MAY 1996 MONTHLY OPERATION AND MAINTENANCE REPORT ON THE DOMESTIC WASTEWATER TREATMENT PLANT GROUNDWATER REMEDIATION NAS PENSACOLA FL

6/4/1996

RUST ENVIRONMENTAL & INFRASTRUCTURE INC

Rust Environment & Infrastructure Inc.

A Rust International Company
2694 Lake Park Drive
North Charleston, SC 29406

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June 4, 1996

Commanding Officer
Naval Public Works Center, Code 480
Attn: Mr. Tom Kelley
Naval Air Station
Pensacola, FL 32508-6500

Re: May 1996 Monthly Operation and Maintenance
Report on the Domestic Wastewater Treatment Plant (DWTP)
Ground-Water Remediation
Naval Air Station (NAS) Pensacola, Florida
Contract No. N62467-93-D-0662, Delivery Order No. 0045
Rust Project No. 33561.000

Dear Sir:

Rust Environment and Infrastructure (Rust) is pleased to submit a monthly operation and maintenance report on the DWTP ground-water remediation for the above referenced project. The attached table 1 contains a summary of the recovery well pumping data for the month of May 1996 and Attachment "A" contains time series graphs of the calculated bi-weekly pump flow rates and measured well water levels to facilitate evaluation of the performance and maintenance requirements of the recovery wells and pumps. In addition, two (2) copies of the report have been sent to Mr. Maxie Keisler with Southern Division, Naval Facilities Engineering Command and two (2) copies to Commander, Naval Air Station, Environmental Division, Attention: Mr. Bill Taylor. Rust has the following comments for the month of May 1996.

GENERAL COMMENTS

1. On May 2 through May 4, 1996, Rust representative and personnel with the NAS Pensacola Public Works Center mobilized at the DWTP to determine where the break was at within the recovery well discharge pipelines. Rust representative isolated each recovery well discharge pipeline by installing a shut-off valve at the end of each discharge pipeline prior to tying into the common influent header pipe. Testing revealed that the problem was within the discharge piping of RW7.

   Personnel with the Public Works Center traced the discharge piping of RW7 and found that the pipeline did not tie into the common header influent pipeline to the pre-treatment air stripper.

2. On May 15, 1996 Rust representative observed that personnel with NAS Pensacola Public Works Center had laid a new 2" schedule 40 PVC discharge pipeline for RW7; portions of the existing discharge piping were re-used to the extent possible.

RECOVERY WELL SYSTEM OPERATION STATUS

RW 1,2 & 3

1. On May 2, 1996, Rust representatives installed a 1" PVC shut-off valve and 1" PVC compression coupling at the end of the existing discharge pipeline prior to the tie-in to the common influent header pipe to the air stripper unit. A new heavy duty PVC valve box was installed at the flowmeter (previously damaged by the hurricane) and a new PVC valve box was installed at the newly installed shut-off valve.

2. On May 15, 1996, Rust representative installed two (2) new Starite 1/2 H.P. motors and two (2) new FSNCH-1 shallow well pumps at the pump station for RW1, 2 & 3. The pumps were replaced due to the housings being cracked.

3. On May 30, 1996, Rust representative primed the pumps, filled all suctions pipelines with potable water and placed pump "B" on-line.

RW 4 & 6

1. On May 2, 1996, Rust representative installed a new 2" PVC shut-off valve, two (2) 3" x 2" PVC reducers and one (1) 3" PVC compression coupling at the end of the existing discharge pipeline prior to the tie-in to the common influent header pipe to the air stripper unit. A new heavy duty PVC valve box was also installed at the new shut-off valve.

2. On May 16, 1996, Rust representative installed a new 1" PVC shut-off valve at the discharge piping of pump "A". The existing valve was cracked and leaking.

3. On May 30, 1996, Rust representative primed the pumps; filled all suction lines with potable water and placed pump "A" on-line.

RW 5A

1. On May 2, 1996, Rust representative installed a new 2" PVC shut-off valve and a new 2" PVC compression coupling at the end of the existing discharge pipeline prior to the tie-in to the common influent header pipe to the air stripper unit. A new heavy duty PVC valve box was also installed at the new shut-off valve.

2. On May 3, 1996, Rust representative observed that the flowmeter for RW5A was reflecting a pumping rate of 6.0 GPM but the flowmeter at the air stripper unit reflected that RW 5A was only pumping 0.9 GPM. Rust representative concluded that there was a break within the discharge pipeline. Test holes were excavated approximately every ten feet along the discharge pipeline route to find the break. The excavations revealed that there was no break in the discharge pipeline. Flow volumes were measured out of the flowmeter at RW 5A and at the flowmeter on the influent side of the air stripper unit. Testing revealed that the flowmeter at RW 5A was reflecting inaccurate flow rates and needs to be replaced.

3. On May 22, 1996, Rust representative installed a new 1" PVC check valve at the bottom of the suction pipeline.

4. On May 30, 1996, Rust representative primed both pumps, filled the suction pipeline with potable water and placed RW 5A on-line.

5. On May 31, 1996, Rust representative observed that the flowmeter was reflecting zero flow. The flowmeter was removed from the discharge pipeline and backflushed with potable water pressure. the flowmeter was re-installed and the pump station was placed back on-line. The flowmeter operated for a short period of time and then stopped operating again. RW 5A was placed off-line at this time; the flowmeter needs to be replaced.

RW 7

1. On May 2, 1996, Rust representative installed a new 2" PVC shut-off valve and a new 2" PVC compression coupling at the end of the existing discharge pipeline prior to the tie-in to the common influent header pipe to the air stripper unit. A new heavy duty PVC valve box was also installed at the new shut-off valve.

2. On May 15, 1996, Rust representative observed that pump "B" would not operate. Trouble shooting revealed that the 20 amp fuse was blown within the service disconnect panel. The pump operated properly after a new fuse was installed.

3. On May 16, 1996, Rust representative installed a new heavy duty PVC valve box at the flowmeter. The existing valve box was damaged by grass cutting equipment.

4. On May 16, 1996, Rust representative observed a crack in the pump housing of pump "A"; a new pump housing (N176-20TG) was purchased and installed; a new diffuser plate and impeller were also installed.

5. On May 30, 1996, Rust representative primed both pumps, filled the suction pipeline with potable water and placed RW7 on-line.

PRE-TREATMENT AIR STRIPPER

1. On May 22, 1996, Rust representatives (Tommy Moody and Charlie Tucker) mobilized at the NAS Pensacola DWTP to perform start-up and sampling of the pretreatment air stripper. The start-up and sampling were not performed due to the below listed reasons.

   A. The blower motor blew-out the fuses within the service disconnect panel when placed in the "on" position.

   B. The recovery well pump stations would not operate when the air stripper controls were placed in the automatic mode position.

2. On May 30, 1996 at 0835 hours Rust representative performed start-up of the air stripper unit and of the recovery well system. The air stripper unit manual and automatic controls were tested to verify compliance with design criteria. The manual and automatic controls appeared to function properly except as listed below.

   A. The high pressure automatic controls do not cease the operation of the stripper blower, as specified.

B. The low pressure automatic controls do not cease the operation of the stripper blower, as specified.

3. On May 30, 1996, Rust representative informed Mr. Tom Reeves with the ROICC office of the status of the recovery well system and of the pretreatment air stripper unit. The recovery well system and the air stripper unit were left on-line, as directed.

As always, if there are any questions regarding this report or other matters pertaining to this project, please feel free to contact me at (803) 572-5600 or Susan Burdick at (804) 266-0332.

Sincerely,

Tommy E. Moody

Tommy E. Moody
Project O&M

Enclosure

c: Maxie Keisler - NAVFAC - Code 18213 (2 copies)
Bill Taylor - NAS, Environmental Division (2 copies)
Brian Caldwell - ENSAFE
Scott Ross - Rust

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TABLE 1

NAS PENSACOLA INDUSTRIAL WASTEWATER TREATMENT PLANT
RECOVERY WELL PUMPING DATA

PUMP STATION	DATE INSPECTED	FLOWMETER READINGS (gallons)	DISCHARGE PRESSURE (psig)	SUCTION VACUUM (" Hg)	INSTANTANEOUS PUMPING FLOW RATE (gpm)	TOTAL BI-WEEKLY FLOW (gallons)	BI-WEEKLY CUMULATIVE FLOW (gallons)	WATER LEVEL BELOW TOP OF CASE PIPE ELEVATION (ft) (respectively)
*RW (1, 2)& 3	5-31-96	9,559,145	19.00	-15.00	9.30	***9,722.00		4.24; 10.90; 8.84
RW 4, 6	5-31-96	30,764	18.00	-13.00	9.20	***10,033.00		6.14; 6.05
RW 5A	5-31-96	4,501,331	0.00	0.00	0.00	***2,577.00		4.30
RW 7	5-31-96	4,905,100	17.00	-26.50	3.10	***4,760.00	27,092.00	21.67

NOTES:
RW 1, 2 & 3 - Pump station for recovery wells RW 1, RW 2, and RW 3.
RW 4, 6 - Pump station for recovery wells RW 4 and RW 6.
RW 5A - Pump station for recovery well RW 5A.
RW 7 - Pump station for recovery well RW 7.
* RW3 only being purged 3/28/94 to present.
** The O&M Inspection scheduled for 8-15-95 was moved forward to 8-10-95 to check on the status of the recovery well system following Hurricane Erin; no significant
*** Total flow from 11/21/95 to 5/31/96.

6/04/96 - P:\WP\33561\0696

GROUNDWATER PRETREATMENT SYSTEM
OPERATION AND MAINTENANCE CHECKLIST
NAVAL AIR STATION
PENSACOLA, FLORIDA

INSPECTOR'S NAME	TOMMY E. MOODY - RUST E&I
AMBIENT TEMPERATURE	75°
WEATHER CONDITIONS	SUNNY & WARM 5-31-96 @ 0746 HRS.

ITEM	INSPECTION CHECK	INSPECTION FREQUENCY	DATA/ COMMENTS
Influent Piping	Operation of Ball Check Valve	Monthly	O.K.
	Sample Port Operation	Monthly	O.K.
	Flow Meter Reading	Weekly	209 276
	Sample Collection	Monthly	VIA CHARLES TUCKER RUST E&I
Air Stripper	Pressure Gauge Reading	Weekly	17.0 INCHES OF WATER
	Clean/Check Trays	Weekly	
Blower	Piping Connections	Monthly	O.K
Effluent Piping	Operation of Ball Check Valve	Monthly	O.K.
	Sample Port Operation	Monthly	O.K.
	Flow Meter Reading	Weekly	N/A
	Sample Collection	Monthly	VIA CHARLES TUCKER W/ RUST E&I
System Components	Exposed Piping Connections	Monthly	O.K.

System Description: AIR STRIPPER OPERATING PROPERLY.

Activities Performed: DATA COLLECTION; BAFFLE TUBES & TRAYS PREVIOUSLY CLEANED PRIOR TO START-UP; START-UP ON 5-30-96 @ 0835

ATTACHMENT A

NAS PENSACOLA IWTP RCRA RECOVERY WELL WATER LEVEL BELOW TOP OF CASING

DATE	RW 1** WLBTC (feet)	RW 2** WLBTC (feet)	RW 3** WLBTC (feet)	RW 4 WLBTC (feet)	RW 5A* WLBTC (feet)	RW 6 WLBTC (feet)	RW 7 WLBTC (feet)
9/2/93	3.78	12.71	4.61	2.30	5.61	11.30	24.15
9/16/93	3.02	11.95	3.68	1.41	2.01	10.80	23.70
9/28/93	3.77	12.21	4.38	2.50	7.41	11.36	23.99
10/12/93	4.05	13.01	4.83	2.45	5.55	11.71	23.30
10/26/93	3.72	12.62	4.39	2.06	5.63	11.47	23.97
11/9/93*	3.71	12.83	4.25	1.97	0.00	11.22	24.28
11/23/93*	4.10	13.07	4.72	2.40	5.47	11.61	24.61
12/7/93	4.31	13.44	5.01	2.66	5.60	11.26	24.50
12/21/93	2.87	11.95	3.38	1.29	4.01	10.21	24.70
1/4/94	4.03	13.32	4.52	2.23	5.14	11.46	24.45
1/18/94	4.15	12.18	4.69	2.35	6.68	10.25	24.90
2/1/94	3.69	12.75	4.19	1.89	3.59	11.45	25.49
2/15/94	4.20	12.28	4.68	2.36	5.75	11.30	24.55
2/28/94	4.20	13.15	4.82	2.49	5.65	11.65	23.49
3/14/94	4.01	12.26	4.54	2.25	5.41	11.59	23.58
3/28/94	3.42	12.91	4.05	1.88	3.68	10.80	24.19
4/11/94	4.15	5.16	4.90	9.60	4.21	9.11	25.23
4/26/94	3.64	4.67	16.99	8.30	3.75	9.18	24.12
5/10/94	3.97	5.09	15.52	7.30	3.95	9.88	23.91
5/24/94	4.36	5.40	16.53	5.35	4.35	10.97	24.13
6/7/94	3.06	4.04	16.72	1.96	3.28	10.56	23.95
6/20/94	2.58	4.16	16.31	1.20	4.21	10.80	23.67
7/5/94	2.31	3.71	15.65	0.71	2.21	10.80	23.20
7/19/94	2.85	6.66	18.92	1.03	2.71	10.60	24.55
8/2/94	3.44	5.36	15.38	1.47	3.06	11.15	24.65
8/16/94	3.49	5.62	15.42	1.91	5.05	10.88	23.89
8/30/94	3.67	7.19	12.51	1.99	3.91	11.65	24.29
9/13/94	3.87	7.51	15.45	2.28	3.85	11.70	24.51
9/27/94	2.83	7.71	11.64	1.16	2.90	10.31	24.48
10/11/94	1.75	8.20	9.30	0.30	3.75	5.49	23.67
10/25/94	3.12	9.21	10.31	1.26	3.45	10.45	0.60
11/8/94	3.75	9.71	11.11	2.01	4.18	11.10	25.28
11/22/94	4.14	10.93	12.61	2.45	4.61	12.35	25.76
12/6/94	3.74	11.09	12.01	2.05	3.71	11.79	25.09
12/20/94	3.98	11.40	13.02	2.22	5.61	11.71	25.42
1/3/95	3.81	11.21	13.16	2.16	4.94	12.05	25.18
1/17/95	3.91	11.30	13.05	2.31	4.39	12.05	24.19
1/31/95	3.95	9.05	9.27	2.46	4.30	12.01	25.63
2/14/95	4.19	5.18	12.74	3.80	4.07	11.45	24.21
2/28/95	4.41	8.09	11.70	7.78	5.62	7.21	24.20
3/14/95	3.49	7.34	12.10	7.80	3.88	8.19	24.70
3/28/95	3.70	7.65	12.94	6.25	3.91	7.53	24.70
4/11/95	3.71	7.69	12.69	6.29	3.58	9.16	23.73
4/25/95	2.64	6.47	11.75	3.68	2.88	7.86	23.58
5/9/95	3.81	10.95	10.77	4.15	4.30	10.31	23.85
5/23/95	3.31	9.29	9.35	1.80	2.99	9.25	23.84
6/6/95	3.97	10.70	9.91	1.90	5.09	11.20	23.79

ATTACHMENT A

NAS PENSACOLA IWTP RCRA RECOVERY WELL WATER LEVEL BELOW TOP OF CASING

DATE	RW 1** WLBTC (feet)	RW 2** WLBTC (feet)	RW 3** WLBTC (feet)	RW 4 WLBTC (feet)	RW 5A* WLBTC (feet)	RW 6 WLBTC (feet)	RW 7 WLBTC (feet)
6/20/95	4.31	10.27	9.78	2.56	4.97	10.21	23.99
7/4/95	4.35	11.07	10.75	2.70	4.31	11.96	24.45
7/18/95	4.28	11.50	11.22	2.65	4.95	10.33	24.20
8/1/95	2.73	10.32	10.24	1.26	3.61	11.09	24.31
8/10/95***	2.81	9.15	8.93	0.42	2.65	8.52	23.40
8/22/95	2.91	10.08	10.00	1.09	3.31	10.57	23.92
9/5/95	2.91	9.82	9.58	1.27	3.30	9.32	24.35
9/19/95	3.61	10.82	10.60	1.96	3.91	11.05	24.89
10/3/95	3.42	10.97	10.76	2.09	4.69	9.76	24.74
10/25/95	3.22	4.05	3.64	1.46	3.61	7.15	0.70
11/8/95	2.51	6.91	8.28	4.59	3.38	4.28	20.80
11/21/95	3.59	4.45	4.10	1.87	3.60	0.90	16.90
5/31/96	4.24	10.90	8.84	6.14	4.30	6.05	21.67

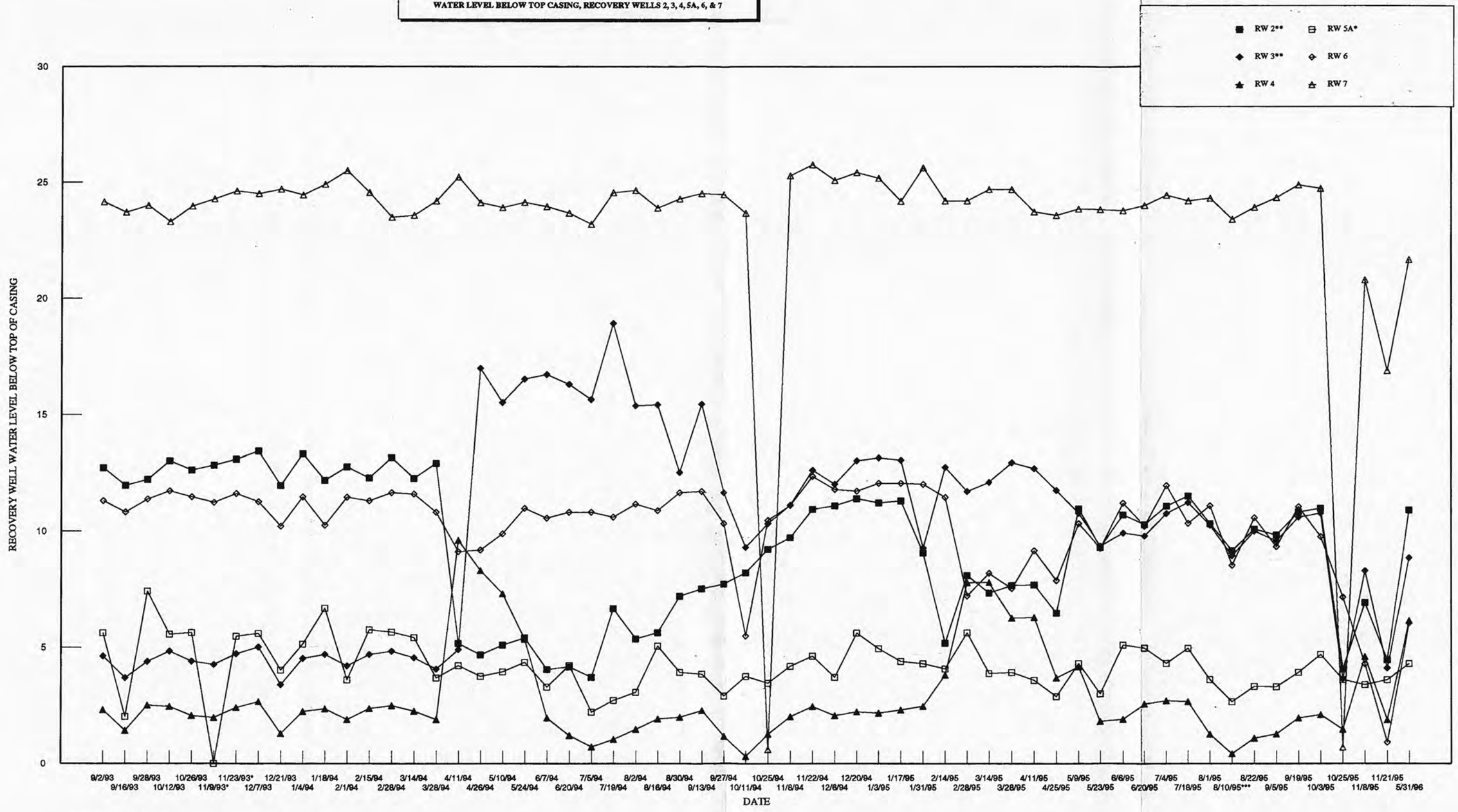
* RW 5 relocated and pump replaced 11/12/93, renamed RW 5A.

** RW 2 only being purged 9/2/93 thru 3/28/94; RW 3 only being purged 3/28/94 to present. (RW 1 suction valve is presently in the closed position; RW 2 suction valve is presently in the slightly opened position; RW 3 suction valve is presently in the full open position.)

*** The O&M Inspection scheduled for 8/15/95 was moved forward to 8/10/95 to check on the status of the recovery well system following Hurricane Erin; no significant damage was observed.

NAS PENSACOLA IWTP RCRA SITE

WATER LEVEL BELOW TOP CASING, RECOVERY WELLS 2, 3, 4, 5A, 6, & 7



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ATTACHMENT A

NAS PENSACOLA IWTP RCRA RECOVERY WELL FLOW DATA

DATE	RW 1,2,&3** FLOW (GALS/2wks)	RW 4&6 FLOW (GALS/2wks)	RW 5A* FLOW (GALS/2wks)	RW 7 FLOW (GALS/2wks)	TOTAL FLOW (GALS/2wks)
9/2/93	142110	162340	24760	53830	383040
9/16/93	135670	149590	-30700	49630	304190
9/28/93	116270	134810	14330	43120	308530
10/12/93	136130	152720	13160	46830	348840
10/26/93	142140	154940	14830	45010	356920
11/9/93*	149620	158140	26400	46350	380510
11/23/93*	146570	157290	31320	43950	379130
12/7/93	144880	154010	16110	44160	359160
12/21/93	139320	153600	13510	42630	349060
1/4/94	149060	158250	11050	46720	365080
1/18/94	123050	154960	5120	47100	330230
2/1/94	133870	154620	24713	47830	361033
2/15/94	125390	155560	26547	47110	354607
2/28/94	123660	142080	4750	42250	312740
3/14/94	113800	156140	51810	45330	367080
3/28/94	129980	149390	26114	45340	350824
4/11/94	62480	185229	0	46667	294376
4/26/94	114540	192381	0	47693	354614
5/10/94	95550	176590	-13904	44760	302996
5/24/94	94640	159660	5466	43110	302876
6/7/94	95650	153210	674	43420	292954
6/20/94	94086	137550	41772	40140	313548
7/5/94	122174	165870	-3652	50170	334562
7/19/94	102520	152770	71814	48230	375334
8/2/94	114960	146980	8396	46040	316376
8/16/94	120305	147250	314706	43740	626001
8/30/94	28735	146150	259724	43840	478449
9/13/94	109247	143172	1300	41266	294985
9/27/94	19933	146778	240010	38974	445695
10/11/94	38450	150690	24290	43310	256740
10/25/94	136920	145910	168195	8650	459675
11/8/94	137634	143830	159625	39953	481042
11/22/94	130526	140433	143430	36652	451041
12/6/94	126543	140687	2578	35103	304911
12/20/94	123081	141034	66629	36927	367671
1/3/95	124006	141588	2629	36814	305037
1/17/95	121155	141168	103562	37668	403553
1/31/95	20528	143045	160533	7741	331847
2/14/95	118171	139268	33440	39172	330051
2/28/95	112145	124628	195889	37053	469715
3/14/95	123141	194925	190593	45607	554266

ATTACHMENT A

NAS PENSACOLA IWTP RCRA RECOVERY WELL FLOW DATA

DATE	RW 1,2,&3** FLOW (GALS/2wks)	RW 4&6 FLOW (GALS/2wks)	RW 5A* FLOW (GALS/2wks)	RW 7 FLOW (GALS/2wks)	TOTAL FLOW (GALS/2wks)
3/28/95	125571	152781	147296	46200	471848
4/11/95	121568	184651	2015	45893	354127
4/25/95	126623	147850	224282	47128	545883
5/9/95	94185	167684	220647	46206	528722
5/23/95	80867	135931	100613	46105	363516
6/6/95	136660	157320	332514	44446	670940
6/20/95	94863	132718	78605	42396	348582
7/4/95	122115	150562	1577	40923	315177
7/18/95	128917	131634	148926	41204	450681
8/1/95	134318	152703	132928	41322	461271
8/10/95***	94856	88538	87222	29445	300061
8/22/95	122086	134403	123028	37154	416671
9/5/95	131628	133923	120794	43401	429746
9/19/95	137823	155558	93131	43165	429677
10/3/95	129645	132519	50273	40028	352465
10/25/95	12024	136159	69476	3701	221360
11/8/95	22566	82653	78603	0	183822
11/21/95	15068	20731	13571	45233	94603
05/31/96****	9722	10033	2577	4760	27092

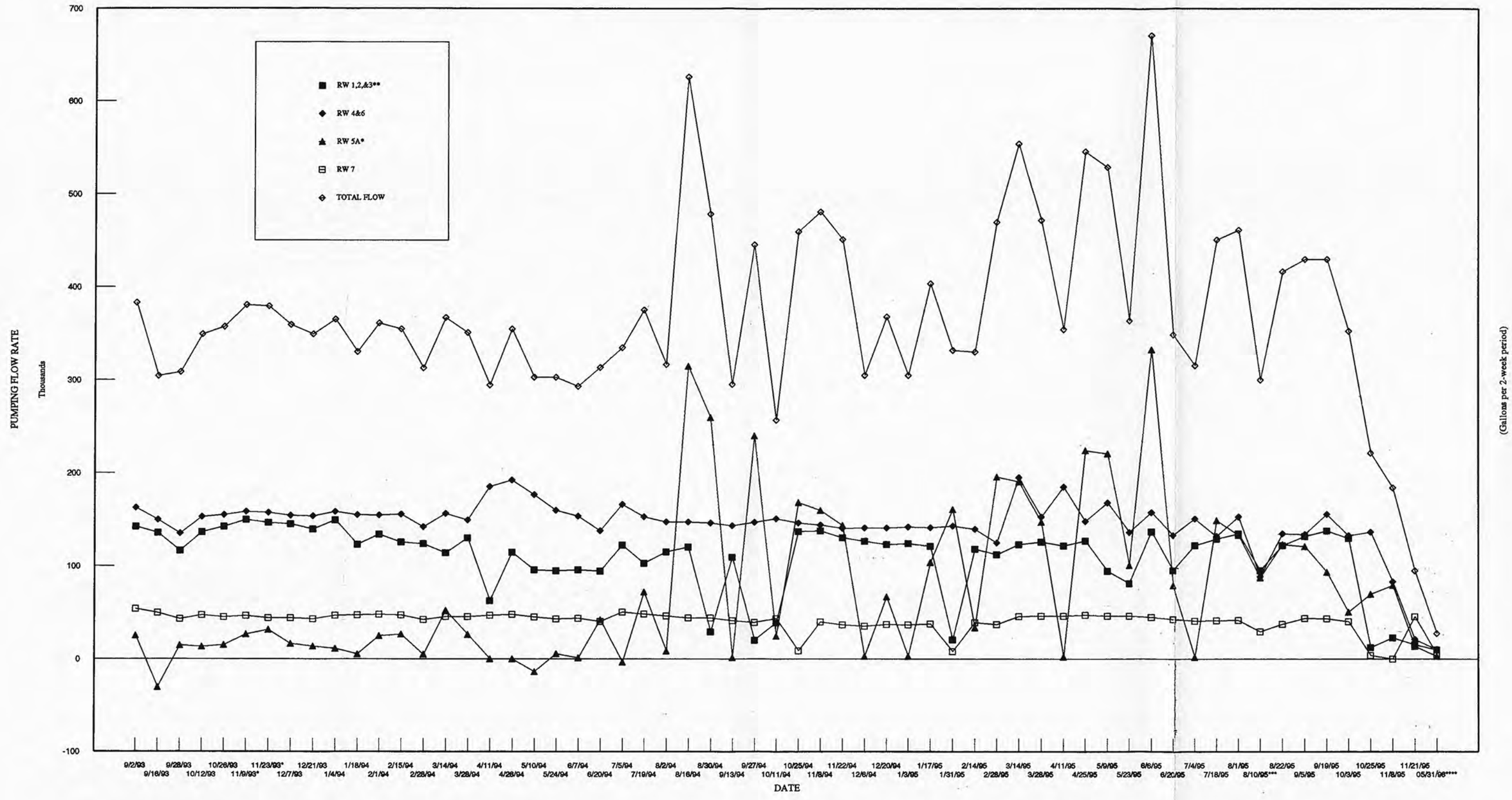
* RW 5 relocated and pump replaced 11/12/93, renamed RW 5A.

** RW 2 only being purged 9/2/93 thru 3/28/94; RW 3 only being purged 3/28/94 to present. (RW 1 suction valve is presently in the closed position; RW 2 suction valve is presently in the slightly opened position; RW 3 suction valve is presently in the full open position.)

*** The O&M Inspection scheduled for 8/15/95 was moved forward to 8/10/95 to check on the status of the recovery well system following Hurricane Erin; no significant damage was observed.

**** Total flow from 11/21/95 to 5/31/96.

NAS PENSACOLA IWTP RCRA SITE
RECOVERY WELL FLOW DATA



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