

**Minutes of Meeting
Restoration Advisory Board Meeting #15
February 25, 1999**

**Naval Reserve Ordnance Plant
Fridley, Minnesota**

Restoration Advisory Board (RAB) meeting #15 was held at the Naval Industrial Reserve Ordnance Plant (NIROP), Fridley, Minnesota, on Thursday, February 25, 1999, at 10:00 AM. A copy of the agenda that was distributed at the meeting and the attendance sheet are attached (Attachments 1 and 2, respectively). Each of the attendees affiliation is identified on the attendance sheet.

1. Introduction

Mr. Kerry Morrow opened the meeting at 10:00 AM. All meeting participants introduced themselves. Community Co-Chair Richard Harris had previously notified Kerry that he would not be able to attend.

2. Minutes of RAB Meeting #14

The minutes were accepted by vote. Some recipients of the minutes did not receive a 'Page 2' and did not have the opportunity to review it ahead of the meeting.

3. Actions Since Last Meeting

NAVY

- a. Operable Unit #1 - Groundwater: Ryan Geise, the Navy contractor responsible for O&M of the treatment plant gave a presentation on the start-up and current operation of the plant, including performance data to date. Ryan said that besides normal operation, an acid washing cycle and backwash cycle have been completed. Currently, the second polymer is being evaluated.

Ryan explained that normal operation of the system strippers is to push air in the bottom and pump the water to the top. The air strips the VOCs from the water as it bubbles up through the water. Hydrochloric acid is used for the cleaning cycle, since naturally occurring mineral hardness (iron, manganese, and calcium) will foul the strippers. The acid wash is then neutralized and discharged to the sanitary sewer. Solids are drummed and disposed.

John Flora asked about how comprehensive the economic analysis for this system was before it was selected, and Jim Ferro said that economic analyses for several designs were considered before one was selected.

Ryan described that one slight problem encountered during the performance test was bleed-through at a butterfly valve at a cross connection. To fix this, a blind flange was installed in the cross connection. Smaller problems encountered were blower motor problems, and air flow meters that go inoperative below 25 degrees. During operation, the system handles 850,000 gallons per day. There was one hour of shutdown time in January, and 0 hours in February.

Doug Hildre asked how long the acid cleaning process requires. Ryan replied about a half hour. The fouling level was pretty low and the anti-scaling agent appears to be working well. The cleaning was scheduled only as a part of the polymer evaluation process, and probably wasn't really necessary this soon.

John Flora asked if there was any water quality analysis done in conjunction with the polymer tests. Ryan answered yes. Flora asked if he could get this information, and Ryan again said yes.

Joel Sanders asked if there was any way to tell how much TCE was being removed by the system. Ryan said about one-half gallon per day.

See Attachment 3 for information Ryan discussed, including Tim's usual quarterly maintenance summary.

Regarding the update to the groundwater model and groundwater data acquisition efforts, Mark Sladic said that the Navy had contracted USGS to perform some tests and collect some monitoring information to allow the team to update the model. MPCA was involved in developing the USGS scope of work. To date, the USGS had not completed the work. Navy is currently trying to get USGS to estimate a completion date. Upon collection of this data, the site groundwater model will be updated.

- b. Operable Unit #3 - Soils Under NIROP Plant: Mark said that the report was distributed in August, 1998, including a copy to the RAB co-chair. Following their review, regulatory comments had recently been received, and were now in the process of being addressed. Following address of the comments, a revised report would likely be issued. Kerry stated that RAB members were welcome to review the report and provide comments. Dave Douglas said that funding for up to \$25K per year, and \$100K cumulative are available under programs he previously described to assist the public in their review. Interested parties should contact Dave for more information.

Following modification to the report, if necessary, for regulatory approval, the next step would be to investigate remedial activity. Before that, it would be the Navy's intent to provide a presentation on the results of the approved report. John Flora asked if this would be ready for the next RAB meeting, and Mark said he would expect so.

- c. NAVSEA Ownership Transfer Plans for NIROP Fridley: Kerry said the CDR has been signed, and NAVSEA is now able to move to a public sale of the property. The Navy has been negotiating with UDLP to make a joint sale. UDLP and Navy parcels would be combined so that one property could be sold, and then UDLP would lease their space back from the new owner. Kerry anticipates inviting bids around July, with award notification by December-January.

Discussions between UDLP and the Navy on environmental liability are continuing. Kerry said that resolution of this discussion is not necessary for public sale. Doug Hildre said he heard that the FOSL has recommendations for deed restrictions, and that he'd be interested in seeing the CDR. Kerry said they are listed in the CDR. Kerry said that there were many revisions to the CDR before all parties could agree, so be sure to get the final one.

Tom Bloom asked if there were any prospective buyers. Kerry said that there has been interest from unsolicited parties and from the UDLP side. There hasn't been any nation-wide search yet. Six prospective buyers are located in the Midwest, and three from the twin cities vicinity. UDLP has expressed concern about potential impacts on their operations from the buyer, but there should be no impact on the plant environmental cleanup. NAVFAC will still be in the picture, but NAVSEA will be out. Around this table, it means that Joel will still be here, while Kerry will be gone.

MINNESOTA DEPARTMENT OF HEALTH

Public Health Assessment: Kerry said that Dan Pena had requested the RAB address list to distribute the PHA by mail. Kerry wouldn't release addresses until after he asked the RAB's approval since he didn't know if all the addresses were business addresses. The RAB members present said it was OK to release addresses to MDH.

Dan said that the regulatory review was completed for the report, which investigates soil, air, and water pathways. Particularly, the PHA focused on contamination in the river and raw water at the Minneapolis Water Works (MWW). The report did not seek to definitively identify the source of contamination. See Attachment 4 for the cover letter accompanying the report in order to provide comments or request copies.

Dave said that as a point of record, at least some contribution to the river contamination is from UDLP/NIROP since this fact served as the basis for the FFA. It is not the purpose of Superfund for MPCA to determine if there are other contributors besides the Navy and UDLP.

John Flora asked if the MWW is seeing more TCE over time. Dan said no, it seems to be about the same. This information should be reflected in the report. Flora asked how far back the data goes, and Dan answered about 1982 to 1997.

Dave said that the timing of the PHA is fortunate since EPA now requires all water services to disclose information to their customers about substances in their drinking water. Dave provided the printout from the EPA internet site which details the rule. See Attachment 5.

Dave said that particular attention should be focused on bullets 4 and 5. It wasn't clear early on if the reporting requirements would be for every contaminant, or just those exceeding benchmarks. It is now clear that the rule includes all contaminants. Dave distributed the fact sheet developed by ST. Paul to address this rule. See Attachment 6.

Dave said that there now is substantial evidence that there is TCE in the water system, and that it would not be unfair to say that the TCE in the river originates from UDLP and NIROP. Doug said that if there is a list of industrial entities provided, it needs to include everyone, including upstream sources. Mark said that while the FFA recognized that TCE was entering the river, a remedy had been installed since that time. Whether the remedy was effective would need to be evaluated ahead of saying that TCE continues to enter the river from this site. The MWW said that beyond saying that the TCE came from the river, it probably wasn't necessary to identify individual industrial concerns.

Dave said that he hoped that a coordinated effort between MPCA and MDH would be developed to help people understand the information provided on the fact sheets. Dave said that the people drinking the river water is the biggest single exposure to a Superfund site in Minnesota. There are 500,000 people in seven or eight municipalities. If even 1% call, that will result in lots of calls.

John Flora said that he agrees an effort by the MPCA or MDH to educate the public is necessary. And it shouldn't just be on the internet. It needs to be in newspapers and mailings.

When asked about the MWW fact sheet status, Larry Cole said that their analytical information hasn't been provided from the MDH yet, but that he understands that the state has had educational initiatives the past couple years. Dave said it will be important to provide this information to people without alarming them. Dan said that MDH can have a community relations person make a presentation. There was general interest in a presentation.

Larry said that their data from MDH was due back in March. Until then, they have a broad template. One problem they anticipate is how to reach every water user, since not every user is billed directly as in apartment or office buildings. Larry also said the St. Paul report is more of a public relations device and really doesn't meet all the reporting requirements.

John said that he understands that if there are exceedences, it's also necessary to identify how they will be addressed. John feels this needs to be more regional. A user in New Brighton who is comparing information with a user in Fridley won't understand why their reports are different. John said the MDH is behind on providing data reports and is behind on educating people about it.

Dave said that MDH also needs to provide guidance on defining what kind of information goes into the 'source of' column. Laura Schmidt said that she agrees that if there are possibly twenty names on a list of polluters to the river, that there could be a disproportionate pursuit of UDLP because of 'deep pockets'.

4. **Actions Scheduled/Due Dates**

Draft OU3 RI Report	Delivered August 26, 1998
GWTP Startup	September 21, 1998
Finalize CDR	November 23, 1998
1999 Site Management Plan	January 14, 1999
Draft 1998 Annual Monitoring Report	March 31, 1999
Draft Remedial Action Monitoring Plan	March 31, 1999

5. **Other Issues/Comments**

- a. **Partnering:** The RAB was notified that this month's partnering team meeting included the addition of a new Navy representative, Joel Sanders.
- b. **1994 Enforcement Action:** Tom said that the Navy had now paid their penalty from 1994. This penalty is probably one of the items that got all the parties to the table and to realize the value of partnering.
- c. **Water reuse:** John Flora said that he had examined the water coming from the Fridley WTP for suspended solids and hardness, and found that right now he will not pursue routing this water into the City of Fridley system. John said that he reserves the right to reopen this if water quality improves. He feels that continued monitoring to determine the water quality is necessary. Dan said that he feels putting this water into the distribution system is a bad idea. John said it works at TCAAP. Dan said that there are different treatment trains, for example, carbon is used at TCAAP. John said he offered carbon to the Navy years ago. Chlorine and fluoride were also identified as being necessary before putting this water into the distribution system.

Jim Ferro said that the Navy asked for three things before making this water available for the City of Fridley to take: (1) have a water quality analysis of the stream, (2) show us plans and specifications, and (3) provide a release indemnifying Navy.

- d. The next RAB meeting was scheduled:

RAB #16 May 20 at NIROP, 10:00 AM
The exact meeting space is yet to be determined.

ATTACHMENT 1

**NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT FRIDLEY
RESTORATION ADVISORY BOARD MEETING #14
FEBRUARY 25, 1999 10:00 AM
AGENDA**

1. Introduction
2. Corrections to Minutes of RAB #14
3. Actions Since Last Meeting

NAVY

- a. Operable Unit #1 - Groundwater
 - Status of New Groundwater Treatment Facility
 - Update on Groundwater Modeling/Groundwater Data Acquisition Efforts
- b. Operable Unit #3 RI Status- Soils Under NIROP Plant
 - Status of RI Report
- c. NAVSEA Ownership Transfer Plans for NIROP Fridley
 - Status of Covenant Deferral Request Development
 - * Governor of Minnesota signed December 31, 1998
 - * US EPA V Regional Administrator (Acting) approved January 29, 1999
 - Negotiations for Sale of Property
 - * FOST under development for GSA to negotiate Public Sale

MINNESOTA DEPARTMENT OF HEALTH

- ATSDR Public Health Assessment Update
- 30 day Public Comment Period

UNITED DEFENSE

- Maintenance and Monitoring Activities

4. Actions Scheduled/Due Dates

- | | |
|---|---------------------------|
| a. Draft OU#3 RI Report | Delivered August 26, 1998 |
| b. GWTF Startup | September 21, 1998 |
| c. Final Covenant Deferral Request | November 23, 1998 |
| d. 1999 Site Management Plan | January 14, 1999 |
| e. Remedial Action Monitoring Plan Revision | March 31, 1999 |
| f. 1998 Annual Monitoring Report | March 31, 1999 |

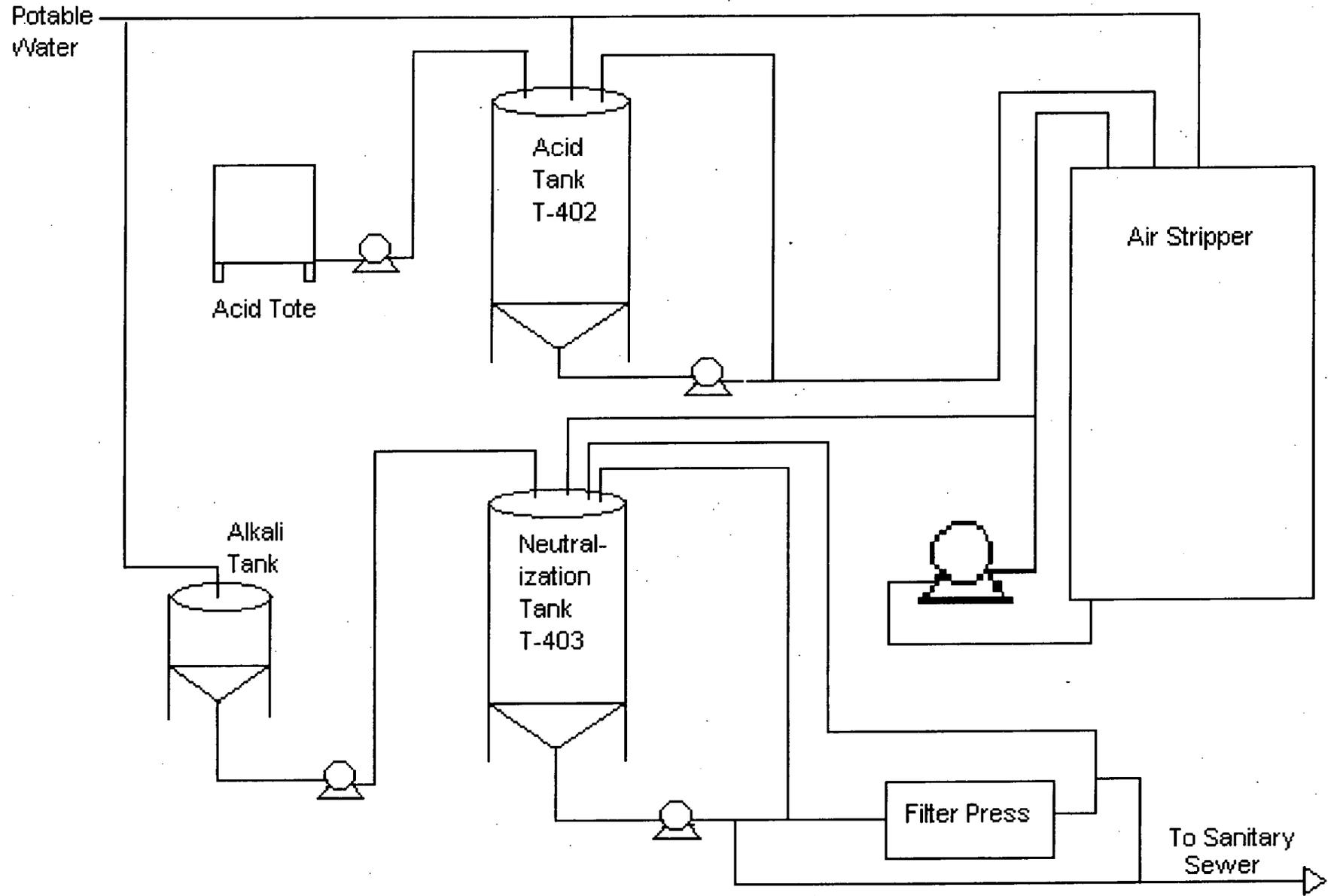
5. Other Issues/Comments

- a. Partnering Efforts

NIROP RAB Meeting 14
2-25-99

- David Douglas MPCA (651) 296-7818
- Larry Cole Mpls Water 612-666-4923
- LARRY SCHMIDT ACES 612-422-7253
- MARK SCAK TERA TECH 412 921 8216
- DOUG HLORE UNITED DEFENSE 412-572-0930
- NORWOOD NELSON ANNA CHAMBER (12) 574-5116
- John F FLORA CITY 612 572 3550
- Thomas Bloom USEPA (312) 886-1967
- R.W. John Aubert NAUSEA 909 620 - 0407
- Jim Ferro Southern Division, NAVFAC (843) 820 - 7483
- Paul Sanders Southern Division, NAVFAC (843) 820 5562
- Joseph M. LAND, Sr. Center for Leadership Dev. (352) 490-7195
- Kerry Morrow NAUSEA (612) 572-6360
- David Flona MDH 651 215-0774

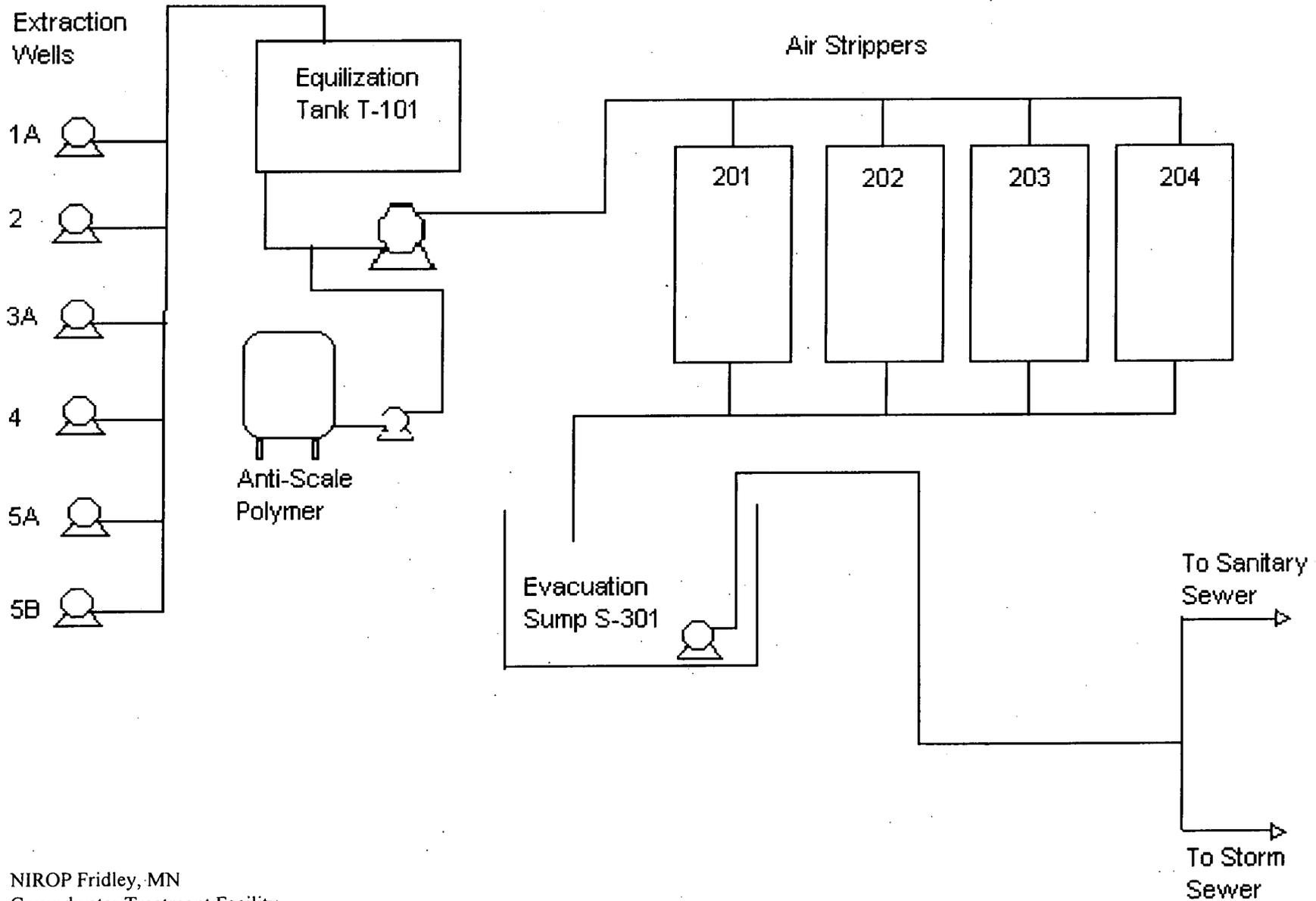
Chemical Cleaning System



NIROP Fridley, MN
Groundwater Treatment Facility
Morrison Knudsen Corp.
February 19, 1999

ATTACHMENT 3

Air Stripping System



NIROP Fridley, MN
Groundwater Treatment Facility
Morrison Knudsen Corp.
February 19, 1999

ATTACHMENT 3
2/6

NIROP Fridley, MN Groundwater Treatment Facility

Flow Totals beginning 11 November 98

3/6

Extraction Wells

	November '98	December '98	January '99	February '99	Total to date
1A 12666	1,584,000	2,188,000	2,697,000	1,851,000	8,320,000
2 6603	781,000	1,042,000	1,490,000	1,224,000	4,537,000
3A 52832	6,626,000	9,497,000	11,775,000	7,869,000	35,767,000
4 11676	1,513,000	2,016,000	2,425,000	1,575,000	7,529,000
5A 34882	4,423,000	6,208,000	7,524,000	5,191,000	23,346,000
5B 17730	2,243,000	3,161,000	3,807,000	2,601,000	11,812,000
136389				Total gallons	91,311,000

Treatment System

(November 11 - December 9 to sanitary sewer)

(December 10 - present to storm sewer)

	November '98	December '98	January '99	February '99	Total to date
Sanitary	17,201,000	7,364,000			24,565,000
Storm		16,103,000	27,292,000	19,624,000	63,019,000
				Total gallons	87,584,000

On-stream Time

December '98	87.50%
January '99	99.90%
February '99	100%

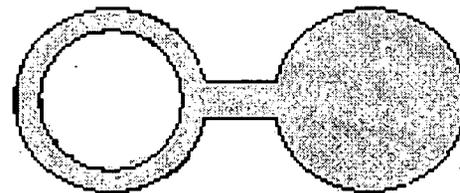
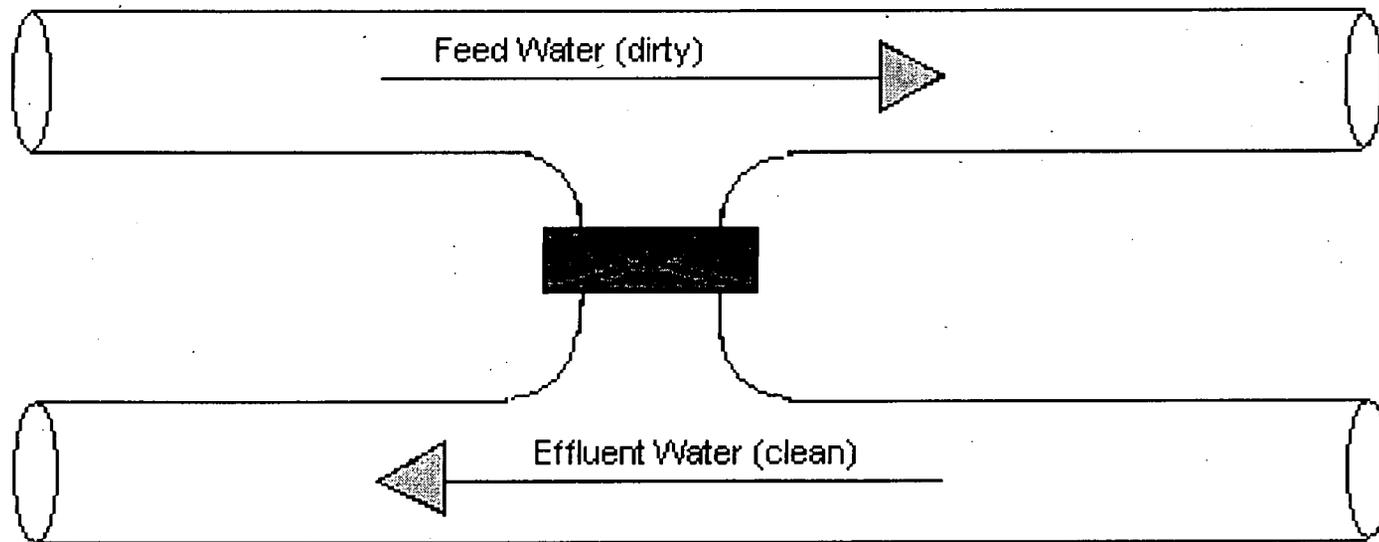
Operations and Maintenance

- * Installed spectacle blinds in B52 piping to control cross-contamination
- * Acid cleaning of air strippers
- * Anti-scale polymer switch
- * Soft start on Blower 202 failed
- * Fuse on Blower 204 was blown
- * Air flowmeters on Stripper 201 and 203 cut out in cold weather
- * Flowmeter transducers on EW-2 working intermittently

Planned Activities

- * Continue monitoring of discharge to the storm sewer
- * Evaluate anti-scale polymer performance

Cross Contamination of Effluent Water



Spectacle Blind

ATTACHMENT 3
4/6

ATTACHMENT 3
5/6

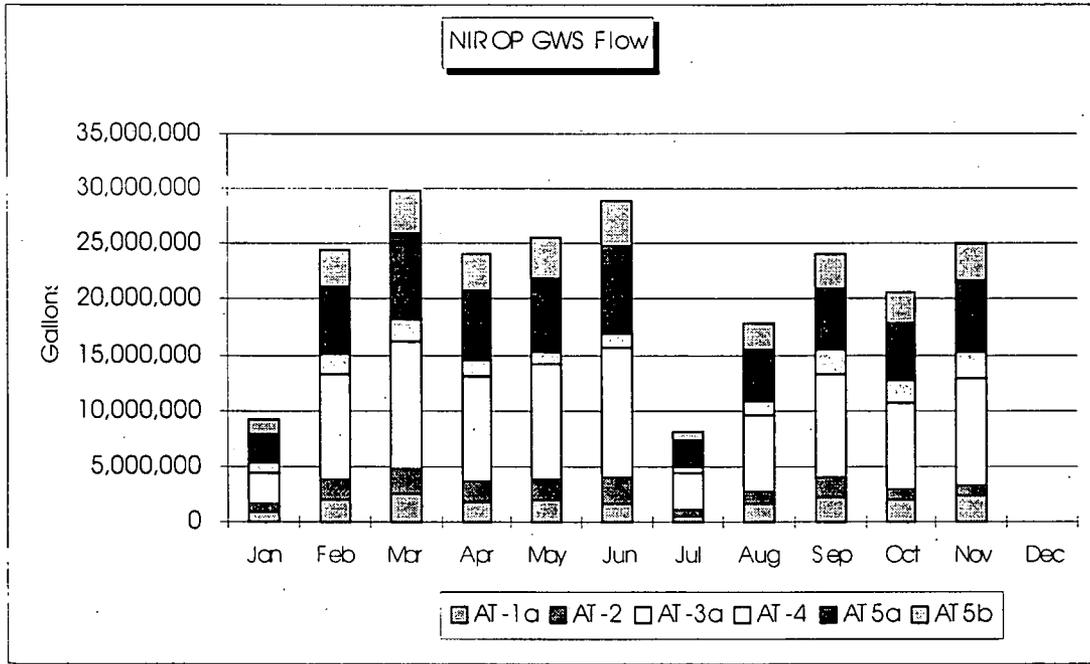
DATE	ACCUMULATED Total Pumps (gal)						FLOW RATE (gpm)						1998		Comments	
	AT-1a	AT-2	AT-3a	AT-4	AT-5a	AT-5b	TOTAL	AT-1	AT-2	AT-3a	AT-4	AT-5a	AT-5b	TOTAL		Avg (gpm)
Nov-97	99,133,146	152,965,618	531,182,846	105,572,476	172,170,500	76,857,200	1,388,825,638	30	48	200	24	135	62	498	497	System shutdown for treatment plant construction
23-Jan-98	99,460,708	153,248,010	531,693,747	105,883,973	173,164,049	77,358,500	1,411,738,859	31	31	51	31	10	51	301	264	System Restart Phase I Treatment Plant Construction
31-Jan-98	99,744,975	153,531,344	532,192,354	106,195,234	174,157,592	77,848,416	1,434,697,133	31	47	54	47	10	51	339	389	
1-Feb-98	99,998,634	153,769,428	532,698,010	106,506,713	175,151,184	78,338,332	1,457,654,466	31	45	53	45	10	51	341	450	
12-Feb-98	100,098,634	154,569,428	538,707,237	107,370,514	177,117,961	79,732,081	1,500,019,677	52	45	244	51	158	82	632	487	
20-Feb-98	101,522,750	155,061,400	543,548,384	108,337,417	179,502,533	80,666,002	1,542,179,857	52	45	244	51	158	82	632	511	
26-Feb-98	102,023,950	155,471,409	543,548,384	108,337,417	180,903,533	81,447,022	1,572,555,557	49	44	234	44	147	88	605	524	
6-Mar-98	102,657,959	155,975,409	546,235,384	108,890,417	182,727,533	82,454,002	1,599,804,557	50	44	235	48	168	88	639	539	
13-Mar-98	103,239,959	156,533,409	548,563,384	109,214,417	184,473,533	83,187,022	1,626,135,557	59	56	234	33	176	74	631	549	System shut down 3/13-3/16 for substation maintenance
20-Mar-98	103,543,979	156,873,911	550,040,921	109,469,794	185,446,397	83,685,995	1,659,984,450	50	56	243	42	160	82	633	557	Flow total adjusted for computer totalizer error
27-Mar-98	104,042,700	157,332,011	552,504,281	109,897,354	187,075,197	84,520,355	1,690,996,060	49	45	242	42	160	82	620	563	Flow total adjusted for computer totalizer error
3-Apr-98	104,536,001	157,765,577	554,932,051	110,316,934	188,603,007	85,339,535	1,722,477,557	49	43	243	42	169	82	619	568	Flow total adjusted for computer totalizer error
10-Apr-98	105,035,311	158,213,937	557,408,221	110,714,344	190,294,007	86,175,115	1,756,764,787	49	44	243	39	160	82	617	571	Flow total adjusted for computer totalizer error
17-Apr-98	105,518,911	158,677,387	559,866,521	111,087,119	191,916,082	87,011,340	1,791,001,212	48	46	244	37	161	83	619	575	Flow total adjusted for computer totalizer error
24-Apr-98	105,973,636	159,122,437	562,227,221	111,435,419	193,464,082	87,814,366	1,820,961,012	47	46	244	36	160	83	616	578	Flow total adjusted for computer totalizer error
30-Apr-98	106,403,686	159,515,887	564,466,671	111,755,669	194,928,082	88,582,966	1,850,900,812	47	43	243	35	160	84	612	580	Flow total adjusted for computer totalizer error
6-May-98	106,917,136	160,003,567	567,189,071	111,812,719	196,742,272	89,541,405	1,881,190,022	46	48	241	30	159	84	608	581	Flow total adjusted for computer totalizer error
14-May-98	107,449,136	160,571,567	569,900,071	112,175,719	198,557,272	90,477,405	1,910,655,022	47	45	240	32	160	83	607	583	Computer system reset totalizer values
22-May-98	107,961,136	161,156,567	572,629,071	112,573,719	200,284,272	91,492,405	1,940,021,022	44	50	234	34	148	87	598	584	
28-May-98	108,540,136	161,834,567	574,648,071	112,837,719	201,688,272	92,250,405	1,969,221,022	44	44	234	31	163	86	604	585	
4-Jun-98	108,792,136	161,967,567	577,068,071	113,105,719	203,501,272	93,154,405	1,998,332,022	44	44	234	26	176	88	611	586	AT4 found not operating 6/4
12-Jun-98	109,306,586	162,535,247	579,803,471	113,162,769	205,315,462	94,114,845	2,027,162,232	45	48	240	5	159	84	581	586	AT4 restarted 6/11 multiple restarts required
19-Jun-98	109,626,906	163,015,727	582,205,871	113,322,929	206,907,052	94,958,685	2,056,958,022	32	48	240	16	159	84	579	585	AT1 & AT4 removed for cleaning 6/16, AT4 re-instated 6/19
26-Jun-98	109,636,971	163,098,847	584,621,471	113,775,854	208,507,387	95,801,165	2,086,765,527	11	48	240	45	159	84	577	585	AT1 wet end replaced Non Teflon unit, pump installed 6/26
1-Jul-98	110,075,531	163,828,317	586,310,881	114,091,304	209,635,997	96,404,005	2,116,223,887	56	47	241	45	161	86	636	587	
8-Jul-98	110,447,421	164,297,137	588,751,071	114,479,284	211,259,387	97,282,065	2,145,564,117	59	42	239	36	159	86	623	589	System shut down for pump tests
14-Jul-98	110,631,921	164,297,137	589,762,671	114,479,284	211,259,387	97,282,065	2,174,846,317	0	0	240	0	0	0	240	576	AT3a turned on 7/14 12:15 off 7:17 10:00
22-Jul-98	110,631,921	164,297,137	589,762,671	114,601,264	211,259,387	97,282,065	2,204,128,517	0	0	38	0	0	0	38	556	AT4 turned on 7/20/98 10:30 off at 10:00/22/98
30-Jul-98	110,631,921	164,297,137	589,762,671	114,601,264	211,259,387	97,282,065	2,233,410,717	0	0	0	0	0	0	166	543	AT3a started 7/27 12:00 off on 7/30 10:00
7-Aug-98	110,894,134	164,435,312	590,843,275	114,771,973	212,649,931	97,666,569	2,262,185,046	22	15	92	15	59	33	236	533	System restarted 8/4/98 13:30
14-Aug-98	111,476,581	164,828,302	593,192,013	115,248,132	214,259,919	98,506,325	2,291,631,184	59	40	237	48	163	85	631	536	
21-Aug-98	111,993,247	165,204,889	595,308,011	115,666,878	215,704,709	99,259,243	2,320,880,829	51	37	207	43	142	74	553	536	System computer problem 8/20/98 14:30 system off
29-Aug-98	112,501,012	165,586,322	597,368,011	116,085,918	217,154,709	99,259,243	2,350,080,829	0	0	0	0	0	0	0	529	Computer logic problem system off
6-Sep-98	112,971,012	165,971,322	599,368,277	116,506,374	218,508,297	99,259,243	2,379,280,829	22	18	58	21	50	32	241	512	Computer logic problem system restarted 8/31 8:30, P101B on 9/4
13-Sep-98	112,887,412	165,884,466	598,892,616	116,527,944	218,151,633	100,539,749	2,408,520,672	59	43	239	56	163	85	645	516	
19-Sep-98	113,383,412	166,269,466	600,908,616	116,949,944	219,603,633	101,237,749	2,437,760,672	50	38	203	46	65	70	471	515	Intermittent shutdown for connection with phase II construction
23-Sep-98	113,701,412	166,517,466	602,210,616	117,286,944	219,660,633	101,689,749	2,467,000,672	46	37	189	44	125	66	506	514	Intermittent shutdown for connection with phase II construction
5-Oct-98	114,592,412	167,264,466	605,649,616	118,132,944	221,994,633	102,863,749	2,496,240,672	51	42	198	49	134	69	543	515	Intermittent shutdown for connection with phase II construction
9-Oct-98	115,631,412	167,113,466	606,591,616	118,367,944	222,632,633	103,208,749	2,525,480,672	40	28	158	39	107	54	426	513	System test started through may scrubbers 12:00 10/9 to sanitary sewer
15-Oct-98	115,352,412	167,789,466	608,576,616	118,861,944	223,993,633	103,897,749	2,554,720,672	62	45	238	59	163	83	651	516	
23-Oct-98	116,072,412	168,018,466	611,399,616	119,558,944	225,920,633	104,674,749	2,583,960,672	60	19	237	59	162	82	619	519	System test complete scrubbers off line 10/19/98
29-Oct-98	116,565,412	168,231,466	613,408,616	120,045,944	227,281,633	105,573,749	2,613,200,672	61	25	235	57	159	82	619	521	AT2 pump stopping intermittently due to low flow, AT2 shutoff 10/29/98
6-Nov-98	117,292,412	168,232,466	616,188,616	120,707,944	229,139,633	106,535,749	2,642,440,672	61	0	245	58	164	85	614	523	AT2 shutdown 10/29/98, low flow problem
11-Nov-98	117,726,412	168,326,466	617,973,616	121,132,944	230,332,633	107,156,749	2,671,680,672	60	13	246	59	164	85	627	526	AT2 restarted 11/19/98 16:00
20-Nov-98	118,496,412	168,956,466	621,185,616	121,870,944	232,478,633	108,254,749	2,700,920,672	59	28	246	56	164	84	637	528	
3-Dec-98	119,472,412	169,222,466	625,270,616	122,796,944	235,203,633	109,636,749	2,730,160,672	53	29	222	50	148	75	576	529	
10-Dec-98	119,971,412	169,565,466	627,366,616	123,270,944	236,600,633	110,383,749	2,760,400,672	50	33	211	48	140	75	557	530	Flow changed to storm sewer Thursday dec 10
1-Jan-99	121,184,412	170,140,466	630,026,616	124,645,944	240,918,633	112,536,749	2,790,640,672	48	18	210	43	136	68	524	530	

4346000 2066000 11065000 4147000 11536000 5918000 45078000

	AT-1a	AT-2	AT-3a	AT-4	AT-5a	AT-5b	Total
Jan	861,547	723,726	2,309,548	826,756	2,549,103	1,311,215	9,182,095
Feb	2,029,266	1,762,065	9,455,990	1,938,185	6,083,730	3,278,587	24,547,824
Mar	2,512,041	2,294,168	11,381,667	1,979,517	7,860,074	3,892,533	29,322,001
Apr	1,867,685	1,750,310	9,518,620	1,438,735	6,264,475	3,243,430	24,283,255
May	1,936,450	2,018,680	10,197,400	1,082,590	6,760,190	3,667,440	25,662,210
Jun	1,689,395	2,293,750	11,662,810	1,253,585	7,947,725	4,153,600	29,000,865
Jul	602,390	428,820	3,451,790	509,560	2,318,662	878,060	5,189,682
Aug	1,659,991	1,192,185	6,725,606	1,367,110	4,553,638	2,404,944	17,903,474
Sep	2,300,500	1,797,144	9,161,334	2,164,570	5,486,336	3,196,740	24,106,629
Oct	2,003,000	985,000	7,759,000	1,911			

ATTACHMENT 3
6/6

NIROP Maintenance Activities 17 September to 3 December.



- Intermittent shutdown/restart for phase II construction 18 Sept. to 5 Oct.
- New treatment plant on line 9 October. Discharge still directed to sanitary sewer.
- Well AT2 shutdown 29 October for cleaning of well screen. Well restarted 19 November.
- Extraction and monitoring wells sampled 24-30 October.
- Cleaning and sparging of extraction wells AT1a and AT4 occurred 16 June.

Extraction Well flowrates.

<u>AT1a</u>	<u>AT2</u>	<u>AT3A</u>	<u>AT4</u>	<u>AT5A</u>	<u>AT5B</u>
60	40 to 47	237 to 241	38 to 48	159 to 166	80-86
	70	240	48	160	85

The total current flowrate is ~~675~~ gpm.
630

Planned Activities

- Monthly sampling of combined discharge.
- Semi annual monitoring of extraction and monitoring wells Mid October
- Water levels readings to be taken Mid October.

ATTACHMENT 4



Protecting, Maintaining and Improving the Health of All Minnesotans

February 25, 1999

Dear Interested Party:

Enclosed is a copy of a new report evaluating public health concerns at two Superfund sites in Anoka County. The report addresses concerns about soil and water contamination at the Naval Industrial Reserve Ordnance Plant (NIROP), and at the United Defense Limited Partnership (UDLP) sites.

This report was prepared by Daniel Peña of the Site Assessment and Consultation Unit of the Minnesota Department of Health (MDH). The report evaluates scientific data and other information to determine whether chemicals at the site are affecting the health of the community. MDH routinely writes these evaluations in cooperation with the federal Agency for Toxic Substances and Disease Registry (ATSDR).

The report has two purposes: 1) to assess any current or future impact of the site on the public's health; and 2) to identify further study or action needed to evaluate or prevent human health effects. We are providing the report to the U.S. Environmental Protection Agency, the regulatory agency responsible for overseeing the cleanup of the site, to assist them in addressing health issues.

If you have any questions about the content of the assessment, please contact Daniel Peña at 651/215-0774. If you have any comments about the report, please fill out the attached comment form and return it to us by April 15, 1999, in the enclosed self-addressed envelope; or you may contact Mr. Peña at the number above, or me at 651/215-0916.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Pogoff", is written over a circular stamp or mark.

Lisa Pogoff, Community Relations Coordinator
Site Assessment and Consultation Unit

LP:dd
Enclosures

ATTACHMENT 4
2/4

NIROP/UDLP

Comment Form

The Minnesota Department of Health wants to hear your concerns about this site and your health. Your input is important as we continue to gather information and monitor the site. Please write down any comments, questions, or concerns you have in the space below and mail them to us in the enclosed envelope. We will review your comments and get back to you.

If you would like further information, please call Lisa Pogoff at 651/215-0916, or call our Environmental Health Information Line toll free at 1-800-657-3908, then press "4" on your touch-tone phone to leave a message.

Comments:

Name _____

Address _____ City _____ State _____ ZIP _____

Phone (____) _____

Would you like us to call you? ___yes ___no

Public Health Assessment

Naval Industrial Reserve Ordnance Plant (NIROP)
(NIROP Cerclis MN3170022914)

Anoka County, Minnesota

December 24, 1998

Prepared by:

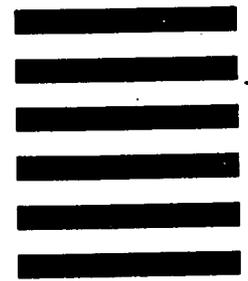
The Minnesota Department of Health
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

ATTACHMENT 4
4/4

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ATTACHMENT 5



Office of
Ground Water and
Drinking Water

United States Office of Water EPA 816-F-98-007
Environmental Protection Agency (4606) August 1998

Consumer Confidence Reports: Final Rule

Again demonstrating its commitment to public health protection and the public's right-to-know about local environmental information, the U.S. Environmental Protection Agency (EPA) is requiring water suppliers to put annual drinking water quality reports into the hands of their customers. These consumer confidence reports, which EPA developed in consultation with water suppliers, environmental groups, and the states, will enable Americans to make practical, knowledgeable decisions about their health and their environment.

- Click [here to read online](#) the National Primary Drinking Water Regulations: Consumer Confidence Reports
- Click [here to download](#) the National Primary Drinking Water Regulations: Consumer Confidence Reports in Adobe Acrobat PDF format.

[Help on PDF format is available](#)

While water systems are free to enhance their reports in any useful way, each report must provide consumers with the following fundamental information about their drinking water:

- the lake, river, aquifer, or other source of the drinking water;
- a brief summary of the susceptibility to contamination of the local drinking water source, based on the source water assessments that states are completing over the next five years;
- how to get a copy of the water system's complete source water assessment;
- the level (or range of levels) of any contaminant found in local drinking water, as well as EPA's health-based standard (maximum contaminant level) for comparison;
- the likely source of that contaminant in the local drinking water supply;
- the potential health effects of any contaminant detected in violation of an EPA health standard, and an accounting of the system's actions to restore safe drinking water;

Attachment 5

2/3

- the water system's compliance with other drinking water-related rules;
- an educational statement for vulnerable populations about avoiding *Cryptosporidium*;
- educational information on nitrate, arsenic, or lead in areas where these contaminants are detected above 50% of EPA's standard; and
- phone numbers of additional sources of information, including the water system and EPA's Safe Drinking Water hotline (800-426-4791).

This information will supplement public notification that water systems must provide to their customers upon discovering any violation of a contaminant standard. This annual report should not be the primary notification of potential health risks posed by drinking water, but will provide customers with a snapshot of their drinking water supply.

Consumers will see the first reports between April and October 1999, and by July 1 each year thereafter. Water systems in California and many metropolitan areas already provide reports containing some of this information. This rule will affect 55,000 water systems, and the information in the reports will reach some 240 million people nationwide. Large water systems will mail the water quality reports to their customers, either with water bills or as a separate mailing, and will take steps to get the information to people who do not receive water bills. Smaller water systems (those serving fewer than 10,000 people) may be able to distribute the information through newspapers or by other means. The largest water systems must post their reports on the Internet, in addition to other delivery mechanisms, to make the reports easily accessible to all consumers. EPA will work with smaller systems to get their reports online.

EPA is committed to use of the Internet as a way for citizens to find information about their drinking water. EPA is creating a local drinking water information page on its web site, which will link to any electronically-available consumer confidence reports in the state. In addition, the public will be able to find specific information about its local drinking water supply, including information about the state's drinking water program and source water protection program.

As with other drinking water rules, states may set their own regulations for the reports from systems within their borders. The Safe Drinking Water Act and this rule allow states the flexibility to set alternative report requirements after public notice and comment, but the rule does set baseline standards to ensure that all consumers receive reports that are comparable and which include the same type and amount of basic information. Both EPA and the states can take enforcement action to ensure that consumers' right to know is respected by all water suppliers.

Consumer confidence reports are the centerpiece of the right-to-know provisions in the 1996 Amendments to the Safe Drinking Water Act. The Amendments contain several other provisions aimed improving public information about drinking water, including the annual public water system compliance report and improved public

ATTACHMENT 5

3/3

notification in cases where a water supplier is not meeting a contaminant standard. The Amendments also call for increased public participation in the protection and delivery of safe drinking water. For example, citizen advisory committees are helping states to implement their source water assessment activities and are involved in decisions about allocating the state revolving loan fund that provides funding for drinking water infrastructure improvements.

To increase public awareness of the reports, the Agency has established a right-to-know working group of its National Drinking Water Advisory Council, comprising representatives of the states, water systems, and consumer and public health advocacy groups. This working group will advise EPA on a series of products to prepare the public for the information that will be contained in the reports.

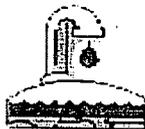
More information about this rule is available on EPA's drinking water web site <http://www.epa.gov/safewater> or from the Safe Drinking Water hotline (800-426-4791).



[Search](#)



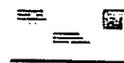
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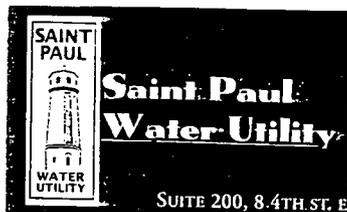
Revised August 11, 1998

Office of Ground Water and Drinking Water

<http://www.epa.gov/OGWDW/ccr/ccrfact.html>

Kathy → 'Metro Report' idea?

ATTACHMENT 6



1998 WATER QUALITY Report

SUITE 200, 8.4TH ST. EAST, ST. PAUL 55101-1007

CALL 651-226-6350 WITH QUESTIONS

This water quality report from the Saint Paul Water Utility summarizes the results of monitoring done on our drinking water during the 1997 calendar year. The purpose of this report is to advance our customers' understanding of drinking water and heighten awareness of the need to protect precious water resources. This report will be issued annually.

Report Summary...

No contaminants were detected at levels that exceeded federal standards. Several components were detected in trace amounts well below Federal Safe Drinking Water Act Maximum Contaminant Level Goals that are set for public water systems throughout the country. The table in this report lists the detected substances. Their presence does not necessarily indicate that water poses a health risk.

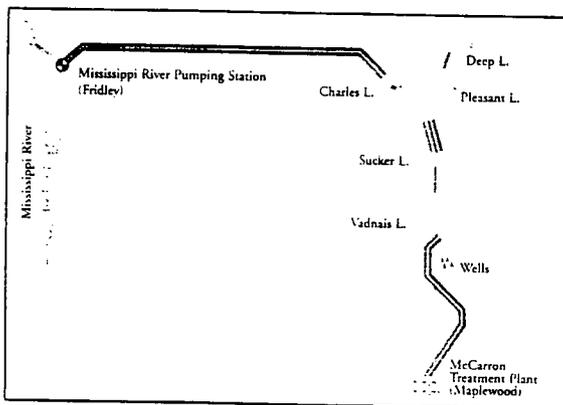
The Saint Paul Water Utility, the Minnesota Department of Health and independent labs routinely test and monitor our water supply to ensure the water is safe.



Experts from Saint Paul Water Utility, selected for their sensitive senses of taste and smell, swish and sip weekly to determine the aesthetic quality of the water.

Where does our water come from?

The Saint Paul Water Utility provides safe drinking water to its residents as well as many businesses and visitors. The water supply includes Mississippi River Water and four deep wells. The wells draw from the Shakopee and Jordan aquifers. From these sources, water is directed to an Impounding Reservoir Lake System. As the water is passed through the lake system, it is subjected to natural processes and diluted with lake water, producing a raw source of exceptionally good quality. The raw water from our reservoir system is pumped to our water treatment plant.



The Saint Paul raw water supply system

How safe is our water?

The Saint Paul Water Utility's number one priority is to provide safe, high quality water to all of its customers. In pursuit of that mission, we consistently meet, and often exceed, federal and state standards for safe water. Our success is due in large part to the human and capital investments we have made in our McCarron's Treatment Plant. Since committing \$30 million in 1993, we have upgraded our treatment facilities in many areas. Thus far, major projects include:

- 1995-96: Replacement of 12 of 24 filters to increase capacity for filtering fine particles.
- 1996-97: Construction of new solids dewatering facility for spent lime to house new filter presses.
- 1997-99: Construction of three new chemical handling and storage facilities to enhance chemical storage capacity and increase safety of chemical handling.

Installation of new computer system to improve instrumentation, control, and coordination of Utility facilities.

Future projects include modification of the recarbonation facility as well as architectural and structural improvements to the main plant building.



The Saint Paul Water Utility is an active member of the Partnership for Safe Water, a national association of water utilities and government, committed to drinking water quality far better than required by federal regulations. In 1998, the Utility received the organization's Director's Award. This certificate of recognition was issued by the EPA on behalf of the Partnership to McCarron's Treatment Plant "for its efforts to achieve excellence in water quality far beyond what is required by federal regulation."

Substance	MCL	MCLG	Range Detected	Highest Level Used For Compliance	Typical Source of Substance
Regulated at the Treatment Plant ATTACHMENT 6 1/2					
Fluoride, ppm	4	4	.86-1.2	1.2	Natural geology/supplement
Nitrate/Nitrite, ppm	11	11	0.11-0.29	0.29	Wildlife & septic systems
Dalapon, ppb	200	200	0.6	0.6	Herbicide use
Regulated in the Distribution System					
Total Trihalomethanes, ppb	100	0	45 - 48	48	Disinfection interaction
Lead, ppb	15	0	1 - 28	16	Customer plumbing and service connection
Unregulated Analysis					
Sodium, ppm	Not Regulated	Not Regulated	13	13	Natural geology
Sulfate, ppm	500*	500*	20	20	Mineral and nutrient
1,1,1,2 - Tetrachloroethane, ppb	Not Regulated	Not Regulated	0.2	0.2	Disinfection interaction
Chloroform, ppb	100	0	16-30	30	Components of Total Trihalomethanes
Bromodichloromethane, ppb	100	0	3.7-6.9	6.9	Components of Total Trihalomethanes
Dibromochloromethane, ppb	100	0	1.2 - 2	2	Components of Total Trihalomethanes
Bromoform, ppb	100	0	1-1.9	1.9	Components of Total Trihalomethanes
Dichloroacetic acid, ppb	60*	0*	15 - 25	25	Disinfection interaction
Trichloroacetic acid, ppb	Not Regulated	Not Regulated	7.4 - 9.1	9.1	Disinfection interaction
Monochloroacetic acid, ppb	Not Regulated	Not Regulated	7.8 - 2	2	Disinfection interaction
Bromodichloroacetic acid, ppb	Not Regulated	Not Regulated	1.7 - 2.6	2.6	Disinfection interaction
Bromochloroacetic acid, ppb	Not Regulated	Not Regulated	2 - 2.6	2.6	Disinfection interaction
Total Haloacetic acids, ppb	60*	-	27.6 - 42.5	42.5	Disinfection interaction
Cyanogen Chloride, ppb	Not Regulated	Not Regulated	4.84	4.84	Disinfection interaction
Dichloroacetonitrile, ppb	Not Regulated	Not Regulated	0.8 - 2.9	2.9	Disinfection interaction
1,1-Dichloropropanone, ppb	Not Regulated	Not Regulated	1.4 - 2.7	2.7	Disinfection interaction
Chloral Hydrate, ppb	60*	40*	1.6 - 3.5	3.5	Disinfection interaction
1,1,1-Trichloropropanone, ppb	Not Regulated	Not Regulated	1.8 - 2	2	Disinfection interaction
Dibromoacetonitrile, ppb	Not Regulated	Not Regulated	1.2 - 2.8	2.8	Disinfection interaction
Bromochloroacetonitrile, ppb	Not Regulated	Not Regulated	0.8 - 1.1	1.1	Disinfection interaction
Chloropicrin, ppb	Not Regulated	Not Regulated	0.5 - 0.6	0.6	Disinfection interaction
Total Organic Halides, ppm	Not Regulated	Not Regulated	130 - 145	145	Disinfection interaction

Key:
(Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. (Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health (ppb: parts per billion, or micrograms per liter (ug/l) (ppm: parts per million, or milligrams per liter (mg/l)
* proposed
"Not Regulated" illustrates substances found in the water but not regulated to be below any certain levels.

More about water...

Drinking water sources (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring material, and can pick up substances resulting from the presence of animals or from human activity.

Substances that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Inorganic substances, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production or farming.

■ Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flushing your tap for 30 seconds to 2 minutes before using tap water often significantly lowers lead detections. Additional information is available from the Safe Drinking Water Hotline (800) 426-4791.

■ Organic chemicals, including synthetic and volatile organic chemicals, which are by-products of industrial processes, and can come from gas stations, urban stormwater runoff, and septic systems.

■ Radioactive constituents, which can be naturally occurring or be the result of oil and gas production.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain substances in water provided by public water systems.



Some people may be more vulnerable to substances found in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hot-Line (800-426-4791).

Cryptosporidium:

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms. The St. Paul Water Utility tests for Crypto in the supply on a monthly basis and has never detected it in the raw or treated water. The organism comes from animal wastes in the watershed. Crypto is eliminated by an effective treatment combination including filtration, sedimentation and disinfection.