

**REPORT IN SUPPORT OF SWRCB DECISION TO DELIST SAN DIEGO BAY
SHORELINE, CORONADO HYDROLOGIC AREA (910.10) AT TIDELANDS PARK
FOR BACTERIA INDICATORS**

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Prepared for:

PORT OF SAN DIEGO
3165 Pacific Highway
San Diego, CA 92101

Prepared by:



9665 Chesapeake Drive, Suite 201
San Diego, California 92123

Introduction and Background

The San Diego Bay Shoreline, Coronado Hydrologic Area (910.10) at Tidelands Park (Tidelands Park) was listed on the 2002 Clean Water Act Section 303(d) list as being impaired due to bacterial indicators. However, in the proposed 2006 revision to the Section 303(d) list, the State Water Resources Control Board (SWRCB) and the San Diego Regional Water Quality Control Board (RWQCB) have recommended that the site be delisted. The Port of San Diego (Port) has conducted a review of historical indicator bacteria data collected at this location. The following document presents a review of these data, which support the recommendation to delist Tidelands Park.

AB411 Bacterial Indicator Monitoring

Beginning in 2000, the San Diego County Department of Environmental Health (DEH) has been testing beaches for bacterial indicators as part of compliance under Assembly Bill 411 (AB411). Between April 1 and October 31 of each year, the DEH conducts weekly sampling along recreational beaches throughout the county, including Tidelands Park beach. Samples are analyzed for total and fecal coliform and *Enterococcus* with the specific purpose of protecting public health and improving the accuracy of public notification regarding beach water quality. Based on the results of the analyses, DEH may choose to close or post a beach. Specifically, if single sample standards of any applicable water quality criteria are exceeded, then the beach may be closed. DEH also closes beaches following sewage spills. DEH may issue a General Advisory and post the beaches due to urban runoff for 72 hours following storm events. DEH also has the discretion to post a beach if the rolling 30-day geometric mean criteria are exceeded.

The applicable water quality objectives for indicator bacteria (from AB 411) include:

Single Sample Standards

- Total Coliforms - 10,000 organisms per 100 ml (1,000 if Fecal/Total ratio ≥ 0.1)
- Fecal Coliforms - 400 organisms per 100 ml
- Enterococcus* - 104 organisms per 100 ml

30-day log mean standards (based on 5 weekly samples)

- Total Coliforms - 1,000 organisms per 100 ml
- Fecal Coliforms - 200 organisms per 100 ml
- Enterococcus* - 35 organisms per 100 ml

State Water Resources Control Board Solicitation of Public Comment

The SWRCB is soliciting public comment on its draft 2006 revisions to the Section 303(d) list. The comments are due to the SWRCB by January 31, 2006. The public data solicitation period over which the SWRCB has specifically requested the data is between 2001 and March 2005. DEH submits all AB411 bacteria monitoring data to the RWQCB annually and also provides this information to the SWRCB during each 303(d) List data solicitation period. As such, it is believed that the data presented herein are already part

of the data record for the Draft 2006 update. Additionally, at Tidelands Park, data continue to be collected. As such, the Port is providing the complete data record available for these locations, in support of delisting the site. The following report documents the data collected over the period from April 2002 through August 2005.

SWRCB Listing/Delisting Policy

The SWRCB's *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* (Policy) became effective in December 2004. The Policy identifies the process by which SWRCB and the RWQCBs will comply with the listing requirements of CWA Section 303(d). The Port has therefore used this approved policy document in analyzing the data available from this location.

Section 4.3 of the Policy (Table 4.2) lists the maximum number of measured exceedances allowed to remove a water segment from the Section 303(d) list for conventional or other pollutants. The minimum sample size is 26 to 30, but guidance is provided for sample sizes up to 121 samples, and an equation is provided for calculating the number of allowable exceedances for sample sizes greater than 121.

Analysis of Bacteria Data, Tidelands Park

A considerable amount of data have been collected at the Tidelands Park site as a result of DEH monitoring for AB411. Indicator bacteria have been analyzed in water samples from Tidelands Park between April 2002 and March 2005 (within the period of time specifically requested by the SWRCB for the purpose of the Section 303(d) list update). During this period, a total of 327 individual analyses were conducted (109 *Enterococcus* samples, 109 fecal coliform samples, and 109 total coliform samples). However, since some of these samples were collected on the same day, each day of data was evaluated as a single data point. If any of the samples collected on a single day exceeded the water quality objectives, the day was identified as exceeding for that respective indicator. The sample size used for comparisons with the Policy's allowable exceedances utilizes the data interpretation discussed above (Tables 1 and 2). Since March 2005, DEH has continued to collect data. The full data set available to the Port (through August 31, 2005) is presented and analyzed herein, and includes 75 additional analyses (25 *Enterococcus* samples, 14 fecal coliform samples, and 25 total coliform samples).

Data from the Tidelands Park include some exceedances of indicator bacteria between April 2002 and March 2005 as indicated by DEH monitoring. However, given the large sample size, all three indicators are below the number of allowable exceedances specified in the Policy, as shown in Table 1.

Table 1. Summary of Indicator Bacteria and Number of Exceedances Observed During SWRCB Public Data Solicitation Period (2002 through March 2005).

Analysis	Sample Size (April 2002 through March 2005)	Number of Exceedances (April 2002 through March 2005)	Allowable Number of Exceedances (Per SWRCB Listing Policy, Table 4.2)
<i>Enterococcus</i>	97	9*	15
Fecal Coliform	94	3*	15
Total Coliform	95	1*	15

* Note that 1-2 of these exceedances for each constituent was the result of a sewage spill that occurred in San Diego Bay on February 23, 2004.

For purposes of comparison, the Port has included the additional monitoring data (from March 2005 through August 31, 2005) in a similar analysis. By including these additional data, the full data set includes a total of 402 individual analyses (134 *Enterococcus* samples, 123 fecal coliform samples, and 134 total coliform samples, some of which include samples collected on the same day). Table 2 presents the results of this analysis.

Table 2. Summary of Indicator Bacteria and Number of Exceedances Observed During Entire Period of Sampling Record (April 2002 through August 2005).

Analysis	Sample Size (April 2002 through August 2005)	Number of Exceedances (April 2002 through August 2005)	Allowable Number of Exceedances (Per SWRCB Listing Policy, Table 4.2)
<i>Enterococcus</i>	117	11*	19
Fecal Coliform	104	3*	17
Total Coliform	115	2*	18

* Note that 1-2 of these exceedances for each constituent was the result of a sewage spill that occurred in San Diego Bay on February 23, 2004.

As shown in Table 2, analysis of the full data set further upholds the fact that all three indicators in samples from the Tidelands Park site are within the SWRCB's allowable number of exceedances to support delisting.

The data have also been analyzed graphically, by plotting results relative to the single sample standards for each bacterial indicator. A summary of all data is presented together on Figure 1. Data for *Enterococcus*, fecal coliform, and total coliform are also presented separately on Figures 2 through 4, respectively. The graphs clearly indicate that the majority of analyses fall well below the single sample standards for the three indicators. The sample results highlighted in yellow show the results that were affected by a sewer spill that occurred on February 23, 2004 (a clogged sewer line in Balboa Park caused 4.6 million gallons to flow into San Diego Bay, impacting water quality for several days thereafter). Note that the elevated level of total coliform observed on August 1, 2005 may be an outlier caused by laboratory contamination. The Port is investigating this possibility.

Based on the analyses presented above, the data support the decision to delist Tidelands Park for bacterial indicators in 2006. The Port is in full agreement and supports the decision to delist Tidelands Park.

Figure 1. Summary of All Bacteria Data Collected at Tidelands Park, April 2002 through August 2005.

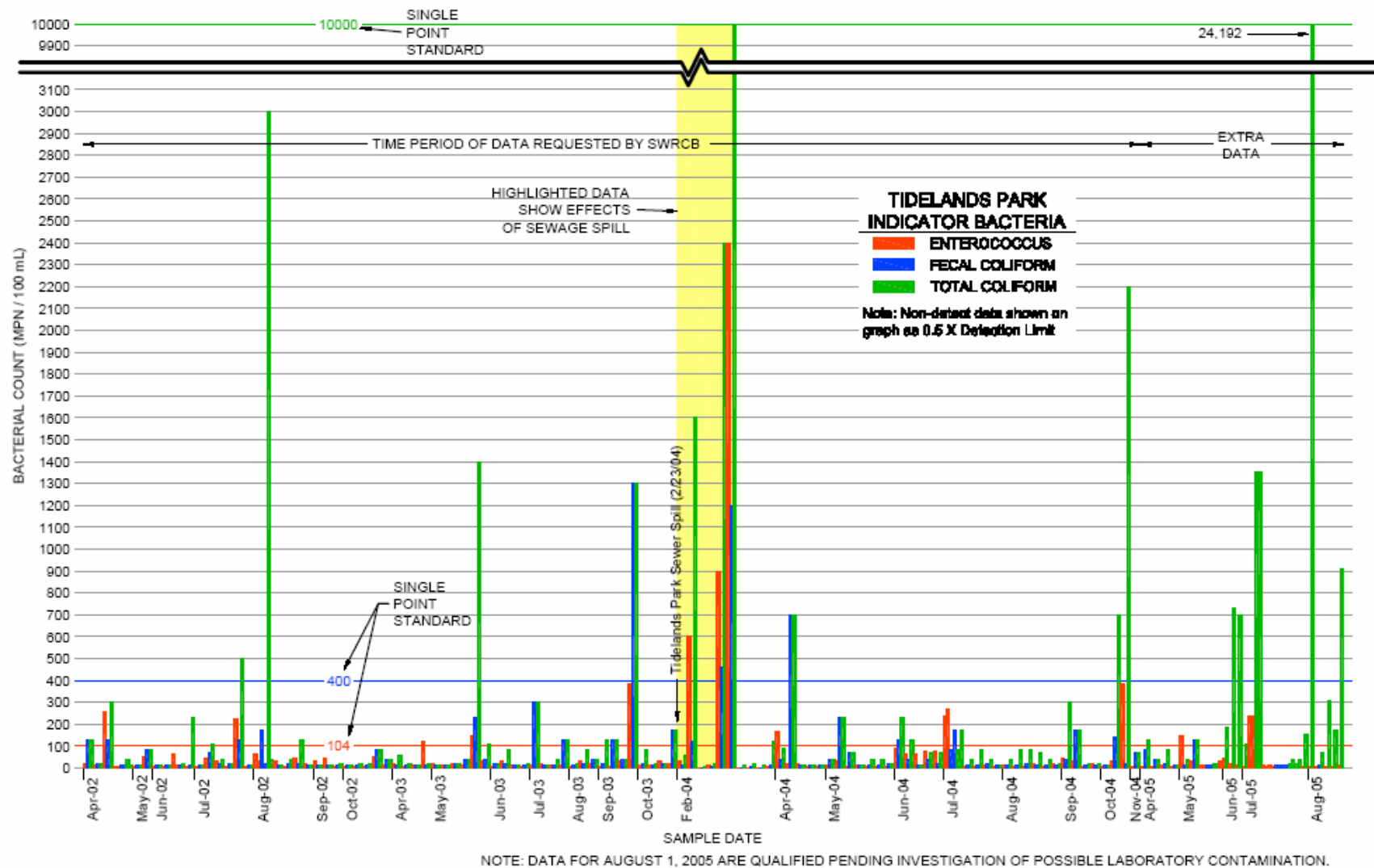


Figure 2. Summary of *Enterococcus* Data Collected at Tidelands Park, April 2002 through August 2005.

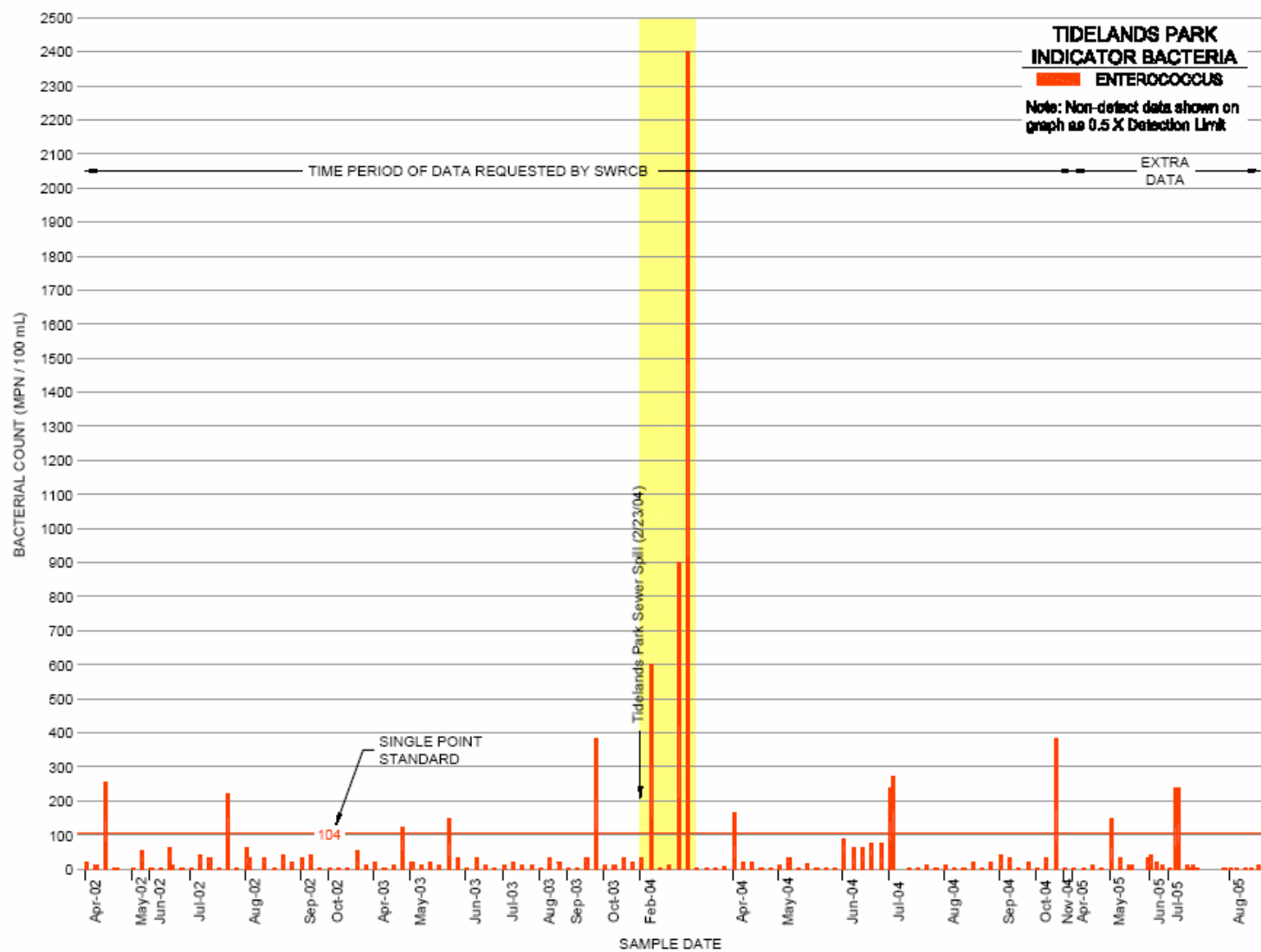


Figure 3. Summary of Fecal Coliform Data Collected at Tidelands Park, April 2002 through August 2005.

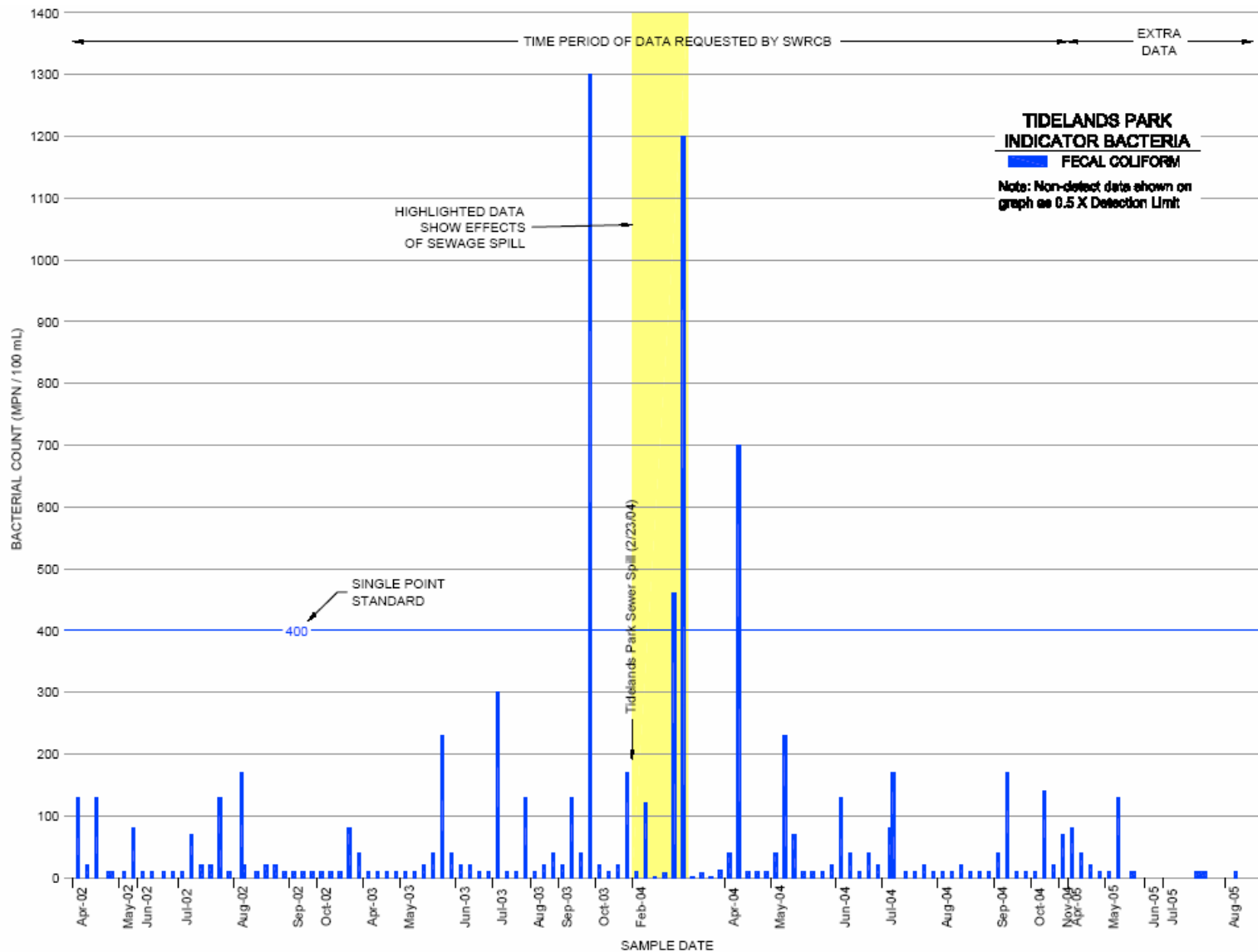
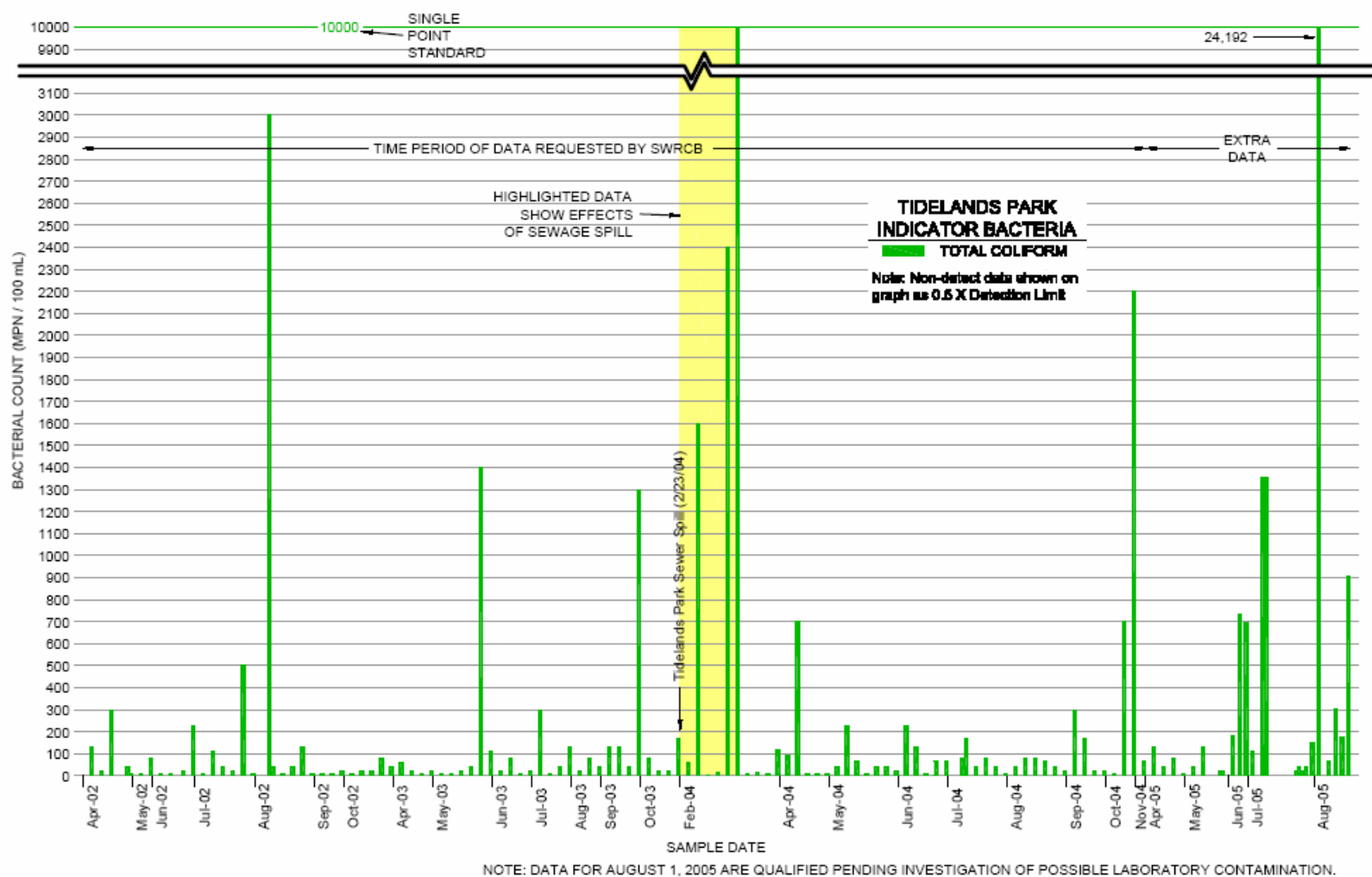


Figure 4. Summary of Total Coliform Data Collected at Tideland Park, April 2002 through August 2005.



Note: Data for August 1, 2005 are being qualified to investigate a possible laboratory error.