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**United States Department of Energy**

**Savannah River Site**

**FY2002 P Well Report**



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## **FY2002 P well Activities Report**

### **Background**

The P wells were installed in the late 80s as part of the SRP Baseline Hydrogeological Investigation for the purpose of updating and improving the current knowledge and understanding of the hydrogeological systems underlying the SRS. During the installation of the P well series wells, a total of more than 16,000 feet of unconsolidated geologic sediments were cored and are currently stored at the Core Facility and 129 wells were installed at eighteen widely spaced P well clusters (Figure 1). Each well cluster nominally consists of 8 observations wells (Figure 2) screened at the water table down to the lower McQueen Branch aquifer (Middendorf Formation). The vertical distribution of the wells at each cluster not only provides information on the hydraulic head within each monitoring unit but also the vertical gradients between the different formations.

### **Well Evaluation**

An evaluation was conducted during October, 2001 to evaluate the condition of the P wells. The evaluation included performing a test to determine if the pumps were operating properly by purging an estimated one well volume from each well. If the well purged dry or the pump malfunctioned, the results were noted on an evaluation form. Other information was also recorded such as site maintenance problems including grounds condition, above ground plumbing condition and general housekeeping.

### **Evaluation Results**

Survey results showed that the pumps were in good shape with only six failing the test. The six pumps that failed either did not work at all or performed unsatisfactory. Safety yellow coating on most of the well casings and protective posts was fading and chipping off. Well I.D. signs were beginning to show signs of deterioration and several were broken making it difficult to identify the well. Ground maintenance was needed at most of the P well clusters but no major problems existed that would not be corrected during the biannual mowing and weed eating performed by SRTC. Surface plumbing was functional on most of the wells except for a couple that had some missing or broken PVC plumbing. Surface plumbing was beginning to show signs of deterioration at several of the P well clusters.

### **Work completed during 2002**

Six new pumps were installed in wells P-14TA, P-18A, P-20TD, P-25B, P-25D, and P-29D. All of the old P well I. D. signs were removed and replaced with new signs. Work began during November to re-coat the protective posts and well casings but was put on hold because of other higher priority work. Re-coating proved to be a labor intensive process because each post required scraping with a wire brush to remove rust and loose coating chips. A coat of primer was then applied followed by two oil base safety yellow coatings. Four P well clusters have been re-coated this year.

An additional issue related to P wells that had to be addressed this year was the loss of access to several of the P well clusters because security barricades had been placed across access routes. Gaining access required working with WSI to find a new acceptable route to the well or having the barricades temporarily removed. Notification of WSI before crossing the barricade was necessary to prevent any unexpected visits by WSI security.

### **Future Work**

1. Complete P well re-coating.
2. Evaluate plumbing and replace as needed.
3. Load pre-2001 historical data into the database during FY2003.

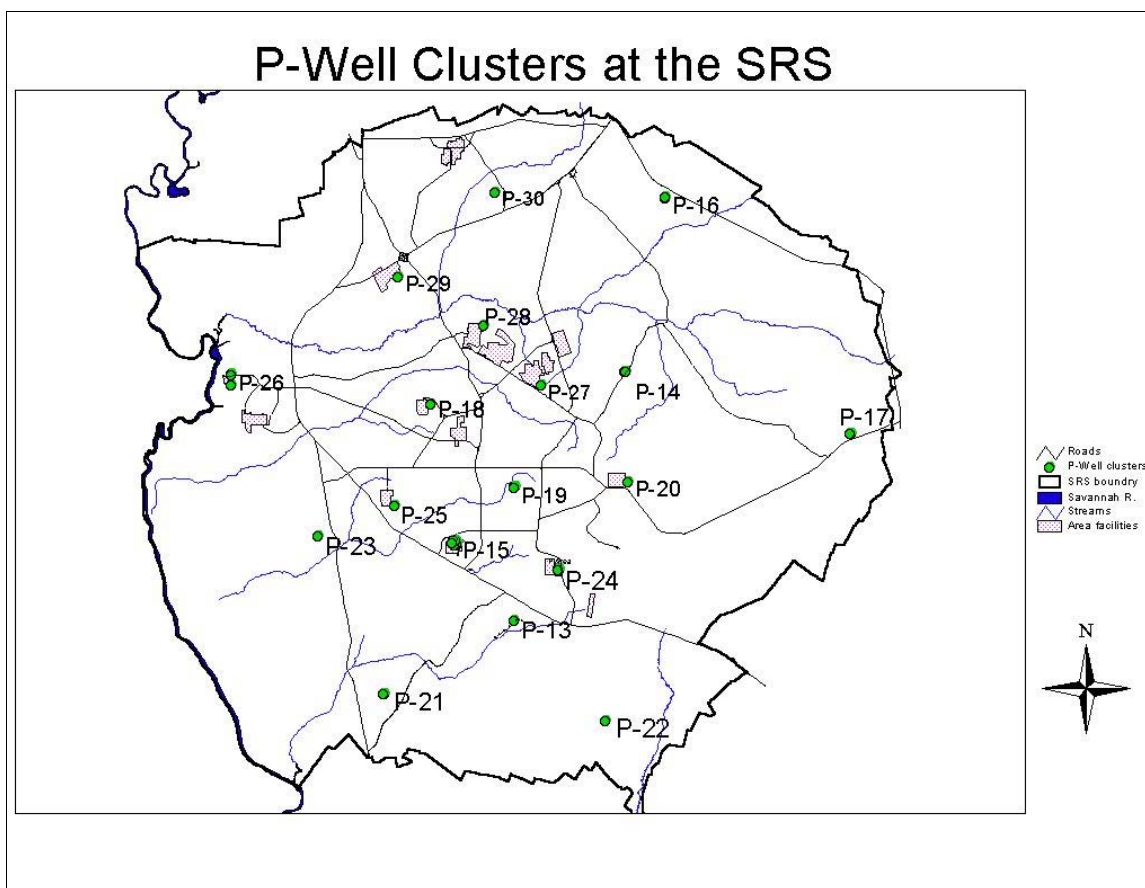


Figure 1: P well Cluster Location at SRS



Figure 2: Typical P well Cluster

## Water Level Monitoring in the P Well Clusters

Routine water level monitoring of the P well clusters and other miscellaneous baseline groundwater wells continued throughout FY2002. A new system for collecting and storing the water level data was implemented in FY2002 and consists of a personal data terminal (PDT), downloading station and a workgroup on the SRS computer network. The PDT, Symbol Technology PDT 6100, is programmed using Merlin ver 5.4 to read a barcoded well identification tag and prompt the technician for additional information related to the measurement, Figure 3. When the well route has been completed the PDT is placed in a downloading station where the stored information is transferred from the PDT to the SRS network (Figure 4). This new system improves the data quality and integrity in several ways:

- Ensures proper well identification through use of barcode on well
- Ensures accurate date and time stamp
- Eliminates errors from manual entry of water levels from data sheets
- Stores data on SRS network providing proper stewardship of data
- Makes data immediately available to users across the site
- Electronic collection and transfer of data reduces cost

A simple application was developed for users to access the data for subsequent processing. The application runs under a runtime version of MS Access 97 that is available through Winstall. Figure 5 shows the typical screens encountered when using the application. The example is a query for data pertaining to the water levels for wells in the P13 well cluster. Attachment 1 includes a copy of all the P well water level data collected during FY2002 downloaded through the MS Access 97 program.



Figure 3. Personal data terminal equipped with a barcode reader used to collect water level data.



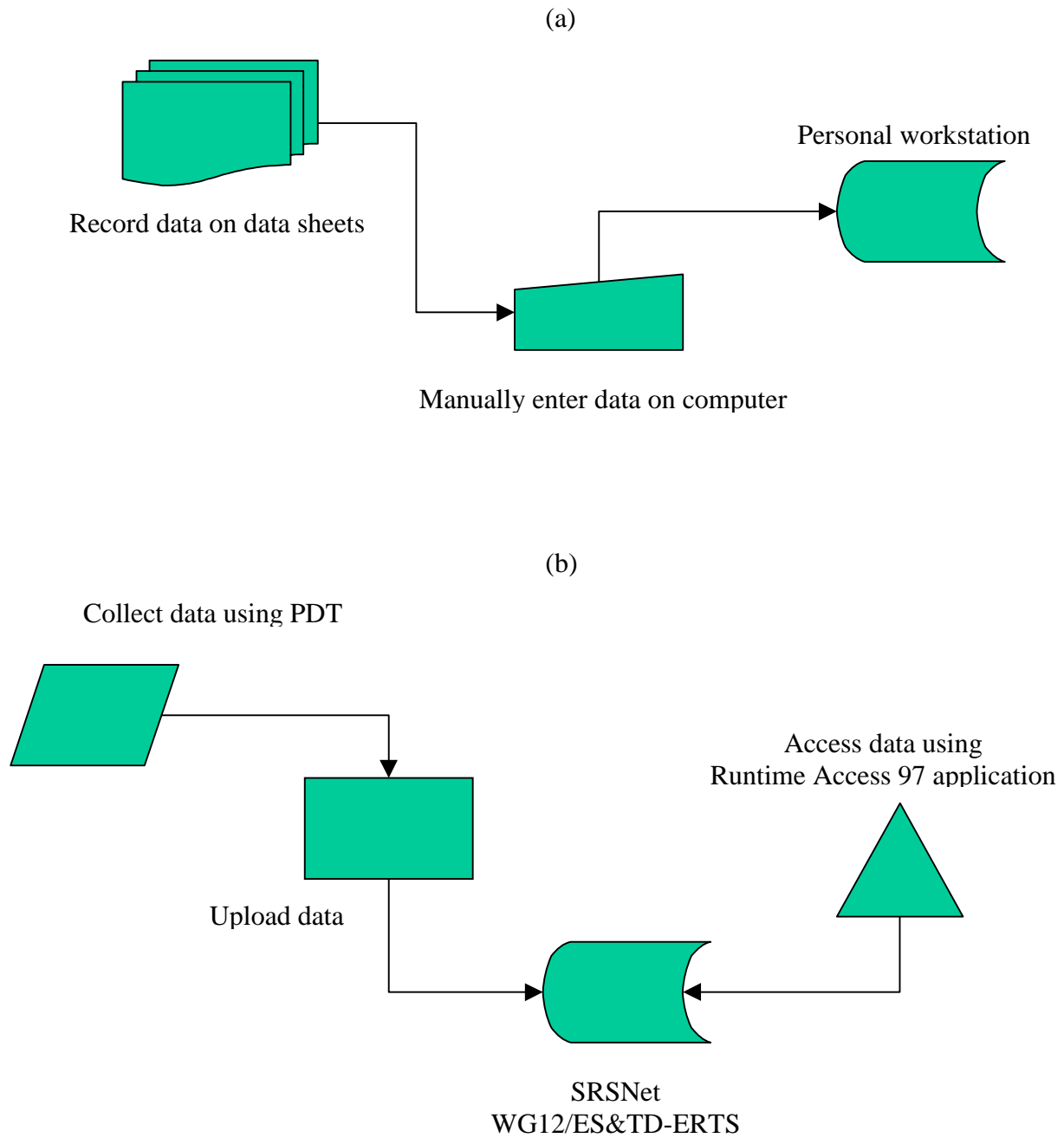
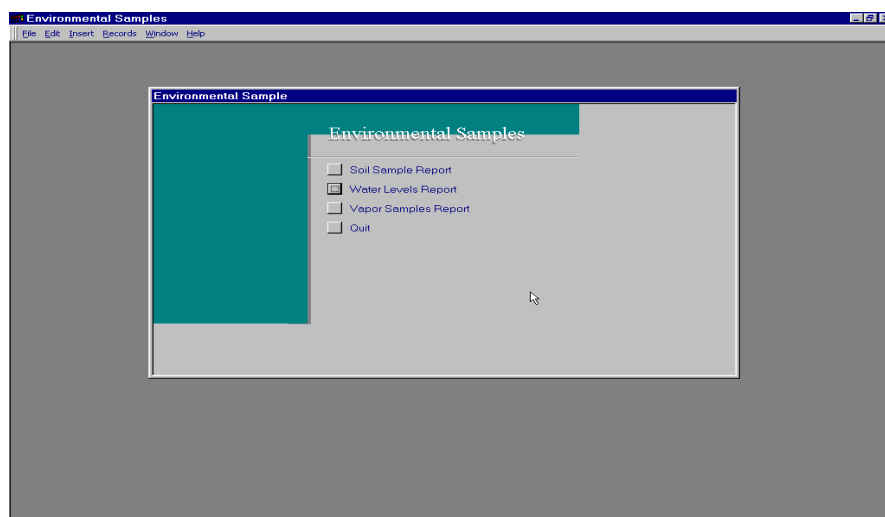
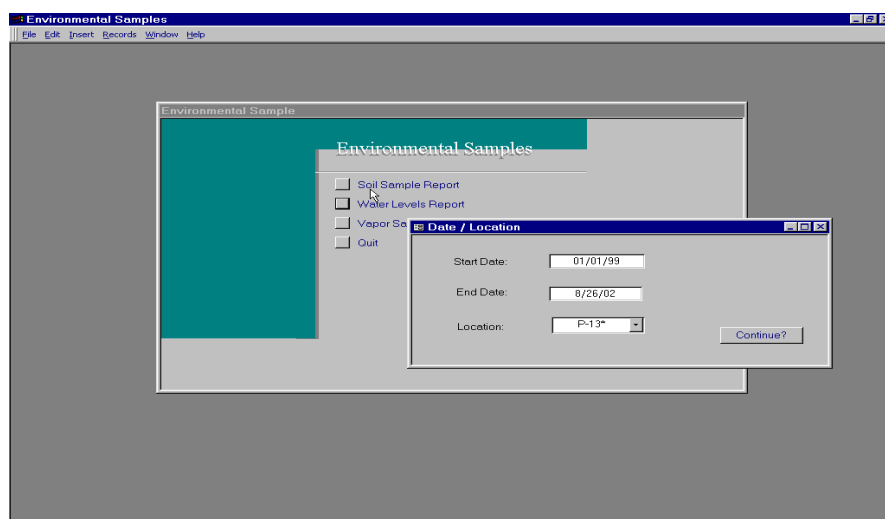


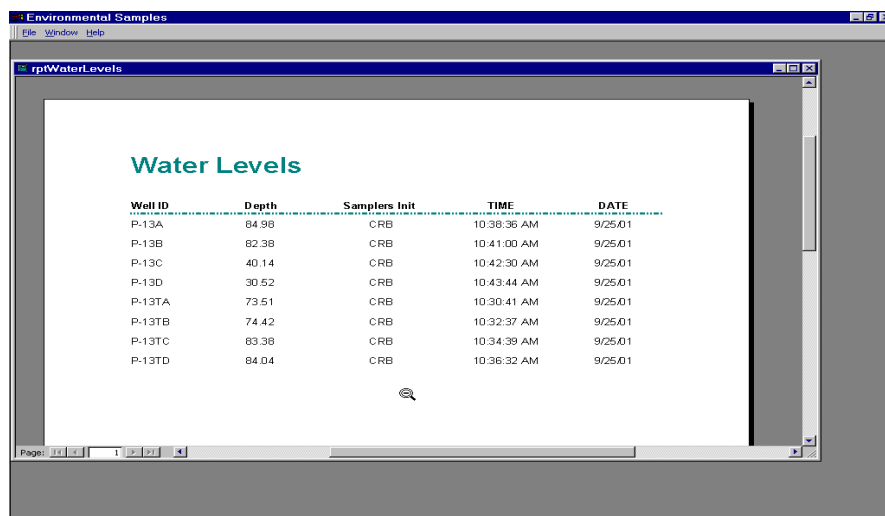
Figure 4. Flowchart for collection and storage of water level data, (a) old system, (b) new system.



(a)



(b)



(c)

Figure 5. Typical screens from MS Access application used to query water level data, (a) opening, screen, (b) query screen, (c) results screen.

**Attachment 1: FY2002 P well water level data**

Well ID	Water level depth (ft)	Sampler	Time	Date
P-10A	121.66	CRB	11:09:02 AM	4/26/02
P-10A	121.09	CRB	12:03:48 PM	1/7/02
P-10A	121.27	CRB	12:32:54 PM	10/3/01
P-12R	1226.25	CRB	2:20:52 PM	1/17/02
P-12R	1226.12	CRB	11:50:24 AM	5/8/02
P-12R	1226.35	CRB	8:59:52 AM	10/18/01
P-13A	84.98	CRB	10:38:36 AM	9/25/01
P-13B	82.38	CRB	10:41:00 AM	9/25/01
P-13C	40.14	CRB	10:42:30 AM	9/25/01
P-13D	30.52	CRB	10:43:44 AM	9/25/01
P-13TA	73.51	CRB	10:30:41 AM	9/25/01
P-13TB	74.42	CRB	10:32:37 AM	9/25/01
P-13TC	83.38	CRB	10:34:39 AM	9/25/01
P-13TD	84.04	CRB	10:36:32 AM	9/25/01
P-14C	64.46	CRB	2:09:05 PM	4/3/02
P-14C	65.15	CRB	1:14:53 PM	8/5/02
P-14C	64.02	CRB	12:42:15 PM	1/2/02
P-14C	63.51	CRB	10:38:23 AM	9/20/01
P-14TA	107.97	CRB	10:33:07 AM	9/20/01
P-14TA	108.58PUMP	CRB	12:36:38 PM	1/2/02
P-14TA	110.04	CRB	1:08:19 PM	8/5/02
P-14TA	108.32	CRB	2:03:36 PM	4/3/02
P-14TB	107.75	CRB	12:38:39 PM	1/2/02
P-14TB	108.86	CRB	1:10:05 PM	8/5/02
P-14TB	107.51	CRB	2:05:13 PM	4/3/02
P-14TB	107.57	CRB	10:34:56 AM	9/20/01
P-14TC	109.15	CRB	1:12:48 PM	8/5/02
P-14TC	108.08	CRB	12:40:44 PM	1/2/02
P-14TC	107.75	CRB	10:36:57 AM	9/20/01
P-14TC	107.75	CRB	2:07:20 PM	4/3/02
P-15A	81.21	CRB	10:49:41 AM	1/10/02
P-15A	81.15	CRB	1:24:53 PM	4/17/02
P-15A	80.9	CRB	12:37:48 PM	9/12/01
P-15B	80.72	CRB	9:51:33 AM	6/18/02
P-15B	80.48	CRB	11:00:12 AM	5/20/02



P-15B	79.94	CRB	12:38:35 PM	9/12/01
P-15B	80.44	CRB	10:51:31 AM	1/10/02
P-15B	80.38	CRB	1:26:08 PM	4/17/02
P-15B	81.05	CRB	10:41:06 AM	7/17/02
P-15B	79.29	CRB	2:36:40 PM	3/20/02
P-15C	47.76	CRB	11:02:29 AM	5/20/02
P-15C	44.76	CRB	12:40:25 PM	9/12/01
P-15C	47.47	CRB	1:27:23 PM	4/17/02
P-15C	47.31	CRB	2:38:06 PM	3/20/02
P-15C	48.04	CRB	9:53:57 AM	6/18/02
P-15C	48.28	CRB	10:41:17 AM	7/17/02
P-15C	46.64	CRB	10:53:18 AM	1/10/02
P-15D	34.12	CRB	1:28:27 PM	4/17/02
P-15D	33.75	CRB	10:54:51 AM	1/10/02
P-15D	30.55	CRB	12:41:46 PM	9/12/01
P-15TA	78.22	CRB	12:26:25 PM	9/12/01
P-15TA	78.38	CRB	10:41:19 AM	1/10/02
P-15TA	78.54	CRB	1:18:42 PM	4/17/02
P-15TB	78.58	CRB	1:20:10 PM	4/17/02
P-15TB	78.58	CRB	10:43:37 AM	1/10/02
P-15TB	78.62	CRB	12:29:23 PM	9/12/01
P-15TC	83.58	CRB	10:45:32 AM	1/10/02
P-15TC	83.15	CRB	1:21:46 PM	4/17/02
P-15TC	83.43	CRB	12:32:01 PM	9/12/01
P-15TD	87.78	CRB	10:47:44 AM	1/10/02
P-15TD	85.95	CRB	1:23:35 PM	4/17/02
P-15TD	87.37	CRB	12:35:28 PM	9/12/01
P-16A	51.49	CRB	10:02:24 AM	9/19/01
P-16A	51.97	CRB	11:27:40 AM	1/2/02
P-16A	51.91	CRB	11:18:54 AM	4/3/02
P-16A	52.69	CRB	12:15:06 PM	8/5/02
P-16B	54.28	CRB	12:17:15 PM	8/5/02
P-16B	53.03	CRB	10:04:13 AM	9/19/01
P-16B	53.49	CRB	11:30:07 AM	1/2/02
P-16B	53.69	CRB	11:21:00 AM	4/3/02
P-16D	50.88	CRB	10:05:52 AM	9/19/01
P-16D	51.01	CRB	11:31:42 AM	1/2/02
P-16D	53.35	CRB	12:22:48 PM	8/5/02
P-16D	51.29	CRB	11:23:14 AM	4/3/02

P-16TA	47.67	CRB	9:50:20 AM	9/19/01
P-16TA	47.74	CRB	11:07:26 AM	4/3/02
P-16TA	47.74	CRB	11:15:12 AM	1/2/02
P-16TB	43.53	CRB	11:17:24 AM	1/2/02
P-16TB	44.94	CRB	12:05:59 PM	8/5/02
P-16TB	43.25	CRB	9:52:51 AM	9/19/01
P-16TB	41.69	CRB	11:10:00 AM	4/3/02
P-16TC	43.28	CRB	11:19:37 AM	1/2/02
P-16TC	44.49	CRB	12:07:30 PM	8/5/02
P-16TC	43.43	CRB	11:12:12 AM	4/3/02
P-16TC	42.8	CRB	9:54:26 AM	9/19/01
P-16TD	46.56	CRB	12:12:45 PM	8/5/02
P-16TD	45.55	CRB	11:15:54 AM	4/3/02
P-16TD	45.19	CRB	11:25:36 AM	1/2/02
P-16TD	44.84	CRB	10:00:53 AM	9/19/01
P-17A	109.69	CRB	2:12:14 PM	4/2/02
P-17A	109.79	CRB	10:18:32 AM	1/7/02
P-17A	109.09	CRB	10:01:09 AM	10/3/01
P-17B	109.19	CRB	10:20:30 AM	1/7/02
P-17B	109.03	CRB	10:03:16 AM	10/3/01
P-17B	109.29	CRB	2:14:21 PM	4/2/02
P-17C	60.5	CRB	10:22:07 AM	1/7/02
P-17C	60.06	CRB	10:04:59 AM	10/3/01
P-17C	61.19	CRB	2:15:49 PM	4/2/02
P-17D	DRY	CRB	2:17:09 PM	4/2/02
P-17D	DRY	CRB	10:06:13 AM	10/3/01
P-17D	DRY	CRB	10:23:37 AM	1/7/02
P-17TA	122.78	CRB	9:52:17 AM	10/3/01
P-17TA	122.72	CRB	2:04:35 PM	4/2/02
P-17TA	122.94	CRB	10:09:38 AM	1/7/02
P-17TB	121.76	CRB	9:54:30 AM	10/3/01
P-17TB	121.81	CRB	10:11:46 AM	1/7/02
P-17TB	121.47	CRB	2:06:18 PM	4/2/02
P-17TC	121.65	CRB	2:08:29 PM	4/2/02
P-17TC	121.55	CRB	9:58:53 AM	10/3/01
P-17TC	121.66	CRB	10:14:12 AM	1/7/02
P-17TD	121.51	CRB	2:10:17 PM	4/2/02
P-17TD	121.39	CRB	9:59:07 AM	10/3/01
P-17TD	121.35	CRB	10:16:13 AM	1/7/02

P-18A	131.31	CRB	10:23:00 AM	4/15/02
P-18A	131.18	CRB	2:19:06 PM	9/12/01
P-18A	131.47	CRB	9:35:21 AM	1/10/02
P-18B	130.98	CRB	10:25:36 AM	4/15/02
P-18B	131.03	CRB	9:37:25 AM	1/10/02
P-18B	130.72	CRB	2:20:58 PM	9/12/01
P-18D	83.69	CRB	10:28:12 AM	4/15/02
P-18D	83.43	CRB	2:22:45 PM	9/12/01
P-18D	83.69	CRB	9:39:09 AM	1/10/02
P-18TA	126.69	CRB	2:10:15 PM	9/12/01
P-18TA	126.42	CRB	10:12:09 AM	4/15/02
P-18TA	126.86	CRB	9:25:38 AM	1/10/02
P-18TB	126.92	CRB	2:13:05 PM	9/12/01
P-18TB	126.84	CRB	9:27:44 AM	1/10/02
P-18TB	126.66	CRB	10:15:01 AM	4/15/02
P-18TC	126.76	CRB	10:17:29 AM	4/15/02
P-18TC	126.86	CRB	2:15:00 PM	9/12/01
P-18TC	126.95	CRB	9:32:44 AM	1/10/02
P-18TC	126.95	CRB	9:29:48 AM	1/10/02
P-18TD	126.09	CRB	9:33:13 AM	1/10/02
P-18TD	125.95	CRB	10:20:19 AM	4/15/02
P-18TD	126.04	CRB	2:16:52 PM	9/12/01
P-19A	115.05	CRB	12:14:37 PM	1/7/02
P-19A	114.94	CRB	11:19:56 AM	4/26/02
P-19A	114.56	CRB	12:43:02 PM	10/3/01
P-19B	42.24	CRB	12:44:41 PM	10/3/01
P-19B	43.32	CRB	12:16:21 PM	1/7/02
P-19B	44.04	CRB	11:22:01 AM	4/26/02
P-19C	42.22	CRB	12:46:01 PM	10/3/01
P-19C	44.03	CRB	11:23:24 AM	4/26/02
P-19C	43.34	CRB	12:18:04 PM	1/7/02
P-19D	DRY	CRB	12:47:24 PM	10/3/01
P-19D	DRY	CRB	11:25:21 AM	4/26/02
P-19D	DRY	CRB	12:19:34 PM	1/7/02
P-19TA	120.2	CRB	12:05:54 PM	1/7/02
P-19TA	120.68	CRB	11:11:02 AM	4/26/02
P-19TA	120.04	CRB	12:34:53 PM	10/3/01
P-19TB	120.66	CRB	12:37:00 PM	10/3/01
P-19TB	120.75	CRB	12:08:13 PM	1/7/02

P-19TB	121.21	CRB	11:13:36 AM	4/26/02
P-19TC	121.85	CRB	12:10:23 PM	1/7/02
P-19TC	122.12	CRB	11:15:16 AM	4/26/02
P-19TC	121.75	CRB	12:39:02 PM	10/3/01
P-19TD	121.81	CRB	11:17:39 AM	4/26/02
P-19TD	121.45	CRB	12:40:52 PM	10/3/01
P-19TD	121.47	CRB	12:12:40 PM	1/7/02
P-20B	96.53	CRB	12:52:14 PM	5/15/02
P-20B	96.29	CRB	11:14:35 AM	4/16/02
P-20B	96.06	CRB	2:41:53 PM	10/17/01
P-20B	96.26	CRB	1:13:26 PM	11/7/01
P-20B	96.42	CRB	10:48:39 AM	1/22/02
P-20B	97.17	CRB	1:03:25 PM	8/12/02
P-20B	96.88	CRB	11:17:46 AM	6/17/02
P-20B	96.42	CRB	10:30:22 AM	12/12/01
P-20B	96.16	CRB	10:55:23 AM	1/7/02
P-20B	95.93	CRB	11:08:18 AM	9/20/01
P-20B	96.26	CRB	10:47:25 AM	2/12/02
P-20B	96.16	CRB	10:13:44 AM	3/14/02
P-20B	97.05	CRB	9:21:43 AM	7/8/02
P-20C	56.6	CRB	10:50:06 AM	1/22/02
P-20C	55.33	CRB	11:09:53 AM	9/20/01
P-20C	55.44	CRB	2:42:19 PM	10/17/01
P-20C	56.34	CRB	10:57:50 AM	1/7/02
P-20C	56.02	CRB	10:30:41 AM	12/12/01
P-20C	56.72	CRB	10:15:32 AM	3/14/02
P-20C	56.72	CRB	10:48:56 AM	2/12/02
P-20C	55.85	CRB	1:14:58 PM	11/7/01
P-20C	57.45	CRB	11:18:38 AM	6/17/02
P-20C	57.75	CRB	1:03:45 PM	8/12/02
P-20C	56.86	CRB	11:16:18 AM	4/16/02
P-20C	57.03	CRB	12:53:07 PM	5/15/02
P-20C	57.66	CRB	9:23:19 AM	7/8/02
P-20D	27.27	CRB	11:11:04 AM	9/20/01
P-20D	27.33	CRB	2:42:39 PM	10/17/01
P-20D	30.48	CRB	10:51:52 AM	1/22/02
P-20D	28.58	CRB	1:16:09 PM	11/7/01
P-20D	31.98	CRB	9:24:40 AM	7/8/02
P-20D	30.82	CRB	10:50:25 AM	2/12/02

P-20D	31.69	CRB	11:19:10 AM	6/17/02
P-20D	31.31	CRB	12:53:39 PM	5/15/02
P-20D	32.12	CRB	1:03:56 PM	8/12/02
P-20D	31.11	CRB	11:18:19 AM	4/16/02
P-20D	30.22	CRB	10:59:55 AM	1/7/02
P-20D	28.72	CRB	10:31:09 AM	12/12/01
P-20D	31.17	CRB	10:17:16 AM	3/14/02
P-20TD	102.22	CRB	11:17:15 AM	6/17/02
P-20TD	102.22	CRB	1:11:27 PM	11/7/01
P-20TD	101.85	CRB	10:11:46 AM	3/14/02
P-20TD	102.42	CRB	10:29:56 AM	12/12/01
P-20TD	101.95	CRB	12:51:10 PM	5/15/02
P-20TD	100.31	CRB	1:03:03 PM	8/12/02
P-20TD	101.85	CRB	10:53:12 AM	1/7/02
P-20TD	100.52	CRB	2:41:23 PM	10/17/01
P-20TD	101.75	CRB	11:12:57 AM	4/16/02
P-20TD	100.44	CRB	11:06:24 AM	9/20/01
P-20TD	102.02	CRB	10:46:14 AM	1/22/02
P-20TD	103.13	CRB	9:19:38 AM	7/8/02
P-20TD	101.89	CRB	10:45:11 AM	2/12/02
P-21A	79.75	CRB	12:19:44 PM	1/10/02
P-21A	79.43	CRB	9:54:38 AM	10/8/01
P-21A	79.15	CRB	2:21:34 PM	4/30/02
P-21B	81.01	CRB	9:56:30 AM	10/8/01
P-21B	80.45	CRB	2:23:22 PM	4/30/02
P-21B	80.8	CRB	12:21:26 PM	1/10/02
P-21D	53.86	CRB	12:23:08 PM	1/10/02
P-21D	55.5	CRB	2:24:24 PM	4/30/02
P-21D	53.25	CRB	9:58:23 AM	10/8/01
P-21TB	30.58	CRB	12:15:01 PM	1/10/02
P-21TB	30.29	CRB	9:49:18 AM	10/8/01
P-21TB	31.65	CRB	2:18:05 PM	4/30/02
P-21TC	46.42	CRB	12:16:28 PM	1/10/02
P-21TC	46.56	CRB	9:51:04 AM	10/8/01
P-21TC	46.4	CRB	2:20:29 PM	4/30/02
P-21TD	47.03	CRB	9:52:52 AM	10/8/01
P-21TD	47.07	CRB	12:17:49 PM	1/10/02
P-21TD	46.9	CRB	2:20:40 PM	4/30/02
P-22A	66.93	CRB	1:45:13 PM	4/30/02

P-22A	66.76	CRB	12:25:36 PM	10/9/01
P-22A	46.96	CRB	1:06:56 PM	1/14/02
P-22B	67.41	CRB	1:08:24 PM	1/14/02
P-22B	67.25	CRB	12:27:29 PM	10/9/01
P-22B	67.47	CRB	1:46:33 PM	4/30/02
P-22C	49.75	CRB	12:30:02 PM	10/9/01
P-22C	49.83	CRB	1:09:41 PM	1/14/02
P-22C	50.32	CRB	1:47:16 PM	4/30/02
P-22D	35.75	CRB	12:33:15 PM	10/9/01
P-22D	37.17	CRB	1:16:36 PM	1/14/02
P-22D	38.07	CRB	1:48:17 PM	4/30/02
P-22TA	31.31	CRB	1:00:32 PM	1/14/02
P-22TA	31.18	CRB	12:19:17 PM	10/9/01
P-22TA	31.43	CRB	1:41:43 PM	4/30/02
P-22TB	31.71	CRB	12:20:35 PM	10/9/01
P-22TB	31.87	CRB	1:41:56 PM	4/30/02
P-22TB	31.78	CRB	1:02:01 PM	1/14/02
P-22TC	47.04	CRB	1:03:55 PM	1/14/02
P-22TC	46.42	CRB	1:43:09 PM	4/30/02
P-22TC	47.07	CRB	12:21:57 PM	10/9/01
P-22TD	46.82	CRB	1:05:16 PM	1/14/02
P-22TD	46.52	CRB	1:44:13 PM	4/30/02
P-22TD	47.09	CRB	12:23:22 PM	10/9/01
P-23A	39.89	CRB	11:49:02 AM	1/10/02
P-23A	40.04	CRB	9:02:05 AM	9/25/01
P-23A	39.06	CRB	11:21:35 AM	4/15/02
P-23B	47.78	CRB	11:22:48 AM	4/15/02
P-23B	48.02	CRB	9:04:13 AM	9/25/01
P-23B	48.82	CRB	11:50:14 AM	1/10/02
P-23D	48.84	CRB	11:51:53 AM	1/10/02
P-23D	470.5	CRB	11:24:42 AM	4/15/02
P-23D	46.24	CRB	9:05:57 AM	9/25/01
P-23D	47.05	CRB	11:25:07 AM	4/15/02
P-23TA	16.03	CRB	11:14:41 AM	4/15/02
P-23TA	16.06	CRB	8:52:20 AM	9/25/01
P-23TA	16.12	CRB	11:41:09 AM	1/10/02
P-23TB	16.26	CRB	11:16:03 AM	4/15/02
P-23TB	16.26	CRB	8:54:01 AM	9/25/01
P-23TB	16.38	CRB	11:42:33 AM	1/10/02

P-23TC	17.47	CRB	11:17:11 AM	4/15/02
P-23TC	17.59	CRB	11:43:57 AM	1/10/02
P-23TC	17.47	CRB	8:56:12 AM	9/25/01
P-23TD	20.94	CRB	11:47:17 AM	1/10/02
P-23TD	20.94	CRB	11:45:32 AM	1/10/02
P-23TD	20.7	CRB	11:18:27 AM	4/15/02
P-23TD	21.12	CRB	8:58:35 AM	9/25/01
P-23TE	21.21	CRB	11:47:28 AM	1/10/02
P-23TE	21.09	CRB	9:00:09 AM	9/25/01
P-23TE	21.02	CRB	11:19:41 AM	4/15/02
P-24A	126.94	CRB	11:30:01 AM	1/7/02
P-24A	126.26	CRB	11:15:46 AM	9/25/01
P-24A	127.29	CRB	11:47:09 AM	4/26/02
P-24B	99.65	CRB	11:48:49 AM	4/26/02
P-24B	99.45	CRB	11:32:56 AM	1/7/02
P-24B	98.58	CRB	11:17:23 AM	9/25/01
P-24C	62.82	CRB	11:34:45 AM	1/7/02
P-24C	73.35	CRB	11:50:22 AM	4/26/02
P-24C	71.81	CRB	11:18:44 AM	9/25/01
P-24D	54.82	CRB	11:52:17 AM	4/26/02
P-24D	53.43	CRB	11:36:04 AM	1/7/02
P-24D	52.32	CRB	11:20:05 AM	9/25/01
P-24TA	132.92	CRB	11:20:40 AM	1/7/02
P-24TA	133.33	CRB	11:39:08 AM	4/26/02
P-24TA	132.72	CRB	11:07:59 AM	9/25/01
P-24TB	132.82	CRB	11:23:13 AM	1/7/02
P-24TB	133.22	CRB	11:42:10 AM	4/26/02
P-24TB	132.58	CRB	11:09:59 AM	9/25/01
P-24TC	137.21	CRB	11:11:54 AM	9/25/01
P-24TC	137.73	CRB	11:43:48 AM	4/26/02
P-24TC	137.43	CRB	11:25:18 AM	1/7/02
P-24TD	136.16	CRB	11:45:20 AM	4/26/02
P-24TD	136.69	CRB	11:14:04 AM	9/25/01
P-24TD	136.86	CRB	11:27:36 AM	1/7/02
P-25A	96.96	CRB	10:11:59 AM	1/10/02
P-25A	96.7	CRB	12:13:21 PM	4/26/02
P-25A	96.63	CRB	1:29:17 PM	9/12/01
P-25B	89.66	CRB	1:31:12 PM	9/12/01
P-25B	89.21	CRB	12:16:08 PM	4/26/02



P-25B	92.98	CRB	10:17:32 AM	1/10/02
P-25C	74.52	CRB	12:18:00 PM	4/26/02
P-25C	73.53	CRB	1:32:59 PM	9/12/01
P-25C	74.47	CRB	10:19:14 AM	1/10/02
P-25D	60.74	CRB	1:35:27 PM	9/12/01
P-25D	61.47	CRB	12:22:26 PM	4/26/02
P-25D	61.01	CRB	10:22:55 AM	1/10/02
P-25D	61.01	CRB	10:23:58 AM	1/10/02
P-25TA	94.69	CRB	12:04:55 PM	4/26/02
P-25TA	94.24	CRB	10:01:10 AM	1/10/02
P-25TA	94.42	CRB	1:18:37 PM	9/12/01
P-25TB	96.25	CRB	12:07:21 PM	4/26/02
P-25TB	95.51	CRB	1:20:36 PM	9/12/01
P-25TB	95.85	CRB	10:03:19 AM	1/10/02
P-25TC	99.44	CRB	1:22:26 PM	9/12/01
P-25TC	99.99	CRB	12:08:37 PM	4/26/02
P-25TC	99.59	CRB	10:05:14 AM	1/10/02
P-25TD	BLOCKED	CRB	10:07:03 AM	1/10/02
P-25TD	99.55	CRB	12:10:24 PM	4/26/02
P-25TD	BLOCKED	CRB	1:25:00 PM	9/12/01
P-25TE	99.46	CRB	1:27:06 PM	9/12/01
P-25TE	99.97	CRB	12:11:45 PM	4/26/02
P-25TE	99.59	CRB	10:11:34 AM	1/10/02
P-26A	40.32	CRB	11:34:46 AM	11/1/01
P-26B	49.98	CRB	11:35:45 AM	11/1/01
P-26D-	44.76	CRB	9:30:36 AM	5/28/02
P-26D-	43.69	CRB	9:17:07 AM	1/15/02
P-26D-	43.18	CRB	2:25:19 PM	12/17/01
P-26D-	45.32	CRB	10:24:02 AM	8/1/02
P-26D-	41.75	CRB	2:22:46 PM	10/3/01
P-26D-	DRT	CRB	10:24:22 AM	8/1/02
P-26D-	44.32	CRB	11:22:06 AM	3/25/02
P-26D-	44.16	CRB	11:46:01 AM	2/26/02
P-26D-	42.56	CRB	11:58:09 AM	11/13/01
P-26D-	43.73	CRB	12:02:38 PM	1/23/02
P-26D-	42.32	CRB	11:37:10 AM	11/1/01
P-26D-	44.42	CRB	10:13:57 AM	4/23/02
P-26TA	BROKEN	CRB	2:16:29 PM	10/3/01

P-26TA	GAGE.BRKN	CRB	10:06:46 AM	4/23/02
P-26TA	GAGE.BRK	CRB	10:25:29 AM	8/1/02
P-26TA	GAGE.BRKD	CRB	9:21:50 AM	1/15/02
P-26TB	DROKEN	CRB	2:16:59 PM	10/3/01
P-26TB	GAGE.BRKN	CRB	10:07:05 AM	4/23/02
P-26TB	GAGE.BRK	CRB	10:25:55 AM	8/1/02
P-26TB	GAGE.BRKD	CRB	9:22:25 AM	1/15/02
P-26TC	GAGE.BRK	CRB	10:26:18 AM	8/1/02
P-26TC	GAGE.BRKN	CRB	10:07:26 AM	4/23/02
P-26TC	GAGE.BRKD	CRB	9:23:01 AM	1/15/02
P-26TD	7.07	CRB	2:18:35 PM	10/3/01
P-26TD	7.79	CRB	10:27:15 AM	8/1/02
P-26TD	6.93	CRB	10:08:27 AM	4/23/02
P-26TD	6.96	CRB	9:25:16 AM	1/15/02
P-27B	97.63	CRB	11:01:11 AM	4/30/02
P-27B	97.17	CRB	10:06:56 AM	9/20/01
P-27B	97.53	CRB	1:42:10 PM	1/16/02
P-27C	39.03	CRB	10:08:09 AM	9/20/01
P-27C	40.32	CRB	11:02:44 AM	4/30/02
P-27C	39.89	CRB	1:43:29 PM	1/16/02
P-27D	14.32	CRB	10:09:17 AM	9/20/01
P-27D	14.98	CRB	11:04:19 AM	4/30/02
P-27D	15.43	CRB	1:44:56 PM	1/16/02
P-27TA	96.92	CRB	1:32:07 PM	1/16/02
P-27TA	97.97	CRB	10:50:49 AM	4/30/02
P-27TA	96.48	CRB	9:58:03 AM	9/20/01
P-27TB	96.16	CRB	1:33:56 PM	1/16/02
P-27TB	95.85	CRB	10:00:05 AM	9/20/01
P-27TB	97.23	CRB	10:54:04 AM	4/30/02
P-27TC	95.61	CRB	10:01:41 AM	9/20/01
P-27TC	97.09	CRB	10:55:48 AM	4/30/02
P-27TC	95.95	CRB	1:35:55 PM	1/16/02
P-27TD	95.73	CRB	10:03:22 AM	9/20/01
P-27TD	95.98	CRB	1:37:29 PM	1/16/02
P-27TD	97.11	CRB	10:57:58 AM	4/30/02

P-27TD	97.11	CRB	10:58:55 AM	4/30/02
P-27TE	95.59	CRB	10:05:00 AM	9/20/01
P-27TE	96.96	CRB	10:59:20 AM	4/30/02
P-27TE	95.85	CRB	1:39:27 PM	1/16/02
P-27TE	95.85	CRB	1:40:09 PM	1/16/02
P-28A	110.4	CRB	12:05:35 PM	4/4/02
P-28A	110.26	CRB	11:03:23 AM	1/14/02
P-28A	110.01	CRB	3:02:20 PM	9/19/01
P-28TA	113.13	CRB	10:53:56 AM	1/14/02
P-28TA	113.25	CRB	12:00:53 PM	4/4/02
P-28TA	102.98	CRB	2:53:48 PM	9/19/01
P-28TA	113.13	CRB	10:37:17 AM	1/14/02
P-28TB	110.3	CRB	10:55:55 AM	1/14/02
P-28TB	110.02	CRB	2:55:31 PM	9/19/01
P-28TB	110.42	CRB	12:01:41 PM	4/4/02
P-28TC	109.09	CRB	2:57:06 PM	9/19/01
P-28TC	109.55	CRB	12:03:08 PM	4/4/02
P-28TC	109.41	CRB	10:57:54 AM	1/14/02
P-28TD	108.38	CRB	2:58:42 PM	9/19/01
P-28TD	108.66	CRB	10:59:46 AM	1/14/02
P-28TD	108.78	CRB	12:03:52 PM	4/4/02
P-28TE	107.67	CRB	3:00:22 PM	9/19/01
P-28TE	107.97	CRB	12:04:38 PM	4/4/02
P-28TE	107.87	CRB	11:01:34 AM	1/14/02
P-29A	103.15	CRB	8:57:03 AM	8/5/02
P-29A	101.69	CRB	2:46:06 PM	9/13/01
P-29A	101.91	CRB	9:47:36 AM	1/14/02
P-29A	102.12	CRB	10:50:57 AM	4/4/02
P-29B	105.25	CRB	2:47:30 PM	9/13/01
P-29B	106.26	CRB	10:52:49 AM	4/4/02
P-29B	106.02	CRB	9:49:33 AM	1/14/02
P-29B	107.43	CRB	8:58:48 AM	8/5/02
P-29C	105.85	CRB	9:51:28 AM	1/14/02
P-29C	105.13	CRB	2:48:57 PM	9/13/01
P-29C	106.2	CRB	10:54:29 AM	4/4/02
P-29C	107.21	CRB	9:01:03 AM	8/5/02
P-29D	106.48	CRB	9:03:24 AM	8/5/02
P-29D	103.81	CRB	2:51:06 PM	9/13/01
P-29D	105.35	CRB	10:56:25 AM	4/4/02

P-29D	104.78	CRB	9:55:04 AM	1/14/02
P-29TA	98.88	CRB	2:41:12 PM	9/13/01
P-29TA	98.86	CRB	9:41:51 AM	1/14/02
P-29TA	98.89	CRB	10:44:25 AM	4/4/02
P-29TA	100.04	CRB	8:48:36 AM	8/5/02
P-29TC	99.49	CRB	9:43:30 AM	1/14/02
P-29TC	99.61	CRB	10:47:00 AM	4/4/02
P-29TC	100.78	CRB	8:53:13 AM	8/5/02
P-29TC	99.44	CRB	2:42:54 PM	9/13/01
P-29TD	100.38	CRB	8:55:07 AM	8/5/02
P-29TD	99.36	CRB	9:45:25 AM	1/14/02
P-29TD	99.33	CRB	10:48:46 AM	4/4/02
P-29TD	99.39	CRB	2:44:21 PM	9/13/01
P-30A	151.69	CRB	12:16:08 PM	4/2/02
P-30A	151.71	CRB	2:07:45 PM	9/13/01
P-30A	151.81	CRB	10:43:28 AM	1/2/02
P-30A	152.84	CRB	11:06:47 AM	8/5/02
P-30B	151.97	CRB	11:08:58 AM	8/5/02
P-30B	150.88	CRB	2:11:26 PM	9/13/01
P-30B	150.78	CRB	12:18:48 PM	4/2/02
P-30B	150.92	CRB	10:45:56 AM	1/2/02
P-30C	149.94	CRB	12:20:54 PM	4/2/02
P-30C	150.14	CRB	2:13:34 PM	9/13/01
P-30C	149.89	CRB	10:48:06 AM	1/2/02
P-30C	151.06	CRB	11:10:55 AM	8/5/02
P-30D	DISC	CRB	11:11:28 AM	8/5/02
P-30D	DISC	CRB	10:49:17 AM	1/2/02
P-30D	DISCONT	CRB	12:22:17 PM	4/2/02
P-30D	NA	CRB	2:14:20 PM	9/13/01
P-30TA	168.66	CRB	10:22:06 AM	1/2/02
P-30TA	168.88	CRB	1:48:59 PM	9/13/01
P-30TA	163.49	CRB	12:04:43 PM	4/2/02
P-30TA	167.49	CRB	10:47:28 AM	8/5/02
P-30TB	158.82	CRB	10:25:25 AM	1/2/02
P-30TB	159.05	CRB	1:56:09 PM	9/13/01
P-30TB	160.76	CRB	10:50:01 AM	8/5/02
P-30TB	158.66	CRB	12:07:43 PM	4/2/02
P-30TC	155.55	CRB	10:52:25 AM	8/5/02
P-30TC	154.56	CRB	1:59:03 PM	9/13/01

P-30TC	153.76	CRB	12:10:16 PM	4/2/02
P-30TC	154.54	CRB	10:37:24 AM	1/2/02
P-30TD	152.12	CRB	2:01:26 PM	9/13/01
P-30TD	153.41	CRB	10:54:51 AM	8/5/02
P-30TD	151.81	CRB	12:13:27 PM	4/2/02
P-30TD	152.23	CRB	10:40:26 AM	1/2/02
P-3A	102.06	CRB	1:09:57 PM	1/2/02
P-3A	102.38	CRB	9:29:31 AM	10/10/01
P-3A	102.52	CRB	10:32:30 AM	4/30/02
P-3B	101.53	CRB	10:33:04 AM	4/30/02
P-3B	101.09	CRB	1:11:38 PM	1/2/02
P-3B	101.13	CRB	9:29:43 AM	10/10/01
P-3C	101.81	CRB	1:13:18 PM	1/2/02
P-3C	101.45	CRB	10:33:33 AM	4/30/02
P-3C	101.79	CRB	9:31:20 AM	10/10/01
P-54	GATE.LOCK	CRB	9:09:20 AM	10/18/01
P-54	GATE.LCKD	CRB	2:15:26 PM	1/17/02
P-54	GATE.LOCKD	CRB	1:19:04 PM	1/14/02
P-5A	30.6	CRB	2:16:12 PM	4/30/02
P-5A	30.38	CRB	9:43:54 AM	10/8/01
P-5A	30.55	CRB	12:13:53 PM	1/10/02
P-5R	10.32	CRB	9:46:39 AM	10/8/01
P-5R	11.06	CRB	12:25:54 PM	1/10/02
P-5R	11.28	CRB	2:14:33 PM	4/30/02
P-7A	82.02	CRB	11:49:01 AM	10/12/01
P-7A	82.28	CRB	11:59:58 AM	1/2/02
P-7A	83.69	CRB	12:46:51 PM	8/5/02
P-7A	81.98	CRB	12:27:19 PM	4/3/02
P-7R	73.17	CRB	11:51:29 AM	10/12/01
P-7R	73.03	CRB	11:54:40 AM	1/2/02
P-7R	72.72	CRB	12:29:55 PM	4/3/02
P-7R	73.27	CRB	12:43:08 PM	8/5/02
P13A	JERSEY.BLK	CRB	9:20:46 AM	1/30/02
P13B	JERSEY.BLK	CRB	9:21:19 AM	1/30/02
P13C	JERSEY.BLK	CRB	9:21:45 AM	1/30/02

P13D	JERSEY.BLK	CRB	9:22:13 AM	1/30/02
P13TA	JERSEY.BLK	CRB	9:18:09 AM	1/30/02
P13TB	JERSEY.BLK	CRB	9:18:49 AM	1/30/02
P13TC	JERSEY.BLK	CRB	9:19:34 AM	1/30/02
P13TD	JERSEY.BLK	CRB	9:20:12 AM	1/30/02
P26A	40.74	CRB	2:21:33 PM	12/17/01
P26A	40.56	CRB	9:13:09 AM	1/15/02
P26A	40.66	CRB	11:19:42 AM	3/25/02
P26A	40.6	CRB	12:00:06 PM	1/23/02
P26A	40.04	CRB	2:19:54 PM	10/3/01
P26A	40.78	CRB	11:42:31 AM	2/26/02
P26A	40.8	CRB	11:54:45 AM	11/13/01
P26A	40.62	CRB	10:10:13 AM	4/23/02
P26A	41.01	CRB	9:27:25 AM	5/28/02
P26B	49.43	CRB	2:21:13 PM	10/3/01
P26B	51.31	CRB	10:20:09 AM	8/1/02
P26B	50.48	CRB	10:11:56 AM	4/23/02
P26B	50.85	CRB	9:29:18 AM	5/28/02
P26B	50.38	CRB	2:23:35 PM	12/17/01
P26B	50.8	CRB	12:01:07 PM	1/23/02
P26B	50.72	CRB	9:15:21 AM	1/15/02
P26B	50.14	CRB	11:20:43 AM	3/25/02
P26B	50.66	CRB	11:44:31 AM	2/26/02
P26B	50.3	CRB	11:56:39 AM	11/13/01
P26TC	BROKEN	CRB	2:17:41 PM	10/3/01