"/> Casing Protection | | <input type="checkbox"/> 12 in. above grade | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| DRILLED BY OIM. | | | | |
| Located by: Minnesota Geological Survey | | Method: Digitized - scale 1:24,000 or larger (Digitizing Table) | | |
| Unique Number | | Input Date: 01/01/1990 | | |
| Verification: Information from owner | | | | |
| System: UTM - Nad83, Zone15, Meters X: 528903 Y: 5263004 | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number __ HP __ Volts | | |
| | | Length of drop Pipe __ ft. Capacity __ g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| First Bedrock Virginia Formation | | Well Contractor Certification | | |
| Last Strat Virginia Formation | | United States Geological Survey USGS | | |
| Aquifer | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| Depth to Bedrock 116 ft. | | | | |
| County Well Index Online Report | | 239158 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

239159County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|---------------------------------|---|-----------------|-----------------------------------|
| Well Name USGS 10P-TH1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 70 ft. | 70 ft. | 07/25/1956 |
| 58 | 18 W 10 CDCDAB Elevation Method | 7.5 minute topographic map (+/- 5 feet) | | |
| Drilling Method Non-specified Rotary | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| No Above/Below ft. | | | | |
| Geological Material | | Casing Diameter | Weight | Hole Diameter |
| SOIL | Color | | | 6 in. to 70 ft. |
| CLAY TILL | RED | | | |
| CLAY, PLASTIC | GRAY | | | |
| SAND (M-C) & GRAVEL (GRAN) | | | | |
| DECOMPOSED SLATE | | | | |
| | Hardness | | | |
| | From To | | | |
| | 0 1 | | | |
| | 1 23 | | | |
| | 23 36 | | | |
| | 36 68 | | | |
| | 68 70 | | | |
| Open Hole from ft. to ft. | | | | |
| Screen Make Type | | | | |
| Diameter Slot/Gauze Length Set Between | | | | |
| Static Water Level | | | | |
| ft. from Date Measured | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pitless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Nearest Known Source of Contamination | | | | |
| _feet _direction _type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number __ HP _ Volts | | | | |
| Length of drop Pipe _ft. Capacity _g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| United States Geological Survey | | USGS | ELLIS, T | |
| License Business Name | | Lic. Or Reg. No. | Name of Driller | |
| First Bedrock Virginia Formation | | Aquifer | | |
| Last Strat Virginia Formation | | Depth to Bedrock 68 ft. | | |
| County Well Index Online Report | | 239159 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

250723County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 04/21/1997
Update Date 04/21/1997
Received Date

Minnesota Statutes Chapter 103I

| | | | | | | | | |
|---|--|------------------|-----------------|---|-----------------|---|--|-----------------|
| Well Name O.I.M. 3 | | | | Well Depth | Depth Completed | Date Well Completed | | |
| Township Range Dir Section Subsections Elevation ft. | | | | 120 ft. | 120 ft. | 00/00/1956 | | |
| 58 18 W 10 CDA Elevation Method | | | | | | | | |
| Geological Material CLAYEY TILL SANDY & GRAVELLY CLAY SAND SOME PEBBLES CLAYEY SAND SAND CLAYEY SAND SAND & GRAVEL SOME SILT SLATE | | | | Drilling Method | | | | |
| | | | | Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | | | From Ft. to Ft. | | | | |
| | | | | Use Test well | | | | |
| | | | | Casing Type | | Joint | Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | Above/Below ft. |
| | | | | Casing Diameter | | Weight | Hole Diameter | |
| | | | | Open Hole from ft. to ft. | | | | |
| | | | | Screen Diameter | | Slot/Gauze | Length | Set Between |
| | | | | Static Water Level | | | | |
| | | | | ft. from Date Measured | | | | |
| PUMPING LEVEL (below land surface) | | | | | | | | |
| ft. after hrs. pumping g.p.m. | | | | | | | | |
| Well Head Completion | | | | | | | | |
| Pitless adapter manufacturer Model | | | | | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | | | | | |
| REMARKS CUTTINGS AT DNR-HIBBING. | | | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| | | | | Nearest Known Source of Contamination | | | | |
| | | | | _feet _direction _type | | | | |
| | | | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| | | | | Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number __ HP __ Volts | | | | | | | | |
| Length of drop Pipe ft. Capacity g.p.m. Type Material | | | | | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | | | | | |
| Yes <input type="checkbox"/> No | | | | | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | |
| Well Contractor Certification | | | | | | | | |
| United States Geological Survey | | USGS | | | | | | |
| License Business Name | | Lic. Or Reg. No. | Name of Driller | | | | | |
| County Well Index Online Report | | | | | | | | |
| 250723 | | | | | | | | |
| Printed 10/18/2011 HE-01205-07 | | | | | | | | |

Minnesota Unique Well No.

250724County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 04/21/1997
Update Date 04/21/1997
Received Date

Minnesota Statutes Chapter 103I

| | | | | | |
|---|--|--|---|--|-----------------|
| Well Name O.I.M. 2 | | Well Depth | Depth Completed | Date Well Completed | |
| Township Range Dir Section Subsections Elevation ft. | | 39 ft. | 39 ft. | 00/00/1956 | |
| 58 18 W 10 CDD Elevation Method | | Drilling Method | | | |
| Geological Material CLAY SAND SAND, SILTY LAYERS SAND SLATE | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | From Ft. to Ft. | | | |
| | | Use Test well | | | |
| | | Casing Type | Joint | Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | Above/Below ft. |
| | | Casing Diameter | Weight | Hole Diameter | |
| | | Open Hole from ft. to ft. | | | |
| | | Screen Diameter | Slot/Gauze | Length | Set Between |
| | | Static Water Level ft. from Date Measured | | | |
| | | PUMPING LEVEL (below land surface) ft. after hrs. pumping g.p.m. | | | |
| | | Well Head Completion Pitless adapter manufacturer Model <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | |
| REMARKS CUTTINGS AT DNR-HIBBING. | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| | | Nearest Known Source of Contamination _feet _direction _type | | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | | |
| | | Manufacturer's name Model number __ HP __ Volts Length of drop Pipe ft. Capacity g.p.m. Type Material | | | |
| Cuttings Yes First Bedrock Last Strat | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| | | Well Contractor Certification United States Geological Survey USGS License Business Name Lic. Or Reg. No. Name of Driller | | | |
| County Well Index Online Report | | 250724 | | Printed 10/18/2011 HE-01205-07 | |

Minnesota Unique Well No.

607209County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date
Update Date 09/30/2003
Received Date 07/11/2003

Minnesota Statutes Chapter 103I

| | | | | |
|--|--|---|--|-----------------------------------|
| Well Name USX CORPORATION | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 12.5 ft. | 12.5 ft. | 05/21/2003 |
| 58 18 W 10 CBA Elevation Method | | Drilling Method Auger (non-specified) | | |
| Well Address P.O. BOX 417 MOUNTAIN IRON MN 55768 | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | -- | From Ft. to Ft. | |
| Geological Material | | Use Monitor well | | |
| SILTY SAND | Color BROWN Hardness MEDIUM From 0 To 13 | Casing Type Plastic Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | No Above/Below ft. | | |
| | | Casing Diameter | Weight | Hole Diameter |
| | | 2 in. to 2.5 ft. | lbs./ft. | 8 in. to 12.5 ft. |
| | | Open Hole from ft. to ft. | | |
| | | Screen YES Make JOHNSON Type plastic | | |
| | | Diameter | Slot/Gauze | Length Set Between |
| | | Static Water Level | | |
| | | ft. from Date Measured | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion | | |
| | | Pitless adapter manufacturer Model | | |
| | | <input checked="" type="checkbox"/> Casing Protection Y <input type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Grout Material: Neat Cement from 1.5 to 2.5 ft. 0.5 bags | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input checked="" type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| First Bedrock | | Well Contractor Certification | | |
| Last Strat | | Twin Ports Testing M0114 TUURA, T | | |
| Aquifer | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| Depth to Bedrock ft. | | | | |
| County Well Index Online Report | | 607209 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

607210County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date
Update Date 09/30/2003
Received Date 07/11/2003

Minnesota Statutes Chapter 103I

| | | | | |
|--|--|---|--|-----------------------------------|
| Well Name USX CORPORATION | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 15 ft. | 15 ft. | 05/21/2003 |
| 58 18 W 10 CBA Elevation Method | | Drilling Method Auger (non-specified) | | |
| Well Address P.O. BOX 417 MOUNTAIN IRON MN 55768 | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| | | | From Ft. to Ft. | |
| Geological Material | | Use Monitor well | | |
| SILTY SAND | Color BROWN Hardness MEDIUM From 0 To 15 | Casing Type Plastic Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| | | No Above/Below ft. | | |
| | | Casing Diameter | Weight | Hole Diameter |
| | | 2 in. to 5 ft. | lbs./ft. | 8 in. to 15 ft. |
| | | Open Hole from ft. to ft. | | |
| | | Screen YES Make JOHNSON Type plastic | | |
| | | Diameter | Slot/Gauze | Length Set Between |
| | | Static Water Level | | |
| | | ft. from Date Measured | | |
| | | PUMPING LEVEL (below land surface) | | |
| | | ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion | | |
| | | Pitless adapter manufacturer Model | | |
| | | <input checked="" type="checkbox"/> Casing Protection Y <input type="checkbox"/> 12 in. above grade | | |
| | | <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Grout Material: Neat Cement from 2 to 4 ft. 0.75 bags | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed | | |
| | | Manufacturer's name Model number HP Volts | | |
| | | Length of drop Pipe ft. Capacity g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | |
| | | Yes <input checked="" type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| First Bedrock | | Well Contractor Certification | | |
| Aquifer | Depth to Bedrock ft. | Twin Ports Testing M0114 TURRA, T. | | |
| Last Strat | | License Business Name Lic. Or Reg. No. Name of Driller | | |
| County Well Index Online Report | | 607210 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

607211County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 09/30/2003
Update Date 09/30/2003
Received Date 07/11/2003

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------------|---|---|---|
| Well Name USX CORPORATION | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 25 ft. | 25 ft. | 05/22/2003 |
| 58 18 W 10 CBA Elevation Method | | Drilling Method Auger (non-specified) | | |
| Well Address P.O. BOX 417 MOUNTAIN IRON MN 55768 | | Drilling Fluid -- | Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From Ft. to Ft. | |
| Geological Material SILTY SAND | | Use Monitor well | | |
| Color BROWN | Hardness MEDIUM | From 0 | To 25 | Casing Type Plastic Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Above/Below ft. |
| | | Casing Diameter 2 in. to 15 ft. | Weight lbs./ft. | Hole Diameter 8 in. to 25 ft. |
| | | Open Hole from ft. to ft. | | |
| | | Screen YES Make JOHNSON Type plastic | | |
| | | Diameter | Slot/Gauze | Length Set Between |
| | | Static Water Level ft. from Date Measured | | |
| | | PUMPING LEVEL (below land surface) ft. after hrs. pumping g.p.m. | | |
| | | Well Head Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection Y <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Grout Material: Neat Cement from 5 to 12 ft. 2 bags | | |
| | | Nearest Known Source of Contamination _feet _direction _type Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed Manufacturer's name Model number __ HP __ Volts Length of drop Pipe _ft. Capacity _g.p.m. Type Material | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| First Bedrock | Aquifer | Well Contractor Certification | | |
| Last Strat | Depth to Bedrock ft. | Twin Ports Testing | M0114 | TUURA, T. |
| | | License Business Name | Lic. Or Reg. No. | Name of Driller |
| County Well Index Online Report | | 607211 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

607212County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date
Update Date 09/30/2003
Received Date 07/11/2003

Minnesota Statutes Chapter 103I

| | | | | | | | |
|---|--|---|--|---|--|--------------------------------|--|
| Well Name USX CORPORATION | | Well Depth 16 ft. | | Depth Completed 16 ft. | | Date Well Completed 05/22/2003 | |
| Township Range Dir Section Subsections Elevation ft. 58 18 W 10 CBA Elevation Method | | Drilling Method Auger (non-specified) | | | | | |
| Well Address P.O. BOX 417 MOUNTAIN IRON MN 55768 | | Drilling Fluid -- | | Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From Ft. to Ft. | | | |
| Geological Material SILTY SAND | | Color BROWN | | Hardness MEDIUM | | From To 0 16 | |
| | | Casing Type Plastic Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Use Monitor well | | | |
| | | Casing Diameter 2 in. to 6 ft. | | Weight lbs./ft. | | Hole Diameter 8 in. to 16 ft. | |
| | | Open Hole from ft. to ft. | | | | | |
| | | Screen YES Make JOHNSON Type plastic | | | | | |
| | | Diameter | | Slot/Gauze | | Length Set Between | |
| | | Static Water Level ft. from Date Measured | | | | | |
| | | PUMPING LEVEL (below land surface) ft. after hrs. pumping g.p.m. | | | | | |
| | | Well Head Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection Y <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Grout Material: Neat Cement from 1 to 4 ft. 0.75 bags | | | | | |
| | | Nearest Known Source of Contamination _feet _direction _type Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |
| | | Pump <input type="checkbox"/> Not Installed Date Installed Manufacturer's name Model number __ HP Volts Length of drop Pipe _ft. Capacity _g.p.m. Type Material | | | | | |
| | | Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |
| | | Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | |
| First Bedrock Last Strat | | Aquifer Depth to Bedrock ft. | | Well Contractor Certification Twin Ports Testing M0114 TUURA, T. License Business Name Lic. Or Reg. No. Name of Driller | | | |
| County Well Index Online Report | | 607212 | | Printed 10/18/2011 HE-01205-07 | | | |

Minnesota Unique Well No.

607213County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date
Update Date 09/30/2003
Received Date 07/11/2003

Minnesota Statutes Chapter 103I

| | | | | |
|---|----------------------|--|---|-----------------------------------|
| Well Name USX CORPORATION | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. 58 18 W 10 CBA Elevation Method | | 17 ft. | 17 ft. | 05/22/2003 |
| Drilling Method Auger (non-specified) | | | | |
| Well Address P.O. BOX 417 MOUNTAIN IRON MN 55768 | | Drilling Fluid -- | Well Hydrofractured? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No From Ft. to Ft. | |
| Use Monitor well | | | | |
| Geological Material SILTY SAND | | Color BROWN | Hardness M.HARD | From To 0 17 |
| Casing Type Plastic Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | No Above/Below ft. | | |
| Casing Diameter | | Weight | Hole Diameter | |
| 2 in. to 7 ft. | | lbs./ft. | 8 in. to 17 ft. | |
| Open Hole from ft. to ft. | | | | |
| Screen YES Make JOHNSON Type plastic | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level ft. from Date Measured | | | | |
| PUMPING LEVEL (below land surface) ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection Y <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| NO REMARKS | | Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Grout Material: Neat Cement from 1 to 5 ft. 1 bags | | |
| Nearest Known Source of Contamination 5 feet direction type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed Manufacturer's name Model number HP Volts Length of drop Pipe ft. Capacity g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| First Bedrock | Aquifer | Twin Ports Testing | M0114 | TUURA, T. |
| Last Strat | Depth to Bedrock ft. | License Business Name | Lic. Or Reg. No. | Name of Driller |
| County Well Index Online Report | | 607213 | | Printed 10/18/2011 HE-01205-07 |

Minnesota Unique Well No.

233047County St. Louis
Quad
Quad ID

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/24/1988
Update Date 08/18/1991
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------------|---|---|--|
| Well Name MINNTAC | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation ft. | | 283 ft. | 283 ft. | 01/27/1975 |
| 58 18 W 3 CA Elevation Method | | Drilling Method -- | | |
| Geological Material RED CLAY TILL LOWER SLATY TACONITE CHERTY TACONITE | | Drilling Fluid | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| | | -- | | From Ft. to Ft. |
| | | Use | | |
| | | Casing Type | Joint No Information | Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| | | No Above/Below ft. | | |
| | | Casing Diameter | Weight | Hole Diameter |
| | | Open Hole from ft. to ft. | | |
| | | Screen | Make | Type |
| | | Diameter | Slot/Gauze | Length Set Between |
| | | Static Water Level | | ft. from Date Measured |
| PUMPING LEVEL (below land surface) | | ft. after hrs. pumping g.p.m. | | |
| Well Head Completion | | Pitless adapter manufacturer Model | | |
| <input type="checkbox"/> Casing Protection | | <input type="checkbox"/> 12 in. above grade | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| NO REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| | | Nearest Known Source of Contamination | | |
| | | _feet _direction _type | | |
| | | Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | Manufacturer's name Model number __ HP _ Volts | | |
| Length of drop Pipe _ft. Capacity _g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| First Bedrock | Aquifer | License Business Name | Lic. Or Reg. No. | Name of Driller |
| Last Strat | Depth to Bedrock ft. | | | |
| County Well Index Online Report | | 233047 | Printed 10/18/2011 HE-01205-07 | |

Minnesota Unique Well No.

239153County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|----------------|---|------------------|---------------------|
| Well Name 10L-1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 70 ft. | 70 ft. | 06/04/1956 |
| 58 | 18 W 10 CACADA | Elevation Method topographic map (+/- 5 feet) | | |
| Drilling Method Non-specified Rotary | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Steel (black or low carbon) Joint No Information Drive Shoe? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No Above/Below 0.8 ft. | | | | |
| Casing Diameter | | Weight | Hole Diameter | |
| 12 in. to 55.5 ft. | | lbs./ft. | 12 in. to 70 ft. | |
| Open Hole from 56 ft. to 70 ft. | | | | |
| Screen NO Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | | | |
| 11.5 ft. from Land surface Date Measured 06/07/1956 | | | | |
| PUMPING LEVEL (below land surface) | | | | |
| 12.1 ft. after hrs. pumping g.p.m. | | | | |
| Well Head Completion | | | | |
| Pitless adapter manufacturer Model | | | | |
| <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade | | | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Nearest Known Source of Contamination | | | | |
| _feet _direction _type | | | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | | | |
| Manufacturer's name Model number HP Volts | | | | |
| Length of drop Pipe ft. Capacity g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | | | |
| Yes <input type="checkbox"/> No | | | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | | | |
| United States Geological Survey | | USGS | | |
| License Business Name | | Lic. Or Reg. No. | Name of Driller | |
| First Bedrock Virginia Formation | | Aquifer Virginia Formation | | |
| Last Strat Virginia Formation | | Depth to Bedrock 54 ft. | | |
| County Well Index Online Report | | 239153 | | |
| | | Printed 10/14/2011 HE-01205-07 | | |

Minnesota Unique Well No.

239154County St. Louis
Quad Virginia
Quad ID 320D

MINNESOTA DEPARTMENT OF HEALTH

**WELL AND BORING
RECORD**Entry Date 02/22/1988
Update Date 04/10/2001
Received Date

Minnesota Statutes Chapter 103I

| | | | | |
|--|-----------------|---|-----------------|-----------------------------------|
| Well Name USGS 10L-TH1 | | Well Depth | Depth Completed | Date Well Completed |
| Township Range Dir Section Subsections Elevation | | 67 ft. | 67 ft. | 07/25/1956 |
| 58 | 18 W 10 CACCD A | Elevation Method topographic map (+/- 5 feet) | | |
| Drilling Method Hand Auger | | | | |
| Drilling Fluid | | Well Hydrofractured? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| -- | | From Ft. to Ft. | | |
| Use Test well | | | | |
| Casing Type Joint No Information Drive Shoe? <input type="checkbox"/> Yes <input type="checkbox"/> No | | Above/Below ft. | | |
| Casing Diameter | | Weight | Hole Diameter | |
| 6 in. to 67 ft. | | lbs./ft. | | |
| Open Hole from ft. to ft. | | | | |
| Screen Make Type | | | | |
| Diameter | | Slot/Gauze | Length | Set Between |
| Static Water Level | | ft. from Date Measured | | |
| PUMPING LEVEL (below land surface) | | ft. after hrs. pumping g.p.m. | | |
| Well Head Completion | | Pitless adapter manufacturer Model | | |
| <input type="checkbox"/> Casing Protection | | <input type="checkbox"/> 12 in. above grade | | |
| <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY) | | | | |
| NO REMARKS | | Grouting Information Well Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Located by: United States Geological Survey | | Method: Digitized - scale 1:24,000 or larger (Digitizing Table) | | |
| Unique Number | | Input Date: 01/01/1990 | | |
| Verification: Information from owner | | System: UTM - Nad83, Zone15, Meters X: 528780 Y: 5263111 | | |
| Nearest Known Source of Contamination | | _feet _direction _type | | |
| Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Pump <input type="checkbox"/> Not Installed Date Installed | | Manufacturer's name Model number __ HP _ Volts | | |
| Length of drop Pipe _ft. Capacity _g.p.m. Type Material | | | | |
| Abandoned Wells Does property have any not in use and not sealed well(s)? <input type="checkbox"/> | | Yes <input type="checkbox"/> No | | |
| Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Well Contractor Certification | | United States Geological Survey USGS ELLIS, T. | | |
| License Business Name | | Lic. Or Reg. No. Name of Driller | | |
| First Bedrock Virginia Formation | | Aquifer | | |
| Last Strat Virginia Formation | | Depth to Bedrock 63 ft. | | |
| County Well Index Online Report | | 239154 | | Printed 10/14/2011 HE-01205-07 |

MINING EXPLORATORY BORINGS

| Unique Number | Stratigraphy | County | Well Name | Township | Range | Dir | Section | Sub Sections | Depth (ft) | Use | Elevation (ft) | Depth Cased (ft) | SWL | Casing Diameter | Casing Material | Aquifer | Address |
|---------------|--------------|-----------|--------------------------------|----------|-------|-----|---------|--------------|------------|-------------|----------------|------------------|------|-----------------|-----------------------------|--------------------|---------|
| 239153 | Yes | St. Louis | 104-1 | 58 | 18 | W | 10 | CACADA | 70 | Test well | 1425 | 55.5 | 11.5 | 12 | Steel (black or low carbon) | Virginia Formation | |
| 239154 | Yes | St. Louis | USGS LOC TH1 | 58 | 18 | W | 10 | CACADA | 67 | Test well | 1424 | | | 6 | | | |
| 303524 | Yes | St. Louis | EASTERN RY 1 | 58 | 18 | W | 3 | DDD | 140 | Exploration | 1497 | | | | | | |
| 303525 | Yes | St. Louis | EASTERN RY 3 | 58 | 18 | W | 3 | DDD | 30 | Exploration | 1493 | | | | | | |
| 303526 | Yes | St. Louis | EASTERN RY 4 | 58 | 18 | W | 3 | DDC | 20 | Exploration | 1488 | | | | | | |
| 303526 | Yes | St. Louis | EASTERN RY 4 | 58 | 18 | W | 3 | DDC | 20 | Exploration | 1489 | | | | | | |
| 303527 | Yes | St. Louis | EASTERN RY 11 | 58 | 18 | W | 3 | DCA | 10 | Exploration | 1499 | | | | | | |
| 303528 | Yes | St. Louis | EASTERN RY 12 | 58 | 18 | W | 3 | DDB | 120 | Exploration | 1512 | | | | | | |
| 303529 | Yes | St. Louis | EASTERN RY 14 | 58 | 18 | W | 3 | DCA | 10 | Exploration | 1512 | | | | | | |
| 303530 | Yes | St. Louis | EASTERN RY 16 | 58 | 18 | W | 3 | DCA | 80 | Exploration | 1506 | | | | | | |
| 303960 | Yes | St. Louis | STATE DEP DIST #5 (D.A. WHITE) | 58 | 18 | W | 3 | DB | 397 | Exploration | 904 | | | | | | |
| 310132 | Yes | St. Louis | NRI DATA J0133 | 58 | 18 | W | 2 | CD | | Exploration | 1480 | | | | | | |
| 310133 | Yes | St. Louis | NRI DATA J0134 | 58 | 18 | W | 2 | CD | | Exploration | 1473 | | | | | | |
| 310180 | Yes | St. Louis | NRI DATA J0184 | 58 | 18 | W | 2 | CCABAD | | Exploration | 1511 | | | | | | |
| 310181 | Yes | St. Louis | NRI DATA J0185 | 58 | 18 | W | 2 | CCABBD | | Exploration | 1512 | | | | | | |
| 310184 | Yes | St. Louis | NRI DATA J0188 | 58 | 18 | W | 3 | DC | | Exploration | 1513 | | | | | | |
| 310185 | Yes | St. Louis | NRI DATA J0189 | 58 | 18 | W | 3 | DC | | Exploration | 1548 | | | | | | |
| 310186 | Yes | St. Louis | NRI DATA J0190 | 58 | 18 | W | 3 | DC | | Exploration | 1539 | | | | | | |
| 310187 | Yes | St. Louis | NRI DATA J0191 | 58 | 18 | W | 3 | DC | | Exploration | 1535 | | | | | | |
| 310193 | Yes | St. Louis | NRI DATA J0197 | 58 | 18 | W | 2 | CC | | Exploration | 1504 | | | | | | |
| 310194 | Yes | St. Louis | NRI DATA J0198 | 58 | 18 | W | 2 | CC | | Exploration | 1505 | | | | | | |
| 310195 | Yes | St. Louis | NRI DATA J0199 | 58 | 18 | W | 2 | CC | | Exploration | 1495 | | | | | | |
| 310196 | Yes | St. Louis | NRI DATA J0200 | 58 | 18 | W | 2 | CC | | Exploration | 1519 | | | | | | |
| 310197 | Yes | St. Louis | NRI DATA J0201 | 58 | 18 | W | 2 | CC | | Exploration | 1500 | | | | | | |
| 310198 | Yes | St. Louis | NRI DATA J0202 | 58 | 18 | W | 2 | CC | | Exploration | 1507 | | | | | | |
| 310199 | Yes | St. Louis | NRI DATA J0203 | 58 | 18 | W | 2 | CC | | Exploration | 1506 | | | | | | |
| 310200 | Yes | St. Louis | NRI DATA J0204 | 58 | 18 | W | 2 | CC | | Exploration | 1508 | | | | | | |
| 310201 | Yes | St. Louis | NRI DATA J0205 | 58 | 18 | W | 2 | CC | | Exploration | 1504 | | | | | | |
| 310202 | Yes | St. Louis | NRI DATA J0208 | 58 | 18 | W | 2 | CC | | Exploration | 1505 | | | | | | |
| 310203 | Yes | St. Louis | NRI DATA J0207 | 58 | 18 | W | 2 | CC | | Exploration | 1506 | | | | | | |
| 310204 | Yes | St. Louis | NRI DATA J0208 | 58 | 18 | W | 2 | CC | | Exploration | 1513 | | | | | | |
| 310205 | Yes | St. Louis | NRI DATA J0209 | 58 | 18 | W | 2 | CC | | Exploration | 1518 | | | | | | |
| 310227 | Yes | St. Louis | NRI DATA J0231 | 58 | 18 | W | 2 | CC | | Exploration | 1518 | | | | | | |
| 310228 | Yes | St. Louis | NRI DATA J0232 | 58 | 18 | W | 2 | CC | | Exploration | 1496 | | | | | | |
| 310229 | Yes | St. Louis | NRI DATA J0233 | 58 | 18 | W | 2 | CC | | Exploration | 1510 | | | | | | |
| 310230 | Yes | St. Louis | NRI DATA J0234 | 58 | 18 | W | 2 | CC | | Exploration | 1509 | | | | | | |
| 310231 | Yes | St. Louis | NRI DATA J0235 | 58 | 18 | W | 2 | CC | | Exploration | 1500 | | | | | | |
| 310232 | Yes | St. Louis | NRI DATA J0236 | 58 | 18 | W | 2 | CC | | Exploration | 1497 | | | | | | |
| 310233 | Yes | St. Louis | NRI DATA J0237 | 58 | 18 | W | 2 | CC | | Exploration | 1510 | | | | | | |
| 310235 | Yes | St. Louis | NRI DATA J0239 | 58 | 18 | W | 2 | CC | | Exploration | 1514 | | | | | | |
| 310236 | Yes | St. Louis | NRI DATA J0240 | 58 | 18 | W | 2 | CC | | Exploration | 1493 | | | | | | |
| 310241 | Yes | St. Louis | NRI DATA J0245 | 58 | 18 | W | 3 | DA | | Exploration | 1534 | | | | | | |
| 310256 | Yes | St. Louis | NRI DATA J0260 | 58 | 18 | W | 3 | DB | | Exploration | 1554 | | | | | | |
| 310257 | Yes | St. Louis | NRI DATA J0261 | 58 | 18 | W | 3 | DB | | Exploration | 1545 | | | | | | |
| 310258 | Yes | St. Louis | NRI DATA J0262 | 58 | 18 | W | 3 | DA | | Exploration | 1534 | | | | | | |
| 310261 | Yes | St. Louis | NRI DATA J0265 | 58 | 18 | W | 3 | DB | | Exploration | 1538 | | | | | | |
| 310276 | Yes | St. Louis | NRI DATA J0280 | 58 | 18 | W | 3 | DC | | Exploration | 1530 | | | | | | |
| 310286 | Yes | St. Louis | NRI DATA J0280 | 58 | 18 | W | 10 | AA | | Exploration | 1501 | | | | | | |
| 310287 | Yes | St. Louis | NRI DATA J0291 | 58 | 18 | W | 10 | AA | | Exploration | 1486 | | | | | | |
| 310288 | Yes | St. Louis | NRI DATA J0292 | 58 | 18 | W | 10 | AA | | Exploration | 1480 | | | | | | |
| 310289 | Yes | St. Louis | NRI DATA J0293 | 58 | 18 | W | 10 | AA | | Exploration | 1497 | | | | | | |
| 310290 | Yes | St. Louis | NRI DATA J0294 | 58 | 18 | W | 10 | AA | | Exploration | 1512 | | | | | | |
| 310291 | Yes | St. Louis | NRI DATA J0295 | 58 | 18 | W | 10 | AA | | Exploration | 1507 | | | | | | |
| 310292 | Yes | St. Louis | NRI DATA J0296 | 58 | 18 | W | 10 | AA | | Exploration | 1497 | | | | | | |
| 310293 | Yes | St. Louis | NRI DATA J0297 | 58 | 18 | W | 10 | AA | | Exploration | 1508 | | | | | | |
| 310294 | Yes | St. Louis | NRI DATA J0298 | 58 | 18 | W | 10 | AA | | Exploration | 1502 | | | | | | |
| 310295 | Yes | St. Louis | NRI DATA J0299 | 58 | 18 | W | 10 | AA | | Exploration | 1499 | | | | | | |
| 310296 | Yes | St. Louis | NRI DATA J0300 | 58 | 18 | W | 10 | AA | | Exploration | 1498 | | | | | | |
| 310297 | Yes | St. Louis | NRI DATA J0301 | 58 | 18 | W | 10 | AB | | Exploration | 1487 | | | | | | |
| 310298 | Yes | St. Louis | NRI DATA J0302 | 58 | 18 | W | 10 | AC | | Exploration | 1484 | | | | | | |
| 310299 | Yes | St. Louis | NRI DATA J0303 | 58 | 18 | W | 10 | AC | | Exploration | 1471 | | | | | | |
| 310301 | Yes | St. Louis | NRI DATA J0305 | 58 | 18 | W | 10 | AC | | Exploration | 1466 | | | | | | |

MINING EXPLORATORY BORINGS

| Unique Number | Stratigraphy | County | Well Name | Township | Range | Dir | Section | Sub Sections | Depth (ft) | Use | Elevation (ft) | Depth Cased (ft) | SWL | Casing Diameter | Casing Material | Aquifer | Address |
|---------------|--------------|-----------|-----------------|----------|-------|-----|---------|--------------|------------|-------------|----------------|------------------|-----|-----------------|-----------------|---------|---------|
| 310302 | Yes | St. Louis | NRRI DATA J0306 | 58 | 18 | W | 10 | AC | | Exploration | 1468 | | | | | | |
| 310303 | Yes | St. Louis | NRRI DATA J0307 | 58 | 18 | W | 10 | AC | | Exploration | 1456 | | | | | | |
| 310304 | Yes | St. Louis | NRRI DATA J0308 | 58 | 18 | W | 10 | AC | | Exploration | 1452 | | | | | | |
| 310305 | Yes | St. Louis | NRRI DATA J0309 | 58 | 18 | W | 10 | AC | | Exploration | 1467 | | | | | | |
| 310307 | Yes | St. Louis | NRRI DATA J0311 | 58 | 18 | W | 10 | AC | | Exploration | 1450 | | | | | | |
| 310308 | Yes | St. Louis | NRRI DATA J0312 | 58 | 18 | W | 10 | AC | | Exploration | 1445 | | | | | | |
| 310309 | Yes | St. Louis | NRRI DATA J0313 | 58 | 18 | W | 10 | AC | | Exploration | 1477 | | | | | | |
| 310310 | Yes | St. Louis | NRRI DATA J0314 | 58 | 18 | W | 10 | AC | | Exploration | 1450 | | | | | | |
| 310311 | Yes | St. Louis | NRRI DATA J0315 | 58 | 18 | W | 10 | AC | | Exploration | 1452 | | | | | | |
| 310312 | Yes | St. Louis | NRRI DATA J0316 | 58 | 18 | W | 10 | AC | | Exploration | 1448 | | | | | | |
| 310313 | Yes | St. Louis | NRRI DATA J0317 | 58 | 18 | W | 10 | AC | | Exploration | 1452 | | | | | | |
| 310314 | Yes | St. Louis | NRRI DATA J0318 | 58 | 18 | W | 10 | AC | | Exploration | 1452 | | | | | | |
| 310315 | Yes | St. Louis | NRRI DATA J0319 | 58 | 18 | W | 10 | AC | | Exploration | 1459 | | | | | | |
| 310316 | Yes | St. Louis | NRRI DATA J0320 | 58 | 18 | W | 10 | AA | | Exploration | 1508 | | | | | | |
| 310317 | Yes | St. Louis | NRRI DATA J0321 | 58 | 18 | W | 10 | AB | | Exploration | 1478 | | | | | | |
| 310318 | Yes | St. Louis | NRRI DATA J0322 | 58 | 18 | W | 10 | AB | | Exploration | 1484 | | | | | | |
| 310319 | Yes | St. Louis | NRRI DATA J0323 | 58 | 18 | W | 10 | AB | | Exploration | 1504 | | | | | | |
| 310320 | Yes | St. Louis | NRRI DATA J0324 | 58 | 18 | W | 10 | AB | | Exploration | 1482 | | | | | | |
| 310321 | Yes | St. Louis | NRRI DATA J0325 | 58 | 18 | W | 10 | AB | | Exploration | 1499 | | | | | | |
| 310322 | Yes | St. Louis | NRRI DATA J0326 | 58 | 18 | W | 10 | AB | | Exploration | 1485 | | | | | | |
| 310323 | Yes | St. Louis | NRRI DATA J0327 | 58 | 18 | W | 10 | AB | | Exploration | 1499 | | | | | | |
| 310324 | Yes | St. Louis | NRRI DATA J0328 | 58 | 18 | W | 10 | AB | | Exploration | 1523 | | | | | | |
| 310325 | Yes | St. Louis | NRRI DATA J0329 | 58 | 18 | W | 10 | BA | | Exploration | 1458 | | | | | | |
| 310326 | Yes | St. Louis | NRRI DATA J0330 | 58 | 18 | W | 10 | BA | | Exploration | 1481 | | | | | | |
| 310327 | Yes | St. Louis | NRRI DATA J0331 | 58 | 18 | W | 10 | BA | | Exploration | 1499 | | | | | | |
| 310328 | Yes | St. Louis | NRRI DATA J0332 | 58 | 18 | W | 10 | BA | | Exploration | 1519 | | | | | | |
| 310329 | Yes | St. Louis | NRRI DATA J0333 | 58 | 18 | W | 10 | BA | | Exploration | 1499 | | | | | | |
| 310330 | Yes | St. Louis | NRRI DATA J0334 | 58 | 18 | W | 10 | BD | | Exploration | 1461 | | | | | | |
| 310331 | Yes | St. Louis | NRRI DATA J0335 | 58 | 18 | W | 10 | BD | | Exploration | 1452 | | | | | | |
| 310332 | Yes | St. Louis | NRRI DATA J0336 | 58 | 18 | W | 10 | BD | | Exploration | 1461 | | | | | | |
| 310333 | Yes | St. Louis | NRRI DATA J0337 | 58 | 18 | W | 10 | BD | | Exploration | 1474 | | | | | | |
| 310333 | Yes | St. Louis | NRRI DATA J0337 | 58 | 18 | W | 10 | BD | | Exploration | 1474 | | | | | | |
| 310334 | Yes | St. Louis | NRRI DATA J0338 | 58 | 18 | W | 3 | CCDD | | Exploration | 1493 | | | | | | |
| 310336 | Yes | St. Louis | NRRI DATA J0340 | 58 | 18 | W | 3 | CCDD | | Exploration | 1483 | | | | | | |
| 310338 | Yes | St. Louis | NRRI DATA J0342 | 58 | 18 | W | 3 | DD | | Exploration | 1522 | | | | | | |
| 310339 | Yes | St. Louis | NRRI DATA J0343 | 58 | 18 | W | 3 | DD | | Exploration | 1528 | | | | | | |
| 310340 | Yes | St. Louis | NRRI DATA J0344 | 58 | 18 | W | 3 | DD | | Exploration | 1530 | | | | | | |
| 310341 | Yes | St. Louis | NRRI DATA J0345 | 58 | 18 | W | 9 | AB | | Exploration | 1485 | | | | | | |
| 310342 | Yes | St. Louis | NRRI DATA J0346 | 58 | 18 | W | 9 | AB | | Exploration | 1489 | | | | | | |
| 310343 | Yes | St. Louis | NRRI DATA J0347 | 58 | 18 | W | 9 | AB | | Exploration | 1492 | | | | | | |
| 310344 | Yes | St. Louis | NRRI DATA J0348 | 58 | 18 | W | 9 | AB | | Exploration | 1499 | | | | | | |
| 310345 | No | St. Louis | NRRI DATA J0349 | 58 | 18 | W | 9 | AA | | Exploration | 1472 | | | | | | |
| 310346 | Yes | St. Louis | NRRI DATA J0350 | 58 | 18 | W | 9 | AA | | Exploration | 1488 | | | | | | |
| 310347 | Yes | St. Louis | NRRI DATA J0351 | 58 | 18 | W | 9 | AA | | Exploration | 1496 | | | | | | |
| 310348 | Yes | St. Louis | NRRI DATA J0352 | 58 | 18 | W | 9 | AA | | Exploration | 1497 | | | | | | |
| 310349 | Yes | St. Louis | NRRI DATA J0353 | 58 | 18 | W | 9 | AA | | Exploration | 1491 | | | | | | |
| 310351 | Yes | St. Louis | NRRI DATA J0355 | 58 | 18 | W | 9 | AD | | Exploration | 1456 | | | | | | |
| 310352 | Yes | St. Louis | NRRI DATA J0356 | 58 | 18 | W | 9 | AD | | Exploration | 1449 | | | | | | |
| 310353 | Yes | St. Louis | NRRI DATA J0357 | 58 | 18 | W | 9 | AD | | Exploration | 1467 | | | | | | |
| 310354 | Yes | St. Louis | NRRI DATA J0358 | 58 | 18 | W | 9 | AD | | Exploration | 1470 | | | | | | |
| 310394 | Yes | St. Louis | NRRI DATA J0398 | 58 | 18 | W | 3 | DD | | Exploration | 1527 | | | | | | |
| 310395 | Yes | St. Louis | NRRI DATA J0399 | 58 | 18 | W | 3 | DD | | Exploration | 1533 | | | | | | |
| 310396 | Yes | St. Louis | NRRI DATA J0400 | 58 | 18 | W | 3 | DD | | Exploration | 1502 | | | | | | |
| 310397 | Yes | St. Louis | NRRI DATA J0401 | 58 | 18 | W | 3 | DC | | Exploration | 1531 | | | | | | |
| 310398 | Yes | St. Louis | NRRI DATA J0402 | 58 | 18 | W | 9 | AD | | Exploration | 1472 | | | | | | |
| 310399 | Yes | St. Louis | NRRI DATA J0403 | 58 | 18 | W | 9 | AD | | Exploration | 1473 | | | | | | |
| 310400 | Yes | St. Louis | NRRI DATA J0404 | 58 | 18 | W | 9 | AD | | Exploration | 1492 | | | | | | |
| 310406 | Yes | St. Louis | NRRI DATA J0410 | 58 | 18 | W | 10 | AC | | Exploration | 1478 | | | | | | |
| 310407 | Yes | St. Louis | NRRI DATA J0411 | 58 | 18 | W | 10 | DB | | Exploration | 1437 | | | | | | |
| 310408 | Yes | St. Louis | NRRI DATA J0412 | 58 | 18 | W | 10 | DB | | Exploration | 1434 | | | | | | |
| 310409 | Yes | St. Louis | NRRI DATA J0413 | 58 | 18 | W | 10 | AD | | Exploration | 1582 | | | | | | |
| 310410 | Yes | St. Louis | NRRI DATA J0414 | 58 | 18 | W | 10 | AD | | Exploration | 1592 | | | | | | |
| 310411 | Yes | St. Louis | NRRI DATA J0415 | 58 | 18 | W | 10 | AD | | Exploration | 1571 | | | | | | |

MINING EXPLORATORY BORINGS

| Unique Number | Stratigraphy | County | Well Name | Township | Range | Dir | Section | Sub Sections | Depth (ft) | Use | Elevation (ft) | Depth Cased (ft) | SWL | Casing Diameter | Casing Material | Aquifer | Address |
|---------------|--------------|-----------|----------------------|----------|-------|-----|---------|--------------|------------|-------------|----------------|------------------|-----|-----------------|-----------------|---------|---------|
| 310412 | Yes | St. Louis | MININTAC J0416 | | 58 | 18 | W | 10 AD | | Exploration | 1553 | | | | | | |
| 310413 | Yes | St. Louis | MININTAC J0417 | | 58 | 18 | W | 10 AD | | Exploration | 1572 | | | | | | |
| 310414 | Yes | St. Louis | MININTAC J0418 | | 58 | 18 | W | 10 AD | | Exploration | 1575 | | | | | | |
| 312794 | Yes | St. Louis | MININTAC (USS) 17199 | | 58 | 18 | W | 9 AB | | Exploration | 1478 | | | | | | |
| 312795 | Yes | St. Louis | MININTAC (USS) 17200 | | 58 | 18 | W | 9 AA | | Exploration | 1451 | | | | | | |
| 312796 | Yes | St. Louis | MININTAC (USS) 17201 | | 58 | 18 | W | 9 AD | | Exploration | 1440 | | | | | | |
| 312931 | Yes | St. Louis | MININTAC (USS) 17351 | | 58 | 18 | W | 3 DB | | Exploration | 1534 | | | | | | |
| 312931 | Yes | St. Louis | MININTAC (USS) 17351 | | 58 | 18 | W | 3 DB | | Exploration | 1534 | | | | | | |
| 312965 | Yes | St. Louis | MININTAC (USS) 17385 | | 58 | 18 | W | 3 CA | | Exploration | 1530 | | | | | | |
| 312965 | Yes | St. Louis | MININTAC (USS) 17385 | | 58 | 18 | W | 3 CA | | Exploration | 1530 | | | | | | |
| 312988 | Yes | St. Louis | MININTAC (USS) 17554 | | 58 | 18 | W | 9 DA | | Exploration | 1447 | | | | | | |
| 312990 | Yes | St. Louis | MININTAC (USS) 17568 | | 58 | 18 | W | 10 CB | | Exploration | 1458 | | | | | | |
| 312991 | Yes | St. Louis | MININTAC (USS) 17569 | | 58 | 18 | W | 10 CB | | Exploration | 1445 | | | | | | |
| 312992 | Yes | St. Louis | MININTAC (USS) 17570 | | 58 | 18 | W | 10 CB | | Exploration | 1424 | | | | | | |
| 312992 | Yes | St. Louis | MININTAC (USS) 17570 | | 58 | 18 | W | 10 CB | | Exploration | 1424 | | | | | | |
| 312993 | Yes | St. Louis | MININTAC (USS) 17571 | | 58 | 18 | W | 10 CA | | Exploration | 1443 | | | | | | |
| 312994 | Yes | St. Louis | MININTAC (USS) 17572 | | 58 | 18 | W | 10 CA | | Exploration | 1445 | | | | | | |
| 313712 | Yes | St. Louis | MININTAC (USS) 24424 | | 58 | 18 | W | 9 AA | | Exploration | 1458 | | | | | | |

EXHIBIT K:

**ALIGNMENT OF PROPOSED COUNTY ROAD 102 & USS MINNTAC ENTRANCE ROAD
WITH
DWSMA, WHPA, & ERA**



WHP PLAN, MOUNTAIN IRON, MINNESOTA

PROPOSED ALIGNMENT OF COUNTY
ROAD 102 AND MINNTAC ENTRANCE ROAD



EXHIBIT K

OCTOBER 2011

EXHIBIT L:

**WELLHEAD PROTECTION PLAN
ACTION STRATEGIES SUMMARY**

**CITY OF MOUNTAIN IRON, MINNESOTA
WELLHEAD PROTECTION PLAN - PART II
"AT A GLANCE" ACTION PLAN STRATEGIES**

| YEAR | ACTIONS/STRATEGY | WELLHEAD MEASURE | RESPONSIBILITIES/PARTY | DATE COMPLETED |
|------|---|------------------|----------------------------------|----------------|
| 2012 | Put WHP Plan on City web site & provide updates as necessary | A-2 | WHP Manager | |
| | Create an article for "the Connector" about wellhead protection | A-3 | WHP Manager / City Staff | |
| | Present WHP Plan to City Council & brief all new members | A-5 | WHP Manager / City Staff | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Distribute brochures to private wells owners within DWSMA regarding proper well maintenance & operation | C-1 | WHP Manager / City Staff | |
| | Cost estimates & explore funding to seal old municipal wells #3 & #4 | C-2 | WHP Manager / Benchmark | |
| | Educate above & below ground tank owners within DWSMA regarding leak prevention | C-4 | WHP Manager / City Staff | |
| | Identify new private wells within DWSMA and update WHP as needed | C-6 | WHP Manager | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Seal old municipal wells #3 & #4 | C-3 | WHP Manager / Benchmark | |
| 2013 | | | | |
| | Install informational signs at WHP Area perimeter (Work with MN/DOT) | A-1 | WHP Manager / City Staff | |
| | Prepare a tri-fold informational brochure to explain WHP Plan to system users | A-4 | WHP Manager / City Staff | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Distribute Class V injection well fact sheet to landowners within DWSMA | C-5 | WHP Manager / City Staff | |
| | Work with USS Minntac to monitor effects of high capacity well to DWSMA | C-7 | WHP Manager / Water Operator | |
| | Cleanup & closure of Mountain Iron Dump #2 | C-9 | Benchmark / Contractor | |
| | Complete a borehole investigation of existing wells with logging equipment | D-1 | WHP Manager / Water Operator | |
| | Track annual water use of wells and modify WHP Plan as required | D-5 | Water Operator / Benchmark | |
| | Coordinate planning, design & construction of new CR 102 with WHPA & DWSMA | E-3 | WHP Manager / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | | | | |
| | | | | |
| | | | | |
| 2014 | Create an article for "the Connector" about wellhead protection | A-3 | WHP Manager / City Staff | |
| | Present WHP Plan to City Council & brief all new members | A-5 | WHP Manager / City Staff | |
| | Review & update the IWMZ inventory for wells within the system | B-1 | WHP Manager / Water Operator | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Summarize & assess WHP implementation and funding efforts | G-2 | WHP Manager / Benchmark | |
| | | | | |
| 2015 | | | | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Identify new private wells within DWSMA and update WHP as needed | C-6 | WHP Manager | |
| | Track annual water use of wells and modify WHP Plan as required | D-5 | Water Operator / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Review water quality and/or level monitoring of Iroquois Mine Pit Lake | D-6 | Water Operator / MDH / Benchmark | |
| 2016 | | | | |
| | Create an article for "the Connector" about wellhead protection | A-3 | WHP Manager / City Staff | |
| | Present WHP Plan to City Council & brief all new members | A-5 | WHP Manager / City Staff | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |

**CITY OF MOUNTAIN IRON, MINNESOTA
WELLHEAD PROTECTION PLAN - PART II
"AT A GLANCE" ACTION PLAN STRATEGIES**

| YEAR | ACTION STRATEGY | WHP PLAN MEASURE | RESPONSIBLE PARTY | DATE COMPLETED |
|------|--|------------------|--|----------------|
| | Review and update the City's WHP contingency plan | F-1 | WHP Manager / Water Operator / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | | | | |
| 2017 | Review & update the IWMZ inventory for wells within the system | B-1 | WHP Manager / Water Operator | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Educate above & below ground tank owners within DWSMA regarding leak prevention | C-4 | WHP Manager / City Staff | |
| | Track annual water use of wells and modify WHP Plan as required | D-5 | Water Operator / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Summarize & assess WHP implementation and funding efforts | G-2 | WHP Manager / Benchmark | |
| | | | | |
| 2018 | Create an article for "the Connector" about wellhead protection | A-3 | WHP Manager / City Staff | |
| | Present WHP Plan to City Council & brief all new members | A-5 | WHP Manager / City Staff | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Identify new private wells within DWSMA and update WHP as needed | C-6 | WHP Manager | |
| | Work with MDH to sample City wells & Iroquois Mine Pit Lake for stable isotopes of water, chloride, bromide, & sulfate | D-3 | Water Operator | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Work with MDH to conduct a long term aquifer test | D-4 | WHP Manager / Water Operator | |
| | | | | |
| 2019 | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Track annual water use of wells and modify WHP Plan as required | D-5 | Water Operator / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Summarize & assess WHP implementation and funding efforts | G-2 | WHP Manager / Benchmark | |
| | | | | |
| 2020 | Create an article for "the Connector" about wellhead protection | A-3 | WHP Manager / City Staff | |
| | Present WHP Plan to City Council & brief all new members | A-5 | WHP Manager / City Staff | |
| | Review & update the IWMZ inventory for wells within the system | B-1 | WHP Manager / Water Operator | |
| | Implement WHP measures in IWMZ | B-3 | WHP Manager | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | | | | |
| 2021 | Track annual water use of wells and modify WHP Plan as required | D-5 | Water Operator / Benchmark | |
| | Review and update the City's WHP contingency plan | F-1 | WHP Manager / Water Operator / Benchmark | |
| | Update City Council about WHP actions, tasks, efforts, goals & objectives | G-1 | WHP Manager | |
| | Summarize & assess WHP implementation and funding efforts | G-2 | WHP Manager / Benchmark | |

EXHIBIT M:

TABLE OF ANNUAL WELL WATER USAGE



BENCHMARK
ENGINEERING, INC.

MOUNTAIN IRON WELLHEAD PROTECTION PLAN - PART II
CITY OF MOUNTAIN IRON, MINNESOTA
PROJECT NUMBER: MI10-15

October 17, 2011

TABLE 1
ANNUAL VOLUME OF WATER DISCHARGED FROM WATER SUPPLY WELLS
(NOTE: TOTALS IN TABLE ARE EXPRESSED IN GALLONS)

| WELL NO. | UNIQUE WELL NUMBER | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | FUTURE |
|----------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|----------------------|
| 1 | 150524 | 69,300,000 | 60,400,000 | 58,150,000 | 66,468,000 | 64,049,200 | 60,300,000 | 54,250,000 | NO INCREASE EXPECTED |
| 2 | 150526 | 46,200,000 | 40,200,000 | 48,938,000 | 52,986,000 | 50,796,700 | 47,356,000 | 42,668,000 | NO INCREASE EXPECTED |
| TOTAL | | 115,500,000 | 100,600,000 | 107,088,000 | 119,454,000 | 114,845,900 | 107,656,000 | 96,918,000 | NO INCREASE EXPECTED |

NOTE: 2009 & 2010 DATA ADDED TO PART II TO SHOW NO INCREASE IN YEARLY WATER USAGE.