



MEMO

To: File
From: Elizabeth Victor *EVN*
Date: August 29, 2016
Site Name/BRRTS: Kewaunee Marsh Arsenic Spill (02-31-000508)
Re: Field Activities Report for July 15, 2016

Who:

Liz Victor, NER R&R Hydrogeologist
Tom Versteegen, NER R&R Hydrogeologist

Purpose of Field Visit:

Collect one round of water levels, and bail and inspect those wells targeted for groundwater sampling to determine if recharge is sufficient and if well conditions were conducive to sampling.

GPS Unit Used: Garmin eTrex 20
Operated by Liz Victor

Camera Used: Canon Powershot SX 510 HS
Operated by Liz Victor

Scope of Work for Field Visit

- 1) Assess and document monitoring well conditions
 - Determine if all of the wells are present
 - Collect construction/design info and assess conditions of all wells present (obstructions, bailers or new locks needed, etc.)
 - Pre-bail wells to evaluate their response and water turbidity
- 2) Collect one complete round of groundwater elevation data

Site Conditions

Temperatures were in the low 80s. During this site visit, all vegetation had grown considerably taller and thicker making walking very difficult. The cattails and phragmites were nearly 5 above our heads and the reed canary grass had fallen over to create a barrier that was difficult to walk through. Because of the height and thickness of the vegetation, the PVC pipes that mark the location of each well could not be seen above the cattails and the wells themselves were difficult to locate, even when using the GPS.

Tasks Completed:

- Collected groundwater elevation data from 15 monitor wells and bailed 11 of the 16 monitor wells.
- Read the staff gage on the Kewaunee River.
- We could not locate GW01-11 or MW02-6 but did find an unlocked PVC stickup well which had a bailer suspended inside (GPS Waypoint #154). By looking at the location of the waypoint, this well is either sts-mp2 or sts-mp3.
- We terminated the field work at ~1:30 pm after realizing that we would likely not complete the field work within a reasonable work day.
- Waypoints and observations are shown on the attached map, *Kewaunee Marsh: July 15, 2016*.

Remaining Tasks to be Completed:

- Collect one complete round of groundwater elevation data.
- Complete well bailing and well inspection task

Findings and Further Questions:

Stressed Vegetation – the area of stressed vegetation (identified during the June 15th & 29th, 2016 field visits) was not inspected during this site visit.

Surface Water - surface water levels at the site were lower; much of the area traversed was dryer than the June 2016 site visits.

Monitoring Wells - After uncapping the wells, the bailers, which were submerged in the water column to some extent, were pulled out and allowed to equilibrate for 2-5 minutes. Water level data were then collected followed by bailing. The wells were bailed down to near the bottom almost immediately. Recharge into the wells was slow but steady. After this, the bailers were put back into the well, positioning them, if possible, above the water in the well. Based on the slow recharge and the submerged bailers, I question whether or not the wells had sufficiently recharged prior to collection of water level data.

| Well ID | DTW | TD | Color/turbidity | Bailing | Comments |
|---|--------------|-------|---|---|---|
| GW01-2 | 2.51 | 4.93 | Cloudy, grey | Bailed to ~4" from bottom then slow recharge | Not locked |
| GW01-7 | 1.84 | 4.92 | clear | Bailed to ~12" from bottom, then slow recharge | Not locked |
| GW01-8 | 1.75 | 4.95 | NA | Well not bailed | Cap in mud, no lock, PVC well marker broken |
| GW01-9 | 2.93 | 4.92 | Lt br, slightly cloudy, black residue on bottom of bailer | Bailed (1.5 bailers) to ~6' from bottom, then slow recharge | |
| MW02-3 | 3.75 | 7.95 | Sl cloudy | Bailed to ~10" from bottom, then slow recharge | |
| MW02-3i | 5.27 | 12.84 | NA | Not bailed | |
| MW02-3d | 5.03 | 22.15 | NA | Not bailed | |
| MW02-8 | 3.57 | 11.95 | clear | Bailed to ~18" from bottom, then good recharge | PVC well marker is broken, tall phragmites |
| MW02-8i | 2.16 | 9.51 | NA | Not bailed | |
| MW04-9 | 2.97 | 8.68 | Sl cloudy to clear | Bailed (3 bailers) to ~3" from bottom, then slow recharge | |
| MW11-1 | 6.44 | 9.41 | Brown, cloudy, silt in bailer | Bailed to ~4" from bottom, then slow recharge | |
| MW11-1i | 5.70 | 14.55 | Lt brown, sl cloudy | Bailed (4 bailers) to ~3" from bottom, then slow recharge | |
| MW11-2 | 5.91 | 9.67 | Clear, black residue on bottom of bailer | Bailed to ~5" from bottom, then slow recharge | |
| MW11-3 | 4.28 | 9.56 | clear | Bailed to ~6" from bottom, then slow recharge | |
| MW11-3i | 5.09 | 14.77 | Lt brown, sl cloudy | Bailed to ~12" from bottom, then quick recharge | |
| Unknown MW | NM | NM | No lock, well has bailer, well is a "pvc stick-up" with no protective casing | | |
| River | Gage: 3.40ft | | Measured from staff gage mounted to wood pilings on north east side of rail trail bridge. | | |
| DTW: depth to water in ft measured from top of casing TD: Total well depth measured from top of casing NA: Not Applicable, NM: Not measured, | | | | | |

 *Elizabeth Victor, P.G.*
 Hydrogeologist
 Oshkosh Service Center
 Remediation and Redevelopment Program

Recommendations:

- In the future, consider modifying water level data collection process to allow for proper equilibration:
 1. Uncap and remove bailers from all wells, allow 15 minutes or so for equilibration, then proceed with collection water levels, followed by a second round of data collection for verification, or
 2. For wells inside protective metal casings consider not storing the dedicated bailers inside the wells and leave the wells uncapped so that wells remain in a state of equilibration. This will require switching from dedicated bailers to disposable bailers (not very environmentally considerate) or to sampling with a peristaltic pump/dedicated tubing. This will allow the collection of water levels followed directly by well purging.
- Obtain a list of well, pond, and gate coordinates in both WTM & Lat./Long. To any gps unit can be used in the field.
- MW02-8/MW02-8i: Comparing total well depth to well name in the above table, it looks like either the depth to water was recorded incorrectly or the well casings were mislabeled. Verify well IDs in the field by double checking the total well depth.
- In the future, take photo of river staff gage for later reference in determining river level. Staff gage can be hard to read from bridge.

Attachments:

- Kewaunee Marsh Photo Thumbnails, 7/15/2016
- Staff Gage reading verification photo
- Coordinates measured in field on 7/15/2016
- Kewaunee Marsh: Waypoints and Tracks from 7/15/16 Visit
- Field Notes, 7/15/16
- Monitor well construction information table used in field
- Drawing 1, STS Consultants Ltd., 12/18/04 with proposed scope of work for bailing and water levels used in the field.

 *Elizabeth Victor, P.G.*

Hydrogeologist
Oshkosh Service Center
Remediation and Redevelopment Program



Riverstiff bog 7 15 2016 b



6w01-8 7 15 2016 b



6w01-8 7 15 2016 a



Mw02-8 7 15 2016 a



Mw02-8 7 15 16 b



Mw02-8 7 15 16 c



Mw02-8 7 16 2016 c



Mw02-8 7 16 2016 c



Mw02-8 7 15 2016 f

KEWAUNEE MARSH PHOTOS

MILEN

7 15 2016

02-31-000508



River Staff base
7 15 2016 a

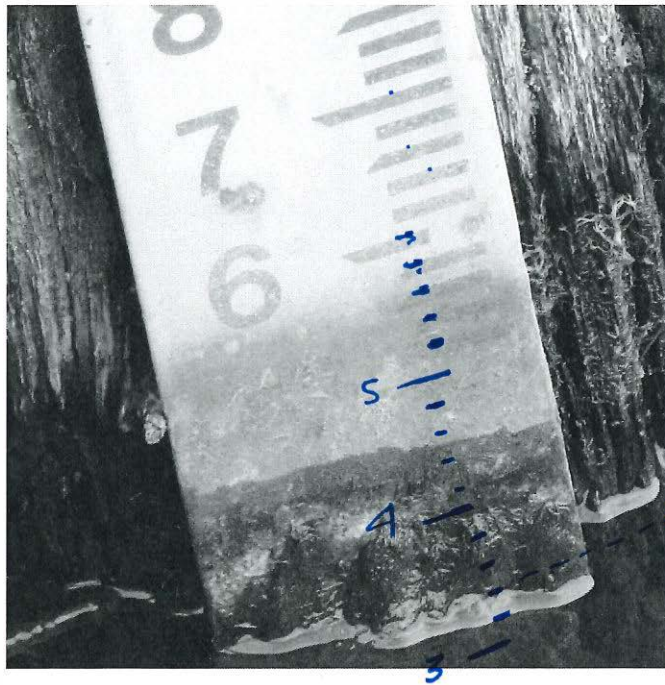
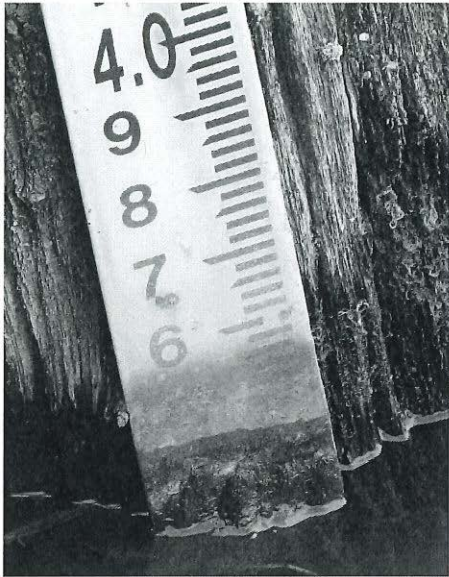


River N. of
City Rd E b



River N. of
City Rd E a

Photo of river staff gage, Kewaunee Marsh, July 15, 2016.



--- 3.40' verified by GAV

Depth to water observed from bridge and reported in field notes: ~3.4'.

Depth to water based on closer examination of above photo: ~~3.40~~
3.40

KEWANEE MARSH (02-31-000508)

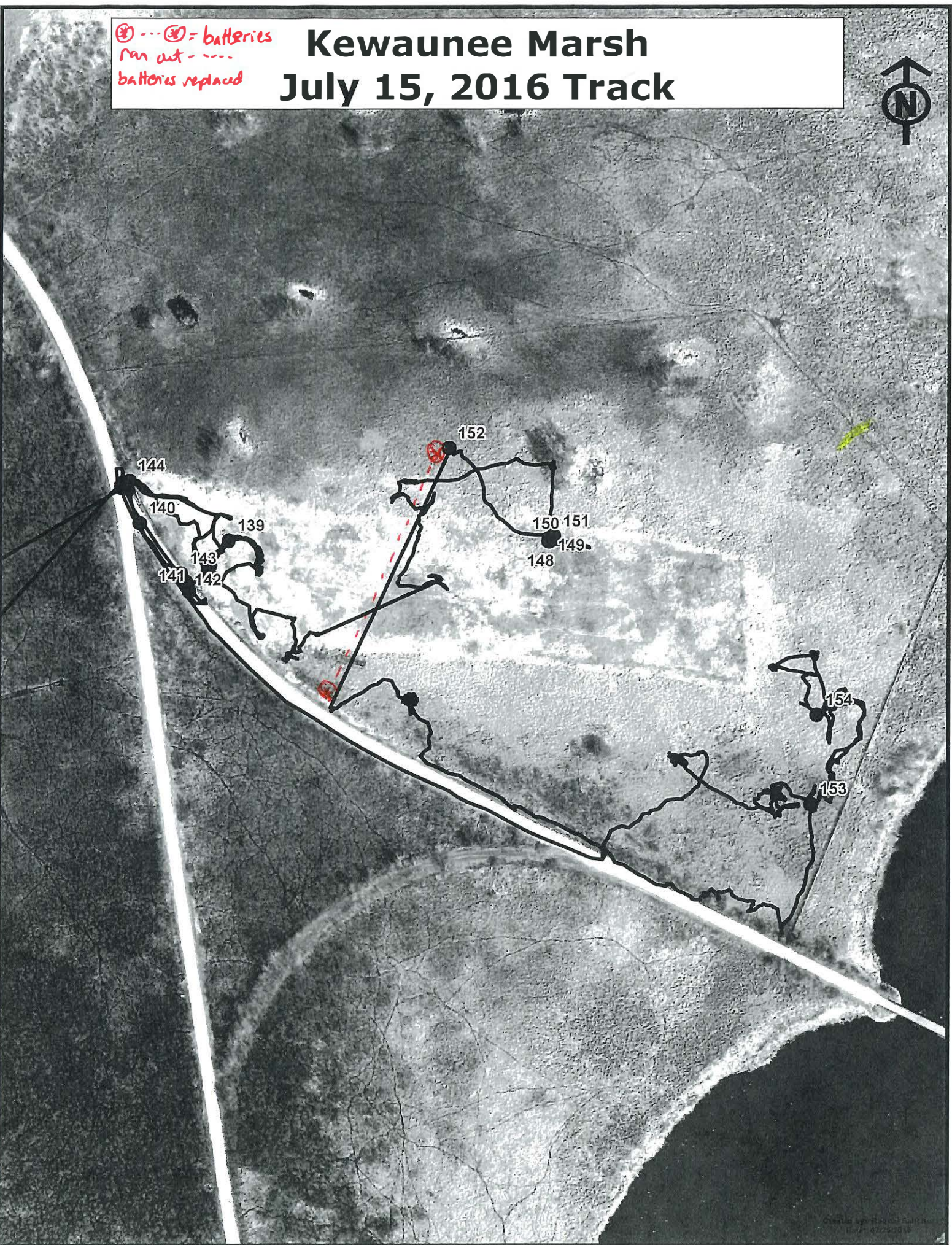
TRACKS AND WAYPOINTS July 15, 2016

| ident | Latitude | Longitude | WTM X | WTM Y | ltime | Comment |
|-------|-----------|------------|-------------|-------------|------------------|-----------------------|
| 136 | 44.47546 | -87.517122 | 717467.2119 | 447681.8706 | 07/15/2016 8:33 | |
| 137 | 44.475457 | -87.517133 | 717466.3471 | 447681.5108 | 07/15/2016 8:33 | |
| 138 | 44.475421 | -87.517124 | 717467.1844 | 447677.5337 | 07/15/2016 8:34 | |
| 139 | 44.475554 | -87.517016 | 717475.3251 | 447692.5682 | 07/15/2016 8:35 | |
| 140 | 44.475633 | -87.517493 | 717437.1216 | 447700.191 | 07/15/2016 8:40 | I believe these |
| 141 | 44.475363 | -87.517237 | 717458.3929 | 447670.8181 | 07/15/2016 8:42 | waypoints were |
| 142 | 44.475401 | -87.517257 | 717456.674 | 447674.9908 | 07/15/2016 8:42 | recorded accidentally |
| 143 | 44.475433 | -87.517281 | 717454.6573 | 447678.4873 | 07/15/2016 8:42 | when bending |
| 144 | 44.475796 | -87.517543 | 717432.595 | 447718.1761 | 07/15/2016 8:47 | over/moving caused |
| 145 | 44.47552 | -87.515273 | 717614.0649 | 447693.0045 | 07/15/2016 10:26 | depression of |
| 146 | 44.475525 | -87.515282 | 717613.3322 | 447693.5381 | 07/15/2016 10:26 | waypoint button on |
| 147 | 44.475525 | -87.515283 | 717613.2527 | 447693.5357 | 07/15/2016 10:27 | gps. They do not |
| 148 | 44.475514 | -87.515285 | 717613.1308 | 447692.309 | 07/15/2016 10:27 | correspond to any |
| 149 | 44.475515 | -87.515281 | 717613.4455 | 447692.4298 | 07/15/2016 10:27 | specific item. |
| 150 | 44.475524 | -87.515264 | 717614.7672 | 447693.4706 | 07/15/2016 10:27 | |
| 151 | 44.475533 | -87.515254 | 717615.5321 | 447694.4945 | 07/15/2016 10:27 | |
| 152 | 44.475885 | -87.515809 | 717570.2032 | 447732.2525 | 07/15/2016 10:55 | |
| 153 | 44.474465 | -87.513906 | 717726.3505 | 447579.1223 | 07/15/2016 12:53 | |
| 154 | 44.474809 | -87.513862 | 717728.6877 | 447617.4399 | 07/15/2016 13:16 | sts mp-2 or sts-mp-3 |

GPS unit used: garmin eTrex 20 Sof (operated by EAV)
comments by EAV

⊙ --- ⊙ = batteries
ran out - - -
batteries replaced

Kewaunee Marsh July 15, 2016 Track



7/15/16 W. 2nd Level

Tom Verstege

Liz Victor

8:15 AM - arrive at site.

- get dressed, etc.

~~AM 11~~

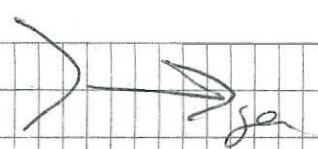
- open wells on west end of cap, remove bailers, collect water levels, purge wells, re-cap, re-lock.

Purpose of Field Visit:

- Collect 1 round of water levels

- purge wells to pre-develop for upcoming sampling event and to see how they respond and how turbid they are.

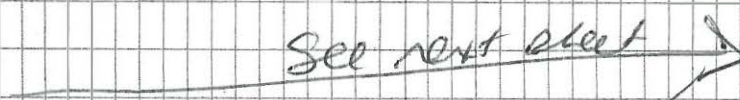
| NAME | DTW | ID |
|--------|-------|----|
| MW11-3 | | |
| MW11-3 | 5.09' | |



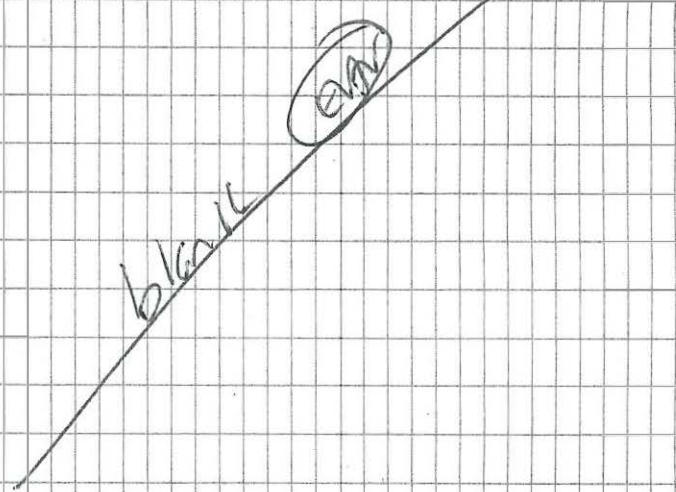
See next sheet



See next sheet



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END

| | DW | ID | |
|---------|----------------|-------------|-------------------------------|
| MW11-3i | 5.09 | 14.77 | lt. br. sl clay |
| MW11-3 | 4.28 | 9.56 | clear - bailed |
| MW11-2 | 5.91 | 9.67 | clear bailed to |
| MW11-1 | 6.44 | 9.41 | lt. br. clay - etc |
| MW11-1i | 5.70 | 14.55 | lt. br. sl clay - |
| MW04-9 | 2.97 | 8.68 | - bailed to ±3" aft |
| GW01-9 | 2.93 | 4.92 | - bailed 1x (1/2 full) the |
| MW02-3 | 3.78 | 7.95 | - bailed to ±10" |
| MW02-5i | 5.27 | 12.84 | - Not bailed |
| MW02-3d | 5.03 | 22.15 | - Not bailed |
| GW01-2 | not locked | 2.51 | 4.93 - bailed to full sl |
| MW02-5i | 3.57 | 11.95 | - bailed to ±18" |
| MW02-8i | 2.16 | 9.51 | → PVC marker |
| GW01-8 | 1.75 | 4.95 | - cap in mud |
| GW01-11 | could not find | | |
| GW01-7 | 153 | 4.92 → 1.84 | - cap not today |
| WP154 | (SIS MP?) | | no lock, |

Q MW - 1:30 pm - cannot find.
 2:37 - River water ±3.4' - Lots
 photo.
 3:00 pm - Leave site, Lock gate
 Travel back to Osh
 ±4:30 pm - arrive at Osh
 Island

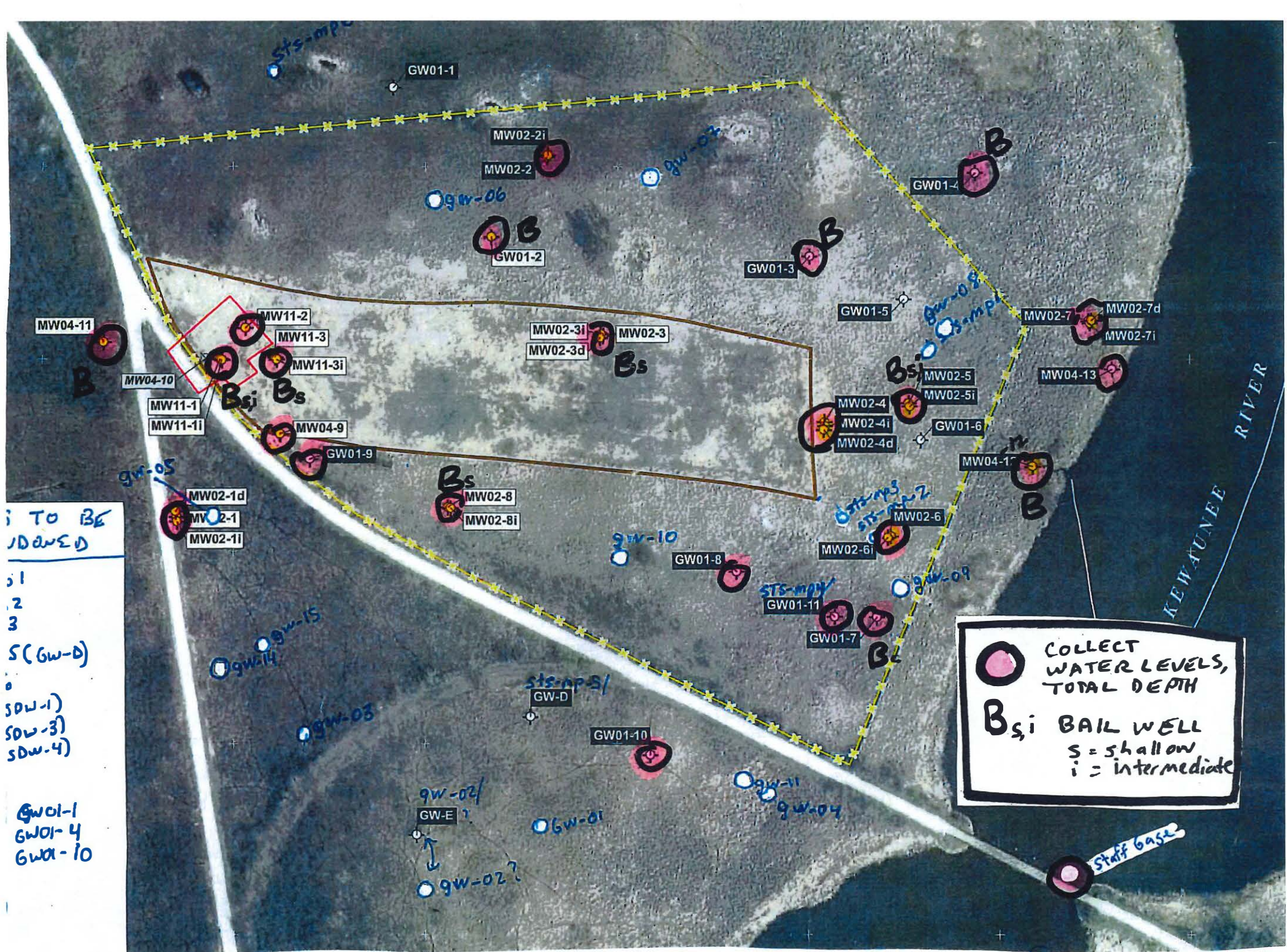
bailed down to 1' then recharged quickly
 well to ±6" then recharge
 with 5" of bottom. Recharged - tip of bucket
 well was silty. Bailed to 4" of bottom then recharge
 bailed 4x then bailed to 3" of bottom, then recharge
 on 3 batters. Clean sl. clay
 to ±6" w/ recharge - lt. br. sl. clay - Res. due to
 then recharged - sl. cloudy

clay, grey. Bailed to ±4" then recharged.
 H₂O - good red, clear
 broken - Phragmites the highest level
 no lock well open, PVC marker broken

Clear, bailed to ±12" water - then recharged
 lower, PVC 1x 2/16s

the wells.
 of 3/16 in on water - refer to
 at entry point to trail.
 1K Osh
 Island

(Signature)





TO BE
ADDED

1
2
3

S (GW-D)

SDW-1)
SDW-3)
SDW-4)

GW01-1
GW01-4
GW01-10

 COLLECT WATER LEVELS, TOTAL DEPTH
 B_{si} BAIL WELL
 S = shallow
 i = intermediate

DRAWING by STS Consultants Ltd, 10/18/14 with proposed scope of work for water levels and bailings.

FIELD COPY

MONITOR WELL CONSTRUCTION INFORMATION
KEWAUNEE MARSH ARSENIC SPILL

| Monitoring Point | WTM_X | WTM_Y | TOC Elevation (ft msl) | Land Surface Elevation (ft msl) | total well depth (ft bls) | casing dia. (inches) | borehole dia (inches) | length of screen (feet) | depth to TOS | (ft btc or bls) | screen slot size | Filter pack | Installation date | Installed by | depth of peat (ft bls) | Station ID # | Other |
|------------------------|------------|------------|------------------------|---------------------------------|---------------------------|----------------------|-----------------------|-------------------------|--------------|-----------------|------------------|-------------|-------------------|--------------|------------------------|--------------|-------|
| AB ✓ sts-mp1 | 717759.057 | 447684.725 | 583.26* | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| AB ✓ sts-mp2 | 717729.871 | 447617.384 | 583.12* | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| AB ✓ sts-mp3 | 717707.097 | 447625.324 | 583.19* | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| ✓ sts-mp4 (GW01-11) | 717703.518 | 447571.935 | 580.54** | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| AB ✓ sts-mp5 (GW-D) | 717592.368 | 447542.172 | 581.47* | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| AB ✓ sts-mp6 | 717482.712 | 447793.719 | 581.31* | --- | ~6-7 | --- | na | 5 | --- | --- | 0.006 | none | early '96 | sts | --- | | |
| ✓ gw-01 (SDW-1) | 717592.36 | 447497.297 | | --- | 5 | 1 7/8 | na | 1 | 4 | btc | | none | 4/8/96 | DNR | | | |
| ✓ gw-02 (SDW-2) (GW-E) | 717545.729 | 447471.279 | | --- | 5 | 1 7/8 | na | 1 | 4 | btc | sawed slits | none | 4/8/96 | DNR | | | |
| ✓ gw-03 (SDW-3) | 717497.501 | 447534.528 | | --- | 5 | 1 7/8 | na | 1 | 4 | btc | | none | 4/8/96 | DNR | | | |
| ✓ gw-04 (SDW-4) | | | | --- | 5 | 1 7/8 | na | 1 | 4 | btc | | none | 4/8/96 | DNR | | | |
| AB ✓ gw-05 | 717475.92 | 447610.009 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-06 | 717553.704 | 447743.158 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-07 | 717639.041 | 447751.377 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-08 | 717753.523 | 447695.619 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-09 | 717739.081 | 447590.607 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | sawed slits | none | 5/20-23/96 | | | | |
| ✓ gw-10 | 717622.491 | 447601.425 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-11 | 717672.627 | 447511.785 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-12 | | | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-13 | | | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-14 | 717468.63 | 447554.62 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| ✓ gw-15 | 717493.2 | 447565.06 | | --- | ~3 | 1.5 | na | 1 | 4 | btc | | none | 5/20-23/96 | | | | |
| AB GW01-1 | 717533.63 | 447789.3 | 582.94 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313133 | |
| ✓ GW01-2 | 717573.17 | 447730.34 | 582.68 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313134 | |
| ✓ GW01-3 | 717699.72 | 447722.5 | 582.61 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313135 | |
| AB GW01-4 | 717765.35 | 447755.69 | 582.18 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313136 | |
| ✓ GW01-5 | 717736.95 | 447705.51 | 582.16 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313137 | |
| ✓ GW01-6 | 717743.79 | 447649.86 | 582.44 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313138 | |
| ✓ GW01-7 | 717726.5 | 447579.25 | 582.41 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313139 | |
| ✓ GW01-8 | 717670.94 | 447597.36 | 583.22 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313140 | |
| ✓ GW01-9 | 717500.96 | 447642.31 | 583.02 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313141 | |
| AB GW01-10 | 717636.19 | 447524.8 | 583.5 | | ~3 | | na | 1.2 | 1.8 | bls | --- | none | | DNR | | 313142 | |

pushed temporary wells with 3 ft stickups. No well construction diagrams were provided

Field notes 4/8/96: wells: slotted pvc pushed into low, wet areas in "lower organic soils". See 10/10/96 memo for coordinates and groundwater elevations. No well construction diagrams were provided.

5 ft PVC pipe, bottom 1 ft was slotted using a saw. Pushed into ground with ~2 ft stickup. No well construction diagrams were provided.

Wells were driven 3 ft into the ground. Bottom 14 inches are screened

✓ well is still present
AB: wells proposed for a abandonment.

MONITOR WELL CONSTRUCTION INFORMATION
KEWAUNEE MARSH ARSENIC SPILL

| Monitoring Point | WTM_X | WTM_Y | TOC Elevation (ft msl) | Land Surface Elevation (ft msl) | total well depth (ft bls) | casing dia. (inches) | borehole dia. (inches) | length of screen (feet) | depth to TOS | (ft btc or bls) | screen slot size | Filter pack | Installation date | Installed by | depth of peat (ft bls) | Station ID # | Other |
|------------------|------------|------------|------------------------|---------------------------------|---------------------------|----------------------|------------------------|-------------------------|--------------|-----------------|------------------|-------------|-------------------|--------------|------------------------|--------------|---|
| MW02-1 | 717447.936 | 447619.356 | 585.81 | 583 | 7 | 2 | 6 | 2.5 | 4.5 | bls | 0.006 | 40/60 | 7/24/02 | sts | 6 | PK194 | Source: STS Consultants, Ltd "Site Assessment and Remedial Action Alternatives Report" 3/17/04. Wells constructed of Schedule 40 PVS with a manufactured pre-packed 2.5 ft screen. Wells completed with above grade steel protective casings. MW02-4d ABANDONED 10/3/02 |
| MW02-1i | 717448.087 | 447617.59 | 586.09 | 580.5 | 12 | 2 | 6 | 2.5 | 9.5 | bls | 0.006 | 40/60 | 7/24/02 | sts | 6 | PK195 | |
| MW02-1d | 717447.723 | 447621.493 | 585.81 | 583 | 22 | 2 | 8 | 2.5 | 19.5 | bls | 0.006 | 40/60 | 7/24/02 | sts | 6 | PK196 | |
| MW02-2 | 717595.135 | 447761.748 | 583.6 | 580.4 | 5.4 | 2 | 6 | 2.5 | 2.9 | bls | 0.006 | 40/60 | 7/17/01 | sts | 8 | JY958 | |
| MW02-2i | 717595.445 | 447762.507 | 583.2 | 580.5 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/17/01 | sts | 8 | JY959 | |
| MW02-3 | 717617.221 | 447690.932 | 584.17 | 581 | 5.1 | 2 | 6 | 2.5 | 2.6 | bls | 0.006 | 40/60 | 7/18/02 | sts | 5 | JY960 | |
| MW02-3i | 717616.31 | 447691.478 | 583.93 | 580.9 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/18/02 | sts | 5 | PK201 | |
| MW02-3d | 717616.037 | 447623.296 | 584.22 | 580.9 | 18.8 | 2 | 6 | 2.5 | 16.3 | bls | 0.006 | 40/60 | 7/18/02 | sts | 5 | PK202 | |
| MW02-4 | 717705.952 | 447656.741 | 583.51 | 580.3 | 2.5 | 2 | 6 | 2.5 | 5 | bls | 0.006 | 40/60 | 7/22/02 | sts | 5 | PK191 | |
| MW02-4i | 717706.074 | 447655.187 | 583.36 | 580.5 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/22/02 | sts | 5 | PK192 | Source: STS Consultants, Ltd "Site Assessment and Remedial Action Alternatives Report" 3/17/04. Wells constructed of Schedule 40 PVS with a manufactured pre-packed 2.5 ft screen. Wells completed with above grade steel protective casings. MW02-4d ABANDONED 10/3/02 |
| MW02-4d | 717705.588 | 447653.815 | 583.33 | 580.3 | 20 | 2 | 6 | 2.5 | 17.5 | bls | 0.006 | 40/60 | 7/22/02 | sts | 5 | PK193 | |
| MW02-4dr | 717705.588 | 447653.815 | 582.94 | 580.3 | 20 | 2 | 6 | 2.5 | 17.5 | bls | 0.006 | 40/60 | 10/3/02 | sts | 5 | JY888 | |
| MW02-5 | 717739.063 | 447664.262 | 583.35 | 580.1 | 5 | 2 | 6 | 2.5 | 2.5 | bls | 0.006 | 40/60 | 7/19/02 | sts | 5 | PK203 | |
| MW02-5i | 717739.427 | 447663.164 | 583.29 | 580.2 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/19/02 | sts | 5 | PK204 | |
| MW02-6 | 717731.917 | 447611.525 | 583.29 | 580.2 | 5 | 2 | 6 | 2.5 | 2.5 | bls | 0.006 | 40/60 | 7/22/02 | sts | 5 | JP205 | |
| MW02-6i | 717730.94 | 447611.009 | 583.39 | 580.3 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/22/02 | sts | 5 | PK206 | |
| MW02-7 | 717810.765 | 447696.833 | 583.31 | 580.3 | 5 | 2 | 6 | 2.5 | 2.5 | bls | 0.006 | 40/60 | 7/23/02 | sts | 6 | PK207 | |
| MW02-7i | 717811.373 | 447695.983 | 583.37 | 580.5 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 7/23/02 | sts | 6 | PK208 | |
| MW02-7d | 717812.016 | 447697.045 | 583.23 | 580.5 | 20 | 2 | 6 | 2.5 | 17.5 | bls | 0.006 | 40/60 | 7/23/02 | sts | 6 | PK209 | |
| MW02-8 | 717556.214 | 447623.296 | 582.89 | 581.1 | 5 | 2 | 6 | 2.5 | 2.5 | bls | 0.006 | 40/60 | 12/16/02 | sts | 8 | PK262 | Source: STS Consultants, Ltd. "Supplemental Environmental Monitoring" Rcvd. 10/4/06. Well screen: pre-packed 2.5 ft screen. Borehole seal: 24-25 badger sand. No other documentation provided. Abandoned 10/5/11 |
| MW02-8i | 717557.114 | 447622.796 | 583.04 | 581 | 10 | 2 | 6 | 2.5 | 7.5 | bls | 0.006 | 40/60 | 12/16/02 | sts | 8 | PK263 | |
| MW04-9 | 2616566 | 243896 | 583.55 | 581.4 | 7 | 2 | 6 | 2 | 5 | bls | 0.006 | 40/60 | 4/15/04 | sts | >7 | PA 261 | Source: STS Consultants, Ltd. "Supplemental Environmental Monitoring" Rcvd. 10/4/06. Well screen: pre-packed 2.5 ft screen. Borehole seal: 24-25 badger sand. No other documentation provided. Abandoned 10/5/11 |
| MW04-10 | 2616469 | 243994 | 585.17 | 583.1 | 7 | 2 | 6 | 2 | 5 | bls | 0.006 | 40/60 | 4/15/04 | sts | >7 | PA 262 | |
| MW04-11 | 2616336 | 244020 | 583.86 | 581.9 | 7 | 2 | 6 | 2 | 5 | bls | 0.006 | 40/60 | 4/15/04 | sts | >7 | PA 263 | |
| MW04-12 | 2617550 | 243858 | 581.07 | 579.4 | 7 | 2 | 6 | 2 | 5 | bls | 0.006 | 40/60 | 4/15/04 | sts | 1 | PA 264 | |
| MW04-13 | 2617652 | 243985 | 581.32 | 579 | 7 | 2 | 6 | 2 | 5 | bls | 0.006 | 40/60 | 4/15/04 | sts | 1 | PA 265 | |
| MW11-1 | 2616484 | 243999 | 586.34 | 583.8 | 7.2 | 2.03 | 8.3 | 2.7 | 4.5 | bls | 0.01 | Sidly OH #5 | 10/18/11 | TRC | | PA 266 | Source: TRC "Arsenic Source Area in-Situ Remediation Documentation Report and Baseline Performance Monitoring" March 2012. |
| MW11-1i | 2616486 | 243998 | 586.24 | 583.7 | 12.5 | 2.03 | 8.3 | 2.5 | 10 | bls | 0.01 | Sidly OH #5 | 10/18/11 | TRC | | PA 267 | |
| MW11-2 | 2616517 | 244039 | 583.01 | 583 | 7.2 | 2.03 | 8.3 | 2.7 | 4.5 | bls | 0.01 | Sidly OH #5 | 10/18/11 | TRC | | PA 268 | |
| MW11-3 | 2616556 | 244001 | 582.18 | 582.2 | 7.2 | 2.03 | 8.3 | 2.7 | 4.5 | bls | 0.01 | Sidly OH #5 | 10/18/11 | TRC | | PA 269 | |
| MW11-3i | 2616557 | 243999 | 584.8 | 582.3 | 12.5 | 2.03 | 8.3 | 2.5 | 10 | bls | 0.01 | Sidly OH #5 | 10/18/11 | TRC | | PA 270 | |

na: not applicable; wells were pushed into sediment

---: no data available

Notes:

No well construction information is available for gw, MW, and sts-mp wells.

* TOC elevations reported are from March 1996. Elevations were resurveyed between March 1996 and Jan 1997 and were observed to have changed.

** TOC Elevation uncertain

TOC and land surface elevations for wells MW04-9 - MW04-13 were obtained from STS Consultants, Ltd. "Supplemental Environmental Monitoring" Rcvd. 10/4/06

TOC and land surface elevations for wells MW11-1 - MW11-3i were obtained from STS Consultants, Ltd. "Arsenic Source Area in-Situ Remediation Documentation Report and Baseline Performance Monitoring" March 2012.