

FILE

CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER MONITORING PLAN EVALUATION
DEP PERMIT NO. 21375-003-SO

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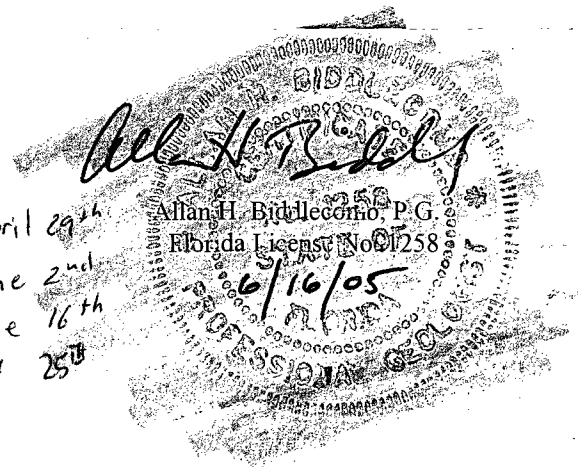


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FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

JUN 16 2005

SOUTHWEST DISTRICT
TAMPA

CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER MONITORING PLAN EVALUATION
2002-2004
DEP Permit No. 21375-003-SO
I.D. No. SWD/09/39859

1.0 INTRODUCTION

This report summarizes data from the Citrus County Central Landfill (Landfill) from the First Semiannual 2002 through Second Semiannual 2004 sampling events. The groundwater is monitored semiannually and the leachate is monitored quarterly.

The sampling events summarized in this report were conducted on the dates listed in Table 1.1. The period from First Semiannual 2002 through Second Semiannual 2004 is referred to as the "Report Period" throughout this document and represents all data collected following issuance of the current permit.

Table 1.1 Summary of Sampling Events during Report Period

Sampling Event	Sampling Dates
First Semiannual 2002 (02S1)	January 22, 28, and 29, 2002 Resampled June 12, 2002
Second Quarter 2002 (02Q2)	April 17, 2002
Third Quarter 2002 (02Q3)	July 10, 2002
Second Semiannual 2002 (02S2)	August 7 and 8, 2002
Fourth Quarter 2002 (02Q4)	October 16, 2002
First Semiannual 2003 (03S1)	January 20, 21, 22, and 23, 2003
Second Quarter 2003 (03Q2)	April 15, 2003
Second Semiannual 2003 (03S2)	August 5, 6, 7, and 8, 2003
Fourth Quarter 2003 (03Q4)	October 1, 2003
First Semiannual 2003 (04S1)	February 3, 4, 5, 6, and March 22, 2004
Second Quarter 2004 (04Q2)	April 28, 2004
Second Semiannual 2004 (04S2)	July 21, 22, 23, and 29, 2004

Under the current permit, the following wells monitor the Floridan aquifer at the Landfill:

Background Wells:	MW-1R, MW-2, MW-3, MW-7
Compliance Well:	MW-E
Detection Wells:	MW-8R, MW-9, MW-AA, MW-B, MW-C, MW-D
Intermediate Well:	MW-6
Water Level Only Wells:	MW-4, MW-5

A map of the Monitoring Well and Leachate sampling locations is presented in Attachment 1.

2.0 PHYSICAL LOCATION AND GEOLOGICAL SETTING

The Landfill is located in central Citrus County approximately three miles east of Lecanto, Florida, near State Road 44. The landfill is located at latitude 28° 51' 08 07" North and longitude 82°26'38 12" West in Section 1, Township 19 South, Range 18 East.

The Landfill is composed of a closed 60-acre landfill and an active 20-acre landfill. The active landfill is a lined cell with a leachate collection system. Except for seven acres, the closed landfill is unlined and is not served by a leachate collection system. The entire closed landfill is capped with a membrane and soil cover.

The Landfill lies within the Hernando Hammock physiographic subdivision of the Ocala Uplift District as described by Brooks (1981). This region is characterized by remnant erosional hills and ridges, which are in-filled with thick, weathered deposits of sand and clayey sand. The landfill is also within the northern portion of the Brooksville Ridge. The Brooksville Ridge is characterized as an extensive, internally drained, karst terrain with high local relief.

Near-surface regional geology in the landfill area is typically characterized by undifferentiated sands and clays of the Hawthorn Group. The thickness and continuity of individual strata varies greatly in the area. The sand and clays act as a partial confining unit for the Floridan aquifer in some parts of the region. Beneath the undifferentiated sands and clays lies a thick sequence of Eocene age carbonate deposits, which generally consist of the Suwannee limestone, Ocala Group, and Avon Park formations.

Site specific geology is characterized by approximately 130 feet of surficial sands ranging from fine to medium sands to clayey, silty fine sands. Several 1-foot to 2-foot discontinuous clay layers are present between 50 and 80 feet bls. These sediments, when present, form a low permeability unit over the Floridan aquifer with an average hydraulic conductivity of 0.024 foot per day. These sediments do not have sufficient lateral continuity at the site to form a confining layer or support a separate perched water table aquifer. Beneath these sediments lies the Suwannee Formation. The Suwannee has a highly irregular surface beneath the site, with elevations ranging from 80 feet NGVD to -54 feet NGVD. The Floridan aquifer occurs under water-table conditions at the site and is the only consistent aquifer system present beneath the site.

Hydraulic gradient calculations are shown on the groundwater contour maps of the Floridan aquifer for January 2002 through July 2004 included in Attachment 2. The dominant flow direction in the Floridan aquifer during the Report Period was westerly with a gradient ranging from 0.0005 to 0.002 ft/ft.

The groundwater flow velocities in the Floridan aquifer were calculated using data as follows (see Table 2.1):

- Hydraulic conductivity values ranging from 0.06 to 62.7 feet/day (average 15.74 feet/day) reported by CH2M Hill (April 1996) in wells MW-1R, MW-E, MW-AA and MW-3. Note, reported values for MW-D were not utilized in the calculations. Monitoring well MW-D is constructed in a much deeper interval (80 feet deeper) than other wells onsite and therefore does not monitor the upper-most water bearing unit.

- Estimated effective porosity of 20 %.
- Gradient calculated from data collected during the report period (Attachment 2).

Terms and formulas used in velocity calculations:

- K = hydraulic conductivity
- n = effective porosity
- i = gradient
- V = groundwater velocity
- $V = Ki/n$

Table 2.1 Groundwater Flow Velocity					
	K (ft/day)	i (ft/ft)	N	V (ft/day)	V (ft/year)
Minimum	0.06	0.002	0.2	0.0006	0.22
Maximum	62.7	0.002	0.2	0.627	229
Average	15.74	0.002	0.2	0.157	57.45

The maximum annual flow velocity of 229 ft/year presented in Table 2.1 presents the worst case scenario. An annual groundwater velocity of 57.45 ft/year represents a more realistic groundwater flow velocity for the site.

3.0 APPROPRIATENESS OF MONITORING WELL LOCATIONS AND CONSTRUCTION

Groundwater contour maps of the Floridan aquifer are presented in Attachment 1 & 2. Groundwater flow at the site is generally to the west, which is consistent with the regional gradient. A groundwater mound is apparent in the vicinity of MW-4, MW-5, and MW-6 located between the closed and active landfills. Monitoring wells MW-1R, MW-2, MW-3, and MW-7 are listed as "background" wells in the current permit. Monitoring wells MW-4 and MW-5 are listed as "piezometers" and monitoring well MW-6 is listed as an "intermediate" well in the current permit. These wells (MW-4, MW-5, and MW-6) were installed to monitor on-site percolation ponds located between the closed and active landfills. These ponds and the drainage retention pond on the adjacent closed landfill are the cause of the groundwater mound discussed above.

Table 3.1 presents recorded fluctuations of the potentiometric surface of the Floridan aquifer. A hydrograph is presented in Attachment 2. Groundwater elevations of the Floridan aquifer ranged from approximately 13.59 feet to 0.26 feet NGVD during the Report Period. Second Semiannual 2003 was the highest recorded water level stage and First Semiannual 2002 was the lowest recorded stage of the Floridan aquifer.

Table 3.1

Maximum/Minimum Groundwater Elevations during Report Period

Monitoring Well	Top of Casing	Well Screen Elevation (NGVD)		Groundwater Elevation (NGVD)	
		Top*	Bottom*	Maximum	Minimum
MW-1R	118.25	5.3	-4.8	10.46	4.52
MW-2	136.19	-4.8	-24.8	10.69	6.26
MW-3	120.43	16.8	1.8	13.59	6.68
MW-4	122.37	6.5	-3.6	12.59	3.77
MW-5	121.13	8.7	-1.3	12.65	6.28
MW-6	118.48	7.8	-2.2	12.83	6.47
MW-7	128.58	9.6	-10.4	11.90	6.13
MW-8R	118.08	17.1	-3.0	10.20	0.26
MW-9	113.46	11.8	-8.3	10.13	5.63
MW-AA	106.07	-0.4	-10.4	9.77	4.11
MW-B	113.46	5.5	-14.5	10.22	4.58
MW-C ⁺	115.44	-85	-92	9.91	4.08
MW-D ⁺	109.83	-81	-101	9.82	4.64
MW-E	109.51	12.6	-7.3	9.88	4.88

Table Notes:

Groundwater Elevations in this table are continuous round measurements.

*Elevations are approximate; based on available well completion information.

+ Well completed as open borehole.

Based on the water levels measured during the report period, several of the downgradient wells are not adequately constructed to monitor groundwater quality in the uppermost water bearing unit. Several of the well screens were submerged during the report period. This is primarily due to the severe groundwater level fluctuations that occur at the site. Water levels fluctuated at the site approximately 7 feet, on average, during the Report Period. Water levels fluctuated almost 10 feet during the Report Period at monitoring well MW-8R.

Additionally, the locations of the downgradient detection wells are not adequately placed to meet DEP regulations. By rule, downgradient detection wells may be spaced no more than 500 feet apart. Therefore, the County proposes changes to the groundwater monitoring network. The proposed changes are described in Section 6.0 of this report.

4.0 GROUNDWATER QUALITY

Detailed groundwater quality reports have been submitted for each sampling event of the Report Period.

Groundwater standards include the Primary Drinking Water Standards (PDWS), Secondary Drinking Water Standards (SDWS), and Florida Groundwater Guidance Concentrations (FGGC). Several parameters were reported at or outside groundwater standards in the monitoring wells during the Report Period. These parameters include the following:

Field Parameters:	pH
Indicator Parameters:	Chloride
	Nitrate Nitrogen
	Total Dissolved Solids (TDS)
Metals:	Iron
	Filtered Iron
	Lead
	Thallium
Volatile Organic Compounds:	Benzene
	Bromodichloromethane
	Chloroform
	Dibromochloromethane
	Vinyl Chloride

Attachment 4 presents parameters compared to groundwater standards for the semiannual groundwater sampling events. Presented in Attachment 5 are graphs of the field and laboratory parameters. Attachment 6 presents a historical data summary. The parameters reported at or outside groundwater standards during the Report Period are discussed below.

Background pH levels ranged from 4.66 to 6.48 S.U., outside the SDWS of 6.5 to 8.5 S.U. Levels in MW-6 ranged from 4.04 to 4.53 S.U. Levels in MW-B were below background levels ranging from 4.04 to 4.71 S.U. All other downgradient pH levels were comparable to background or within the range of the SDWS.

Chloride was reported above the SDWS of 250 mg/L in MW-6 during Second Semiannual 2002. Levels in MW-6 ranged from 160 to 260 mg/L during the Report Period. Levels reported in the background wells and all other downgradient wells were below the SDWS, ranging from below the Laboratory Detection Limit to 14 mg/L.

Nitrate Nitrogen levels were consistently reported above the PDWS of 10 mg/L in MW-6, ranging from 17.2 to 28 mg/L. Background Nitrate Nitrogen ranged from below the Laboratory Detection Limit to 9 mg/L. All downgradient wells, with the exception of MW-6, reported Nitrate Nitrogen levels comparable to background, ranging from below the Laboratory Detection Limit to 1.3 mg/L.

Levels of TDS were reported at or above the SDWS of 500 mg/L in MW-9 (630 mg/L), MW-AA (560 mg/L), MW-D (500 mg/L), and MW-6 (660 mg/L) during Second Semiannual 2004. Background TDS levels were below the SDWS during the Report Period ranging from below the Laboratory Detection Limit to 272 mg/L. MW-8R, MW-B, and MW-C were comparable to Background, ranging from 26 to 200 mg/L.

Iron levels were reported above the SDWS of 300 µg/L in all wells, with the exception of MW-7 and MW-B, at least one time during the Report Period. Background wells reported Iron from below the Laboratory Detection Limit to 694 µg/L. The highest levels were consistently reported in MW-E, MW-8R, MW-9, MW-AA, and MW-D ranging from 1200 to 11000 µg/L. The remaining downgradient wells reported Iron levels comparable to background, ranging from below the Laboratory Detection Limit to 4900 µg/L.

Filtered Iron was reported below the Laboratory Detection Limit in MW-9 and MW-C. Filtered Iron levels reported in MW-E, MW-AA, and MW-D were generally higher, ranging from below the Laboratory Detection Limit to 5300 µg/L. Background levels reported in MW-7 ranged from below the Laboratory Detection Limit to 100 µg/L.

Lead levels were reported above the PDWS of 15 µg/L in MW-6, ranging from below the Laboratory Detection Limit to 40 µg/L. Lead levels in MW-6 were comparable to background levels, which ranged from below the Laboratory Detection Limit to 41 µg/L during the Report Period.

Thallium was reported above the PDWS of 2 µg/L in MW-3 during First Semiannual 2002 only, at a level of 50 µg/L. Thallium was not detected in subsequent sampling events or in the other wells during the Report Period. The level reported during Second Semiannual 2002 is considered to be anomalous.

Benzene was reported above the PDWS of 1 µg/L in downgradient wells MW-8R, MW-AA, and MW-6, with the highest levels reported in MW-8R, ranging from 4.3 to 6.6 µg/L. Benzene concentrations appear to be fairly stable over time and consistent with historical values. Background levels of Benzene were all below the Laboratory Detection Limit during the Report Period.

Bromodichloromethane levels were reported above the FGGC of 0.6 µg/L in intermediate well MW-6, ranging from 2.0 to 4.5 µg/L. Bromodichloromethane was not detected in any of the other wells during the Report Period.

Chloroform was reported above the FGGC of 5.7 µg/L in intermediate well MW-6, ranging from 2.8 to 6.1 µg/L. Chloroform was reported below the FGGC but above the Laboratory Detection Limit in background wells MW-2 and MW-3, ranging from 1.1 to 4.2 µg/L. All other wells reported Chloroform below the Laboratory Detection Limit during the entire Report Period.

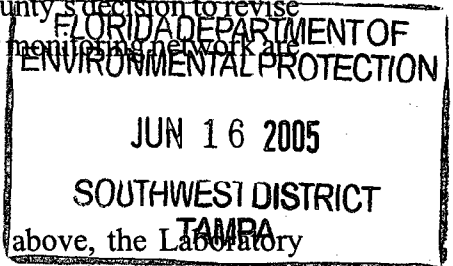
Dibromochloromethane was reported above the FGGC of 0.4 µg/L in intermediate well MW-6, ranging from 2.2 to 5.2 µg/L. All other wells reported Dibromochloromethane below the Laboratory Detection Limit for the entire Report Period.

Vinyl Chloride was reported above the PDWS of 1 µg/L in all detection wells except MW-C ranging from below the Laboratory Detection Limit to 5.1 µg/L. Vinyl Chloride was also reported above the PDWS in MW-6 at 6 µg/L in 02S1 and decreased throughout the Report Period to 1.9 µg/L in 04S2. Vinyl Chloride in compliance well MW-E ranged from 0.97 to 1.4 µg/L from 02S1 to 03S1, but has been below the Laboratory Detection Limit for the remainder of the Report Period. Vinyl Chloride concentrations in all wells appear to be fairly stable or decreasing slightly over time and are consistent with historical values. Vinyl Chloride was not detected in any of the background wells during the Report Period.

Other parameters detected below groundwater standards (where applicable) but above the Laboratory Detection Limits in the monitoring wells during the Report Period include the following: Ammonia Nitrogen, Filtered Arsenic, Barium, Filtered Barium, Filtered Cobalt, Copper, Mercury, Nickel, Sodium, Filtered Sodium, Zinc, Filtered Zinc, 1,1-Dichloroethane, 1,4-Dichlorobenzene, Acetone, Bromoform, Chlorobenzene, cis-1,2-Dichloroethylene, Trichloroethene, Total

Xylenes. Some of these reported parameters were isolated occurrences, displayed no trend, or were not confirmed in subsequent sampling events.

The groundwater quality impacts discussed above were considered in the County's decision to revise the groundwater monitoring network. Proposed changes to the groundwater monitoring network are described in Section 6.0 of this report.



5.0 LEACHATE DATA

Attachment 7 presents graphs of the leachate parameters reported at, or above, the Laboratory Detection Limit. Leachate chemistry data for the Report Period is also included in Attachment 6. Bromodichloromethane, Bromoform, Chloroform, and Dibromochloromethane were consistently reported at, or above groundwater standards in the Leachate Effluent. Chloride, Total Dissolved Solids and Sodium were likewise consistently above groundwater standards, however the permit does not place limits on those parameters for Leachate Effluent. Each of the following was reported at least once during the Report Period at or above groundwater standards in the Leachate Influent: Arsenic, Iron, Benzene, Vinyl Chloride and Naphthalene.

6.0 SUMMARY

The County proposes modifying the groundwater monitoring network to address several deficiencies in the existing program. Proposed modifications include the expansion of the zone of discharge (ZOD), the installation of additional monitoring wells, the installation of an additional piezometer, redesignation of the purpose of several wells and other changes as described below.

The County proposes to install seven new downgradient monitoring wells (MW-10 through MW-15 and MW-17). Each new compliance monitoring well will be installed with a spacing of no more than 500 feet between the detection wells and within 50 100 feet of the edge of waste, in compliance with DEP regulations. The new wells will replace the existing downgradient wells Existing wells MW-AA, MW-B, MW-C, MW-D, MW-E, MW-8R, and MW-9 should be designated as water level only wells. Existing downgradient wells should be designated as piezometers in the operating permit. The locations of the proposed downgradient monitoring wells are shown on the revised map in Attachment 8.

~~The County proposes to install one new compliance well MW-18 to replace the existing compliance well MW-E. The existing compliance well will be abandoned according to both Southwest Florida Water Management District and FDEP guidelines. Well MW-18 will be installed at the proposed zone of discharge, discussed below, as shown in Attachment 8.~~

Each proposed monitoring well will be constructed of 2-inch PVC with 20-feet of 0.010-inch slotted screen extending from approximately -4 to 16 feet NGVD. This screen interval should accommodate the severe water level fluctuations observed at the site, as discussed above, while allowing for monitoring of the uppermost water bearing unit. The proposed monitoring well construction details are included in Attachment 9.

The groundwater mound that is caused by the onsite percolation ponds likely skews groundwater contours drawn for the site. Therefore, the County proposes to install an additional piezometer (MW-16) south of existing well MW-6, to allow for the measurement of the lateral extent of the

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percolation-induced groundwater mound. The proposed location of the new piezometer is shown in Attachment 8. Proposed construction details are included in Attachment 9.

Groundwater quality at the Landfill has been impacted. The most significant impact to groundwater quality appears to be in MW-6, MW-AA and MW-8, where levels of Benzene and Vinyl Chloride are slightly above the PDWS. The levels of Benzene and Vinyl Chloride observed in these wells during the Report Period were consistent with historical levels. Vinyl Chloride was reported above the PDWS during the report period in compliance well MW-E. However, Vinyl Chloride was not reported above the PDWS in this well during the last three sampling events. Iron was consistently reported above the SDWS in detection wells MW-8R, MW-9, MW-AA, MW-D and compliance well MW-E during the report period. These impacts will be addressed further in the Revised Groundwater Monitoring Plan, discussed below.

It is recommended that the Zone of Discharge (ZOD) be expanded at this facility by executing an expanded lease with the Division of Forestry. The expanded lease and ZOD should will extend 300 feet to the east, west, and south from the current property boundary. The proposed ZOD will extend 100 feet from the edge of waste in the downgradient direction. The proposed ZOD is in accordance with the provisions set forth in Rules 62-522.410 and 62-522.500 F.A.C. The proposed ZOD and property to be leased are shown in Attachment 8. The following are points providing justification in accordance with 62-522.410(2)(b) F.A.C.:

- ~~The size and shape of the requested ZOD will not cause violations of applicable groundwater standards in present and future potable water supplies. There are no potable water supplies in the area, and there are no potable water supplies expected to be developed as this area is part of the state forestry lands.~~
- ~~The size and shape of the requested ZOD will not interfere with existing or designated uses of contiguous waters, or cause the violation of applicable surface water quality criteria of contiguous waters. There will be no impact to surface waters as there are no surface water bodies in the immediate vicinity or nearby proximity.~~
- ~~The economic and social benefits of a ZOD of larger dimensions outweigh the corresponding costs. In the case of this facility it is justifiable and more appropriate to allow an expansion of the ZOD since the economic, environmental, and social costs are minimal. The benefits are that it will allow the County to adequately assess the need for future action before being forced to take action and intrude onto state forestry lands as a result of the current boundaries.~~

It is expected that the lease with the Division of Forestry will be finalized within 12 months following the Department's approval of this plan and issuance of the permit. The expansion of the ZOD, via an expanded lease of Division of Forestry property, will also be addressed in the Revised Groundwater Monitoring Plan. A minor permit modification to incorporate the expanded ZOD and compliance monitoring well network will be submitted to the Department following execution of the lease agreement.

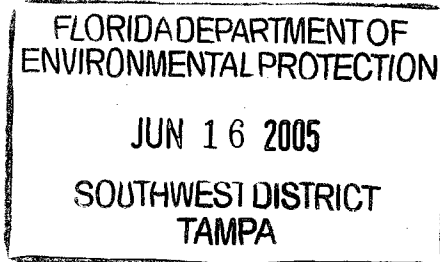
The current permit lists monitoring wells MW-4 and MW-5 as "piezometers," monitoring well MW-6 as an "intermediate" well, and monitoring wells MW-1R, MW-2, MW-3, and MW-7 as "background" wells. The current permit lists monitoring wells MW-8R, MW-9, MW-AA, MW-B, MW-C and MW-D as "detection" wells and monitoring well MW-E as a "compliance" well. As stated above, the County proposes the redesignation of detection wells MW-AA, MW-B, MW-C, MW-D, MW-E, MW-8R, and MW-9 as piezometers. These wells will be used for water level measurements only and may be useful for mapping groundwater flow direction. The seven old wells

will be replaced by the proposed MW-10 through 15, and MW-17. ~~Existing compliance well MW-E will be abandoned and replaced by the proposed compliance well MW-18.~~ The locations of the eight new wells are shown in Attachments 8. Construction details for the new wells are provided in Attachment 9. If appropriate, additional changes to the current well designations may be included in the Revised Groundwater Monitoring Plan.

Other details of the water quality and leachate monitoring are addressed in the summary review provided as Attachment 10. Sampling and parameter lists will be in accordance with the summary review provided in Attachment 10. Monitoring frequency is proposed to continue on a semiannual schedule. We propose that additional testing will be performed to determine hydraulic conductivity (slug testing) after the new monitoring wells MW-10 through 15, and MW-17 ~~and MW-18~~, are installed. Slug testing and hydraulic conductivity and groundwater flow velocity calculations will be conducted and discussed in the summary report to the Department submitted for the new well monitoring results.

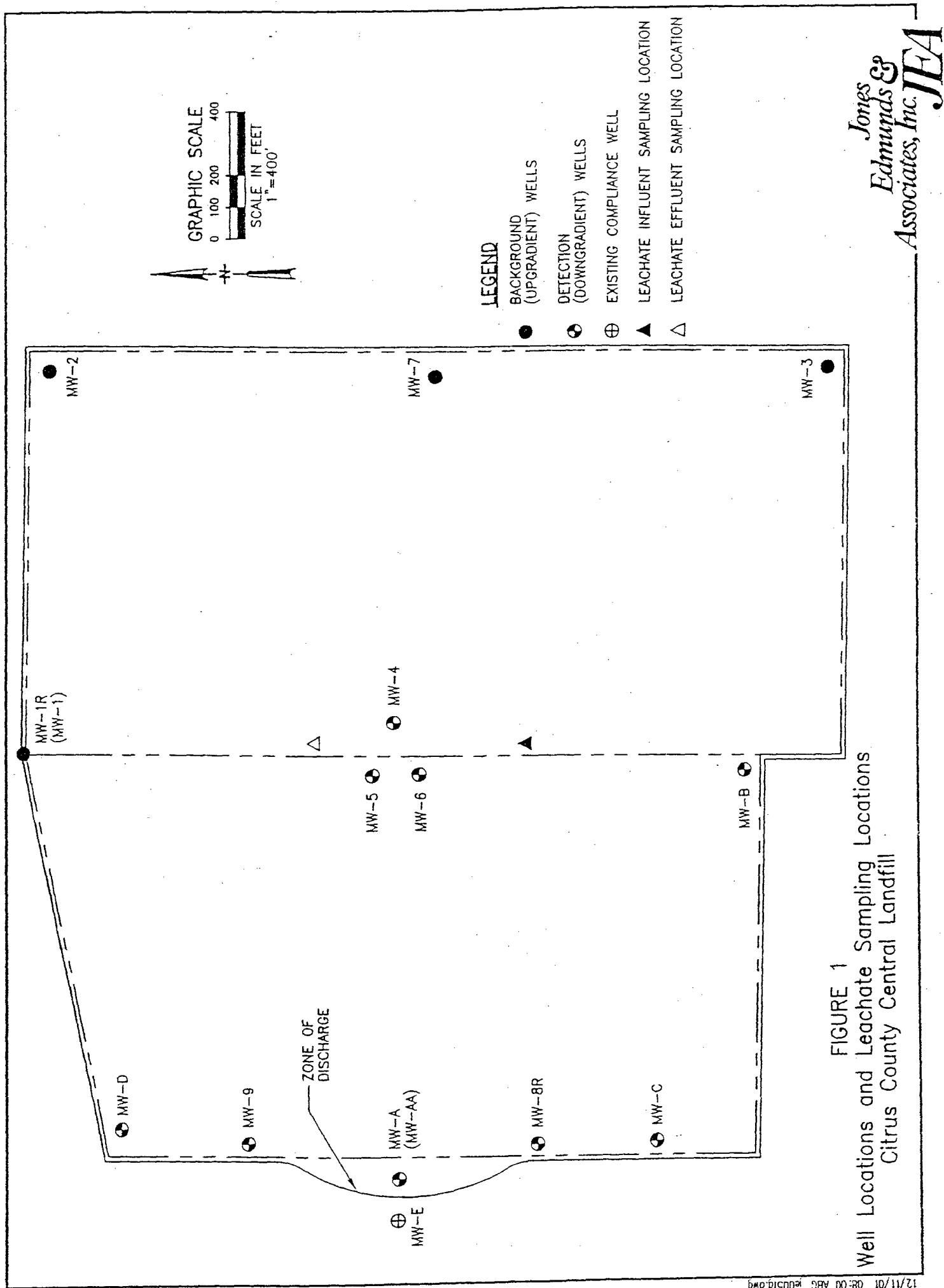
The schedule for installation and sampling of the eight new monitoring wells is expected to require six months from the Department's approval of this plan and issuance of the permit. A summary report of the monitoring results is expected to require two months following sampling of the new detection wells.

Upon the completion of the above activities, a Revised Groundwater Monitoring Plan Evaluation Report will be submitted to DEP that includes; a discussion of the work performed, a summary of the findings and, if necessary, additional changes to the existing Groundwater Monitoring Plan. ~~The revised plan will be submitted along with the summary report two months after the new wells are sampled.~~



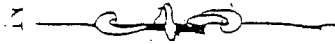
ATTACHMENT 1

SITE MAP



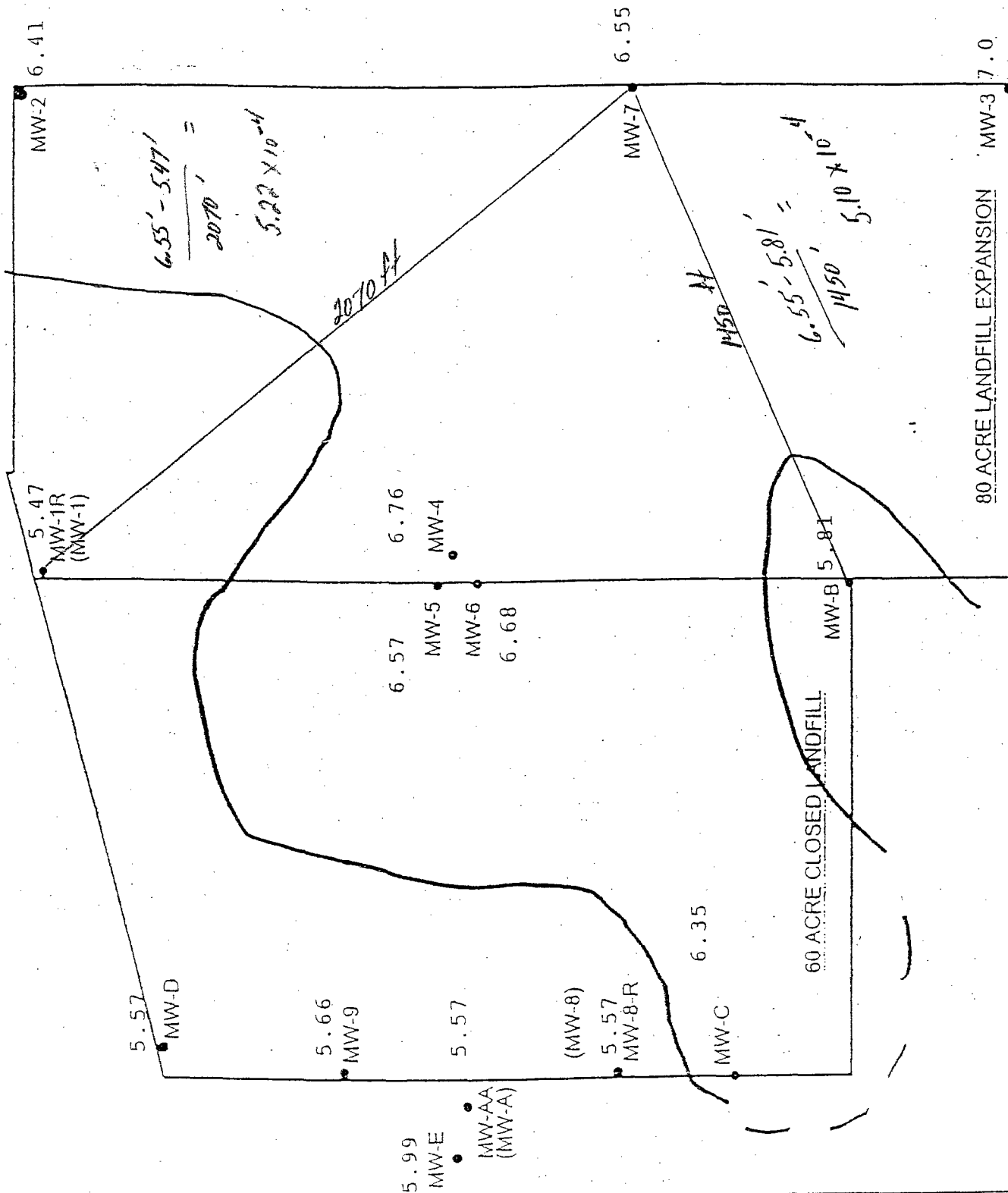
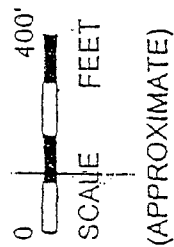
ATTACHMENT 2

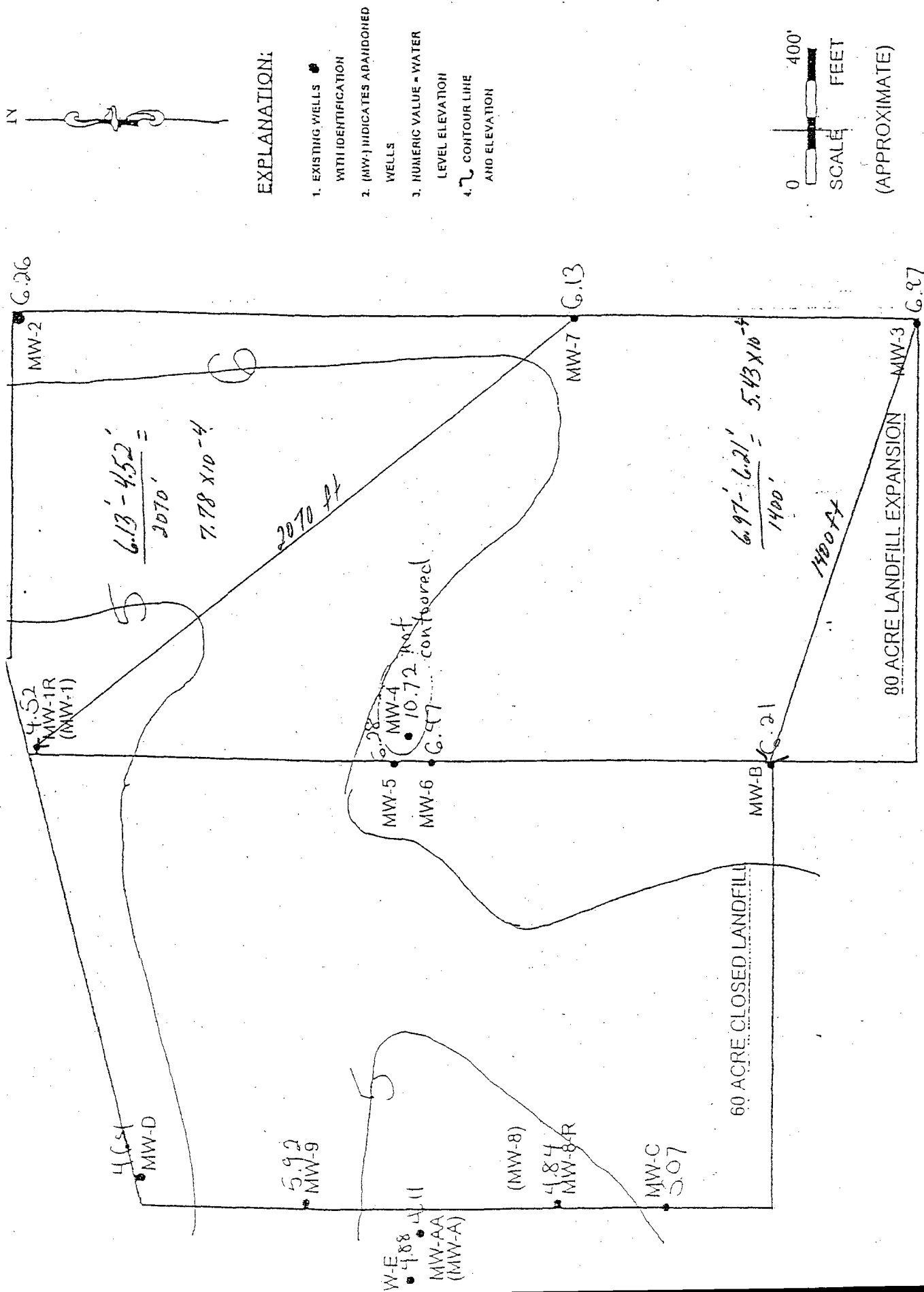
GROUNDWATER CONTOUR MAPS
(REVISED)

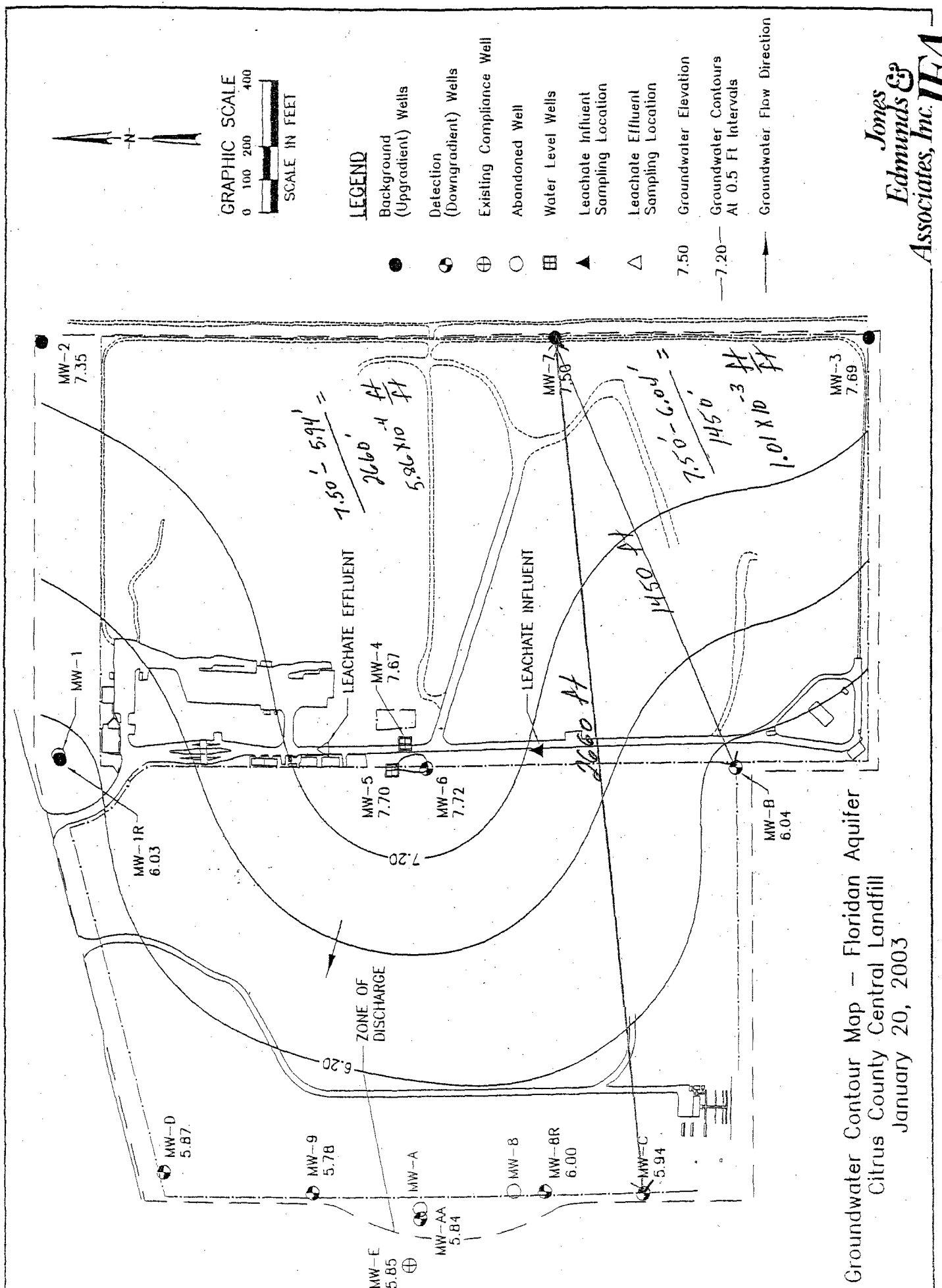


EXPLANATION:

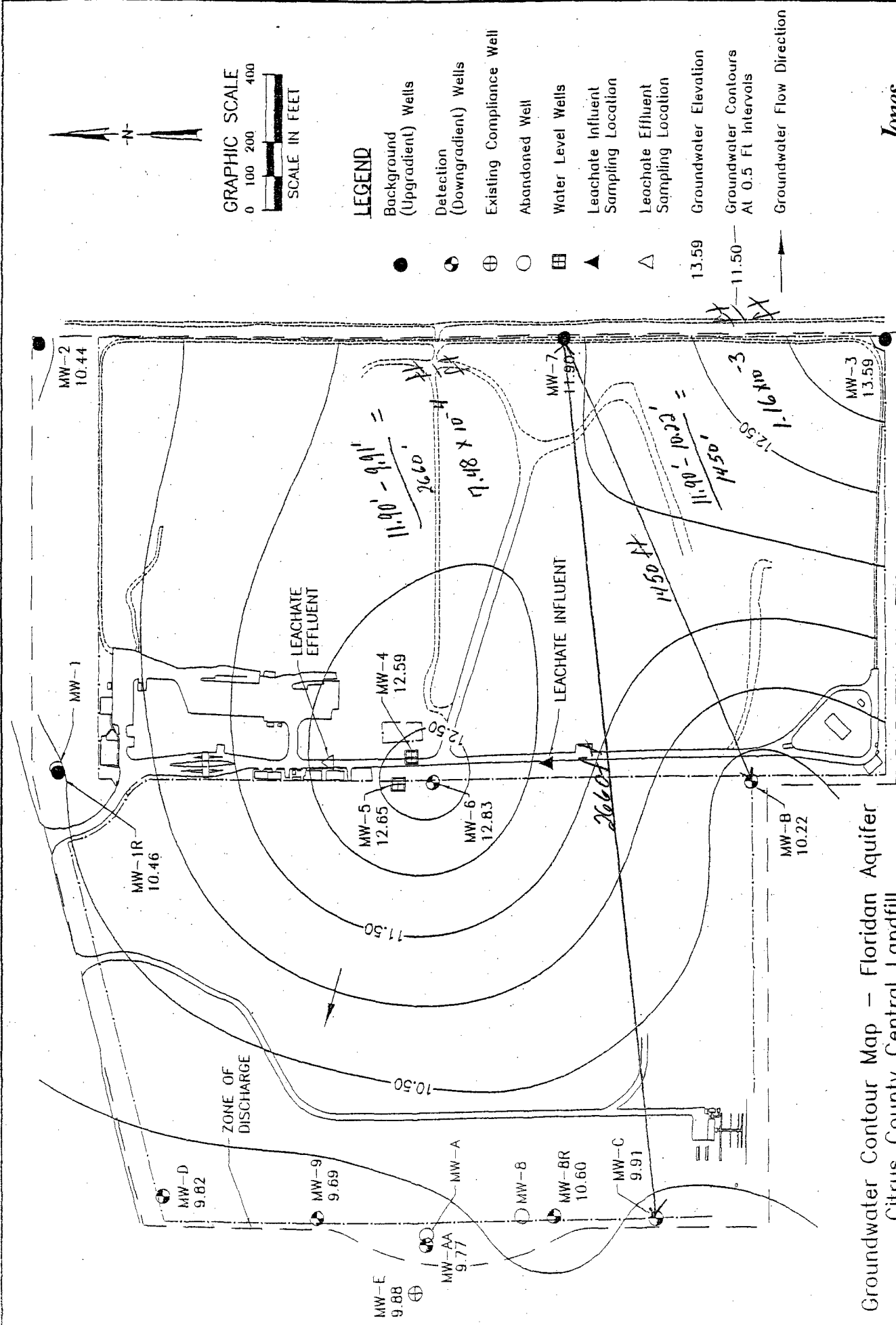
1. EXISTING WELLS WITH IDENTIFICATION
2. (MW-) INDICATES ABANDONED WELLS
3. NUMERIC VALUE = WATER LEVEL ELEVATION
4. CONTOUR LINE AND ELEVATION







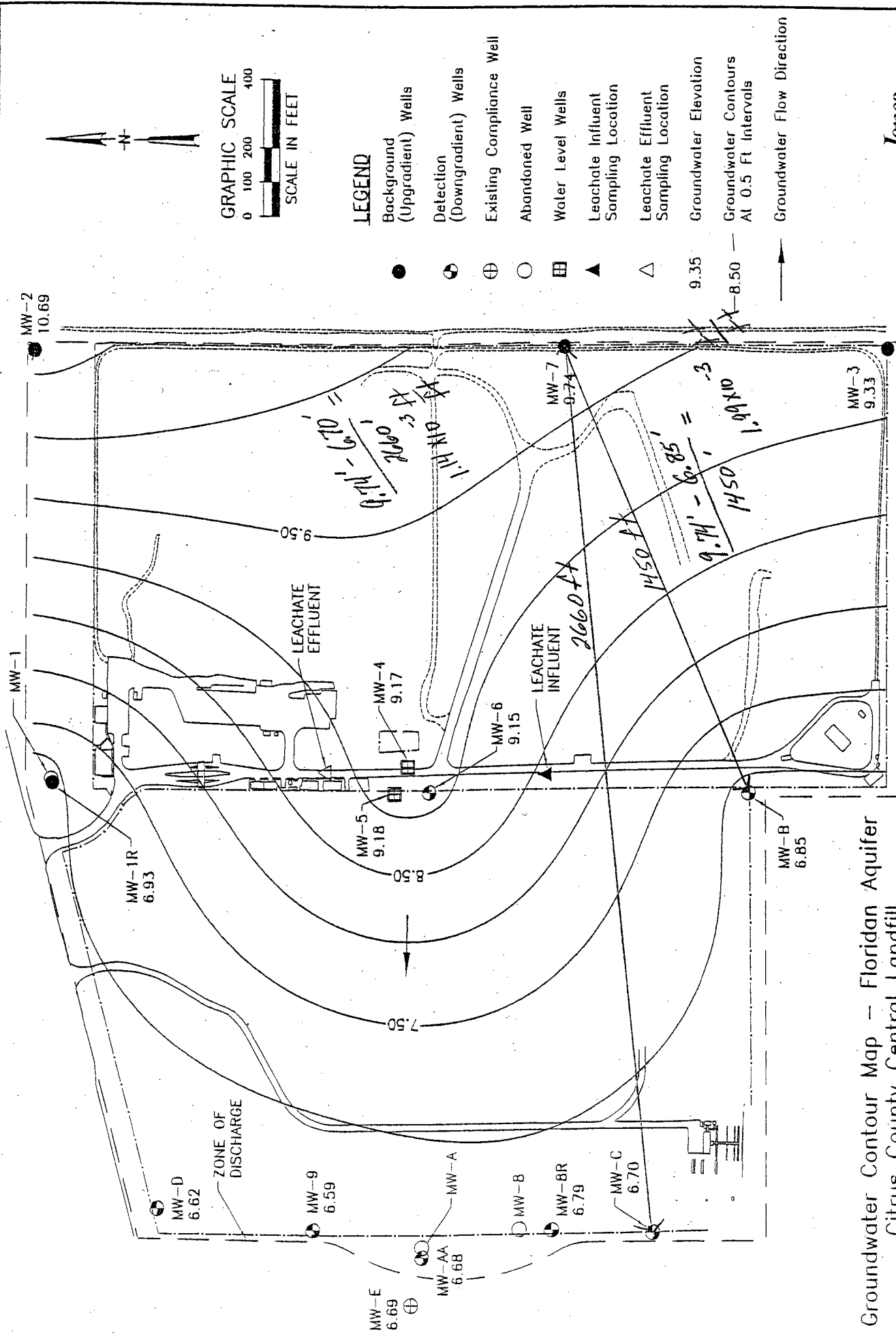
Groundwater Contour Map - Floridan Aquifer
Citrus County Central Landfill
January 20, 2003



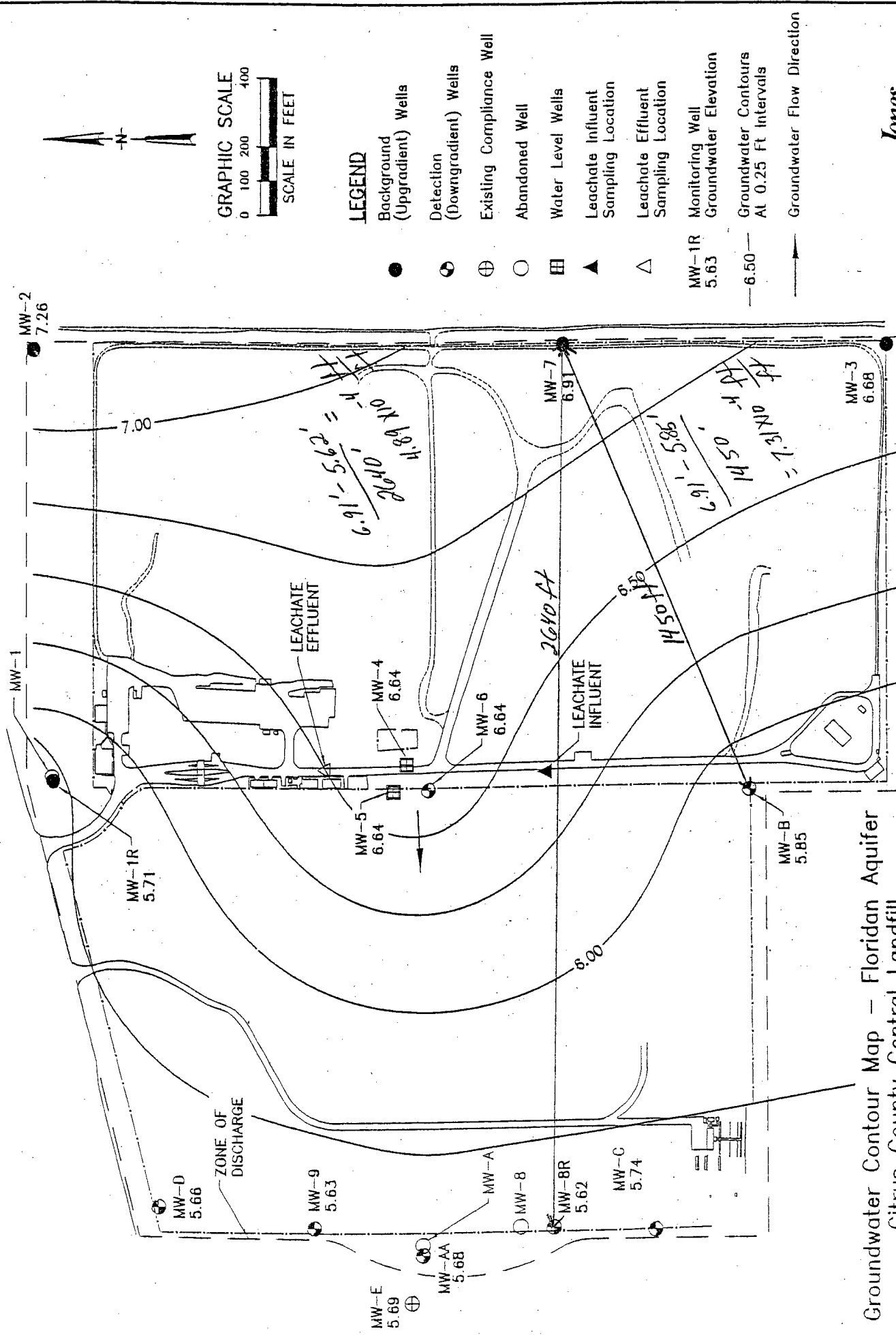
Groundwater Contour Map - Floridan Aquifer
 Citrus County Central Landfill
 August 5, 2003

- LEGEND**
- Background (Upgradient) Wells
 - Detection (Downgradient) Wells
 - ⊕ Existing Compliance Well
 - Abandoned Well
 - ⊞ Water Level Wells
 - ▲ Leachate Influent Sampling Location
 - △ Leachate Effluent Sampling Location
 - 13.59 Groundwater Elevation
 - 11.50 Groundwater Contours At 0.5 Ft Intervals
 - Groundwater Flow Direction

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Groundwater Contour Map - Floridan Aquifer
Citrus County Central Landfill
February 3, 2004



Groundwater Contour Map - Floridan Aquifer
Citrus County Central Landfill
July 21, 2004

ATTACHMENT 3

HYDROGRAPH

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ATTACHMENT 4

**ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS**

**ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
FIRST SEMIANNUAL 2002**

PARAMETER	pH (FIELD)	NITRATE NITROGEN	IRON	IRON: FILTERED	LEAD	THALLIUM	BENZENE	BROMO- DICHLORO- METHANE	CHLORO- FORM	DIBROMO- CHLORO- METHANE	VINYL CHLORIDE
STANDARD	6.5-8.5 U **	10 mg/L *	300 µg/L **	300 µg/L **	15 µg/L *	2 µg/L *	1 µg/L *	0.6 µg/L ***	5.7 µg/L ***	0.4 µg/L ***	1 µg/L *
Background											
MW-1R	01/29/02	-	-	NM	-	-	-	-	-	-	-
MW-2	01/29/02	-	-	NM	-	-	-	-	-	-	-
MW-3	01/29/02	-	-	NM	41	50	-	-	-	-	-
MW-7	01/29/02	-	-	NM	-	-	-	-	-	-	-
Compliance											
MW-E	01/28/02	-	11000	NM	-	-	-	-	-	-	1.3
Detection											
MW-8R	01/28/02	-	2400	NM	-	-	4.3	-	-	-	3.7
MW-9	01/28/02	-	9100	NM	-	-	-	-	-	-	1 @
MW-AA	01/28/02	-	7500	NM	-	-	1.2	-	-	-	2.8
MW-B	01/29/02	-	-	NM	-	-	-	-	-	-	-
MW-C	01/28/02	-	-	NM	-	-	-	-	-	-	-
MW-D	01/28/02	-	NM	5300	NM	NM	-	-	-	-	-
Intermediate											
MW-6	01/22/02	4.4	1300	NM	40	-	1.4	3.9	6.1	3.2	4

LEGEND

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**ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
SECOND SEMI-ANNUAL 2002**

PARAMETER	pH (FIELD)	CHLORIDE	NITRATE NITROGEN	IRON	IRON- FILTERED	LEAD	BENZENE	BROMO- DICHLORO- METHANE	DIBROMO- CHLORO- METHANE	VINYL CHLORIDE
STANDARD	6.5-8.5 S.U.**	250 mg/L**	10 mg/L*	300 µg/L**	300 µg/L**	15 µg/L*	1 µg/L*	0.6 µg/L***	0.4 µg/L***	1 µg/L*
Background										
MW-1R	08/08/02	5.58	-	570	NM	-	-	-	-	-
MW-2	08/08/02	6.11	-	340	NM	-	-	-	-	-
MW-3	08/08/02	5.28	-	-	NM	20	-	-	-	-
MW-7	08/08/02	6.42	-	NM	-	NM	-	-	-	-
Compliance										
MW-E	08/08/02	-	-	NM	320	NM	-	-	-	1.4
Detection										
MW-8R	08/07/02	5.18	-	2700	NM	-	4.9	-	-	4.3
MW-9	08/08/02	-	-	NM	-	NM	-	-	-	1.3
MW-AA	08/08/02	6.29	-	NM	4500	NM	1.4	-	-	3.6
MW-B	08/08/02	4.67	-	-	NM	-	-	-	-	1.5
MW-C	08/07/02	-	-	NM	-	NM	-	-	-	-
MW-D	08/07/02	-	-	NM	-	NM	-	-	-	-
Intermediate										
MW-6	08/08/02	4.3	22	-	NM	-	1.1	4	3.4	3.3

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ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
FIRST SEMIANNUAL 2003

PARAMETER		pH (FIELD)	NITRATE NITROGEN	IRON	LEAD	BENZENE	BROMO- DICHLORO- METHANE	DIBROMO- CHLORO- METHANE	VINYL CHLORIDE
STANDARD		6.5-8.5 S.U.**	10 mg/L*	300 µg/L**	15 µg/L*	1 µg/L*	0.6 µg/L***	0.4 µg/L***	1 µg/L*
Background									
MW-1R	01/23/03	5.19	-	325	-	-	-	-	-
MW-2	01/21/03	5.11	-	-	-	-	-	-	-
MW-3	01/23/03	5.19	-	694	-	-	-	-	-
MW-7	01/21/03	5.85	-	NM	NM	-	-	-	-
Compliance									
MW-E	01/20/03	6.33	-	10500	-	-	-	-	-
Detection									
MW-8R	01/20/03	4.7	-	2770	-	5.5	-	-	3.8
MW-9	01/21/03	6.35	-	8970	-	-	-	-	1.2
MW-AA	01/20/03	6.03	-	9400	-	1.5	-	-	2.6
MW-B	01/22/03	4.04	-	-	-	-	-	-	1.4
MW-C	01/23/03	-	-	4900	-	-	-	-	-
MW-D	01/23/03	-	-	417	-	-	-	-	-
Intermediate									
MW-6	01/22/03	4.04	17.2	-	16.2	1.5	2.5	2.4	3.1
QA/QC									
EQUBLK1	01/22/03	NM	-	-	-	-	-	-	-
TRIP1	01/20/03	NM	NM	NM	NM	-	-	-	-
TRIP2	01/21/03	NM	NM	NM	NM	-	-	-	-
TRIP3	01/22/03	NM	NM	NM	NM	-	-	-	-
TRIP4	01/23/03	NM	NM	NM	NM	-	-	-	-

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ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
SECOND SEMI-ANNUAL 2003

PARAMETER	pH (FIELD)	NITRATE NITROGEN	TOTAL DISSOLVED SOLIDS	IRON	IRON: FILTERED	LEAD	BENZENE	BROMO- DICHLORO- METHANE	DIBROMO- CHLORO- METHANE	VINYL CHLORIDE
STANDARD	6.5-8.5 U**	10 mg/L*	500 mg/L**	300 µg/L**	300 µg/L**	15 µg/L*	1 µg/L*	0.6 µg/L***	0.4 µg/L***	1 µg/L*
Background										
MW-1R	08/05/03	5.73	-	-	NM	-	-	-	-	-
MW-2	08/05/03	5.04	-	-	NM	-	-	-	-	-
MW-3	08/05/03	5.55	-	-	NM	18	-	-	-	-
MW-7	08/06/03	6.29	-	NM	-	NM	-	-	-	-
Compliance										
MW-E	08/07/03	-	-	11000	NM	-	-	-	-	-
Detection										
MW-8R	08/07/03	5.21	-	3400	NM	-	4.4	-	-	5.1
MW-9	08/07/03	-	-	10000	NM	-	-	-	-	1.7
MW-AA	08/06/03	6.42	-	NM	1700	NM	-	-	-	-
MW-B	08/08/03	4.71	-	-	NM	-	-	-	-	1.1
MW-C	08/07/03	-	-	NM	-	NM	-	-	-	-
MW-D	08/08/03	-	-	7200	NM	-	-	-	-	1.4
Intermediate										
MW-6	08/08/03	4.44	18	-	NM	17	1.1	2	2.2	2.6
QA/QC										
EQUBLK	08/05/03	NM	-	-	NM	-	-	-	-	-
TRIP1	08/05/03	NM	NM	NM	NM	NM	-	-	-	-
TRIP2	08/06/03	NM	NM	NM	NM	NM	-	-	-	-
TRIP3	08/07/03	NM	NM	NM	NM	NM	-	-	-	-
TRIP4	08/08/03	NM	NM	NM	NM	NM	-	-	-	-

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ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
FIRST SEMIANNUAL 2004

PARAMETER		pH (FIELD)	NITRATE NITROGEN	IRON	LEAD	BENZENE	BROMO- DICHORO- METHANE	DIBROMO- CHORO- METHANE	VINYL CHLORIDE
STANDARD		6.5-8.5 S.U.**	10 mg/L*	300 µg/L**	15 µg/L*	1 µg/L*	0.6 µg/L***	0.4 µg/L***	1 µg/L*
Background									
MW-1R	02/05/04	5.57	-	-	-	-	-	-	-
MW-2	02/05/04	5.02	-	-	-	-	-	-	-
MW-3	02/05/04	5.1	-	-	17	-	-	-	-
MW-7	02/05/04	5.99	-	NM	NM	-	-	-	-
Compliance									
MW-E	02/04/04	-	-	9100	-	-	-	-	-
Detection									
MW-8R	02/03/04	5.03	-	3100	-	4.4	-	-	3.9
MW-9	02/04/04	-	-	9800	-	-	-	-	1.2
MW-AA	02/04/04	6.34	-	6400	-	-	-	-	2
MW-B	02/03/04	4.4	-	-	-	-	-	-	1.4
MW-C	02/03/04	-	-	-	-	-	-	-	-
MW-D	02/04/04	-	-	6500	-	-	-	-	-
Intermediate									
MW-6	02/06/04	4.53	18	930	-	1 @	2.2	2.6	2.3
MW-6 R	03/22/04	4.41	NM	NM	NM	1.2	3.2	3.6	2.4
QAQC									
EQUBLK1	02/04/04	NM	-	-	-	-	-	-	-
EQUBLK2	02/06/04	NM	-	-	-	-	-	-	-
EQUBLKR1	03/22/04	NM	NM	NM	NM	-	-	-	-
EQUBLKR2	03/22/04	NM	NM	NM	NM	-	-	-	-
TRIP1	02/03/04	NM	NM	NM	NM	-	-	-	-
TRIP2	02/04/04	NM	NM	NM	NM	-	-	-	-
TRIP3	02/05/04	NM	NM	NM	NM	-	-	-	-
TRIP4	02/06/04	NM	NM	NM	NM	-	-	-	-
TRIP R	03/22/04	NM	NM	NM	NM	-	-	-	-

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ANALYSIS RESULTS COMPARED TO GROUNDWATER
STANDARDS AND/OR GUIDANCE CONCENTRATIONS
CITRUS COUNTY CENTRAL LANDFILL
SECOND SEMIANNUAL 2004

PARAMETER		pH (FIELD)	NITRATE NITROGEN	TOTAL DISSOLVED SOLIDS	IRON	LEAD	BENZENE	BROMO- DICHORO- METHANE	DIBROMO- CHLORO- METHANE	VINYL CHLORIDE
STANDARD		6.5-8.5 3.U.**	10 mg/L*	500 mg/L**	300 µg/L**	15 µg/L*	1 µg/L*	0.6 µg/L***	0.4 µg/L***	1 µg/L*
Background										
MW-1R	07/21/04	5.48	-	-	-	-	-	-	-	-
MW-2	07/29/04	4.73	-	-	-	-	-	-	-	-
MW-3	07/21/04	4.66	-	-	-	16	-	-	-	-
MW-7	07/22/04	5.85	-	-	NM	NM	-	-	-	-
Compliance										
MW-E	07/21/04	-	-	-	7900	-	-	-	-	-
Detection										
MW-8R	07/23/04	4.96	-	-	3600	-	6.6	-	-	5
MW-9	07/23/04	-	-	630	3500	-	-	-	-	1.7
MW-AA	07/21/04	6.3	-	560	7400	-	-	-	-	1.8
MW-B	07/23/04	4.42	-	-	-	-	-	-	-	-
MW-C	07/23/04	-	-	-	-	-	-	-	-	-
MW-D	07/23/04	-	-	500 @	4200	-	-	-	-	1 @
Intermediate										
MW-6	07/22/04	4.22	28	660	-	-	-	4.5	5.2	1.9
QA/QC										
EQUBLK1	07/21/04	NM	-	-	-	-	-	-	-	-
EQUBLK2	07/22/04	NM	-	-	-	-	-	-	-	-
EQUBLK3	07/29/04	NM	-	-	-	-	-	-	-	-
TRIP1	07/21/04	NM	NM	NM	NM	NM	-	-	-	-
TRIP2	07/22/04	NM	NM	NM	NM	NM	-	-	-	-
TRIP3	07/22/04	NM	NM	NM	NM	NM	-	-	-	-
TRIP4	07/22/04	NM	NM	NM	NM	NM	-	-	-	-
TRIP5	07/23/04	NM	NM	NM	NM	NM	-	-	-	-
TRIP6	07/29/04	NM	NM	NM	NM	NM	-	-	-	-
Sludge										
Sludge	07/22/04	5.61	NM	NM	NM	-	-	NM	NM	-

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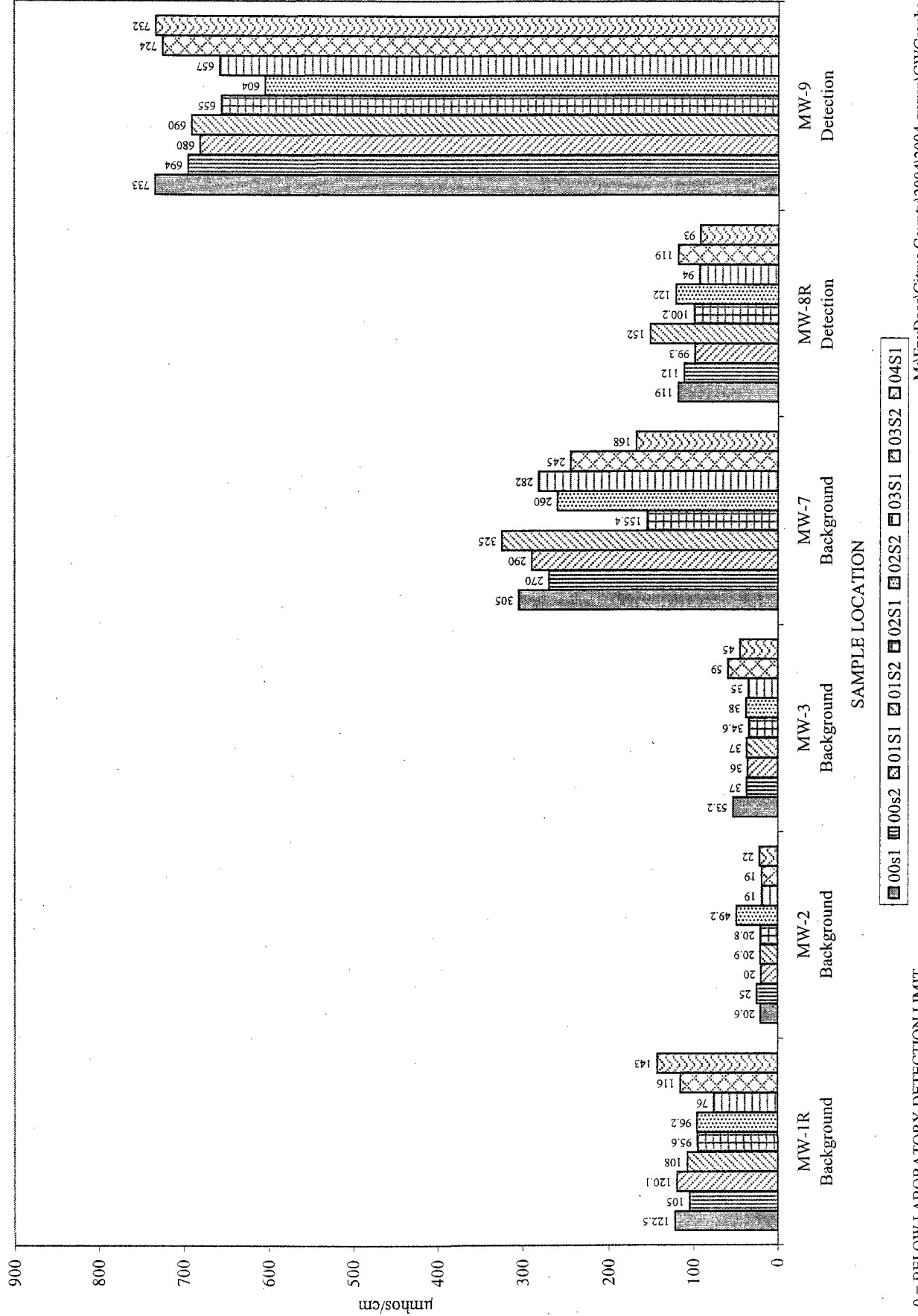
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ATTACHMENT 5

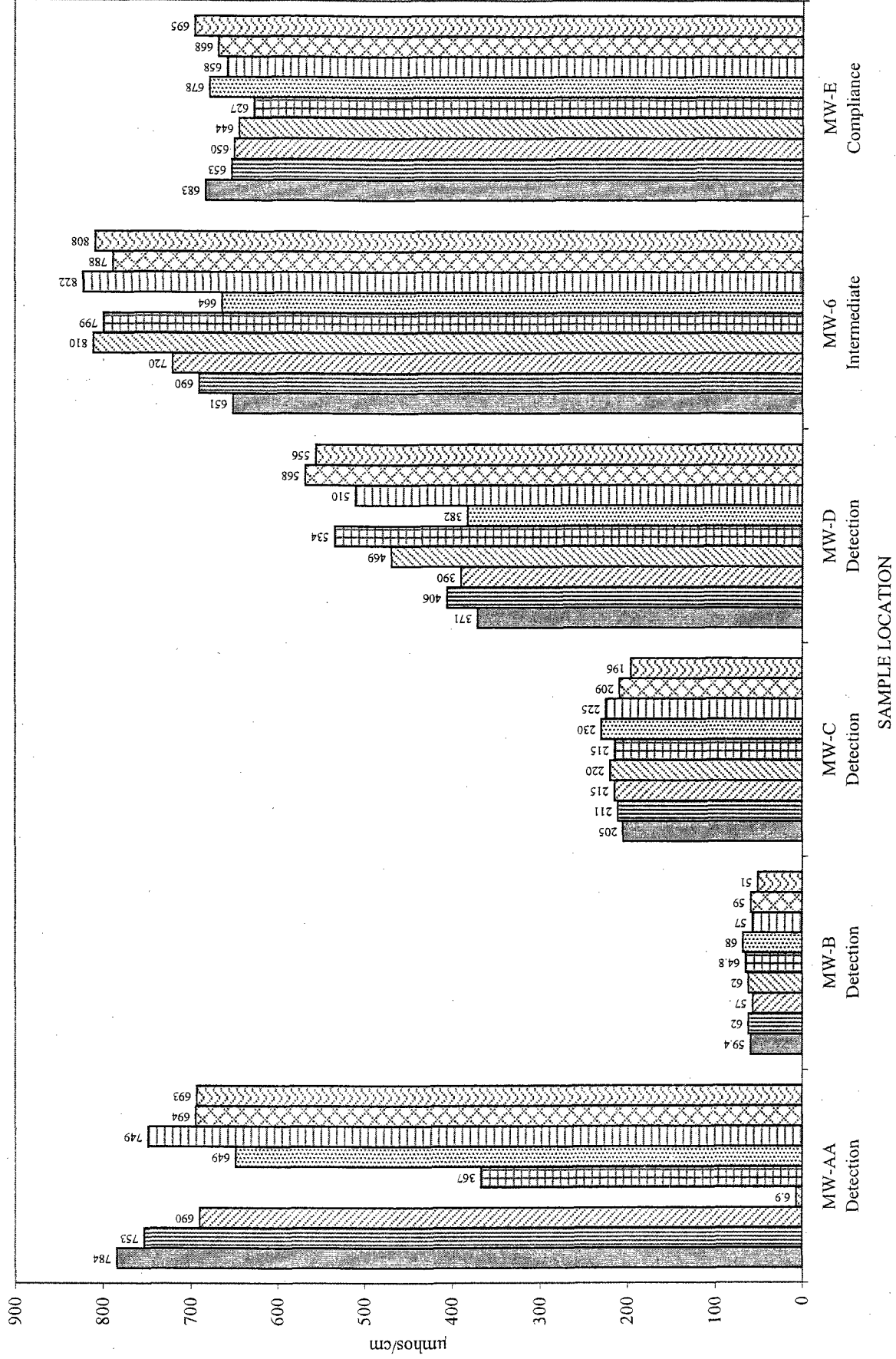
GROUNDWATER CHEMISTRY GRAPHS

CONDUCTIVITY (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

CONDUCTIVITY (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

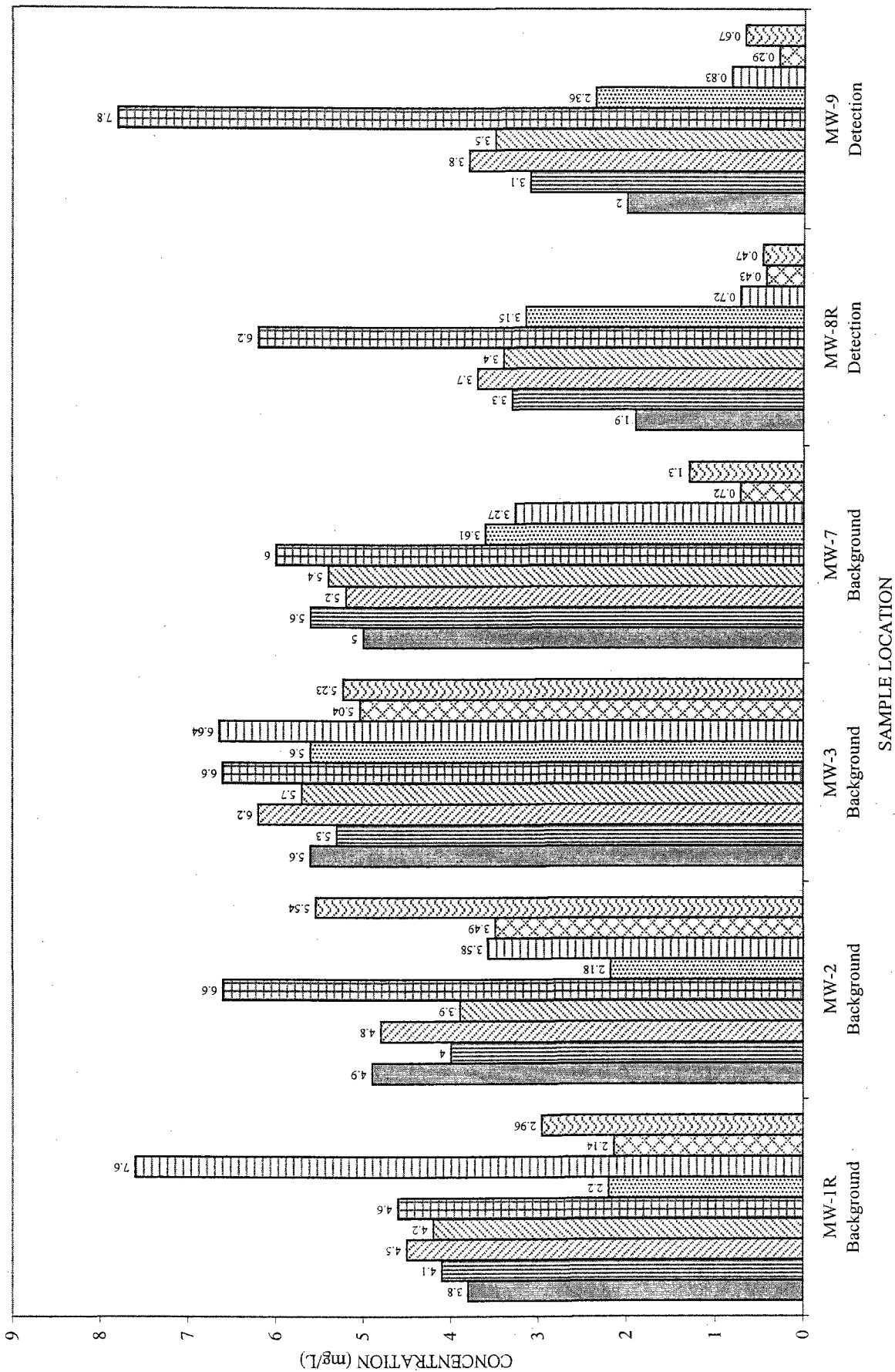


00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

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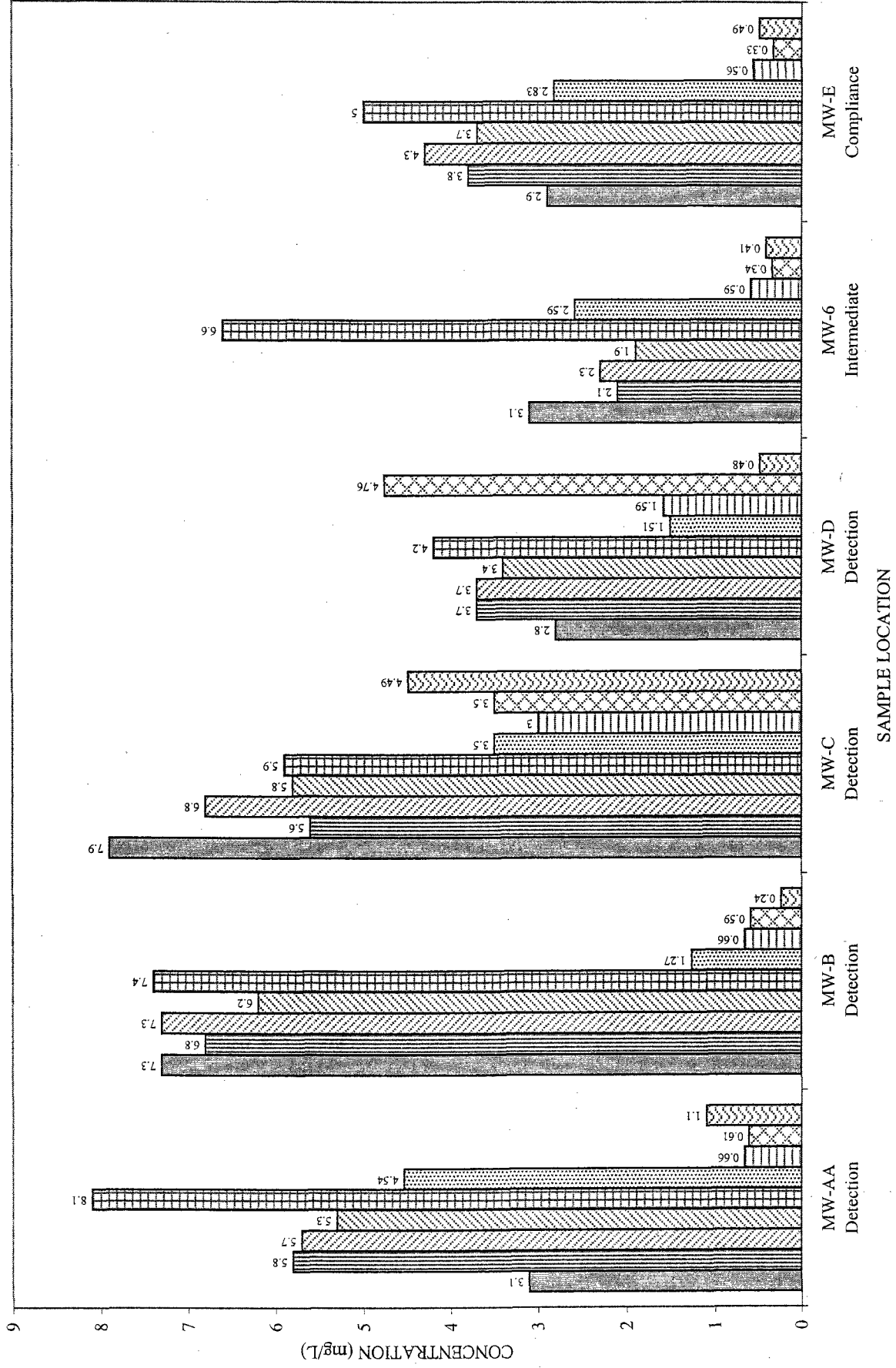
DISSOLVED OXYGEN (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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0 = BELOW LABORATORY DETECTION LIMIT

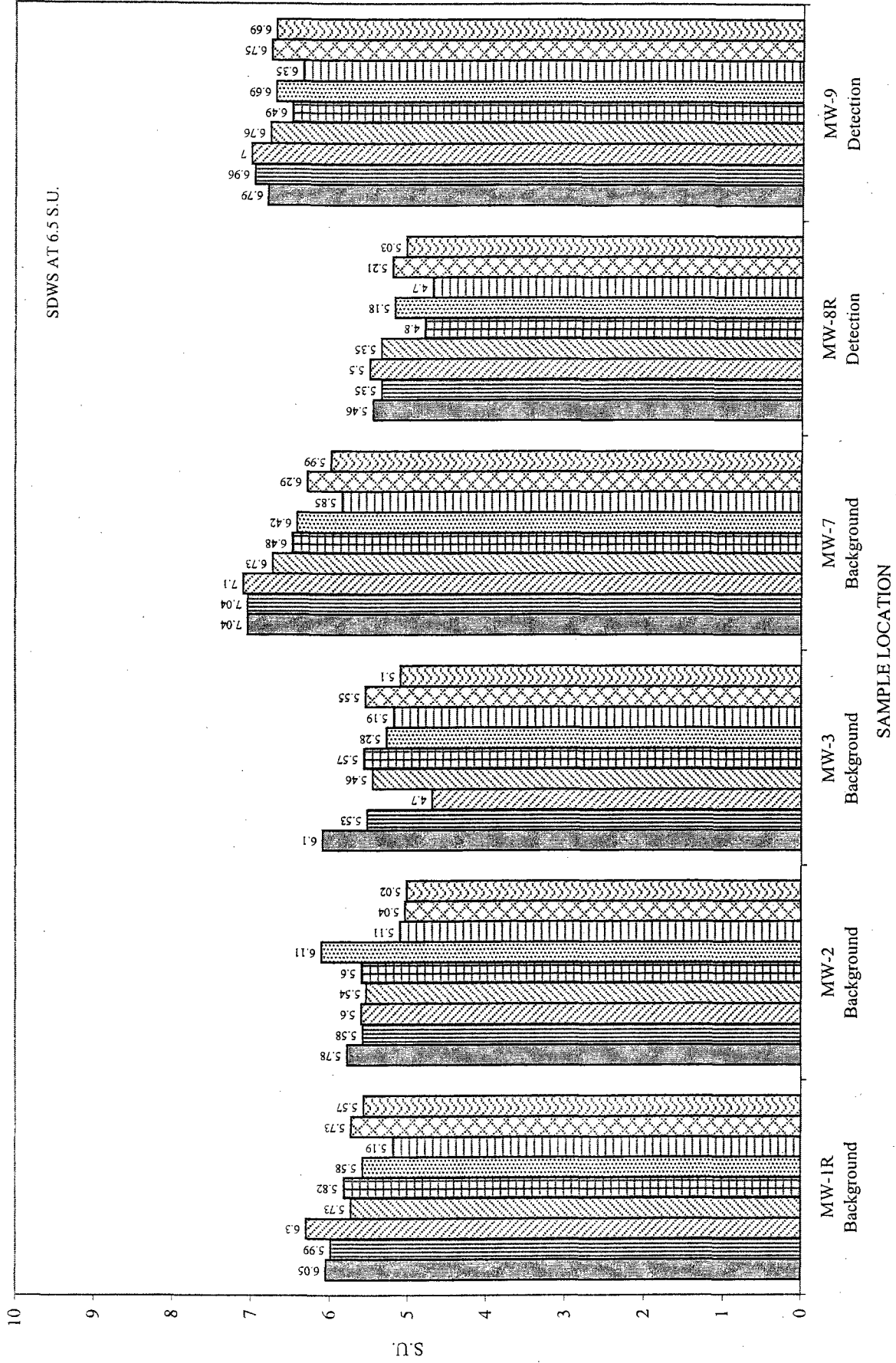
DISSOLVED OXYGEN (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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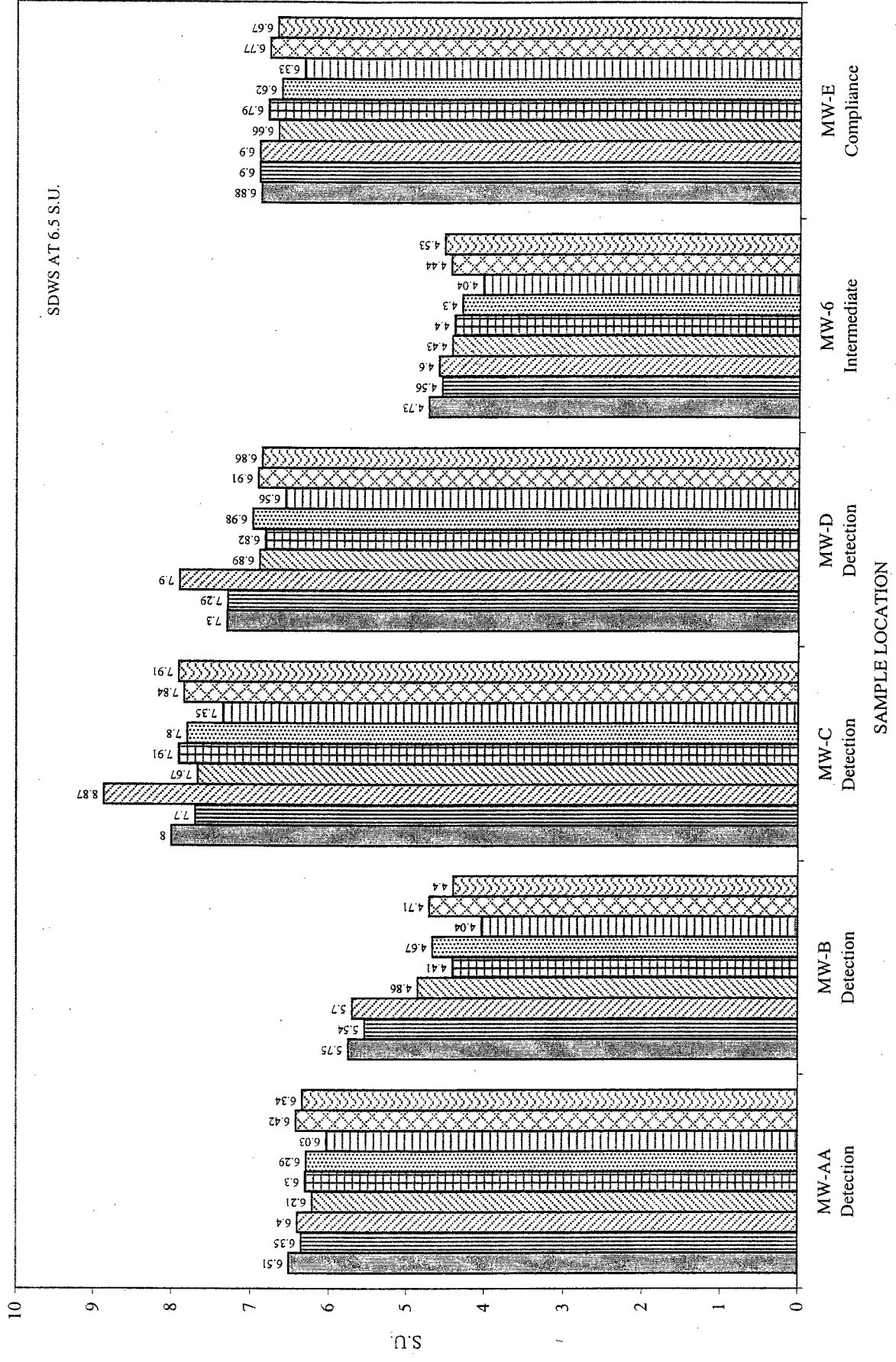
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pH (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

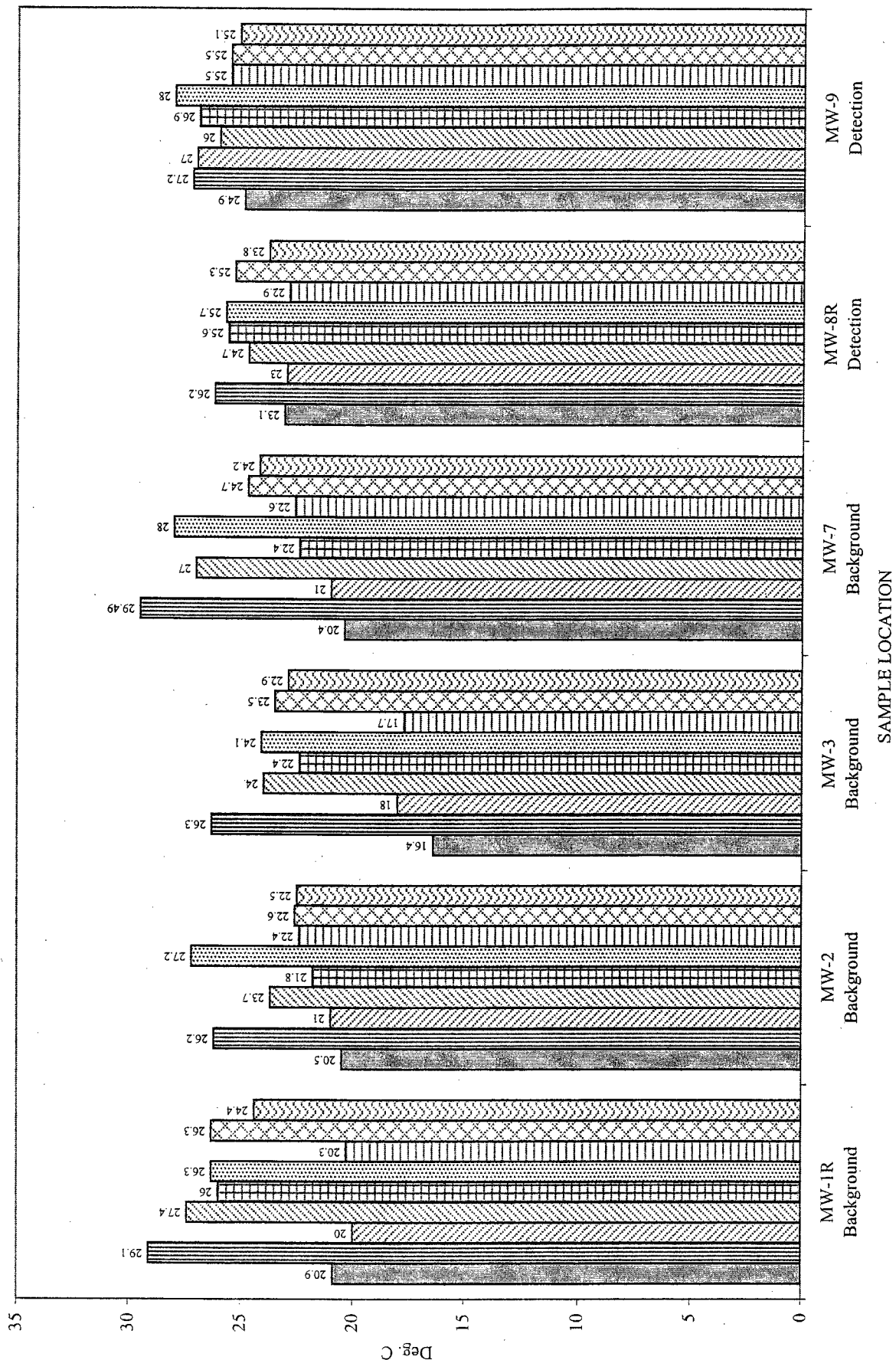


0 = BELOW LABORATORY DETECTION LIMIT

pH (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

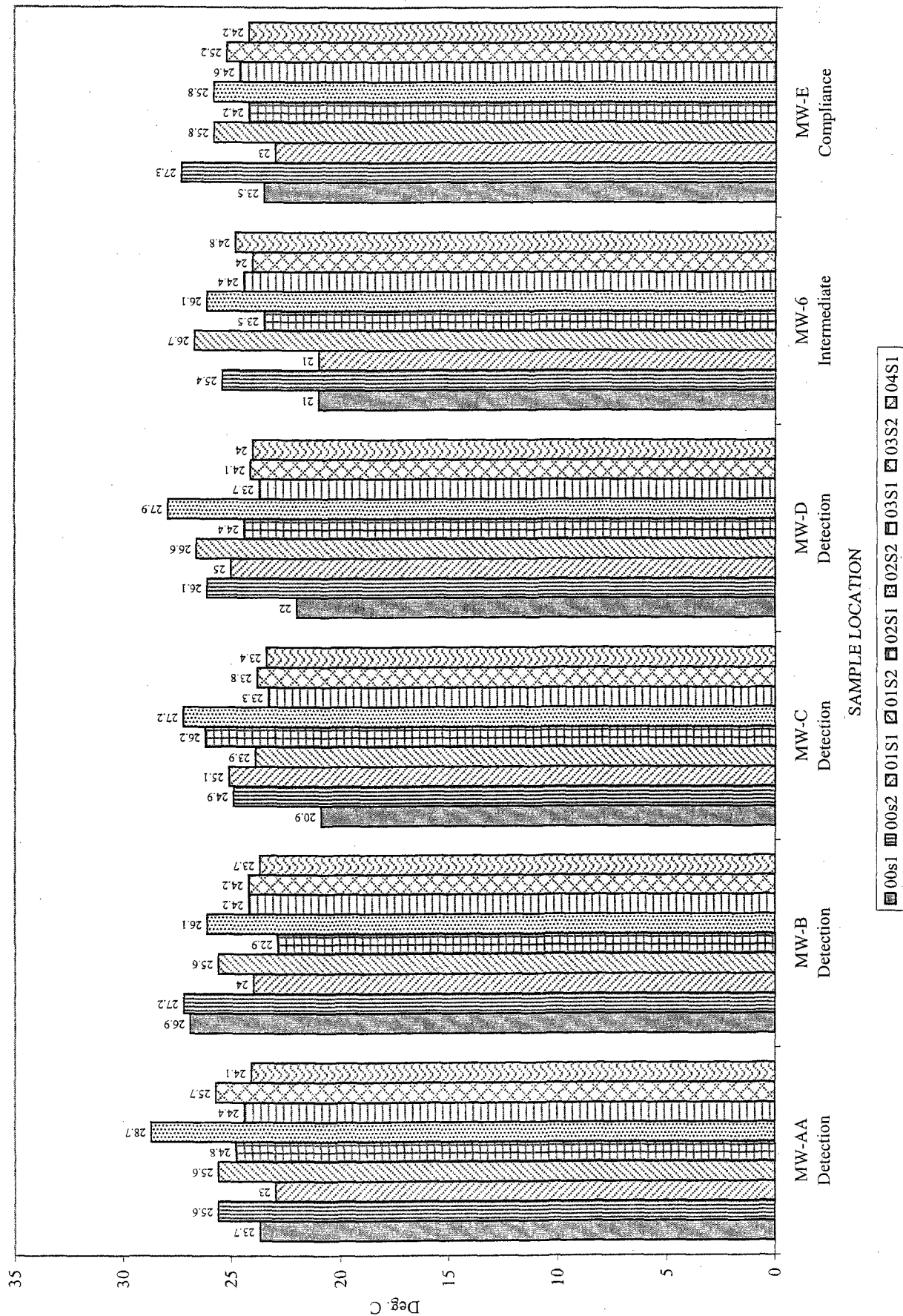


TEMPERATURE (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



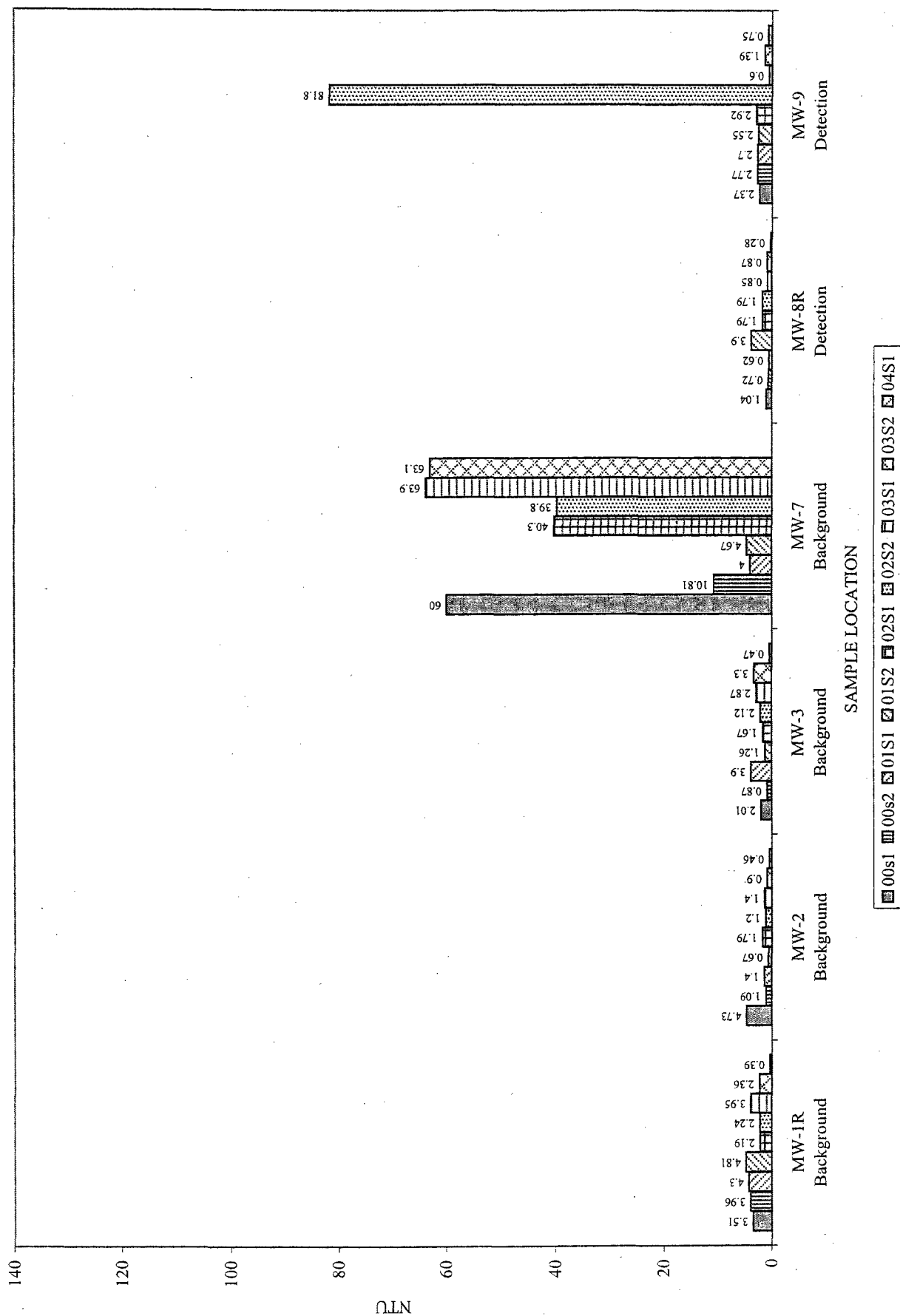
0 = BELOW LABORATORY DETECTION LIMIT

TEMPERATURE (FIELD) CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

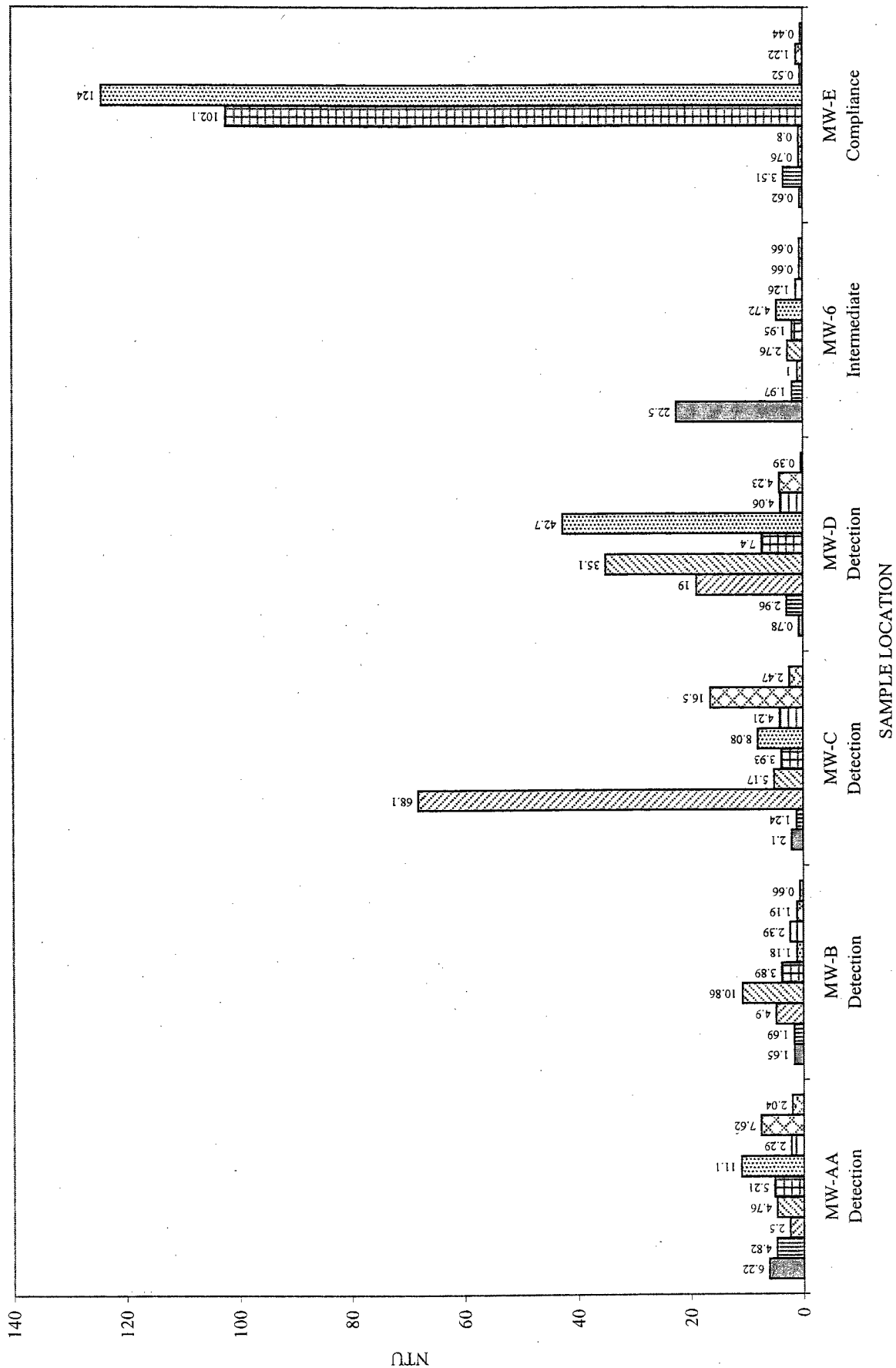


0 = BELOW LABORATORY DETECTION LIMIT

TURBIDITY (FIELD) **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



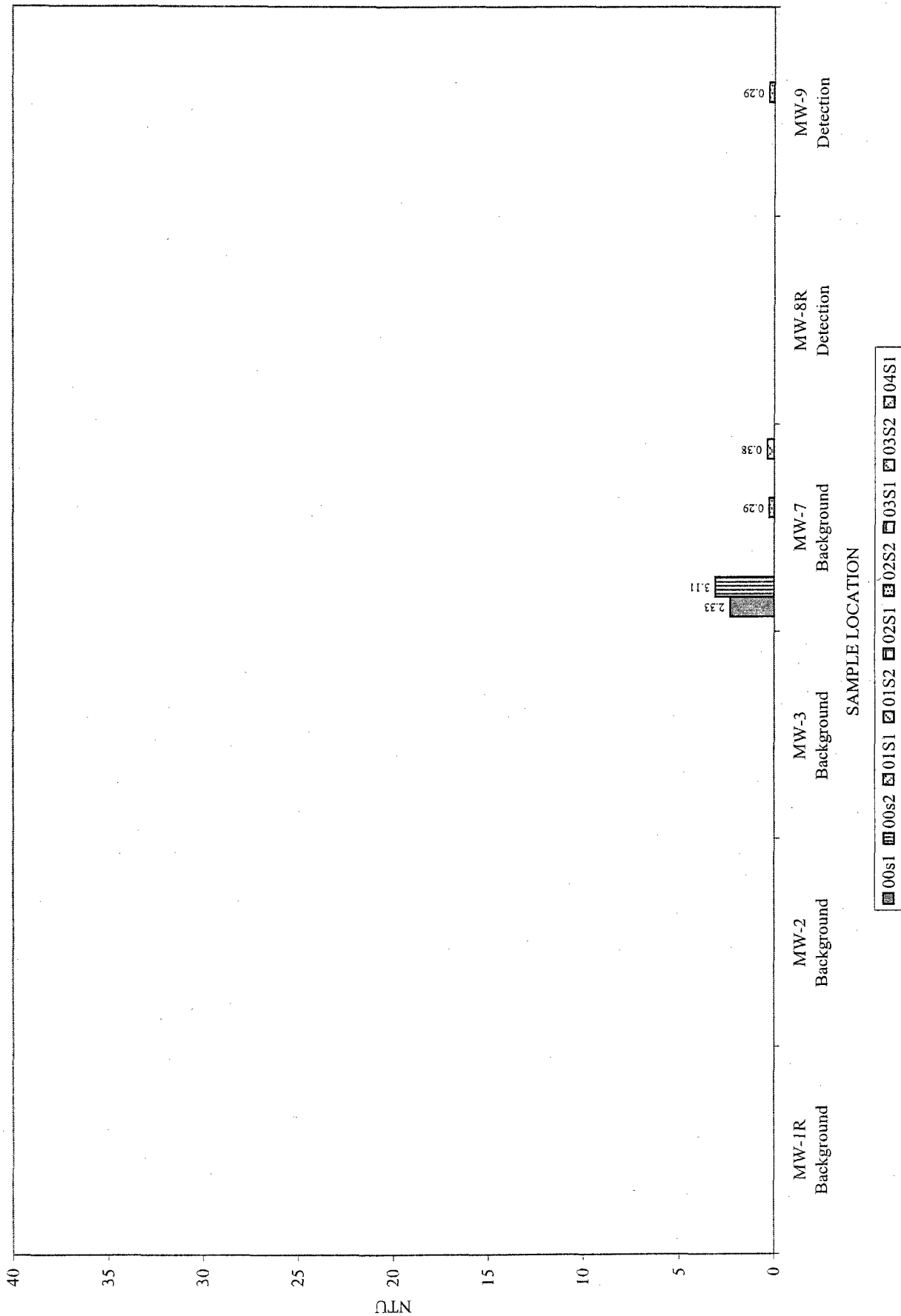
TURBIDITY (FIELD) **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



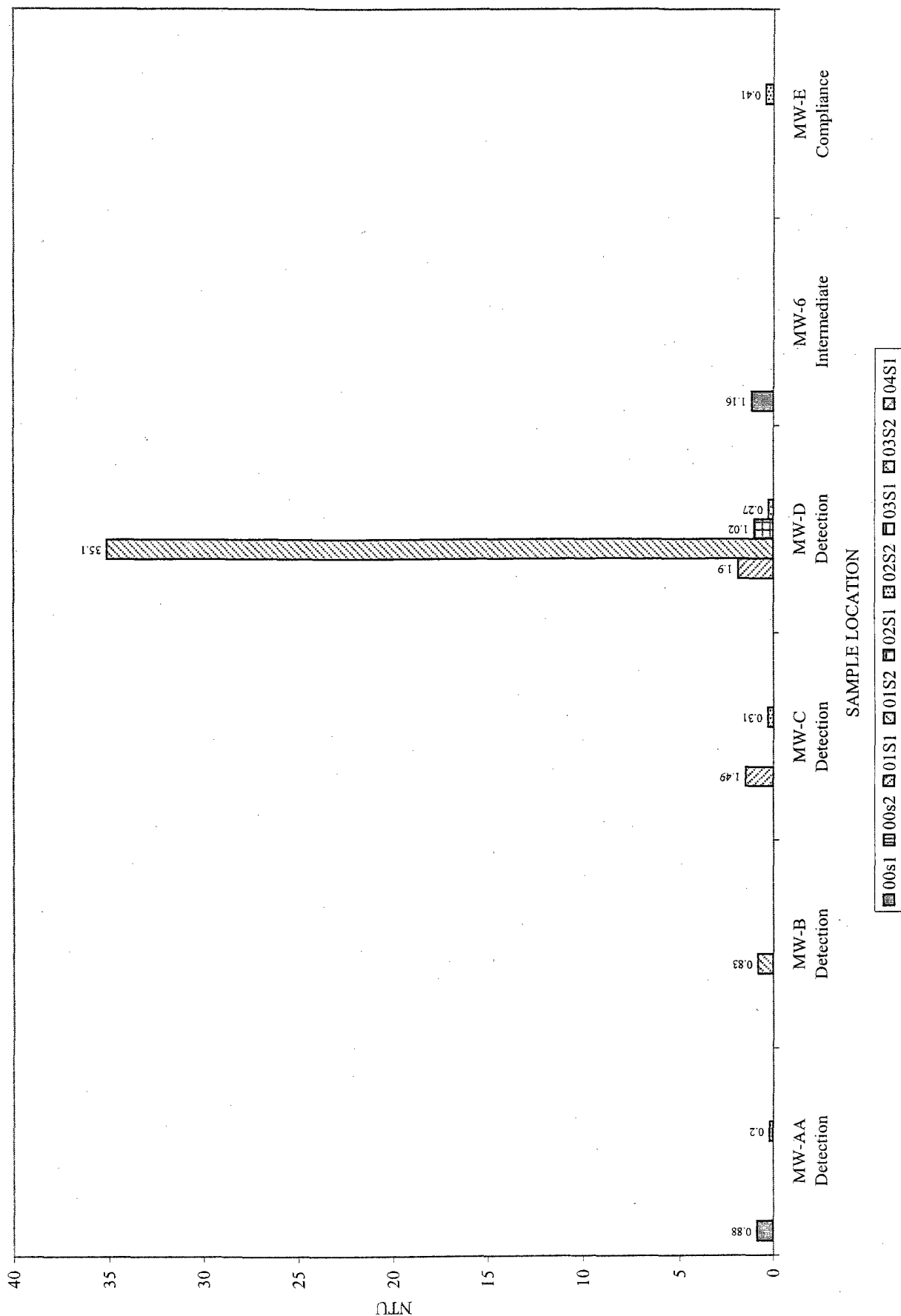
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0 = BELOW LABORATORY DETECTION LIMIT

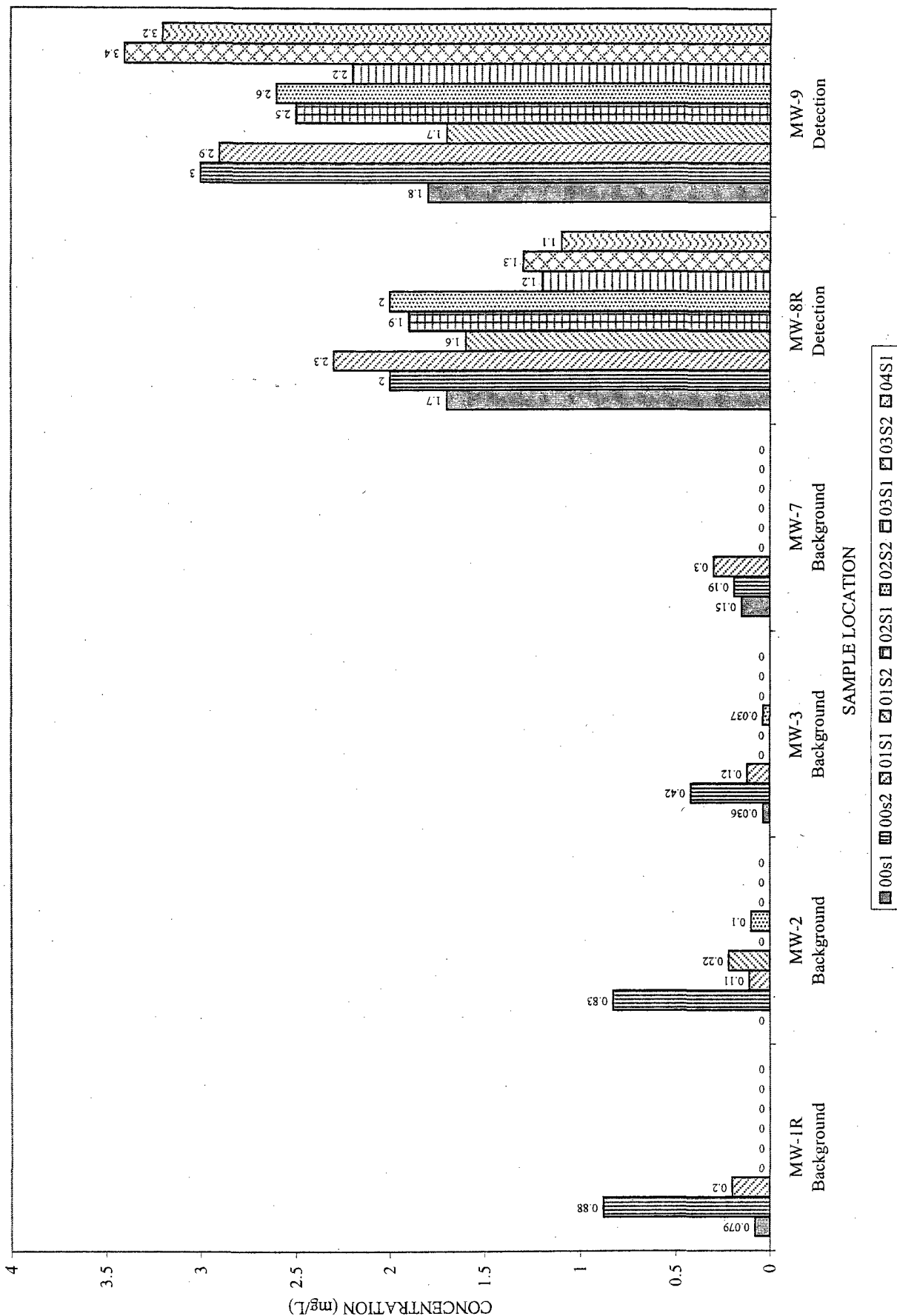
TURBIDITY, FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



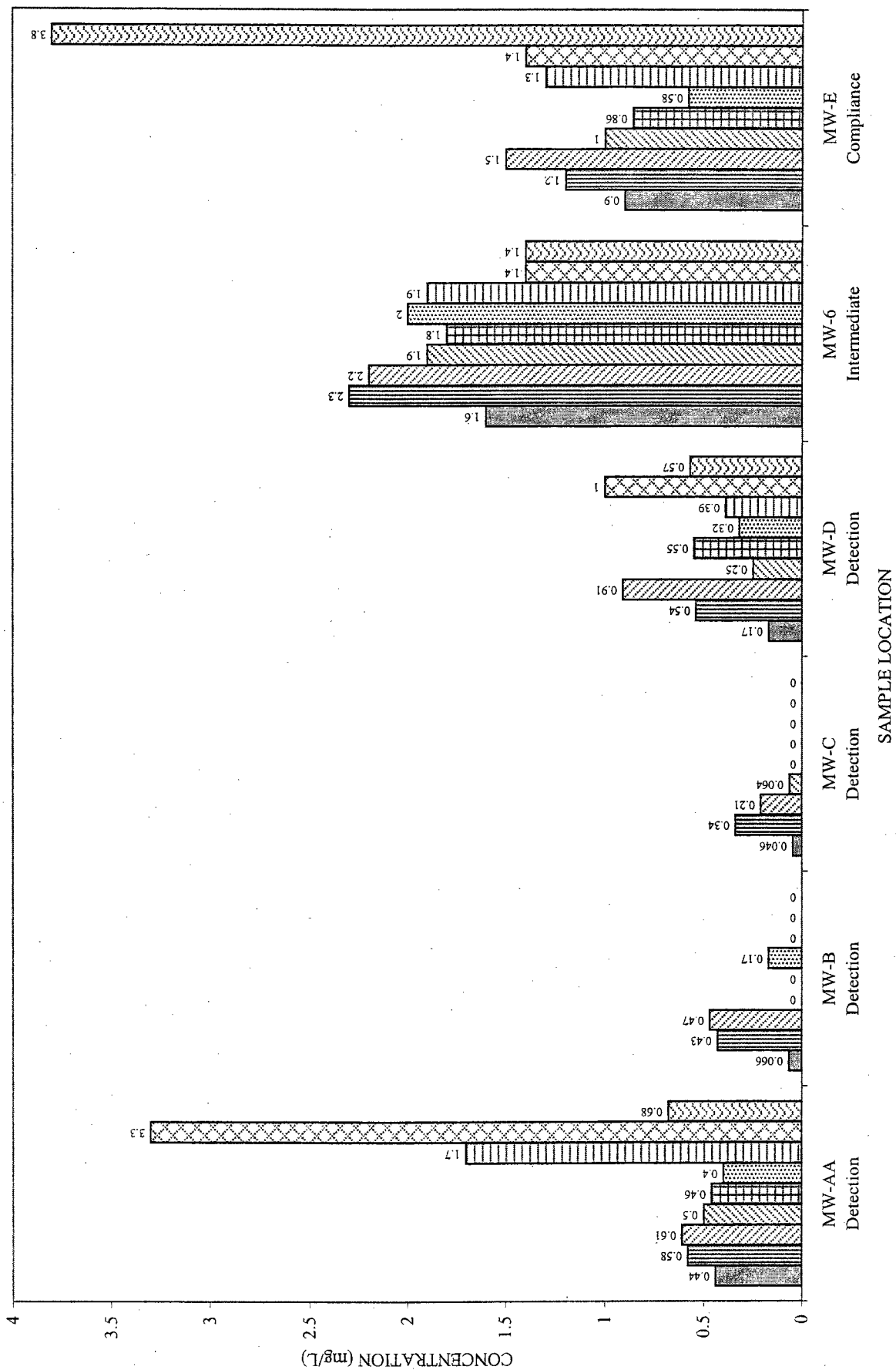
TURBIDITY, FILTERED **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



AMMONIA NITROGEN CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



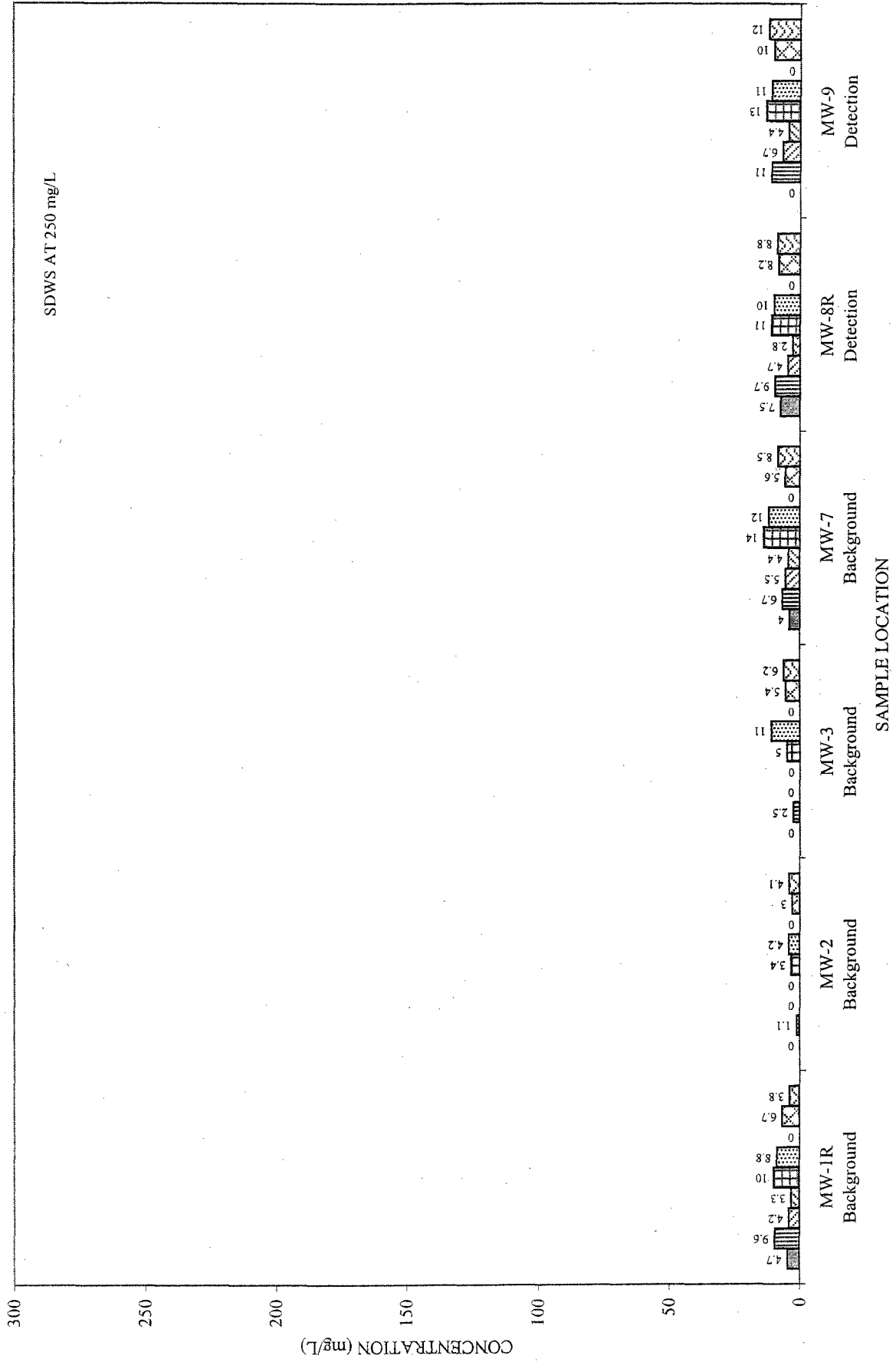
AMMONIA NITROGEN CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

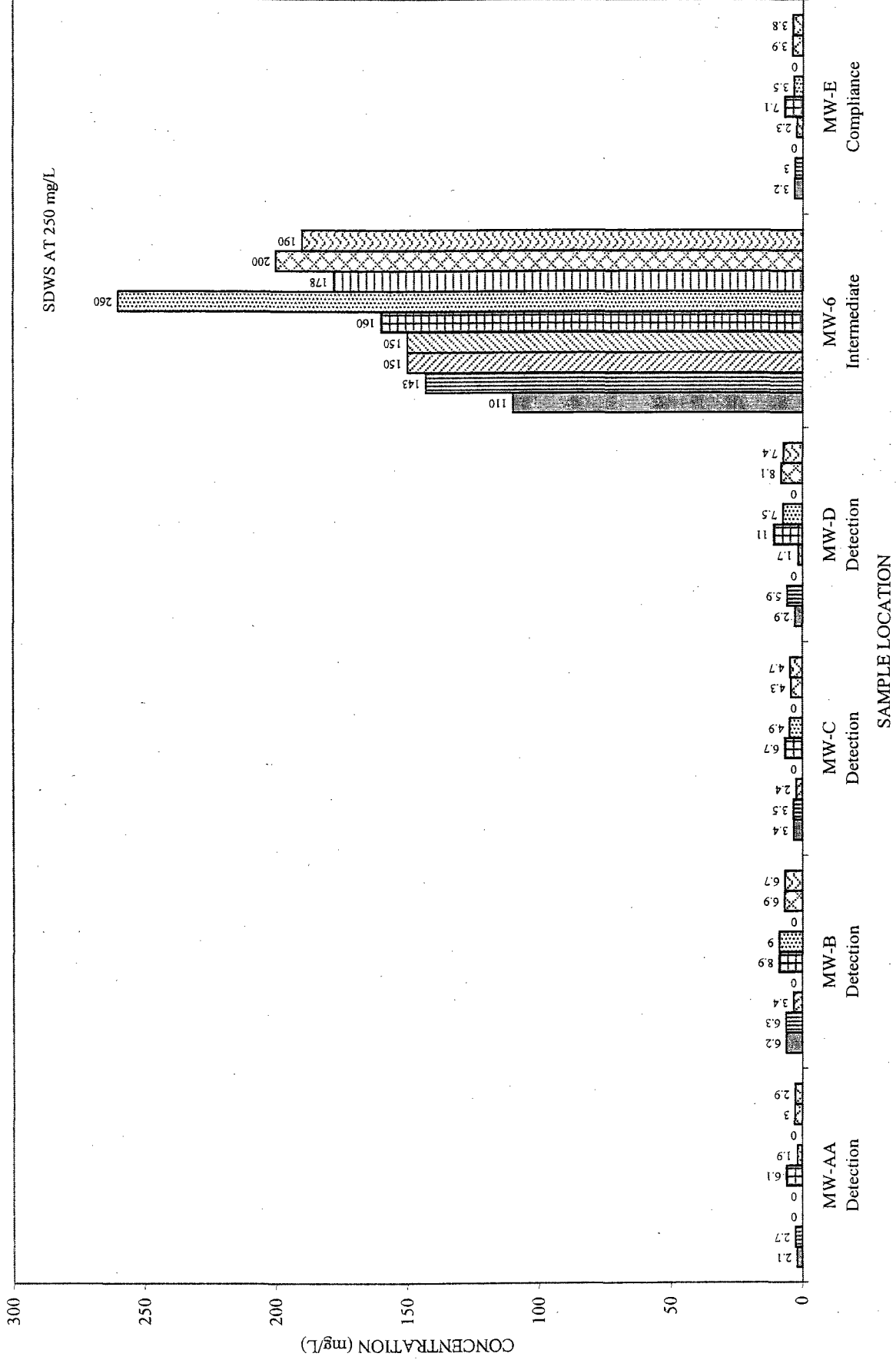
CHLORIDE

CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



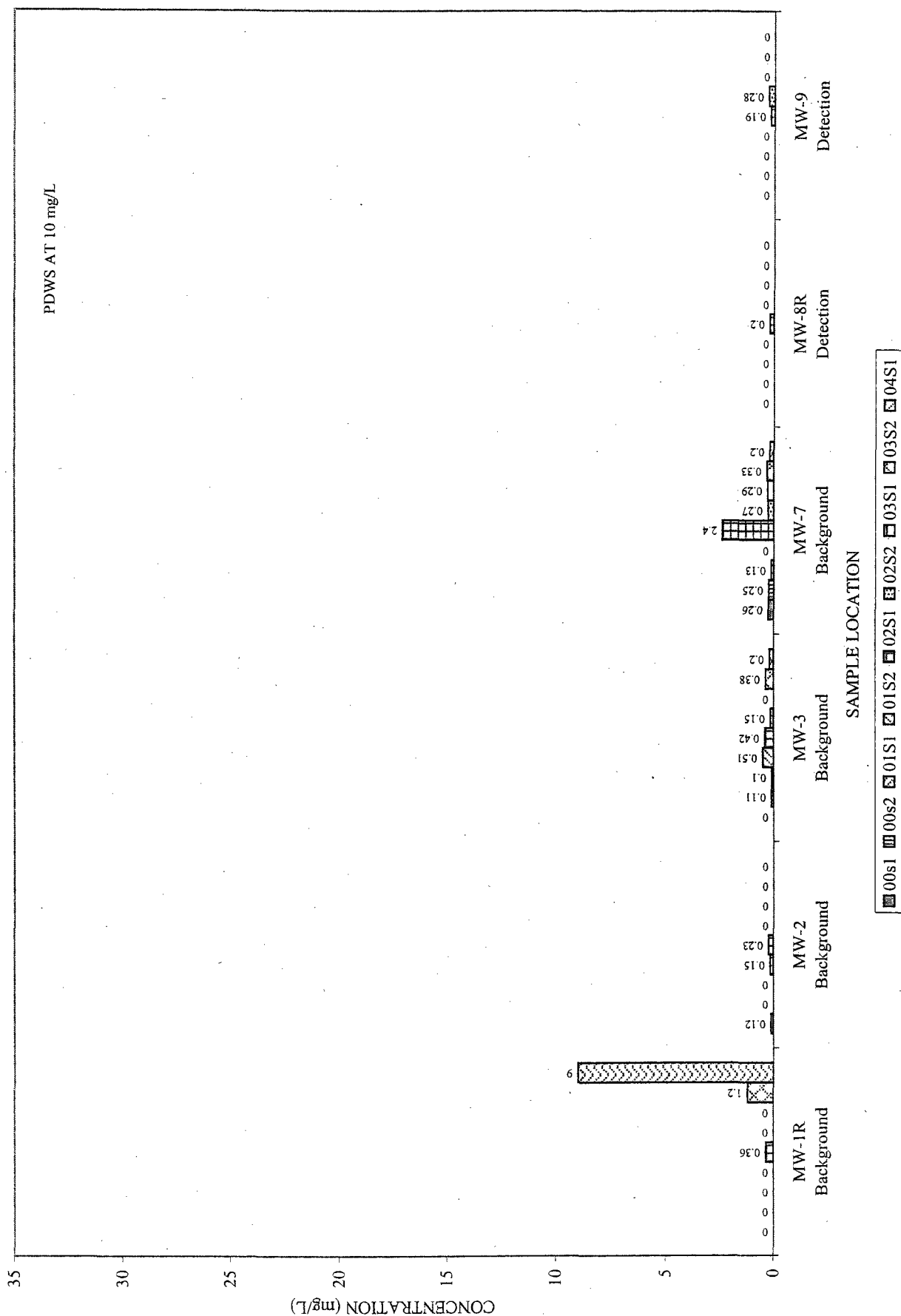
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CHLORIDE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



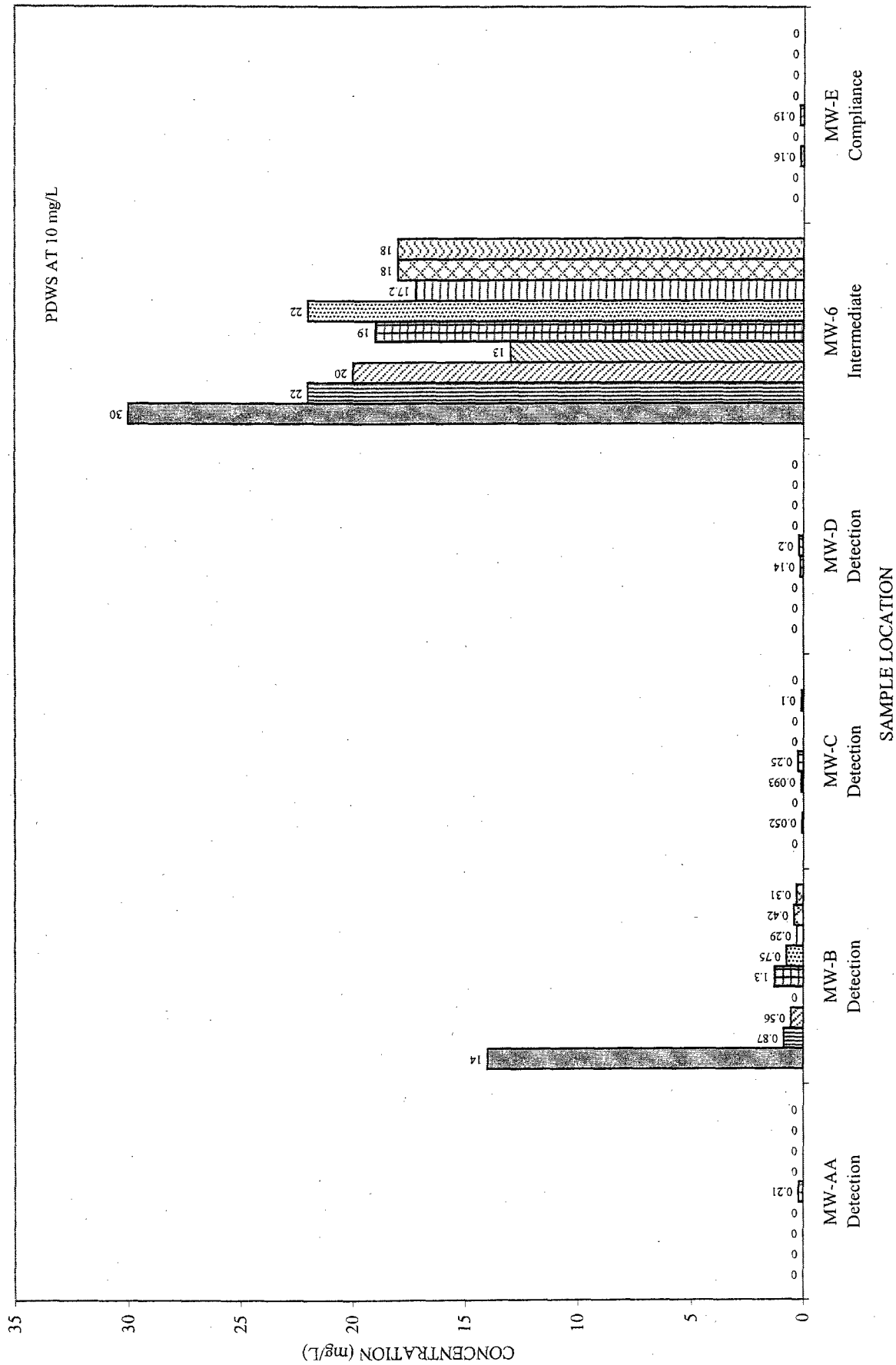
0 = BELOW LABORATORY DETECTION LIMIT

NITRATE NITROGEN CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

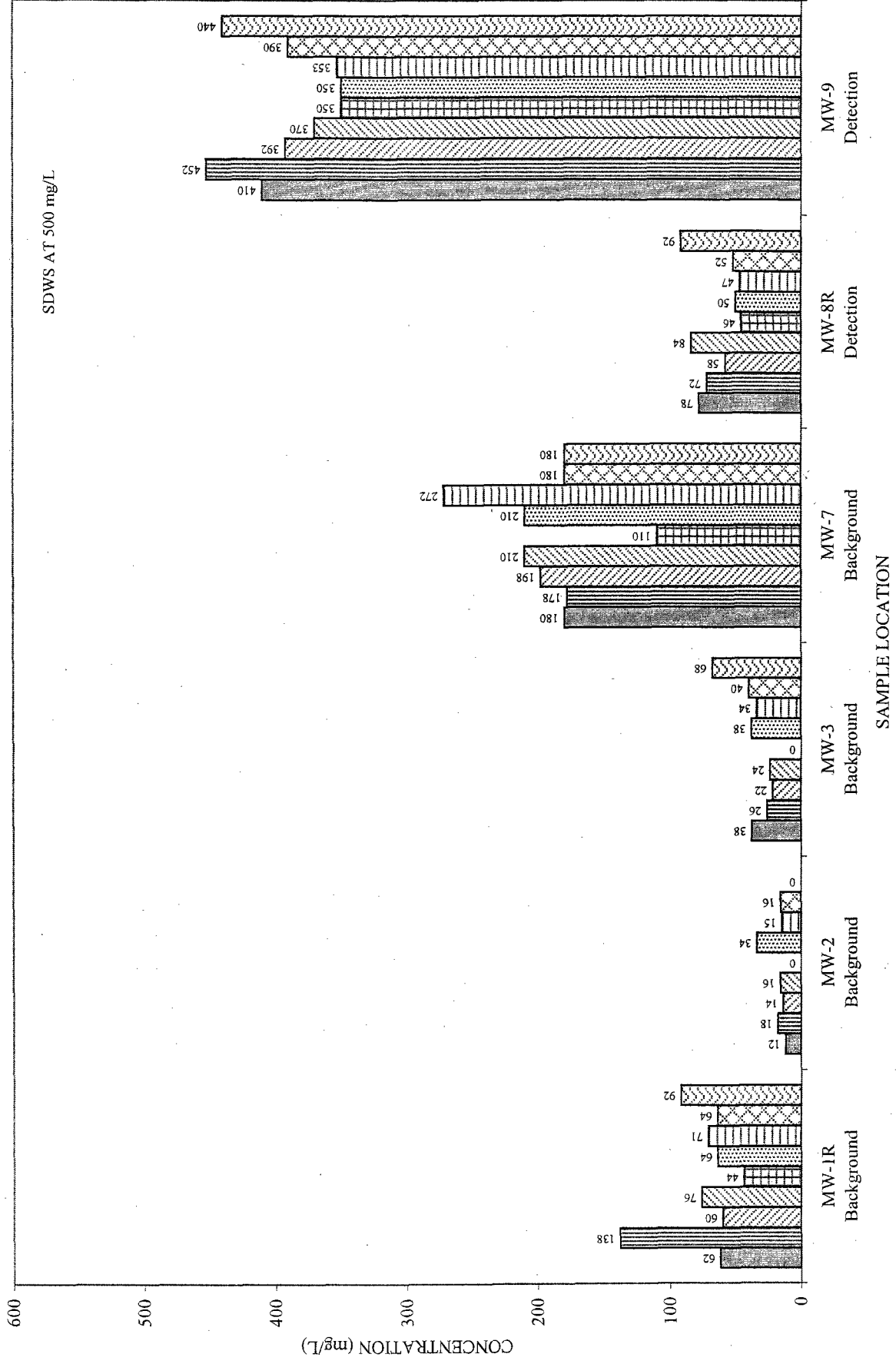
NITRATE NITROGEN CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

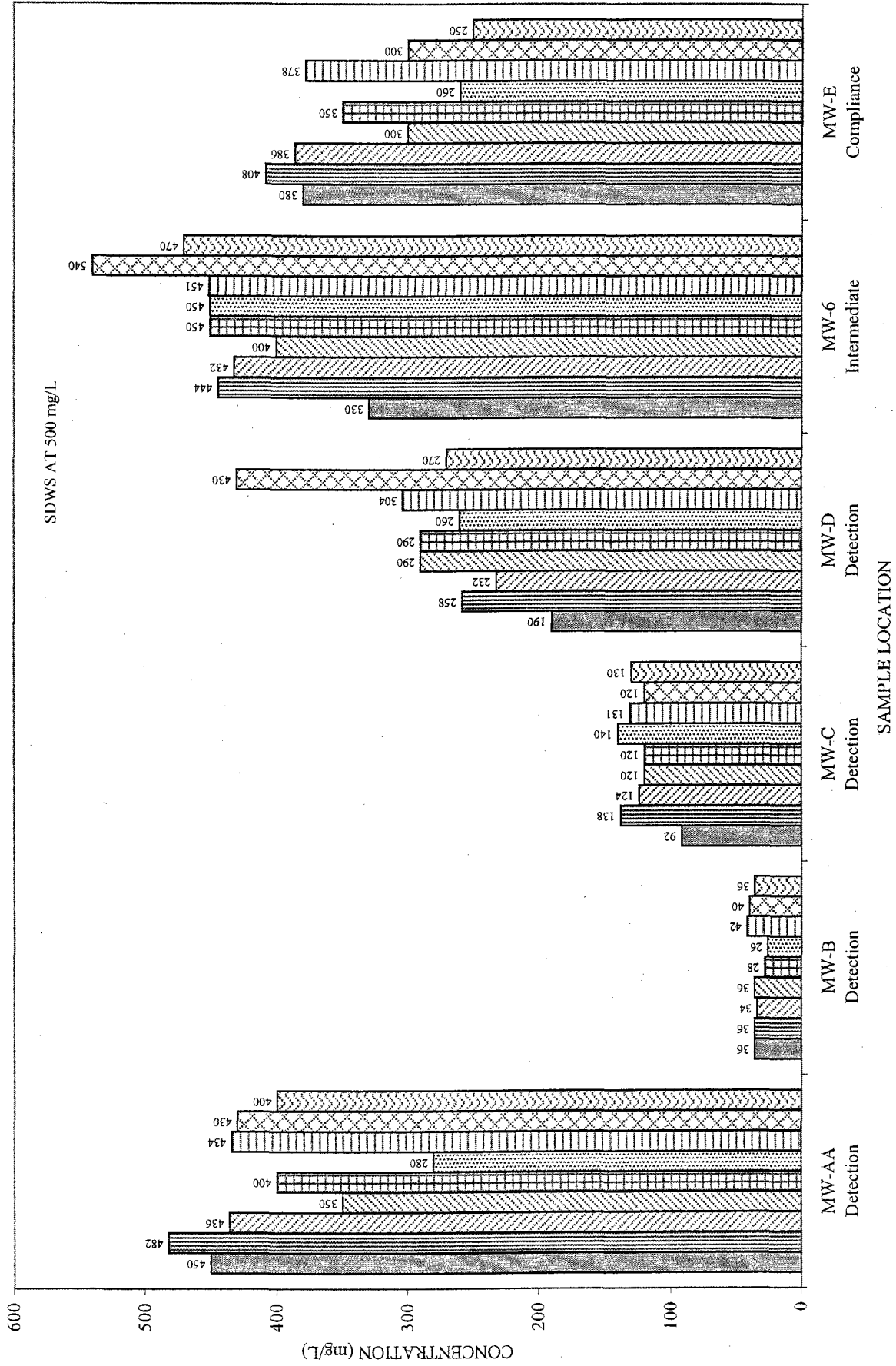
TOTAL DISSOLVED SOLIDS CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



Legend: 00s1, 00s2, 01S1, 01S2, 02S1, 02S2, 03S1, 03S2, 04S1

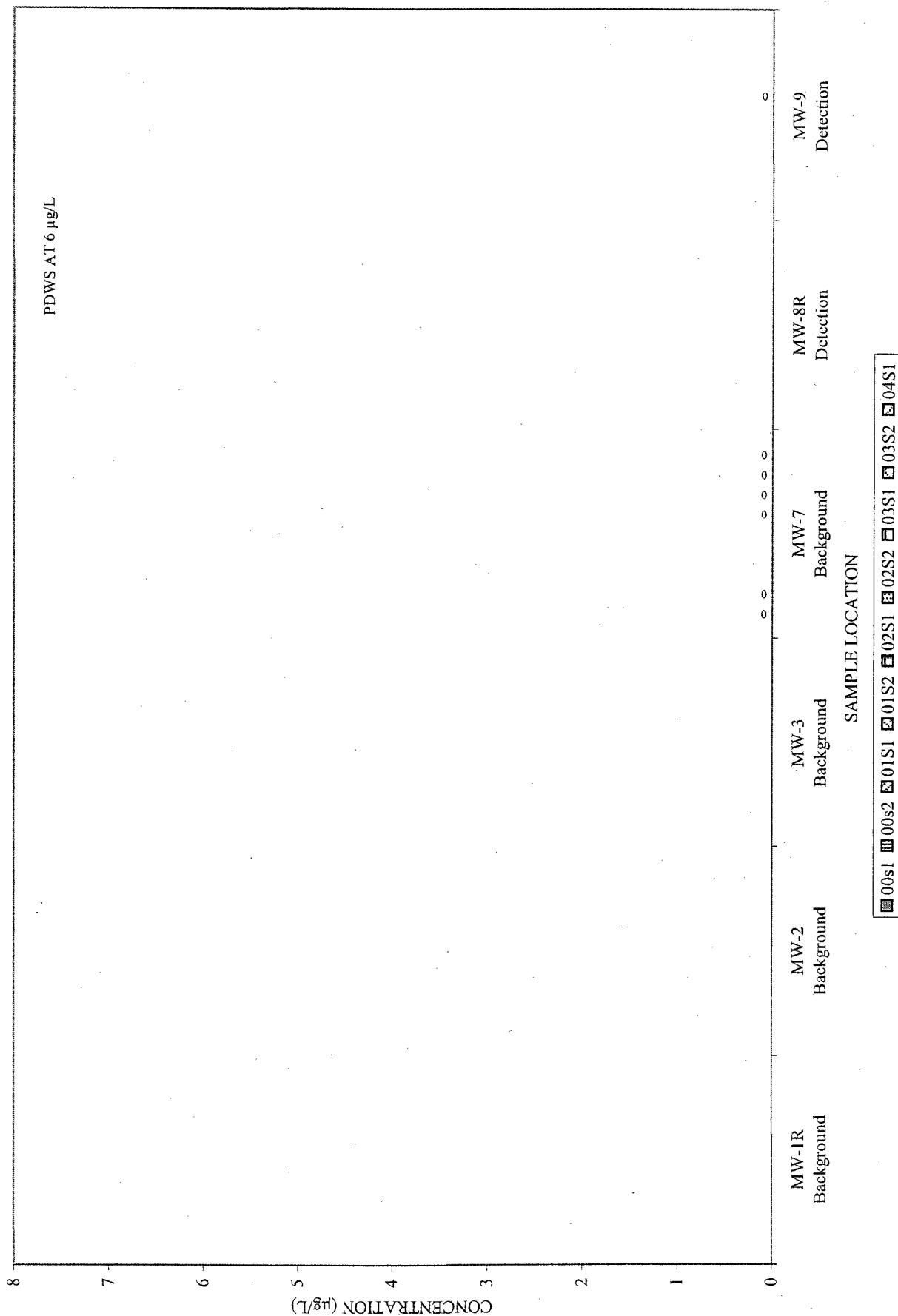
0 = BELOW LABORATORY DETECTION LIMIT

TOTAL DISSOLVED SOLIDS CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



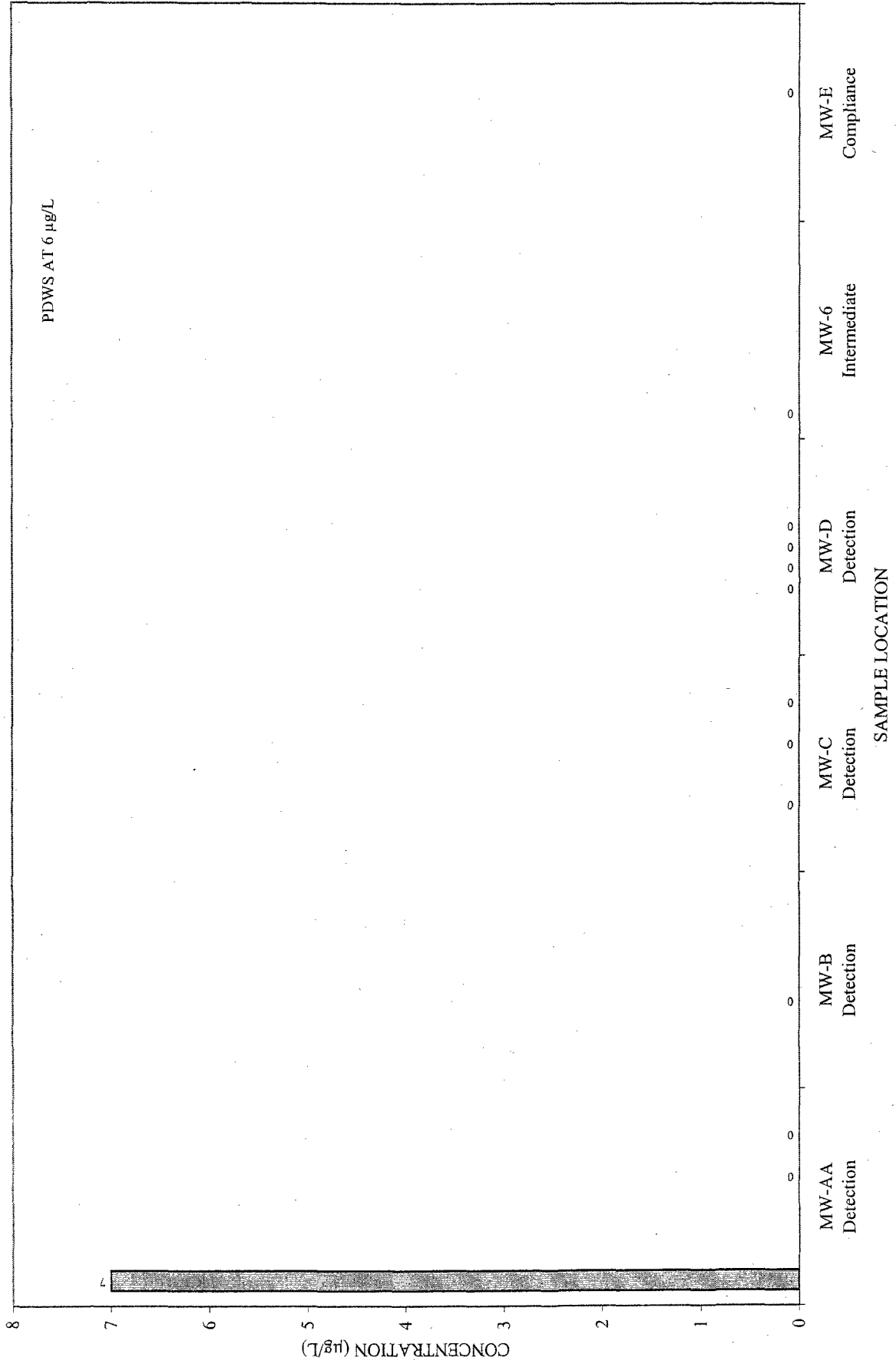
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ANTIMONY: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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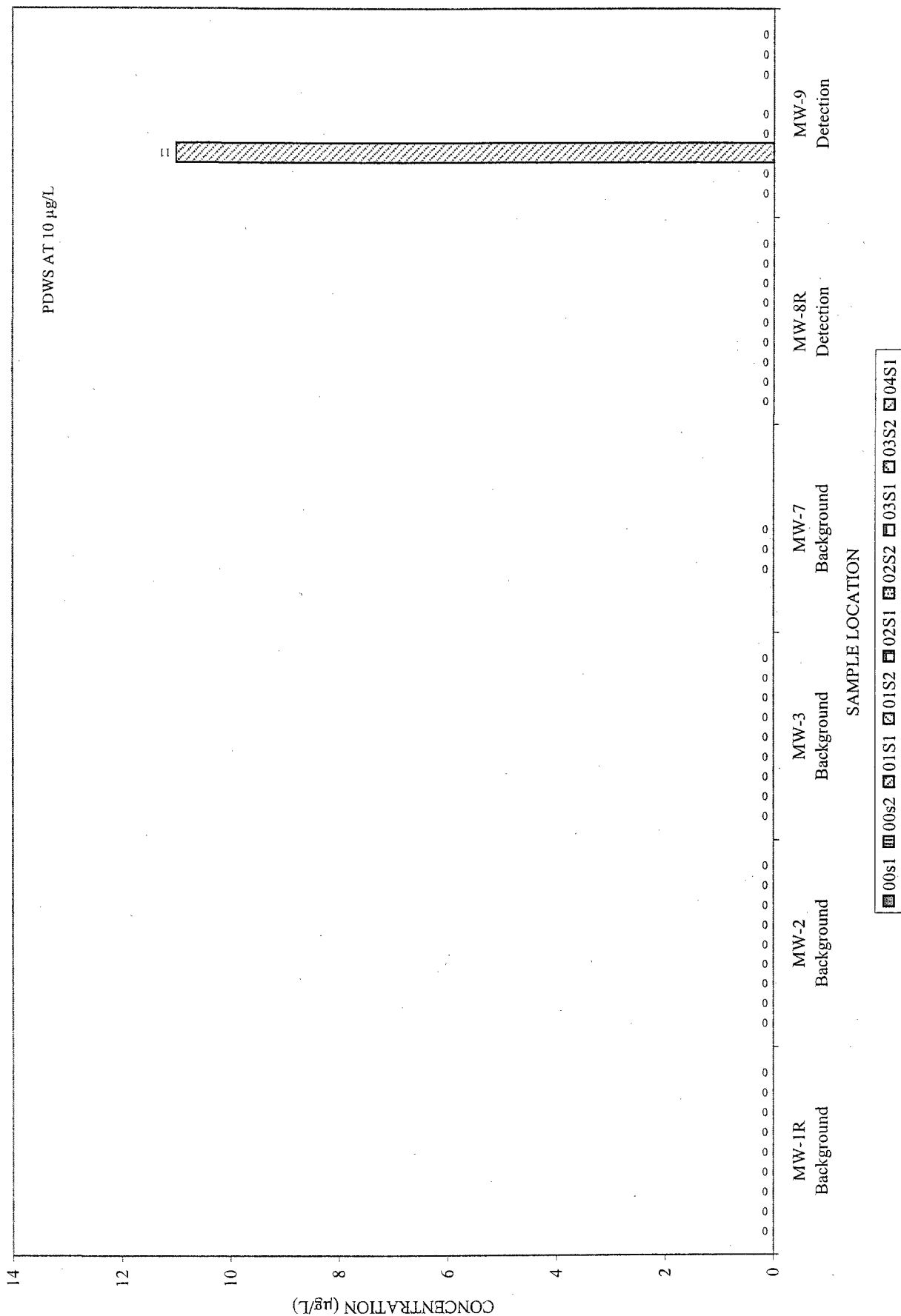
ANTIMONY: FILTERED
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



00s1
 00s2
 01S1
 01S2
 02S1
 02S2
 03S1
 03S2
 04S1

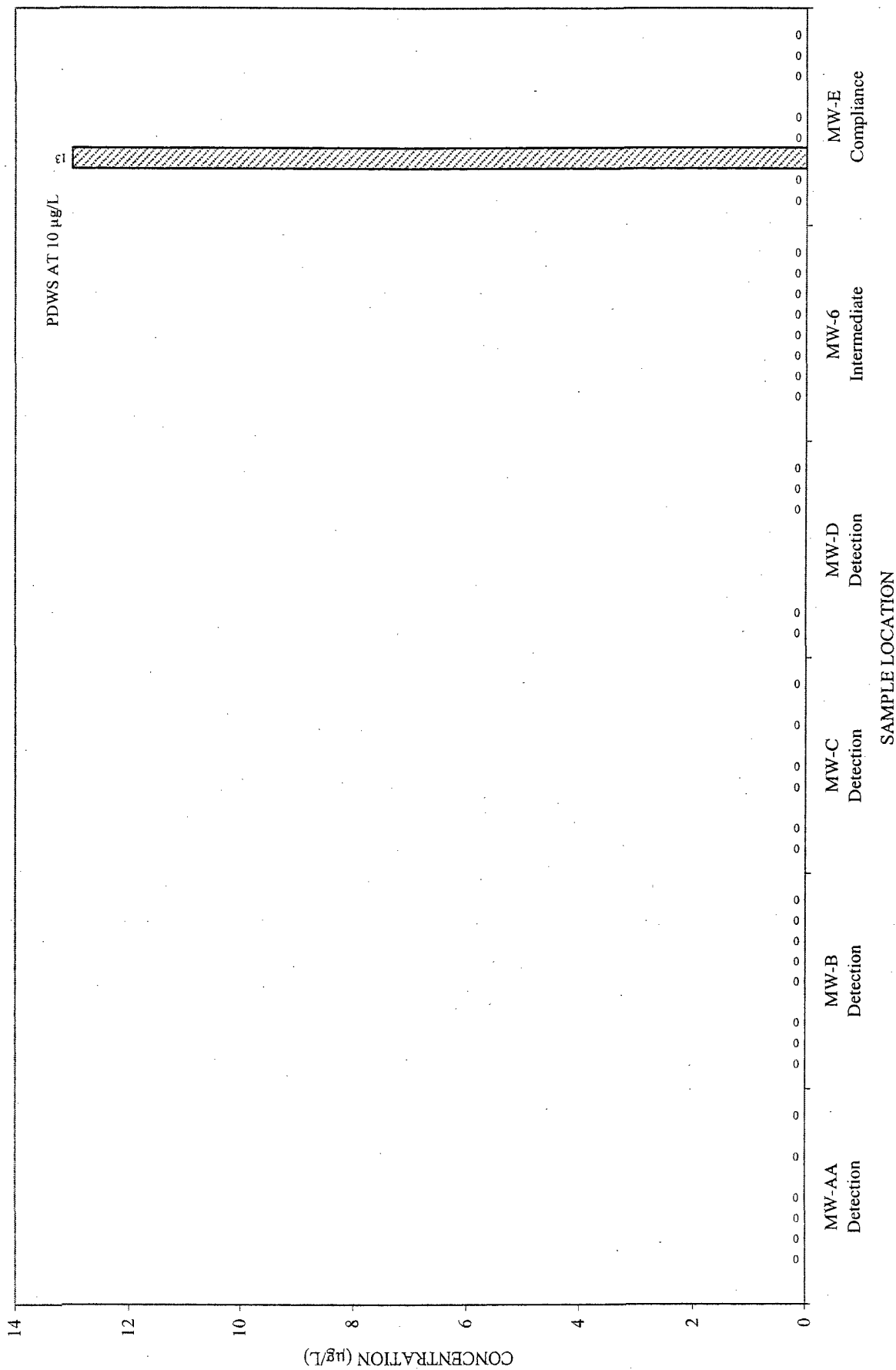
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ARSENIC CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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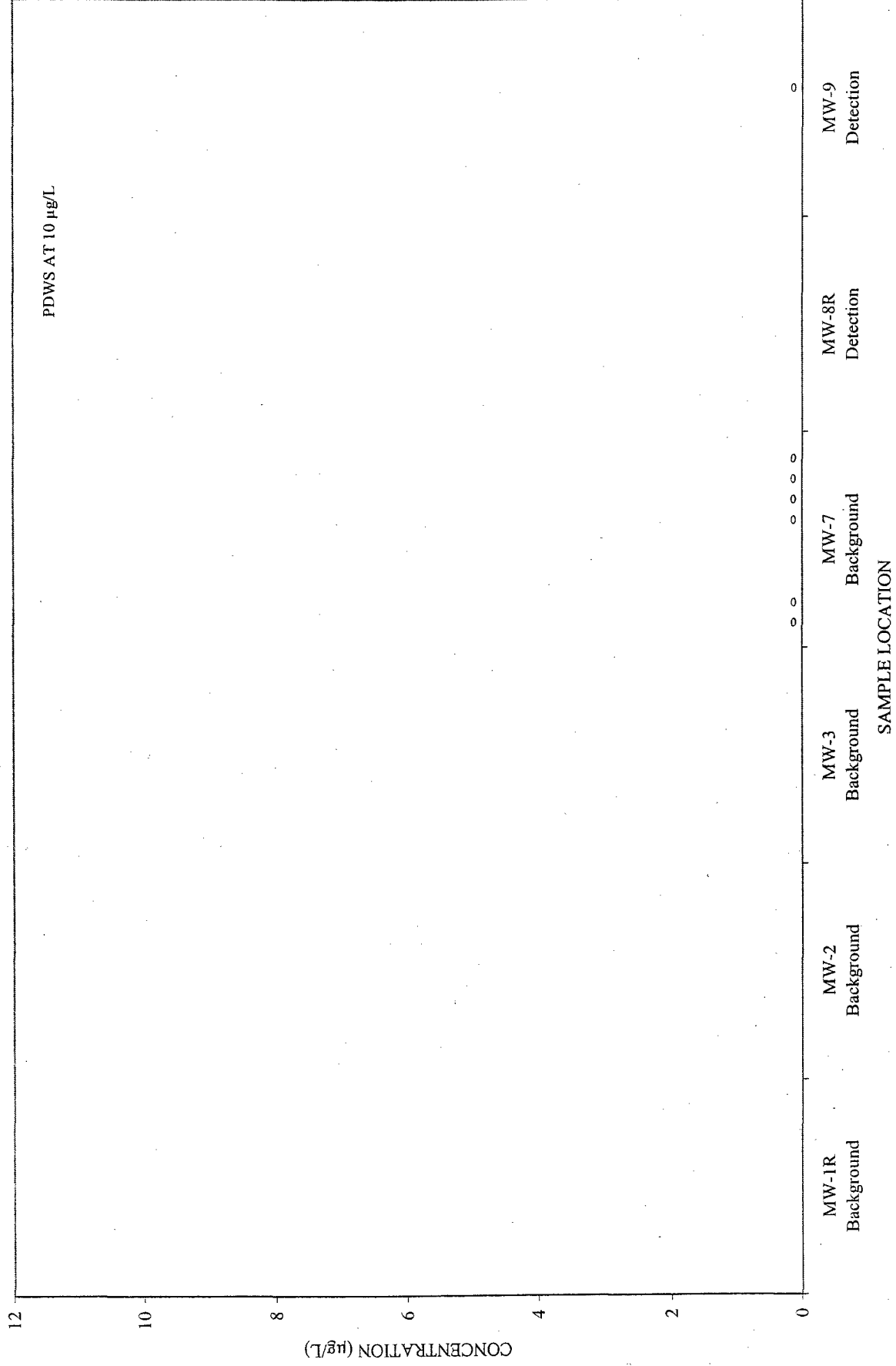
ARSENIC CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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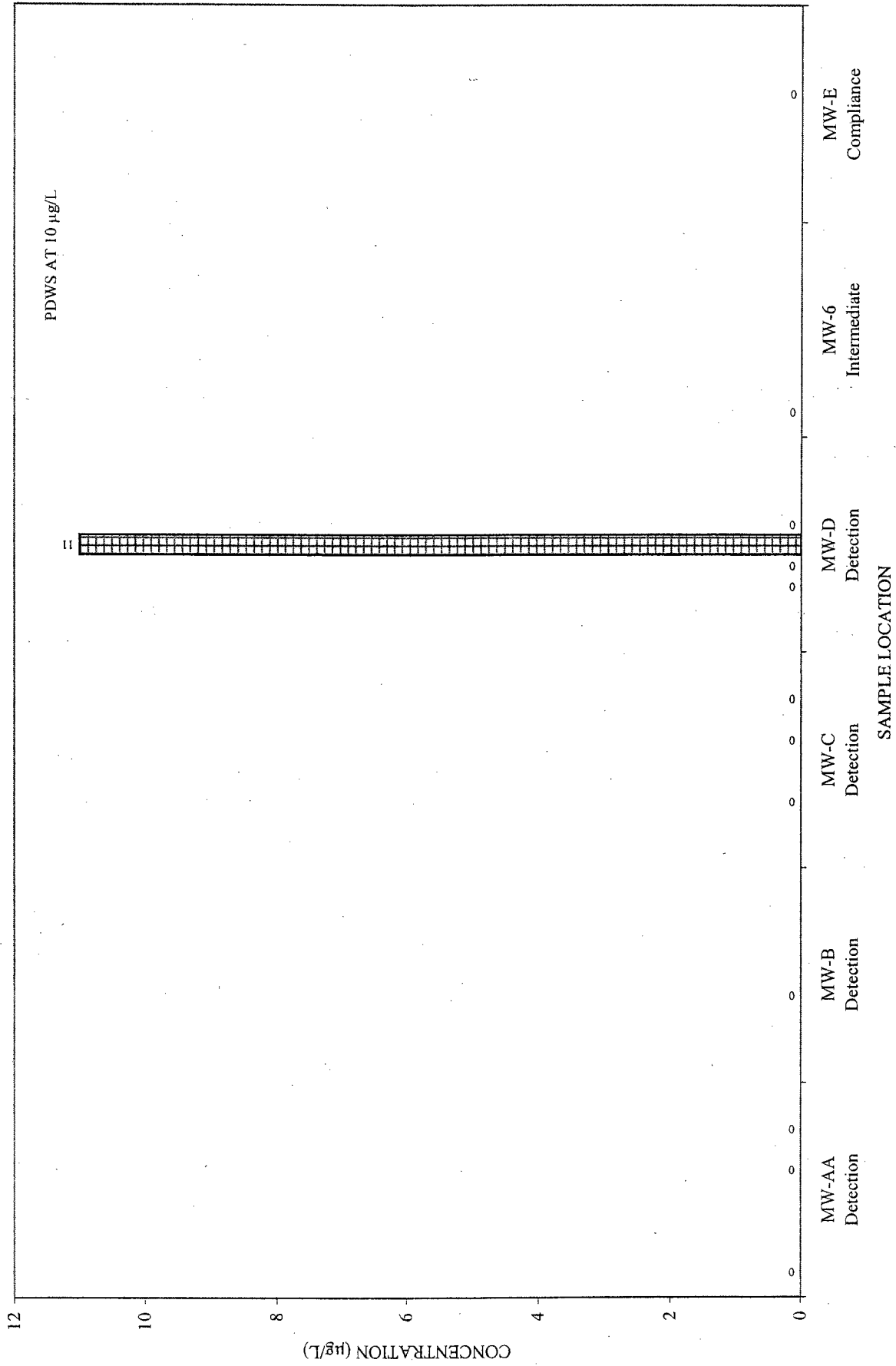
ARSENIC: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

ARSENIC: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

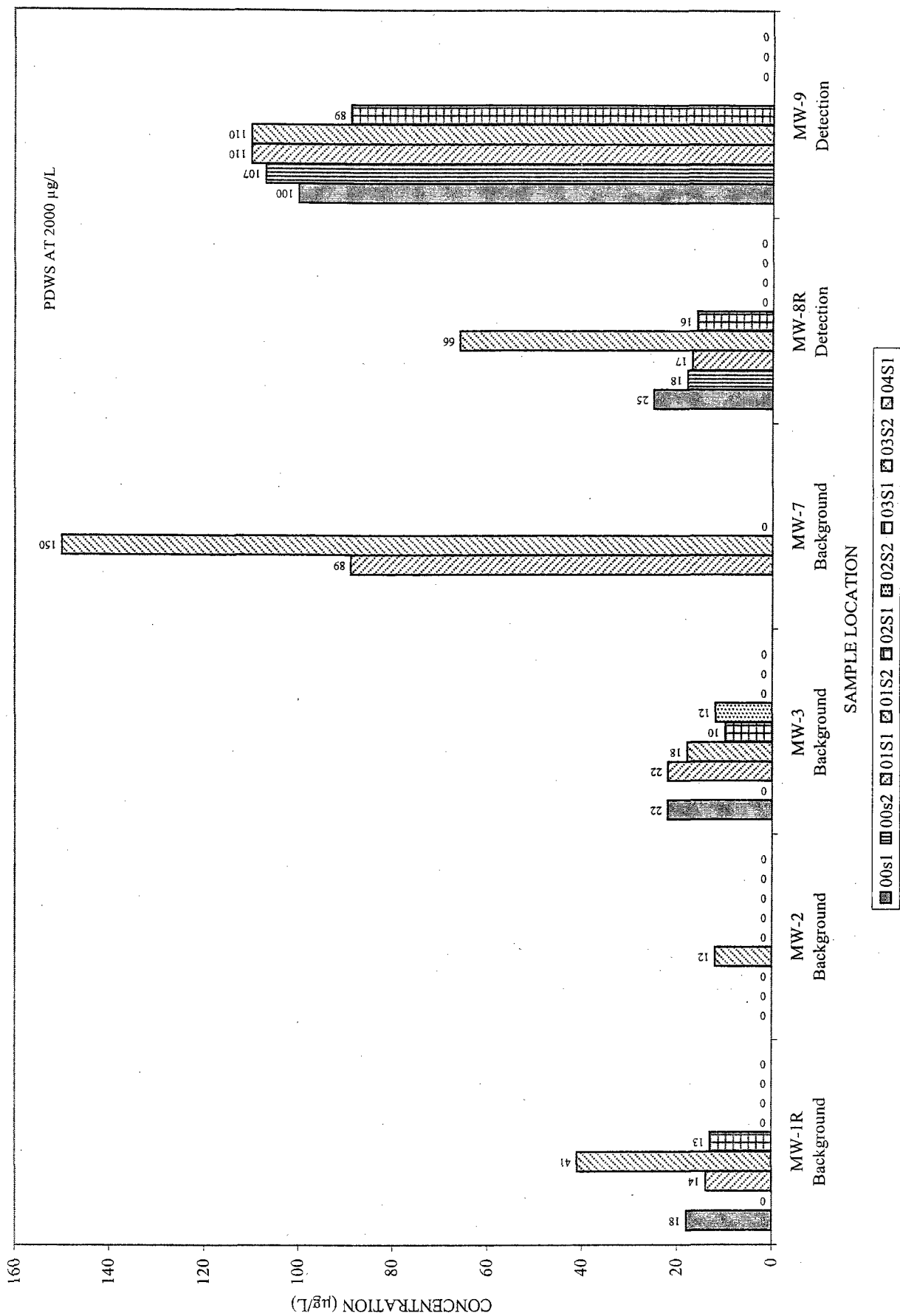
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CITRUS COUNTY CENTRAL LANDFILL

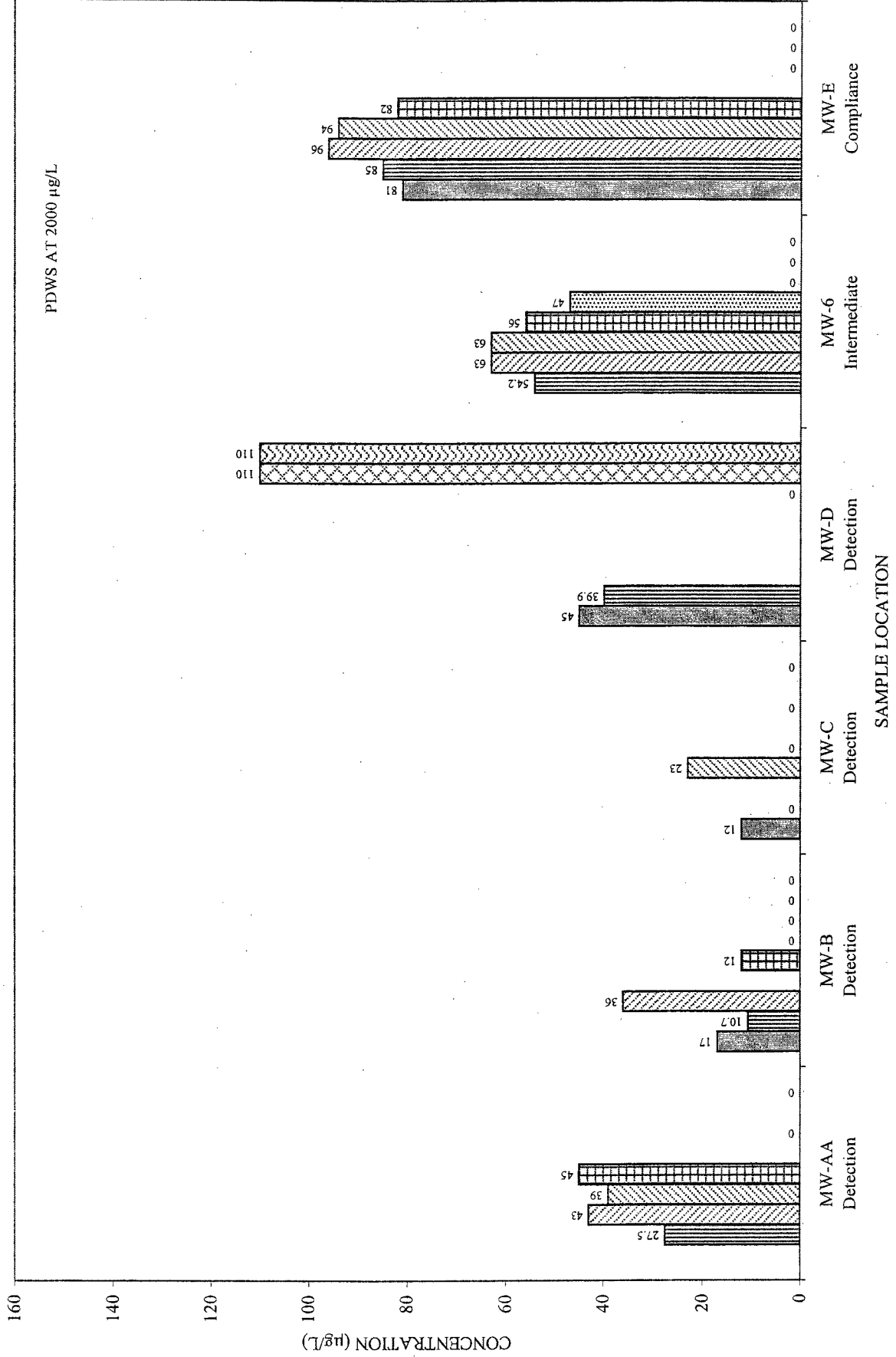
GROUNDWATER CHEMISTRY GRAPH



BARIUM

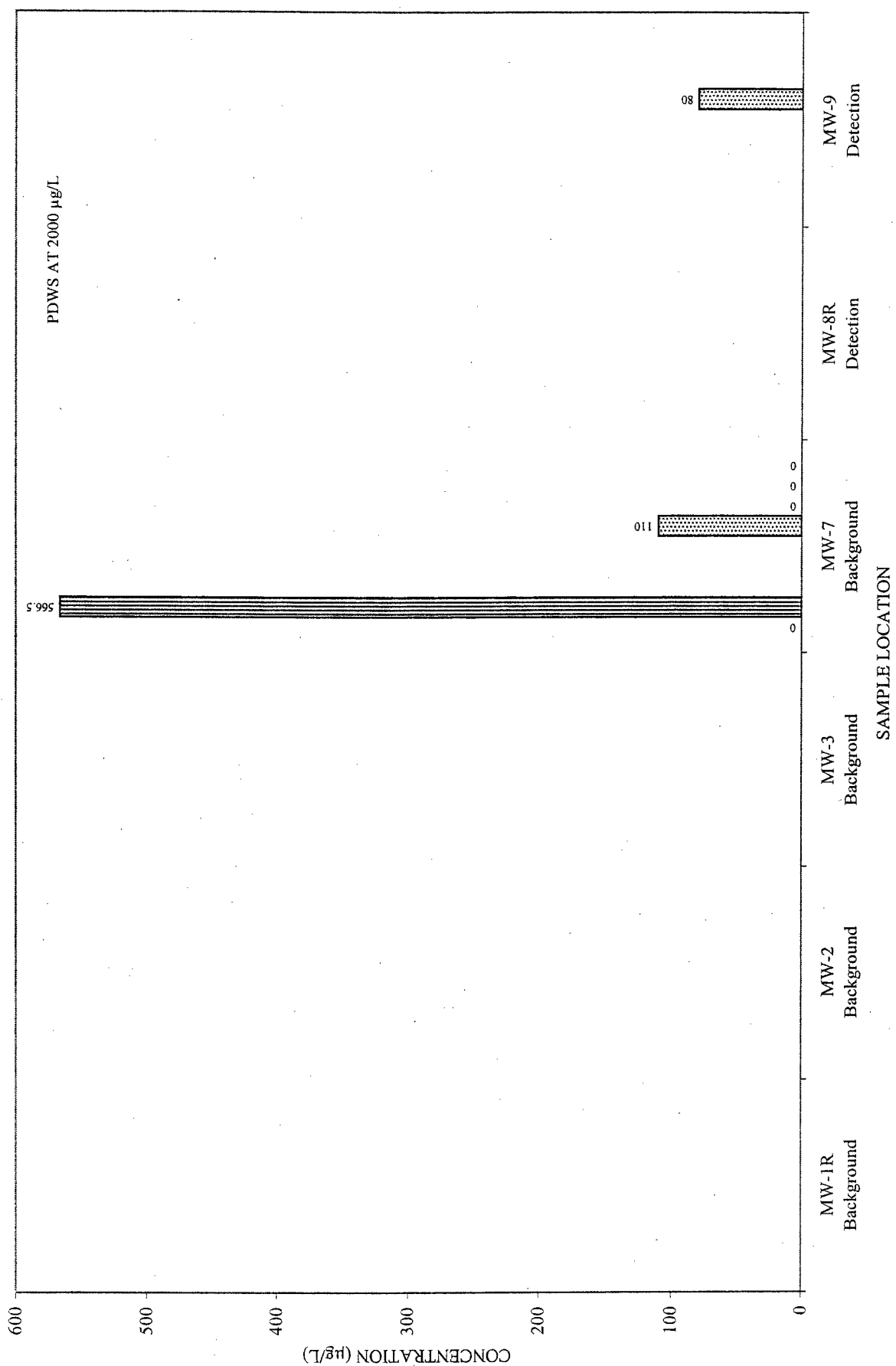
CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH



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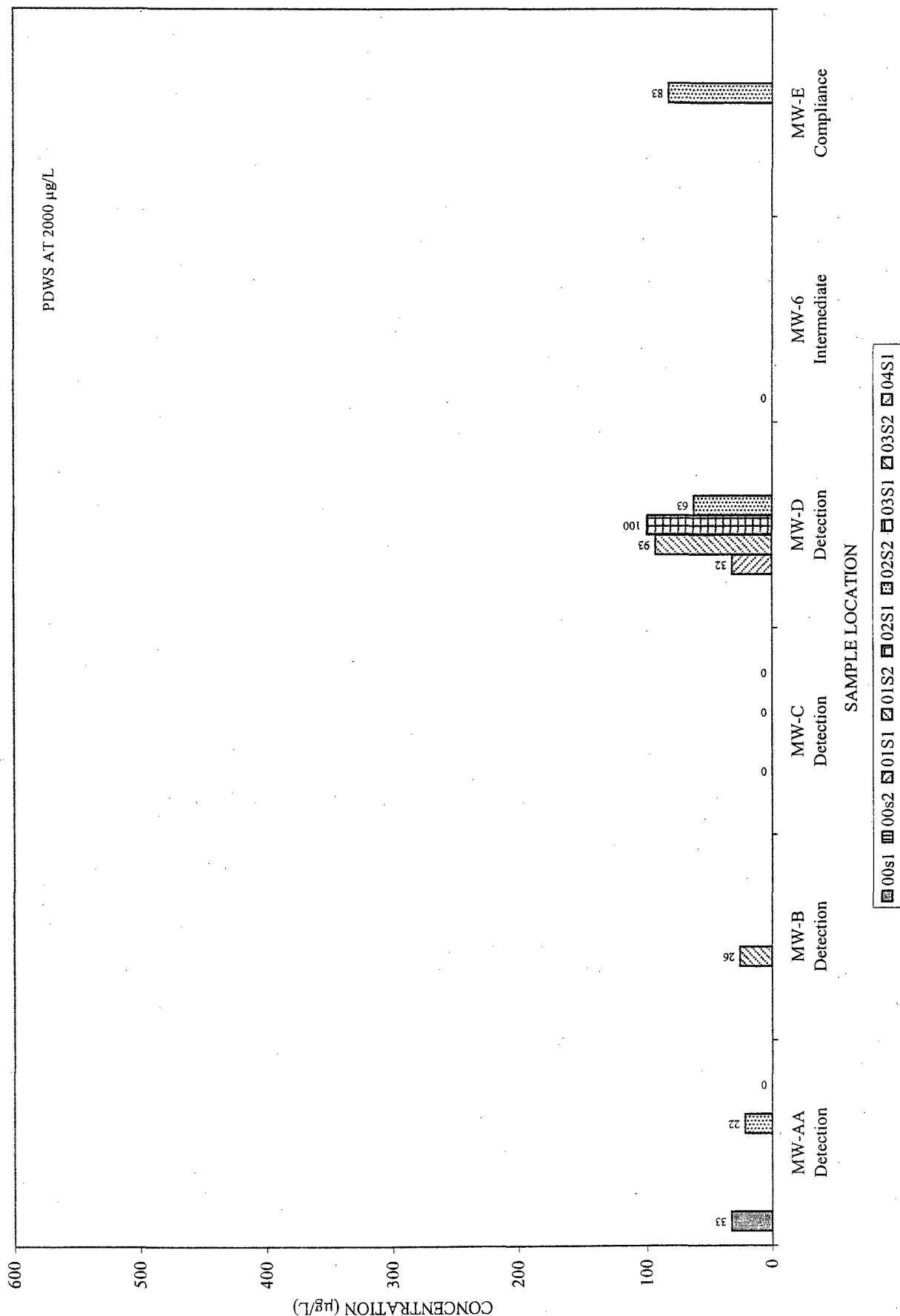
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00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

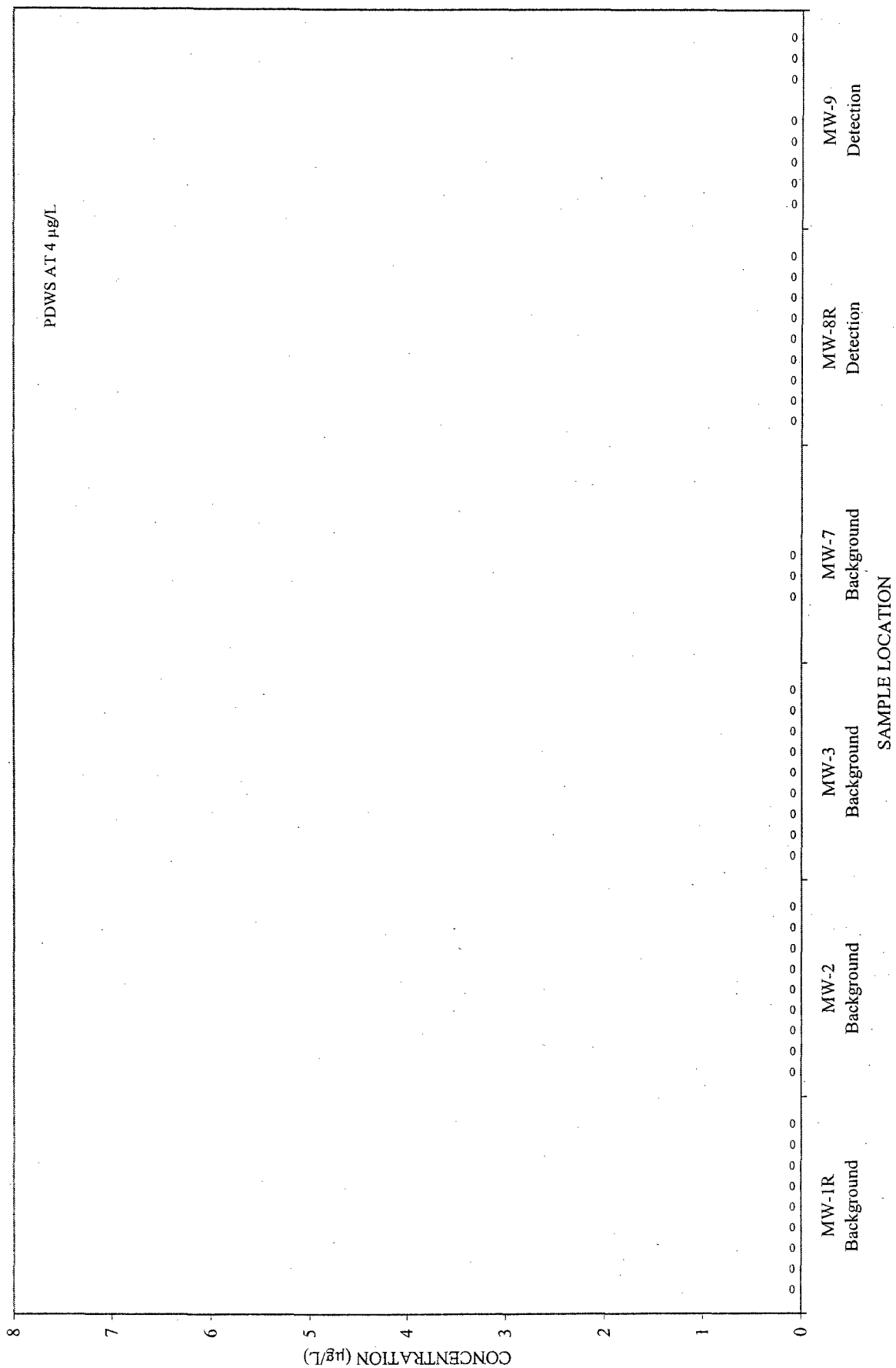
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BARIUM: FILTERED **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



BERYLLIUM

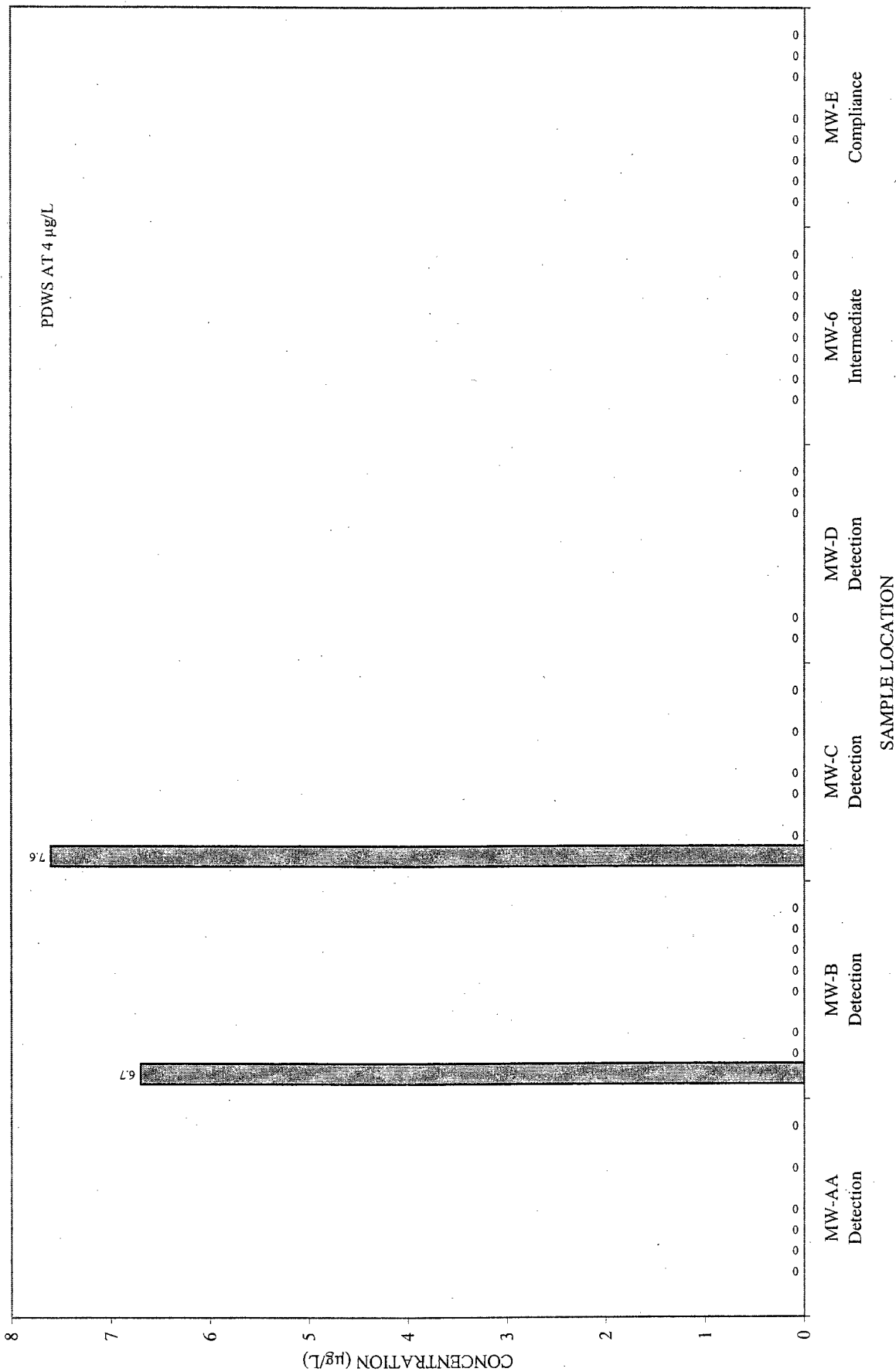
CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

BERYLLIUM CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



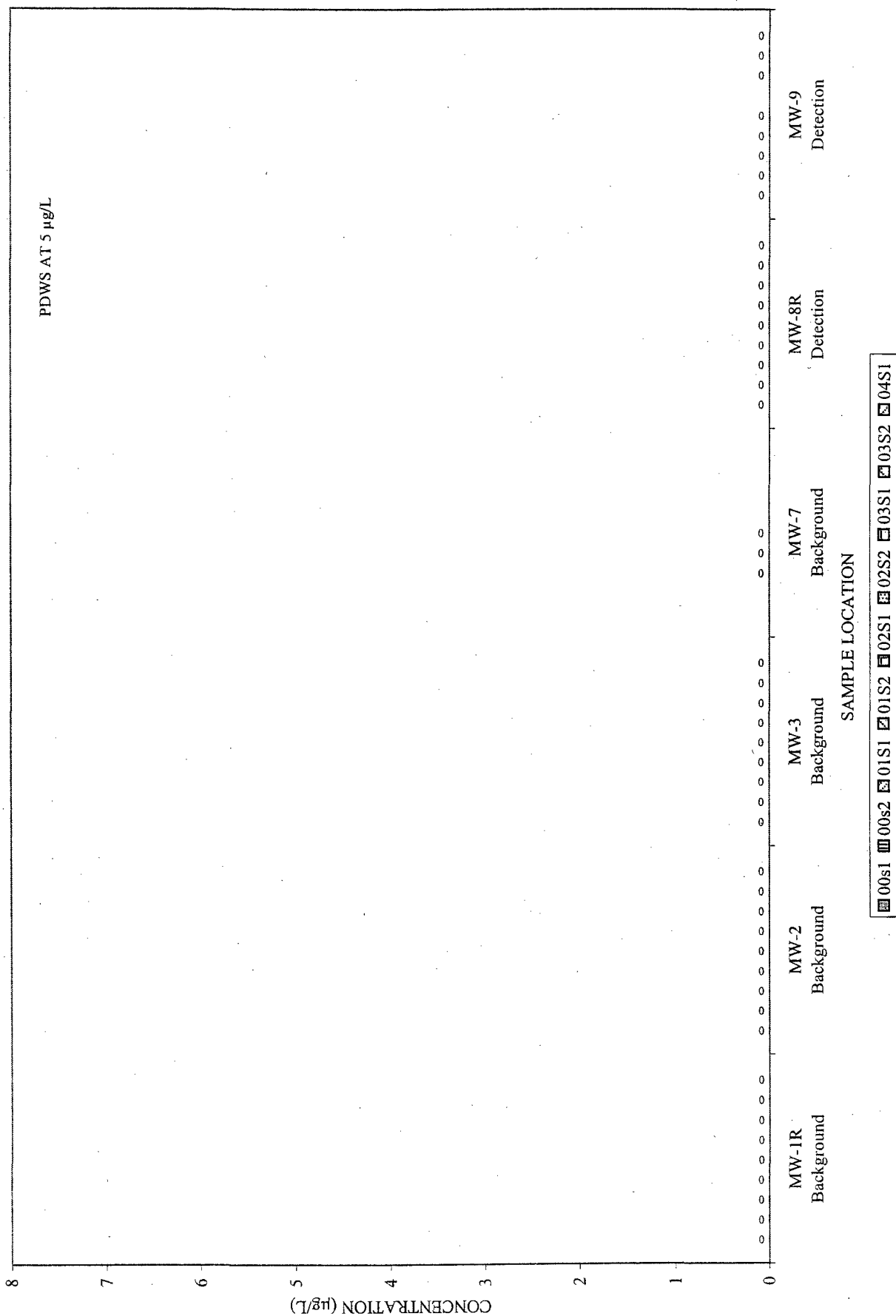
☐ 00s1
 ☐ 00s2
 ☐ 01S1
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 ☐ 04S1

0 = BELOW LABORATORY DETECTION LIMIT

CADMIUM

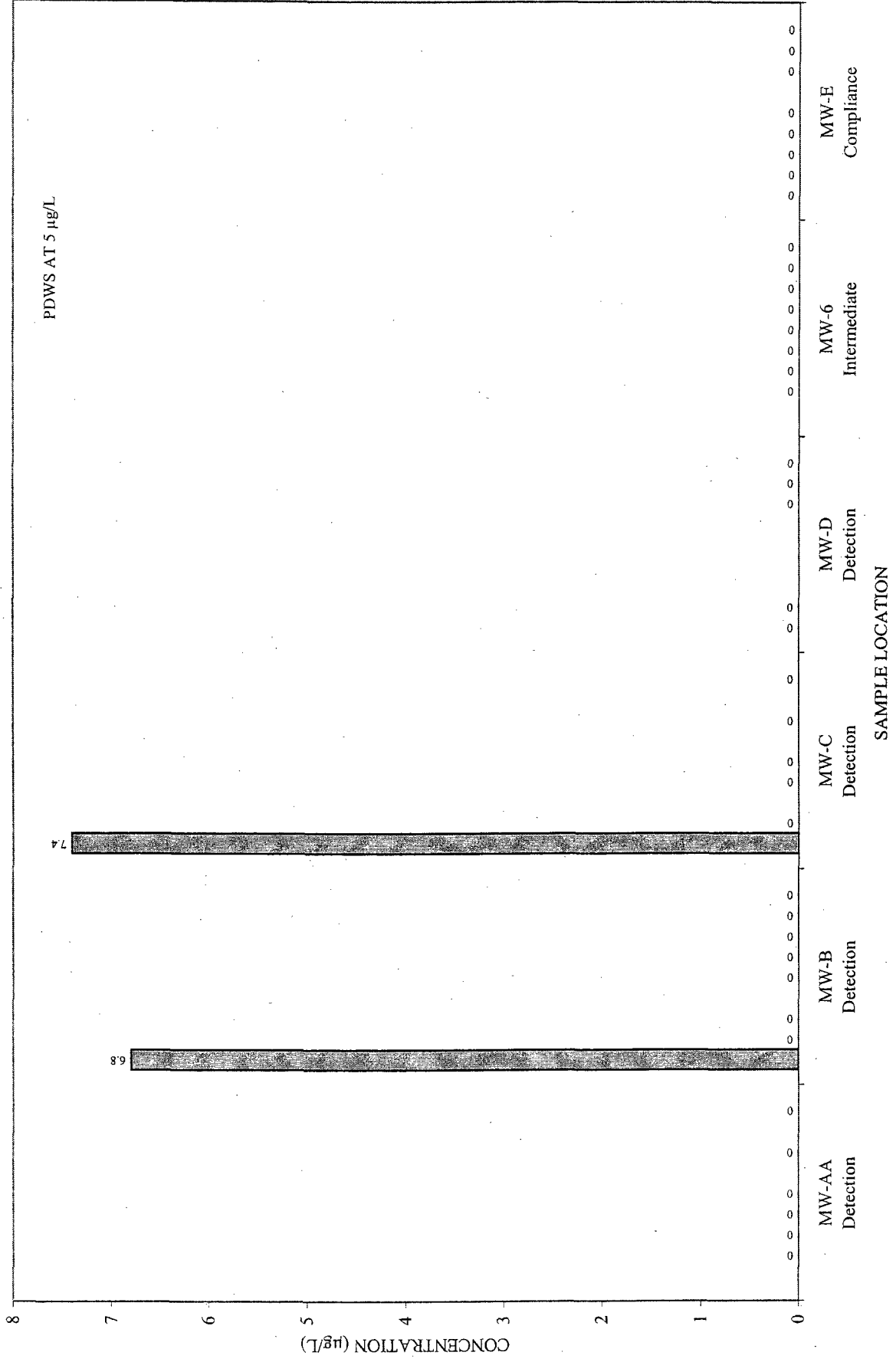
CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH



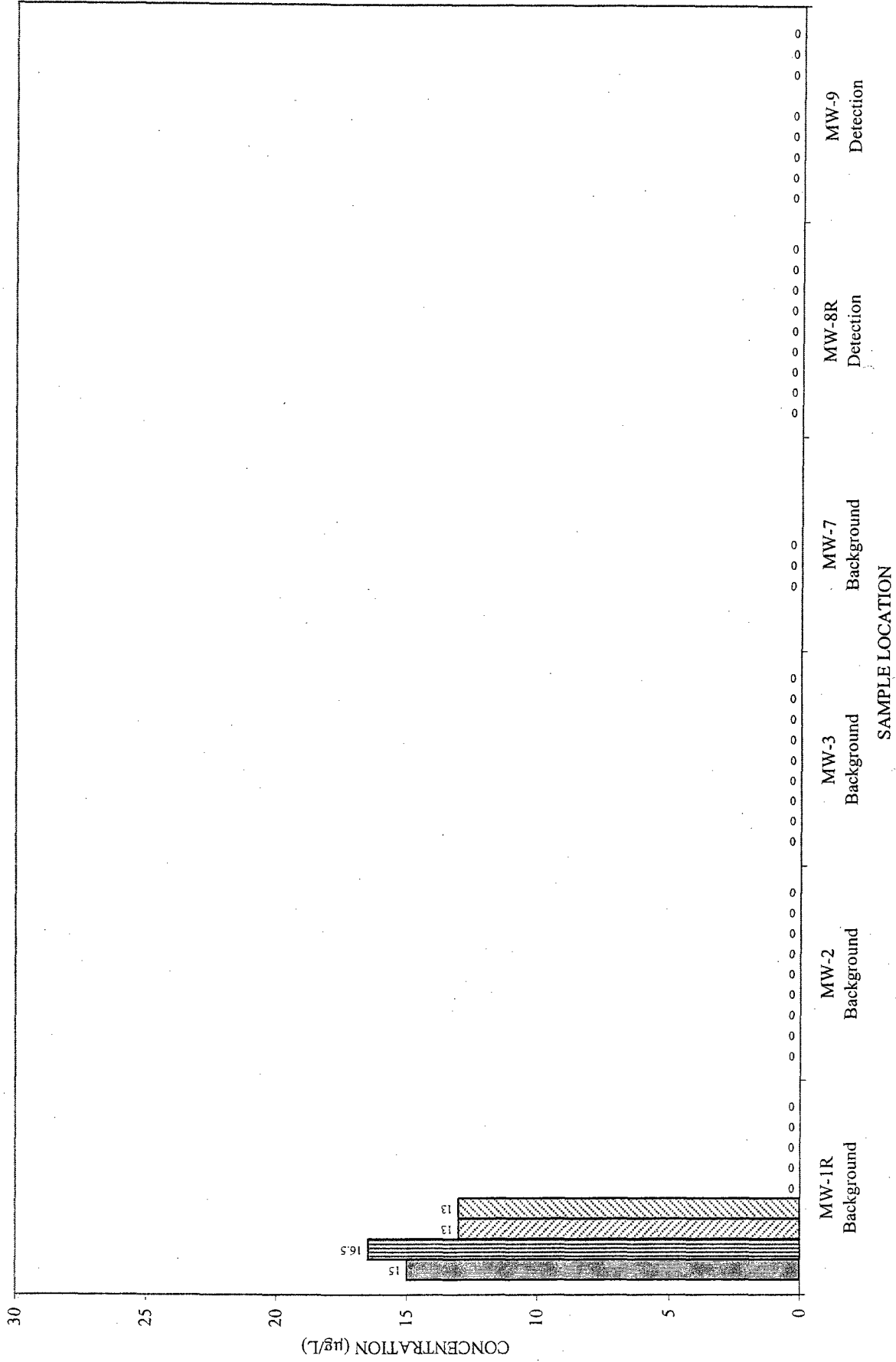
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CADMIUM **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



0 = BELOW LABORATORY DETECTION LIMIT

COBALT
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



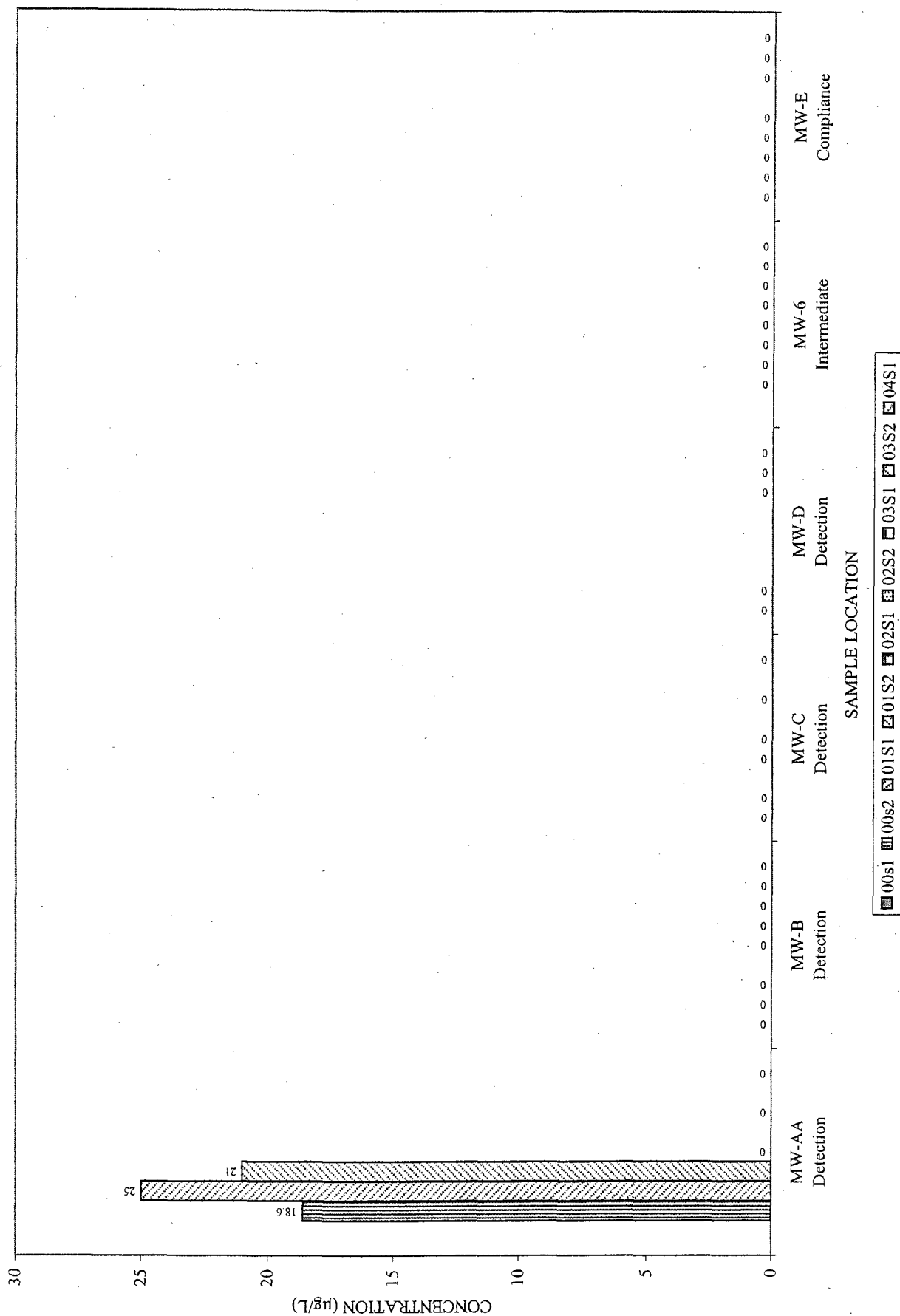
00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

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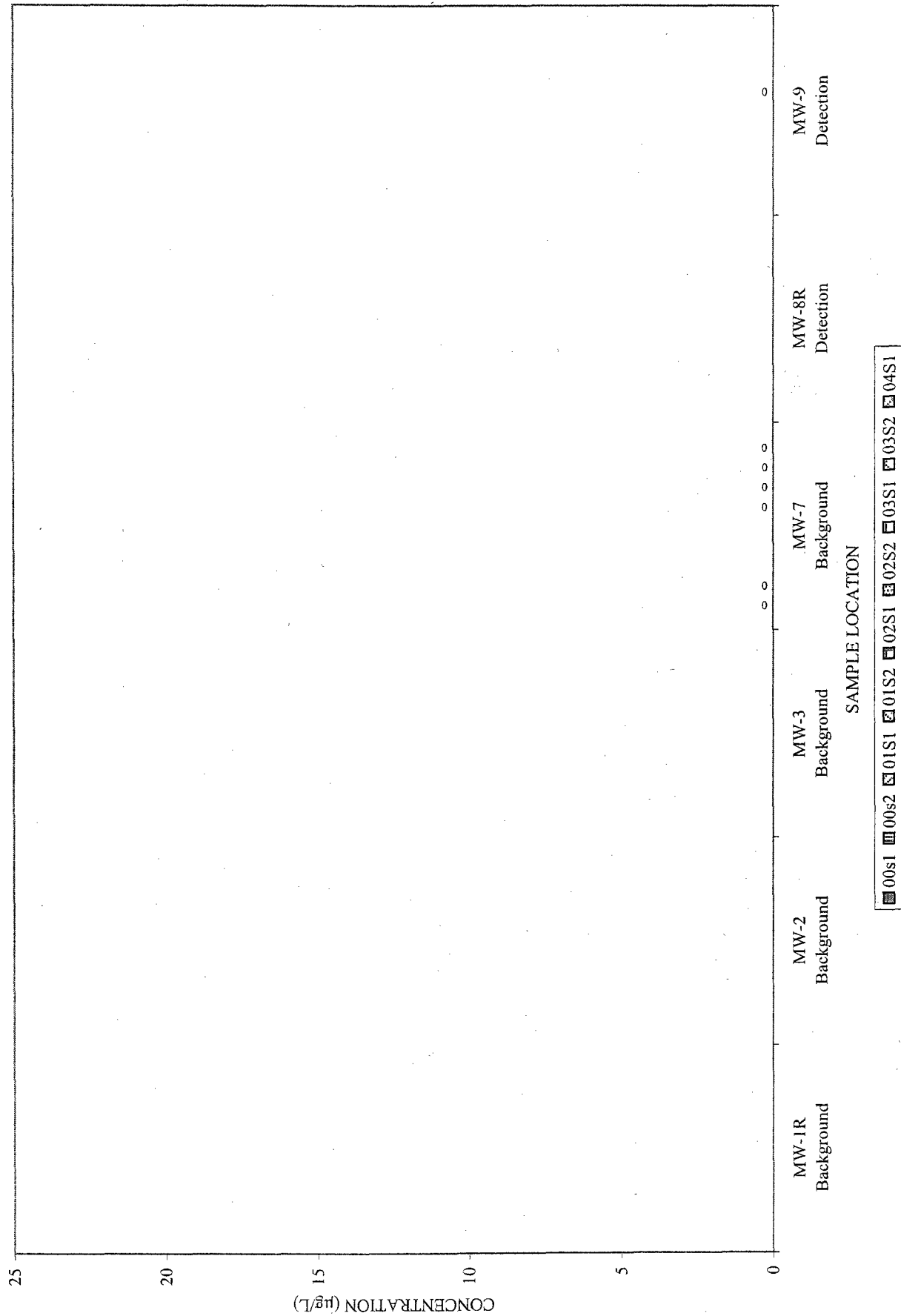
COBALT

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

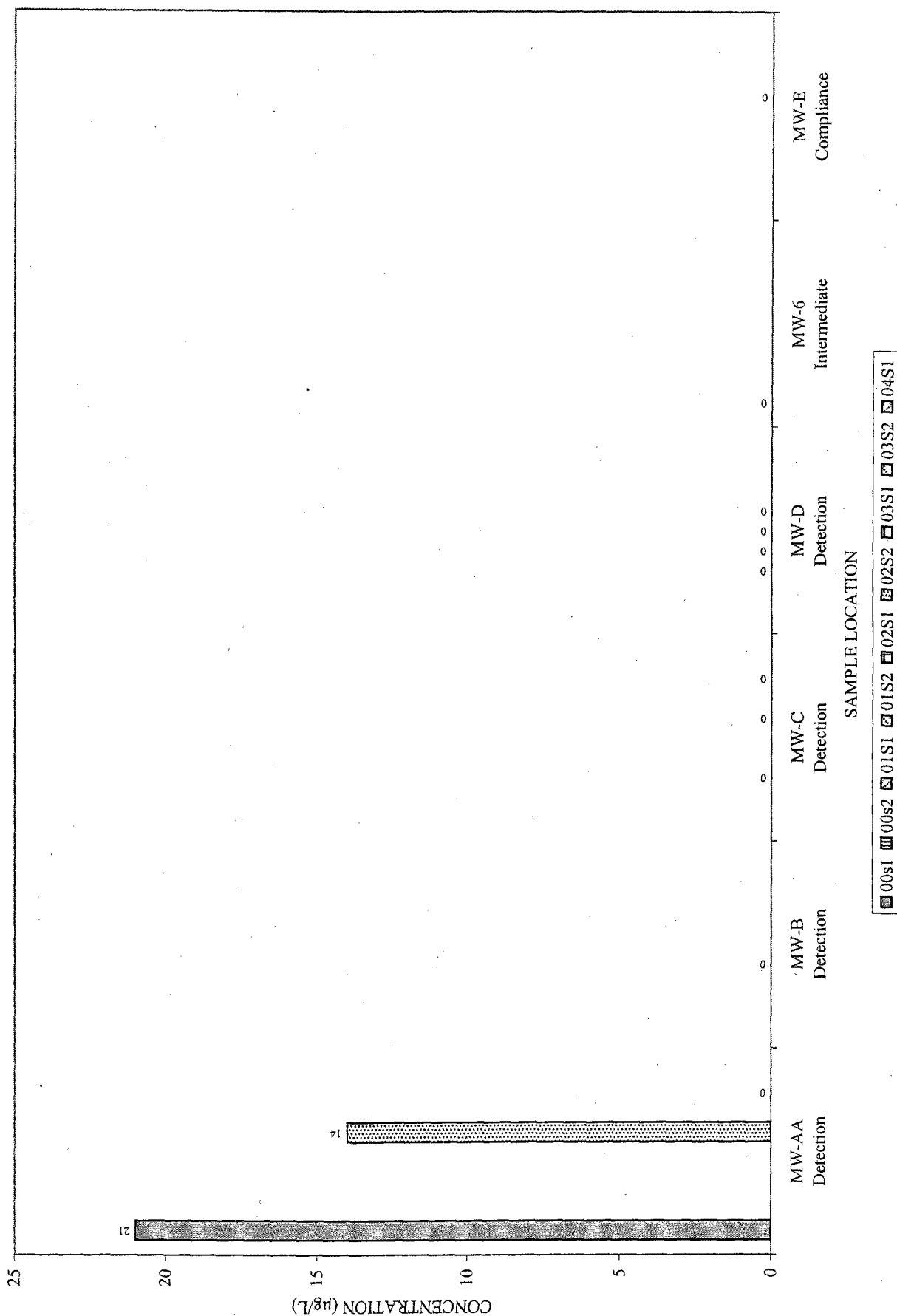


COBALT: FILTERED
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

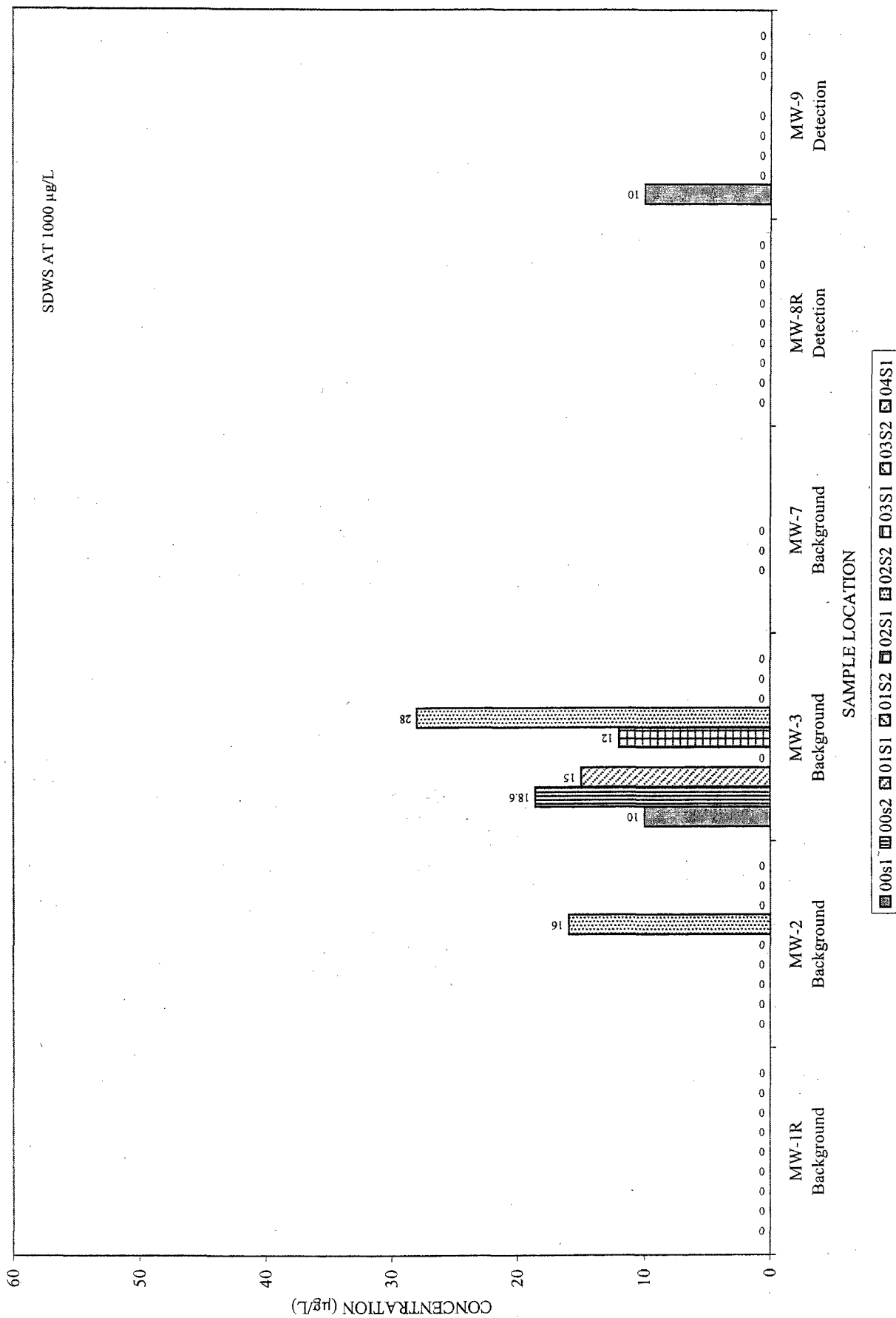
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CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



COPPER

CITRUS COUNTY CENTRAL LANDFILL

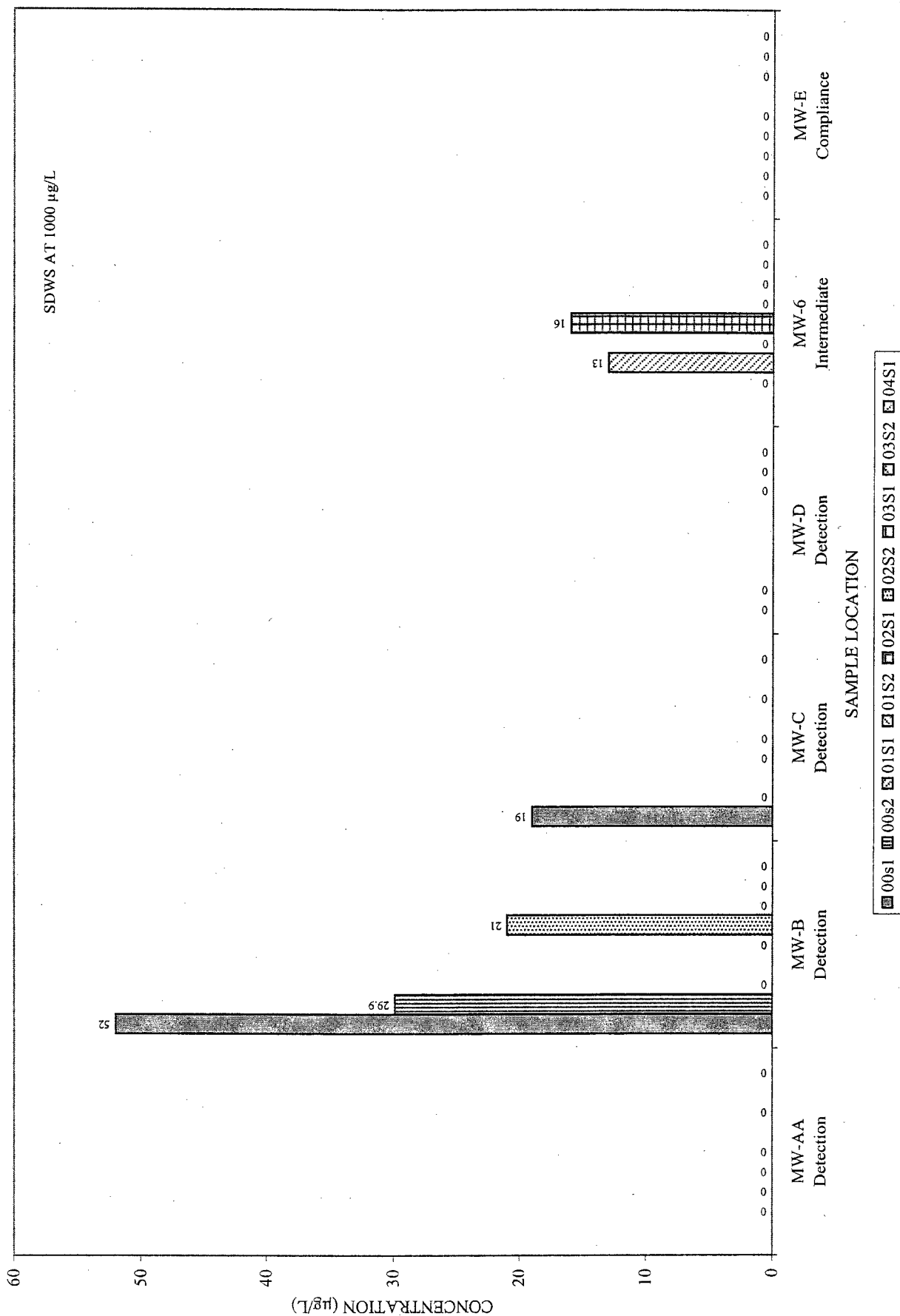
GROUNDWATER CHEMISTRY GRAPH



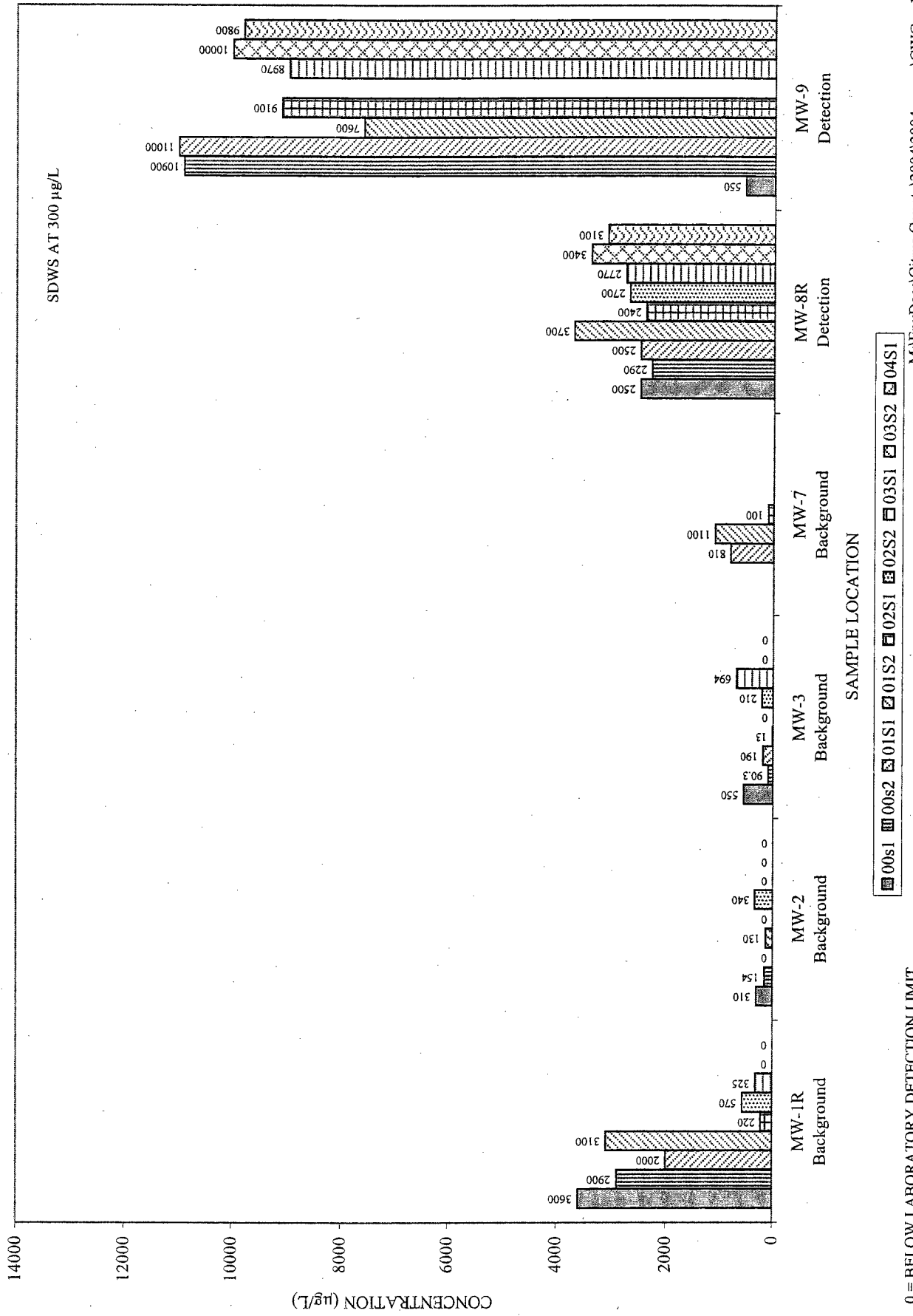
COPPER

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

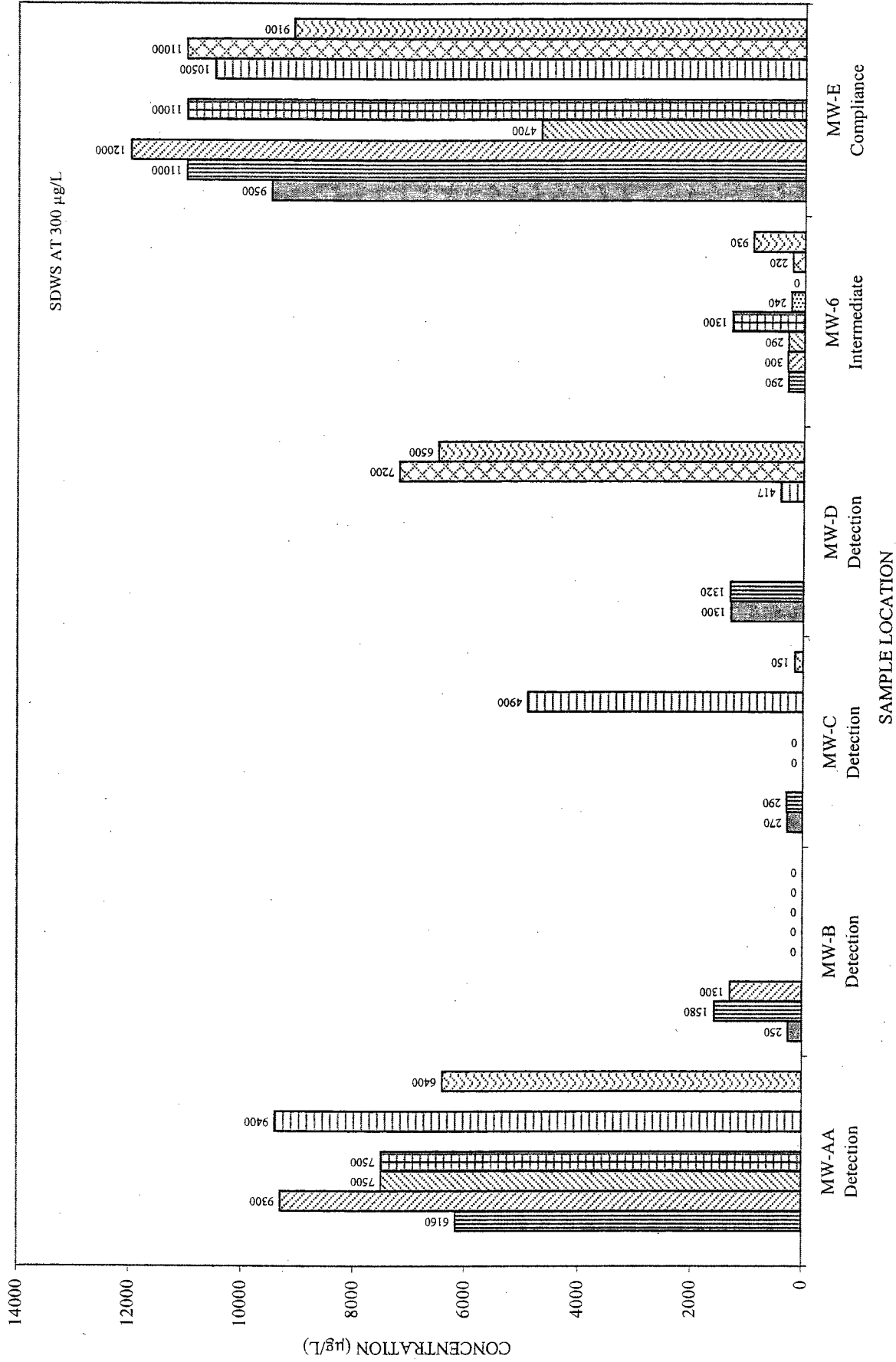


IRON CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

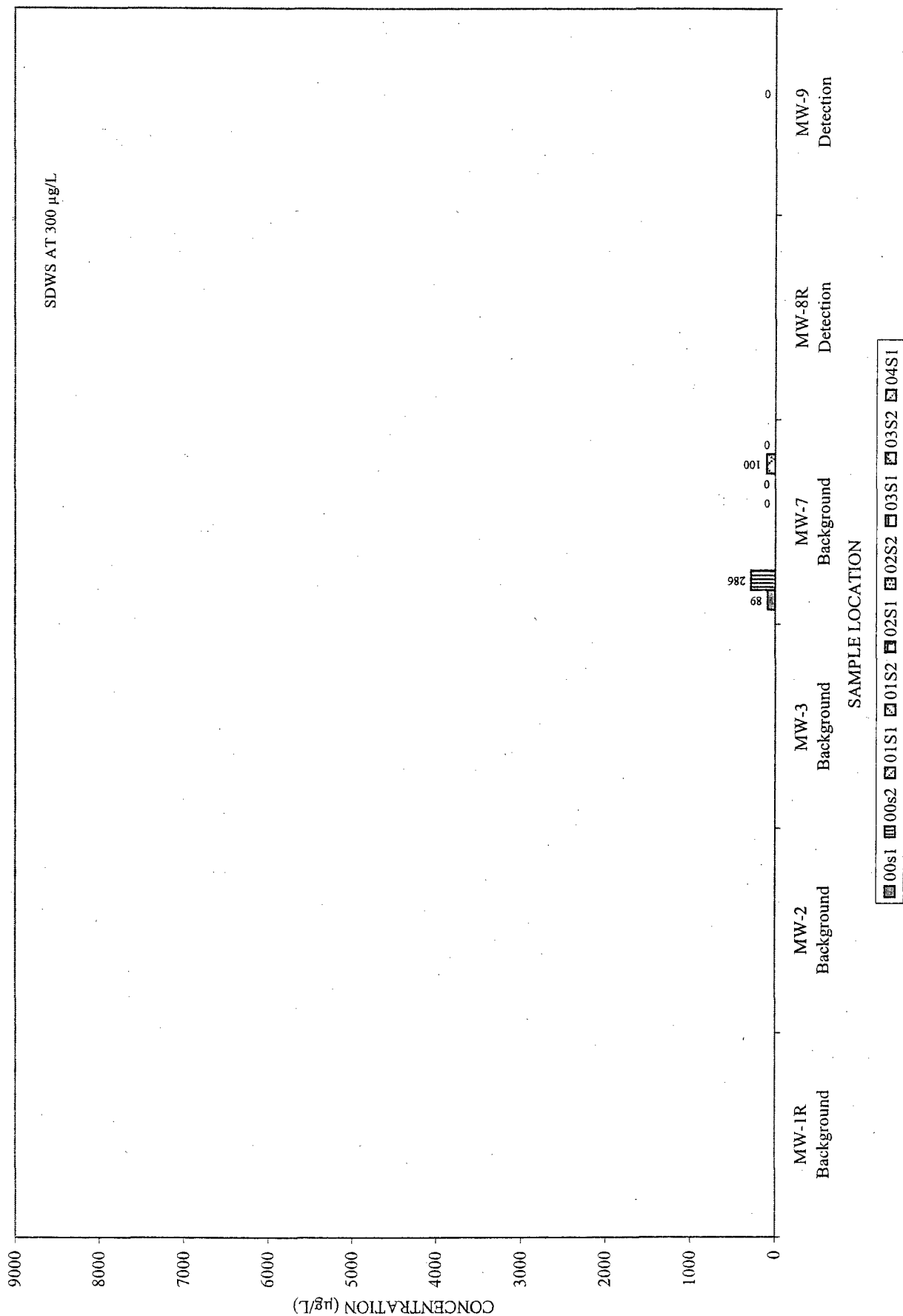


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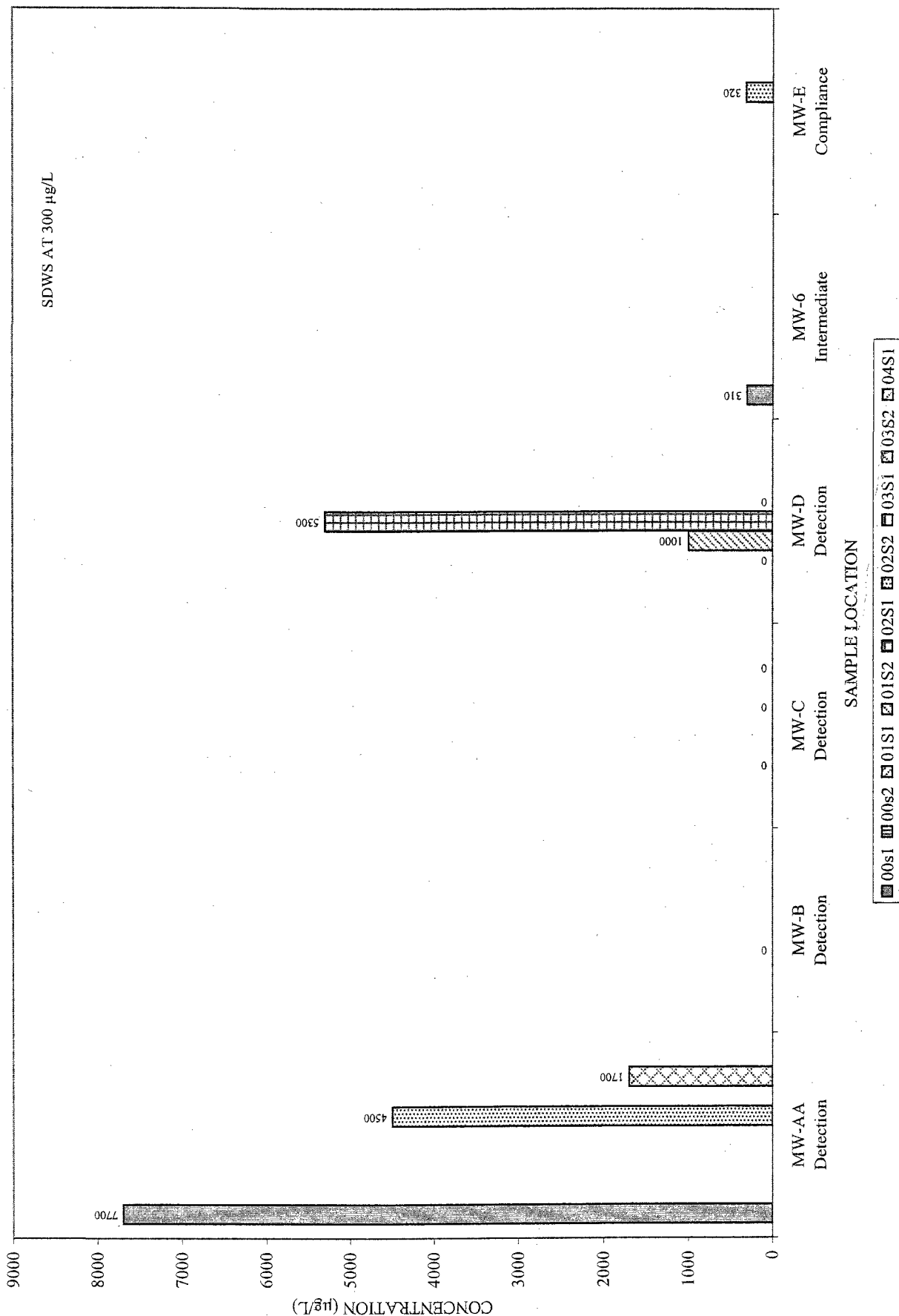
CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



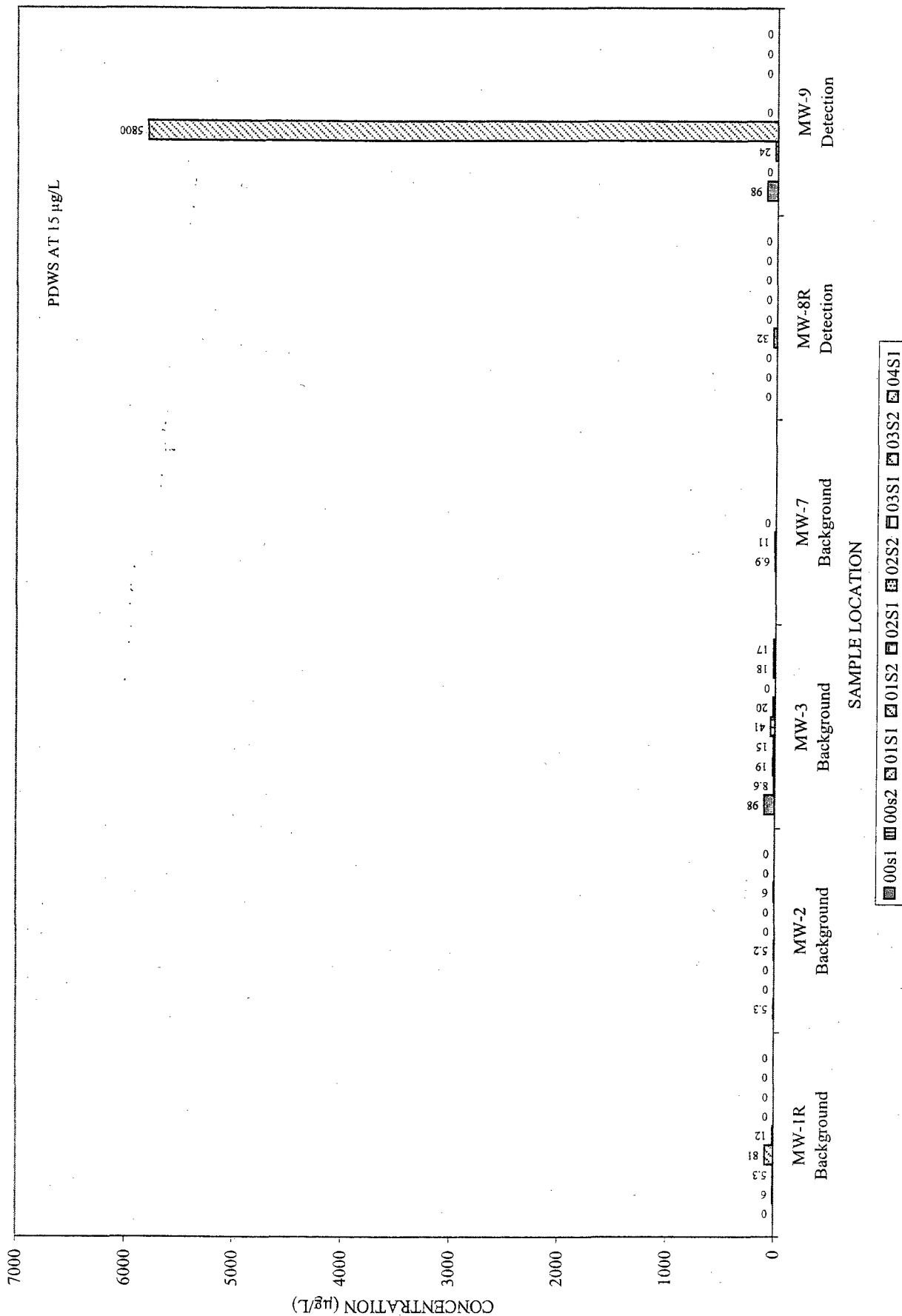
IRON: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



IRON: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

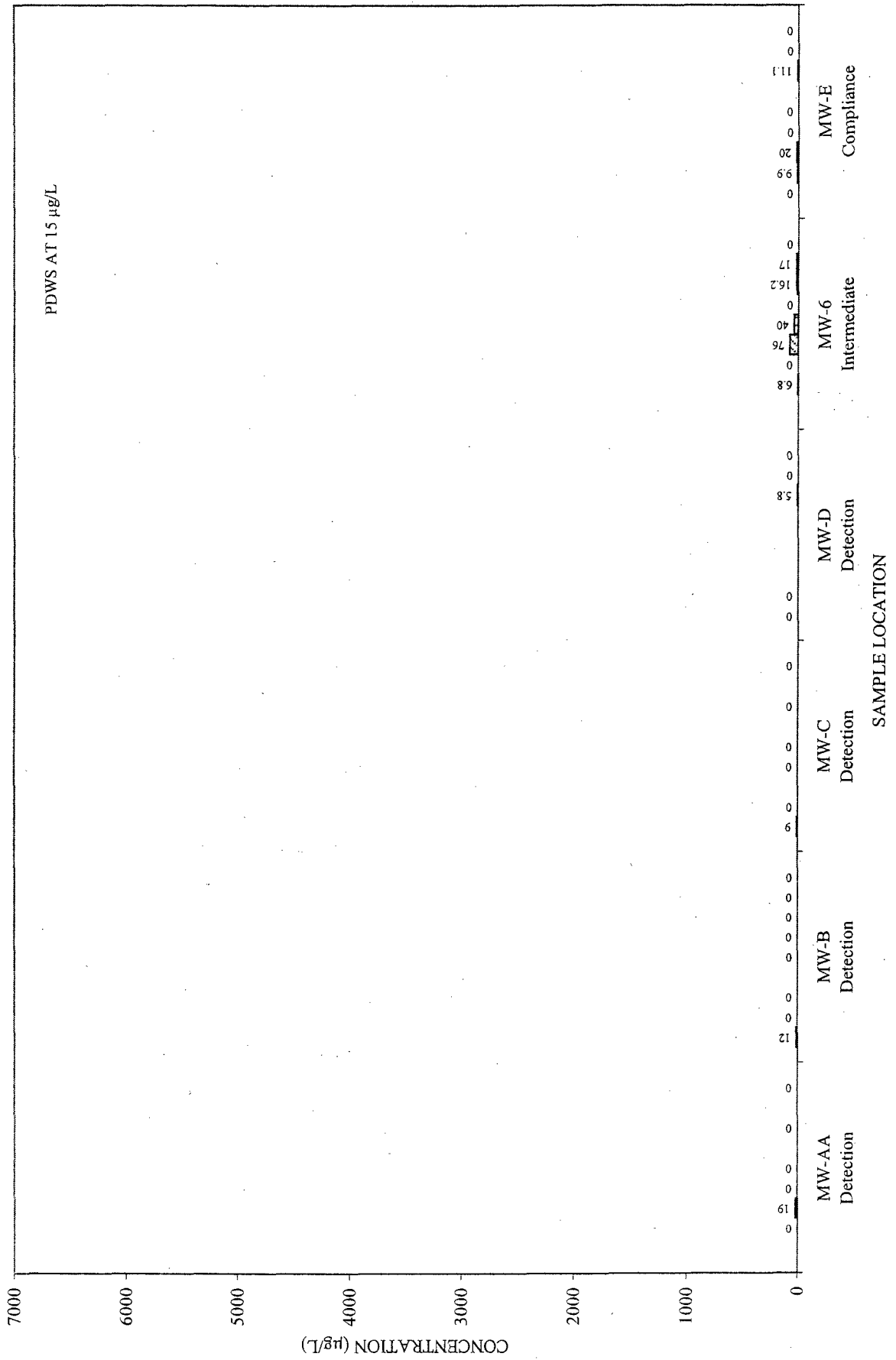


LEAD **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**

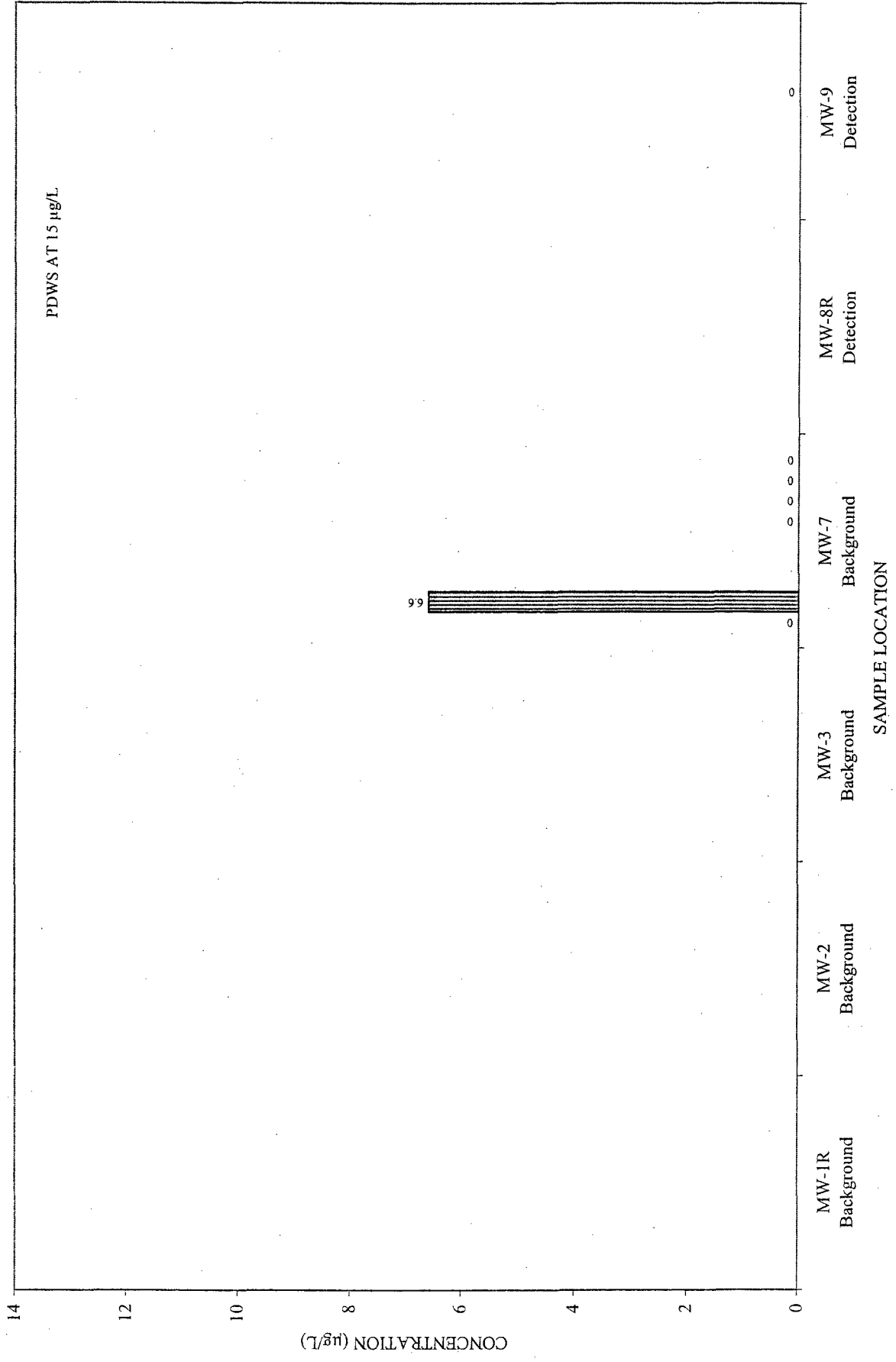


LEAD

CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

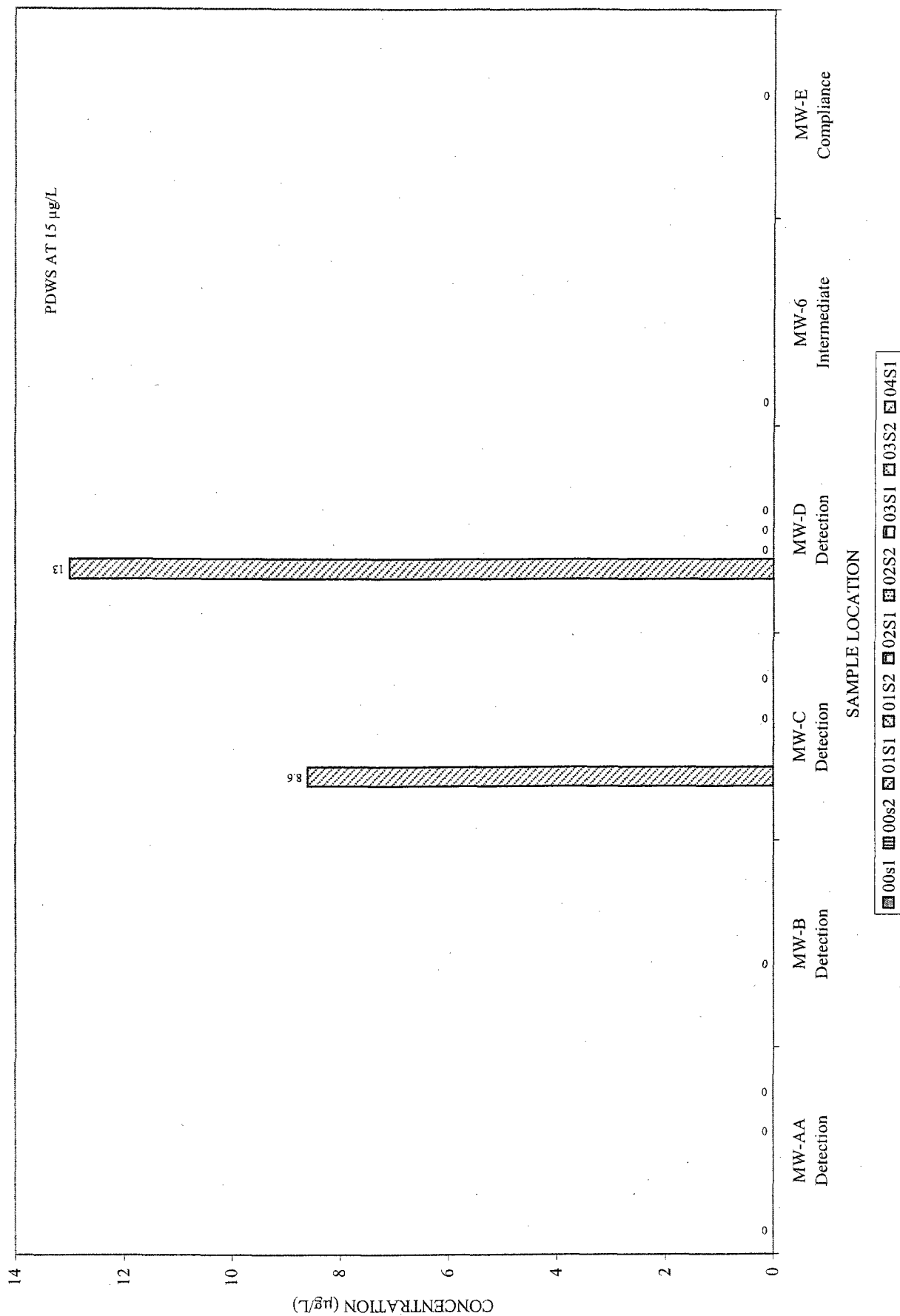


LEAD: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



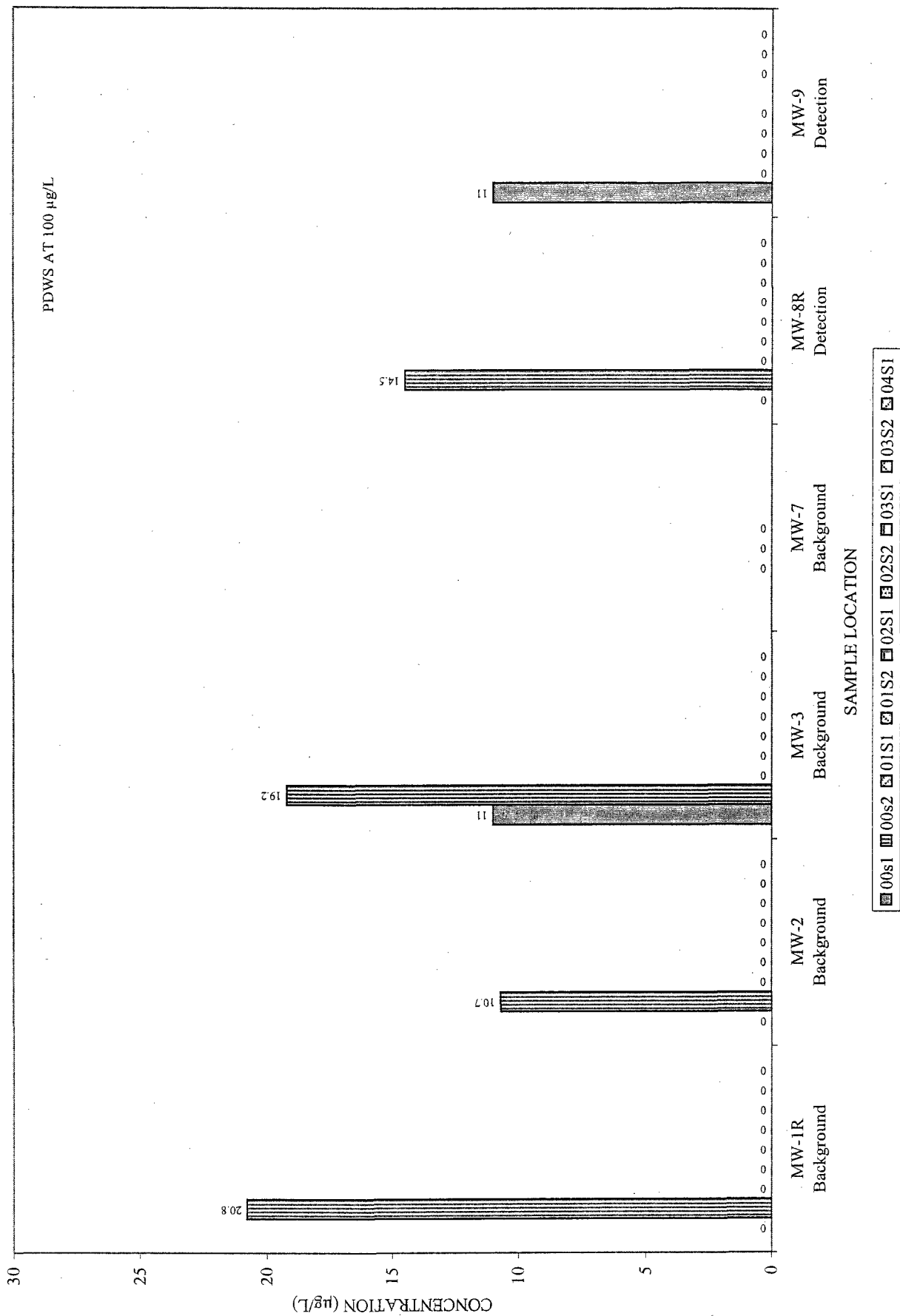
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LEAD: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

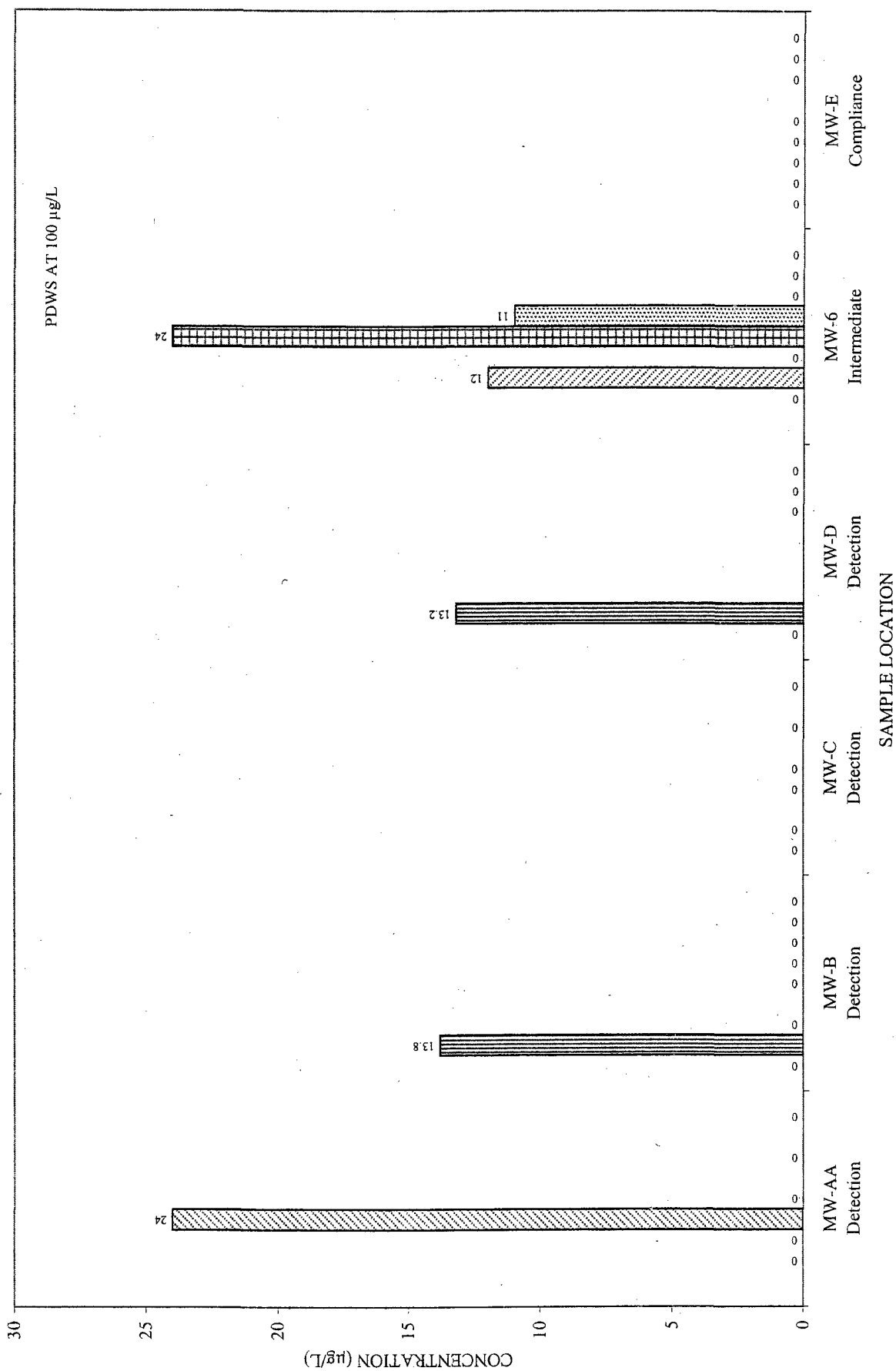


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NICKEL CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

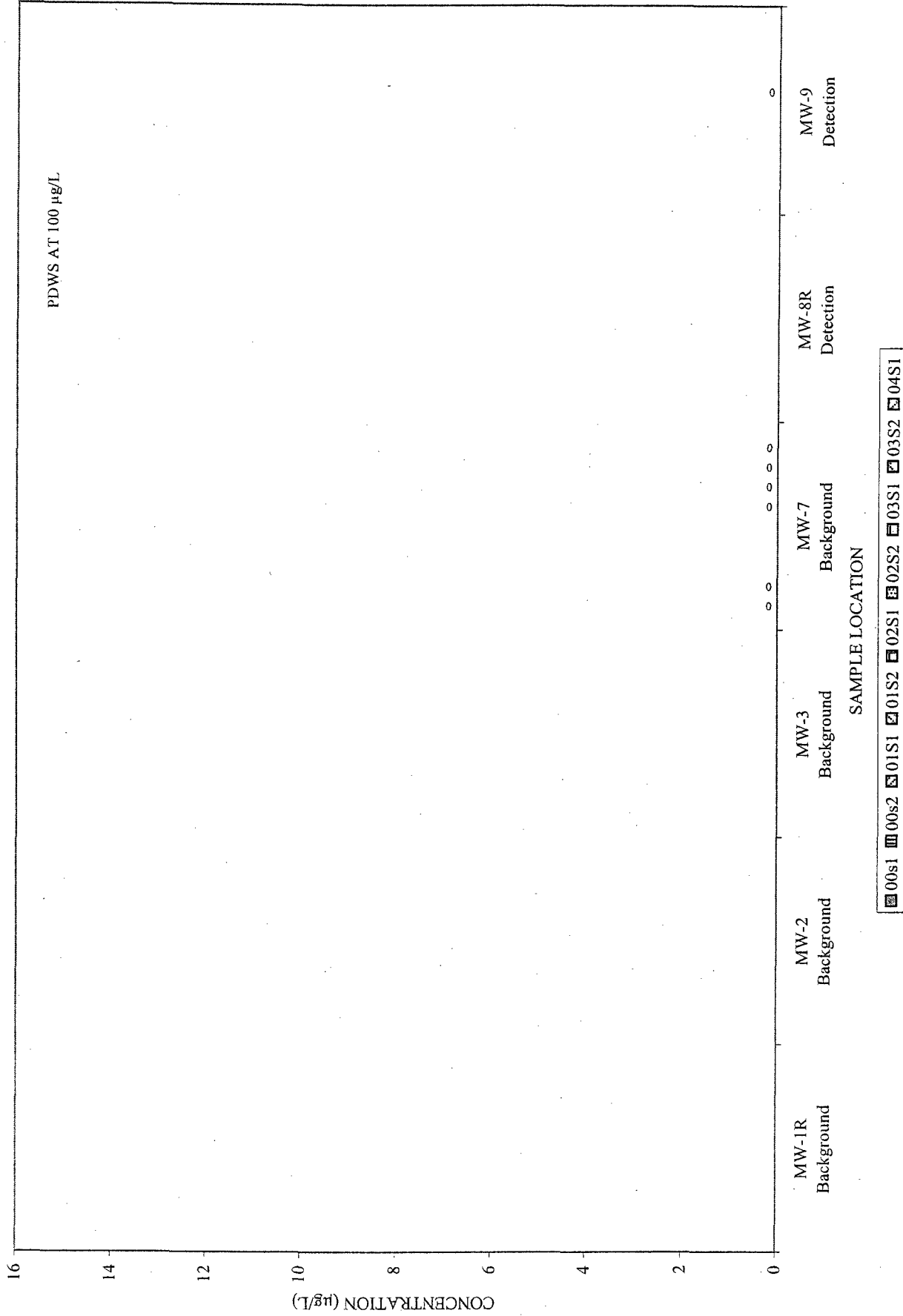


NICKEL CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

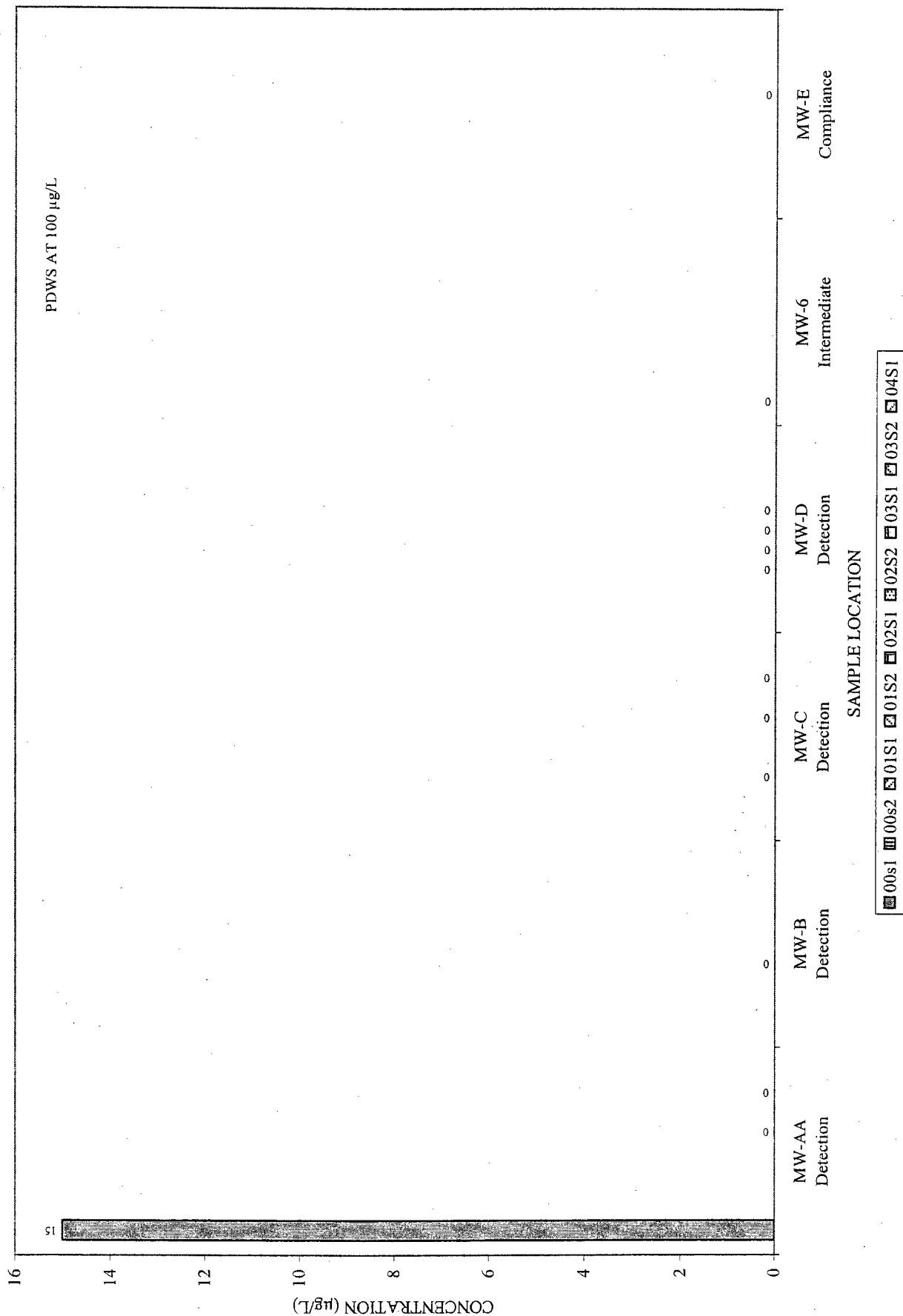


00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

NICKEL: FILTERED
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH

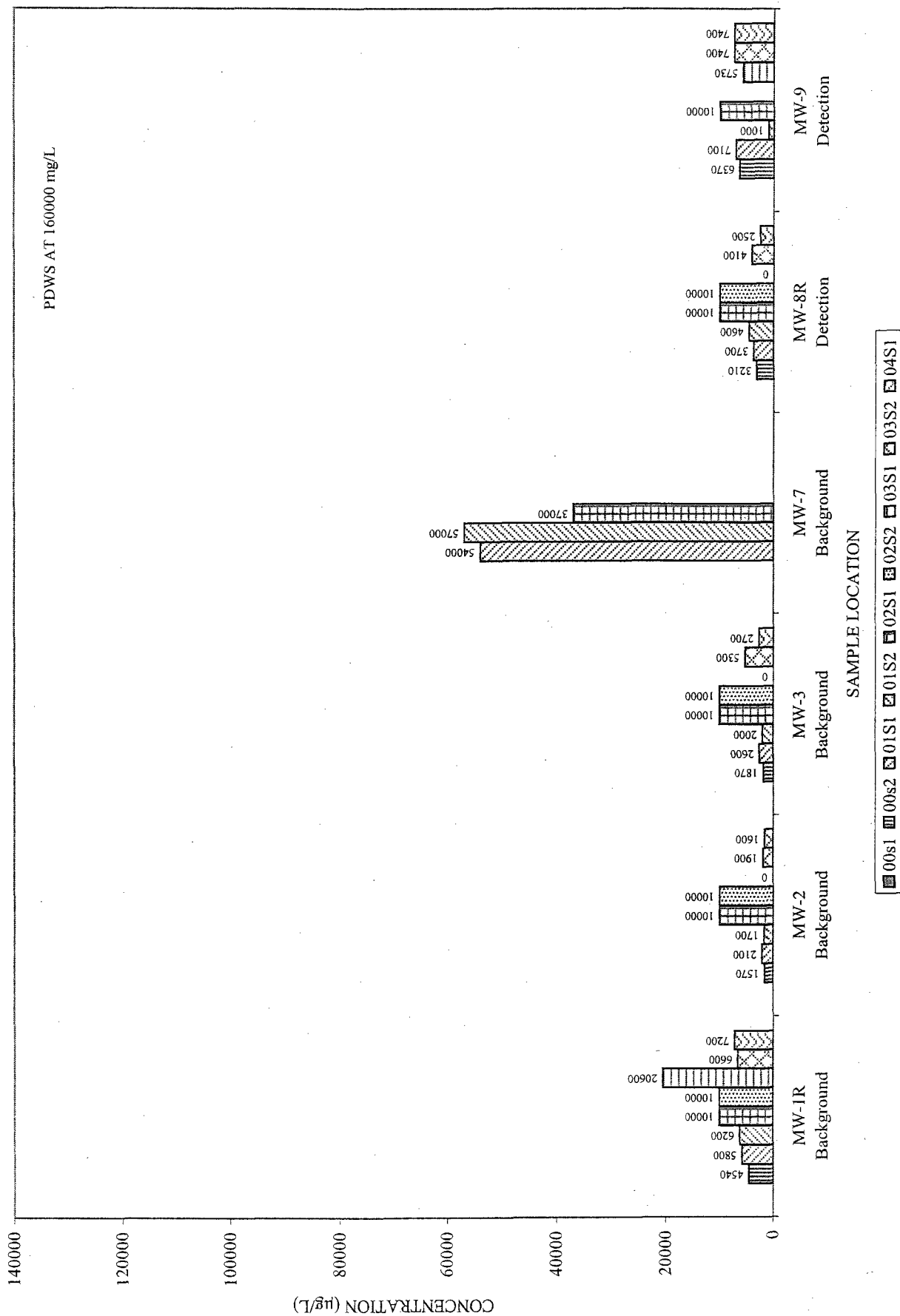


NICKEL: FILTERED CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



SODIUM

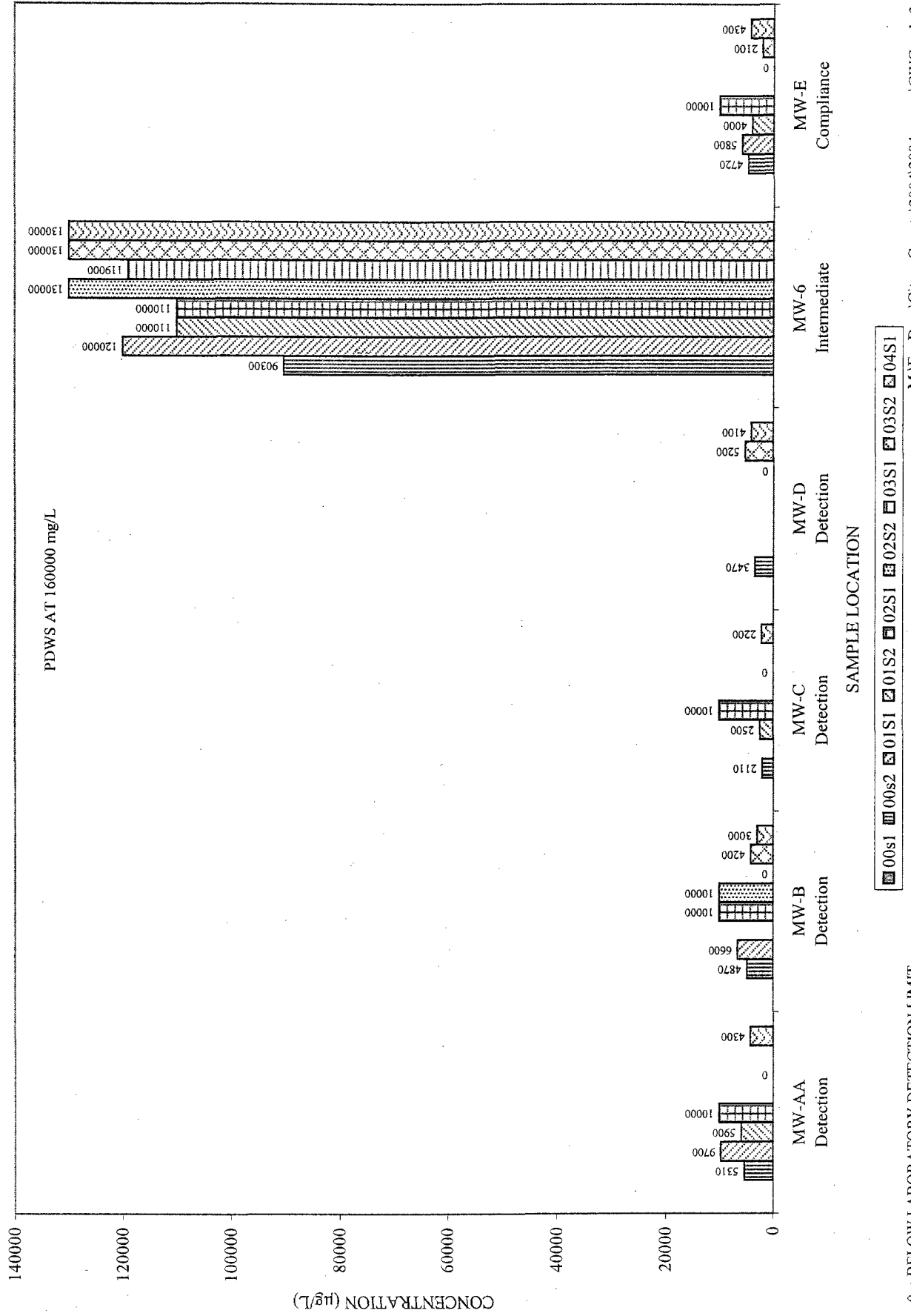
CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



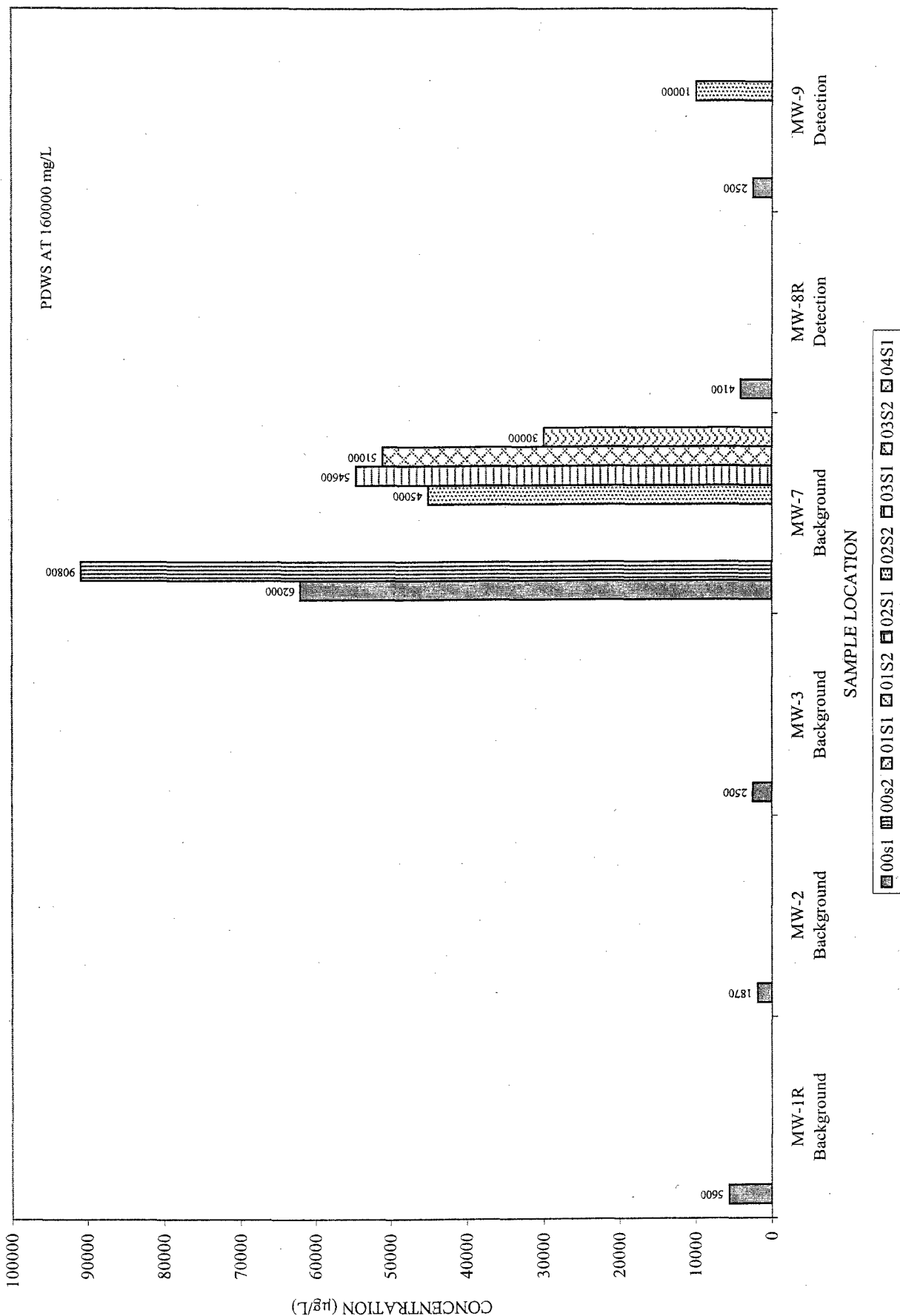
SODIUM

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH



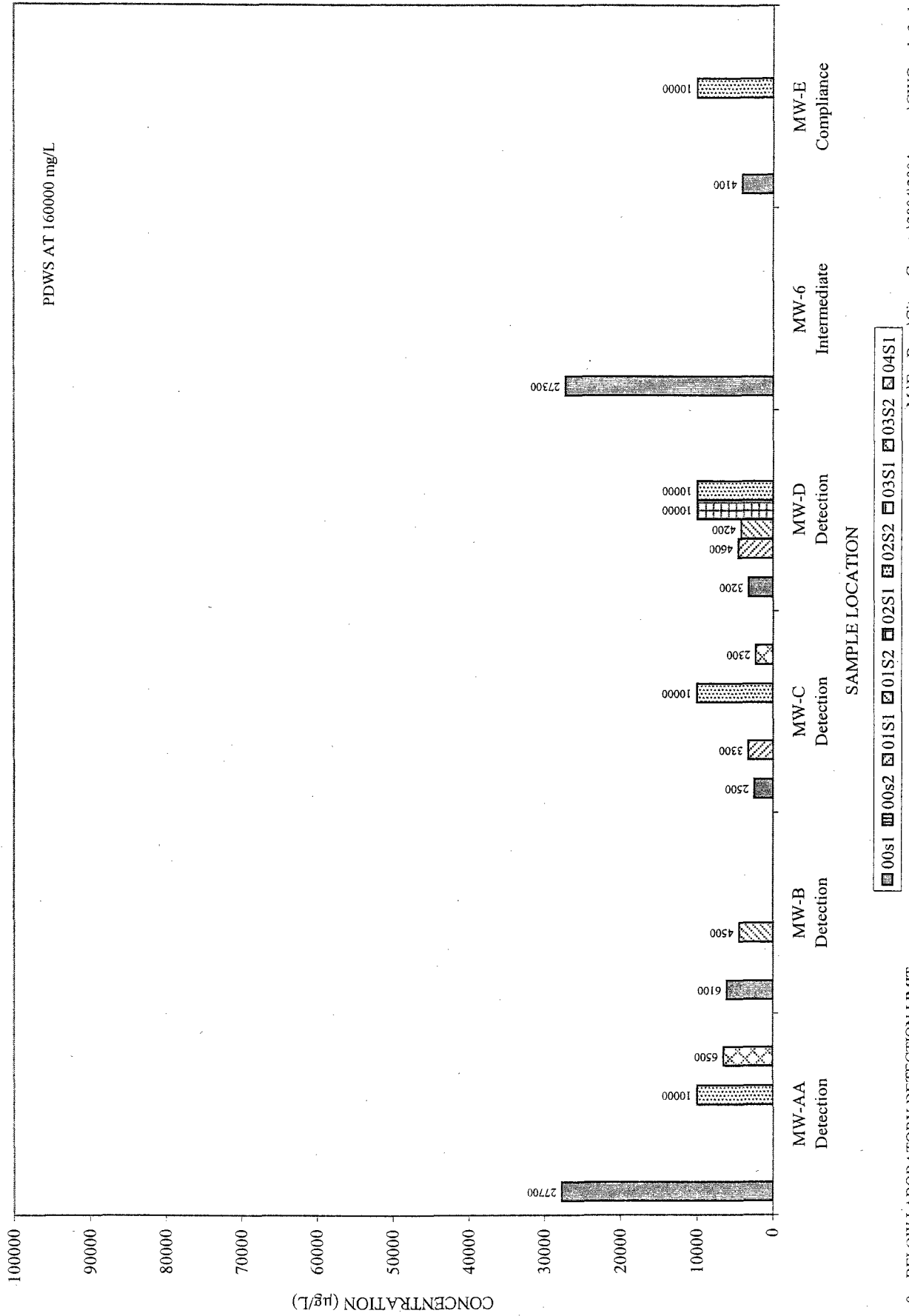
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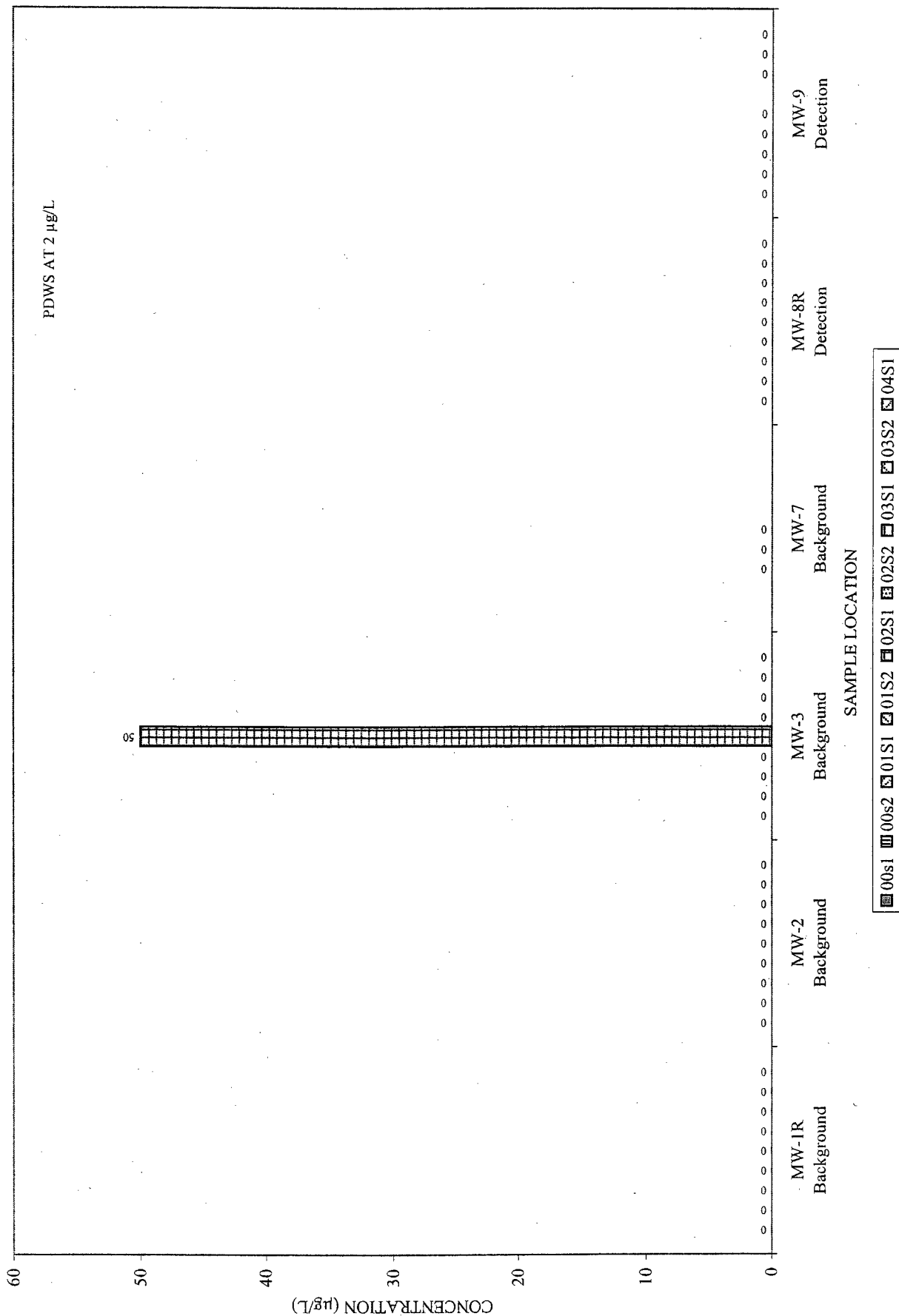
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CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

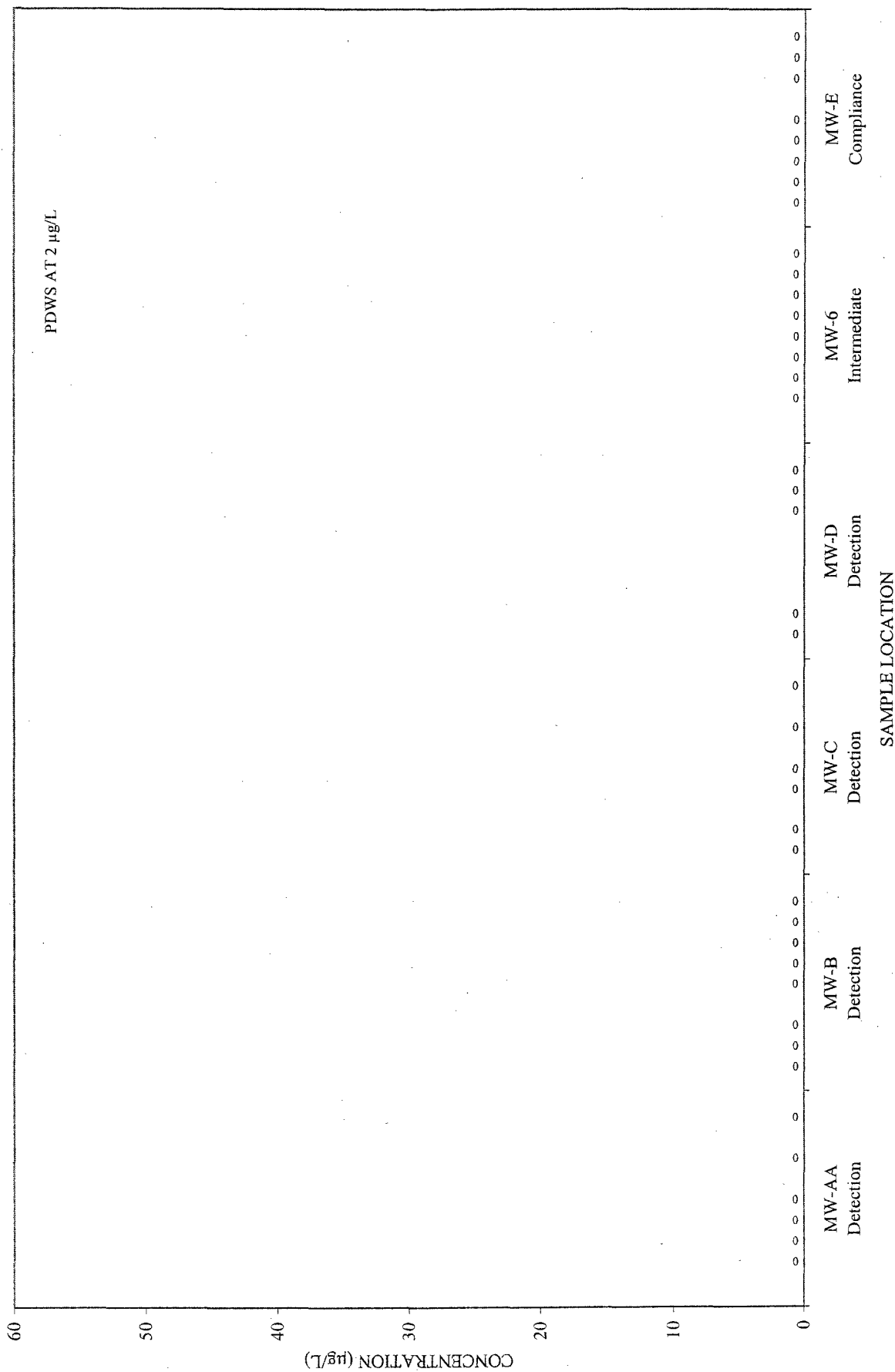


THALLIUM CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

THALLIUM CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



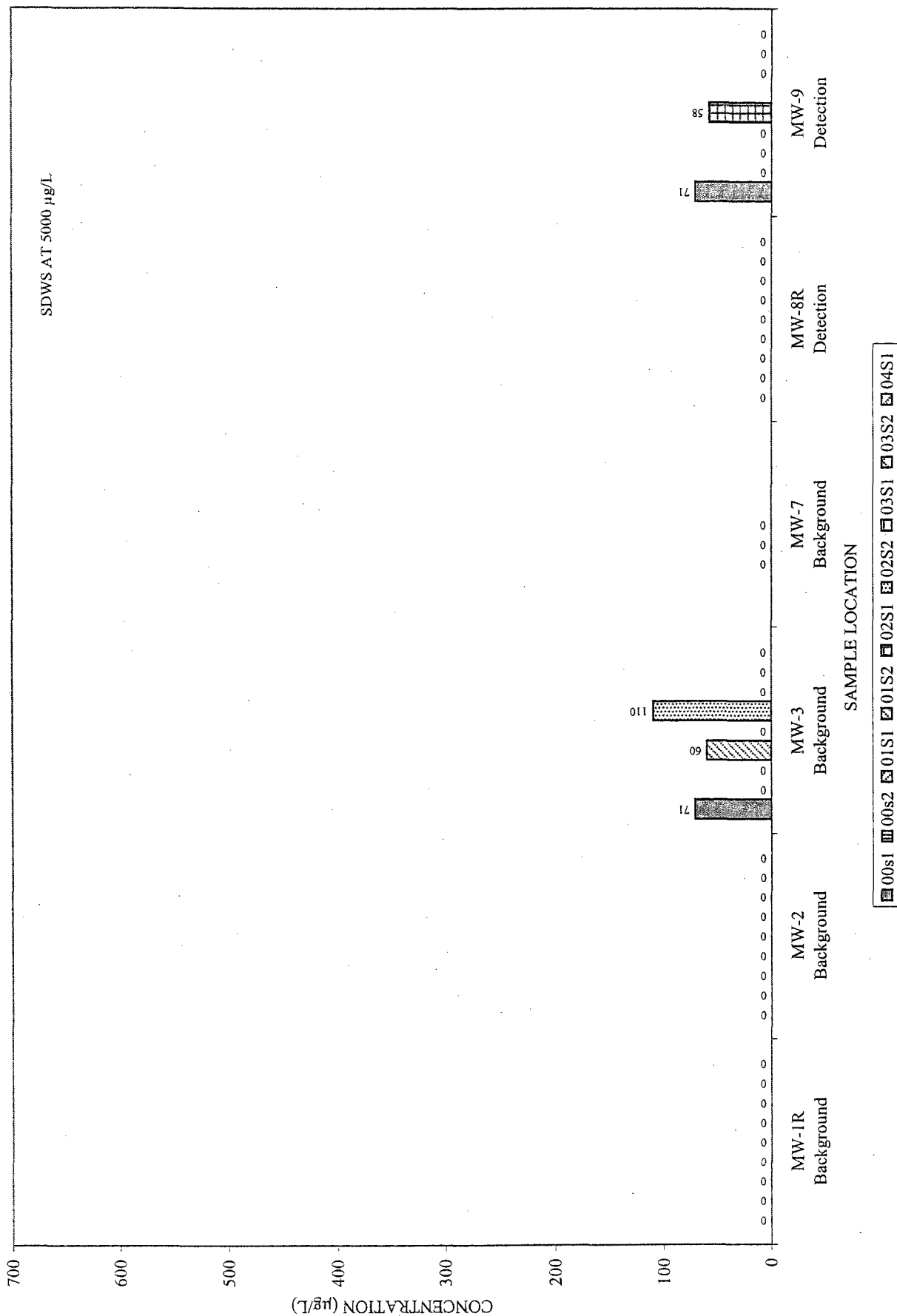
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00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

ZINC

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

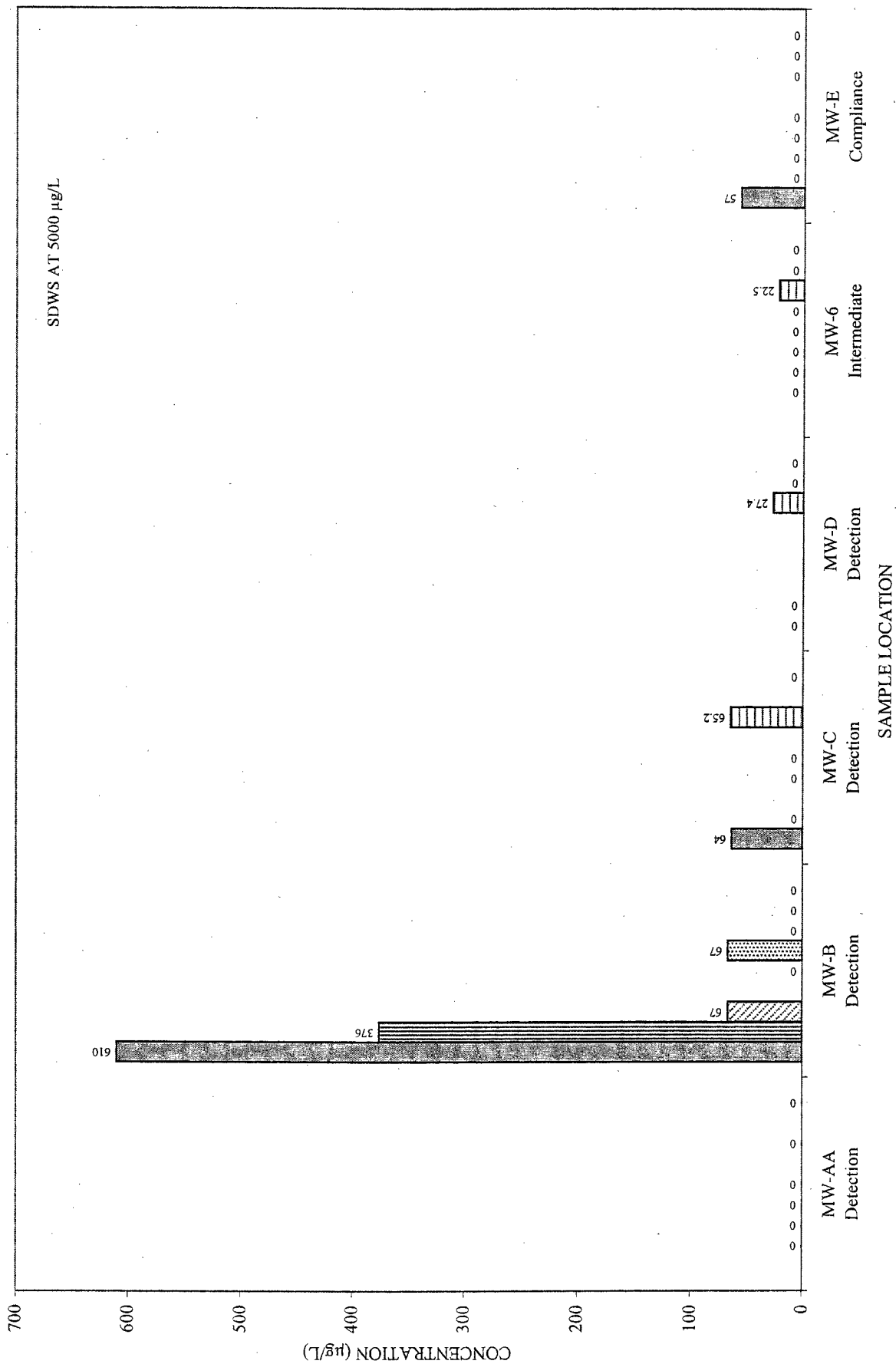


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ZINC

CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

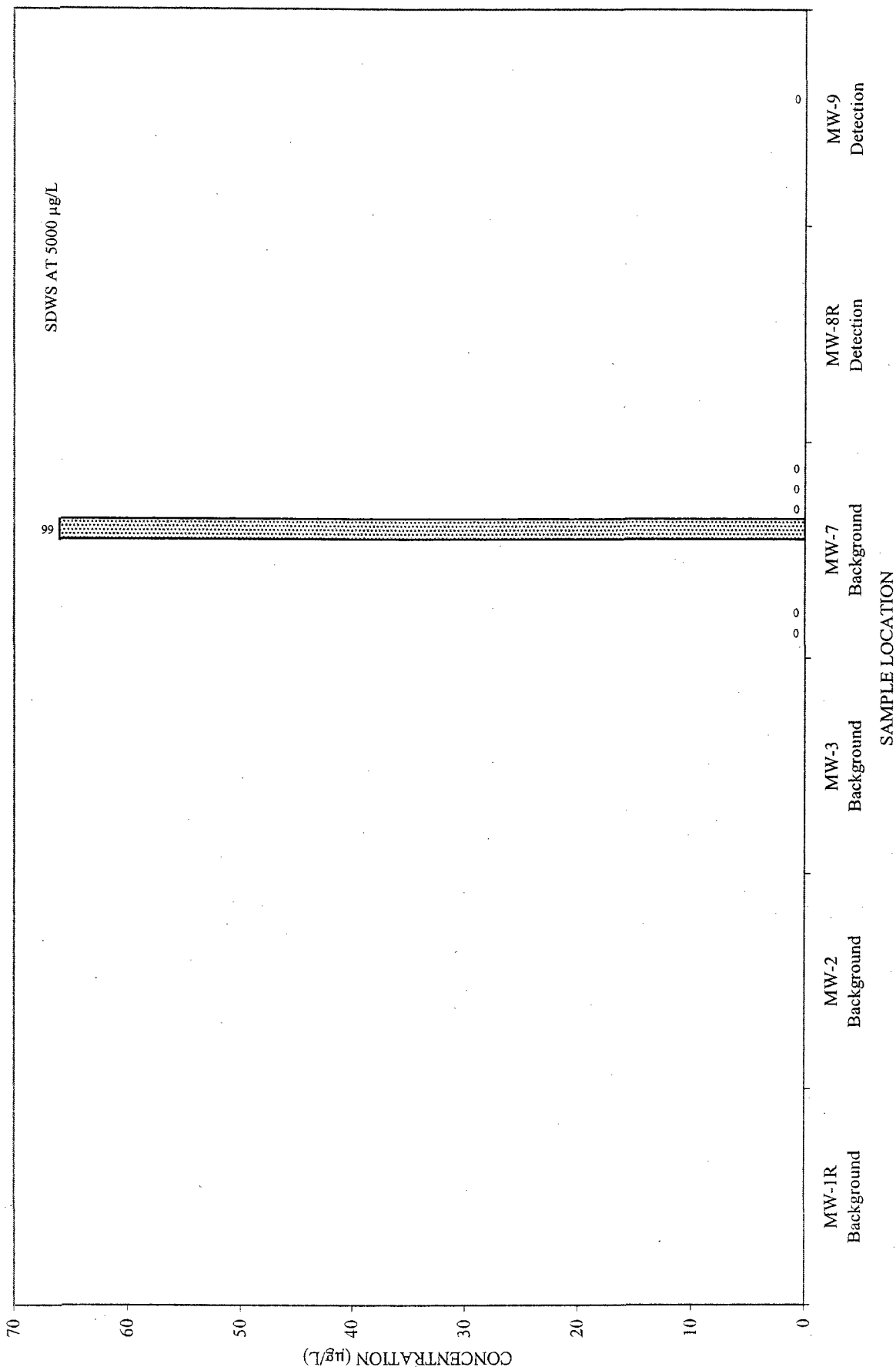


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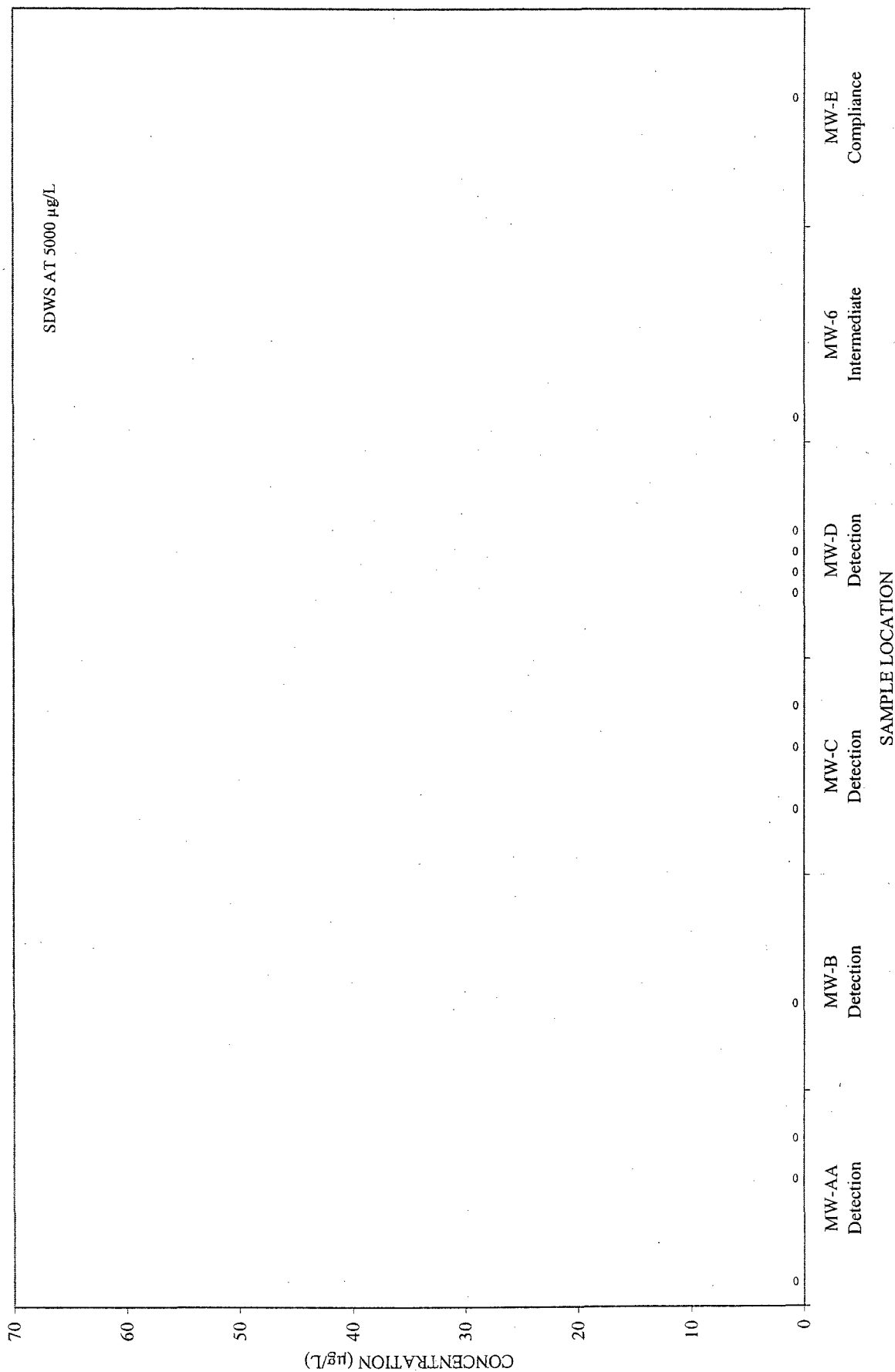
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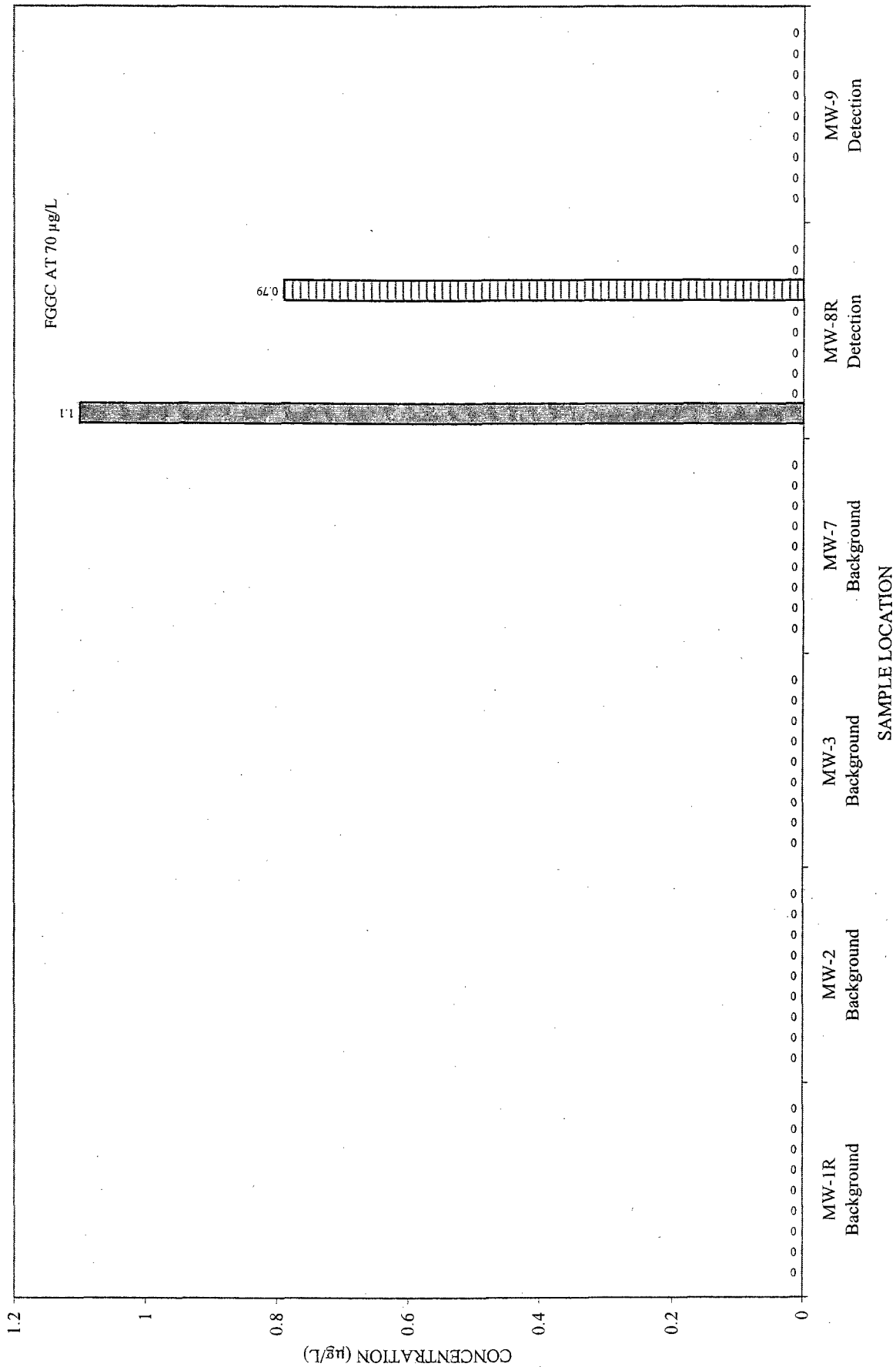
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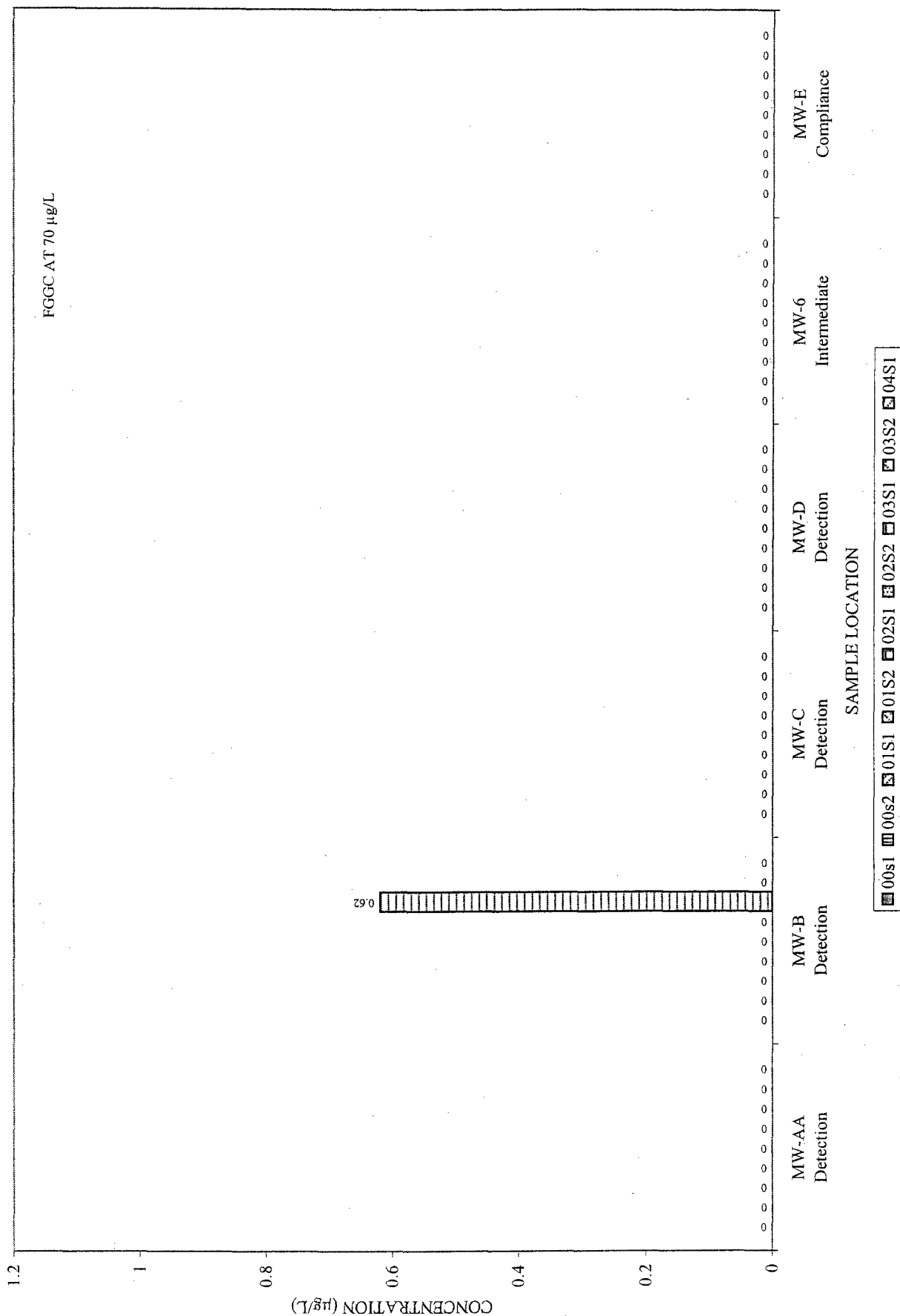
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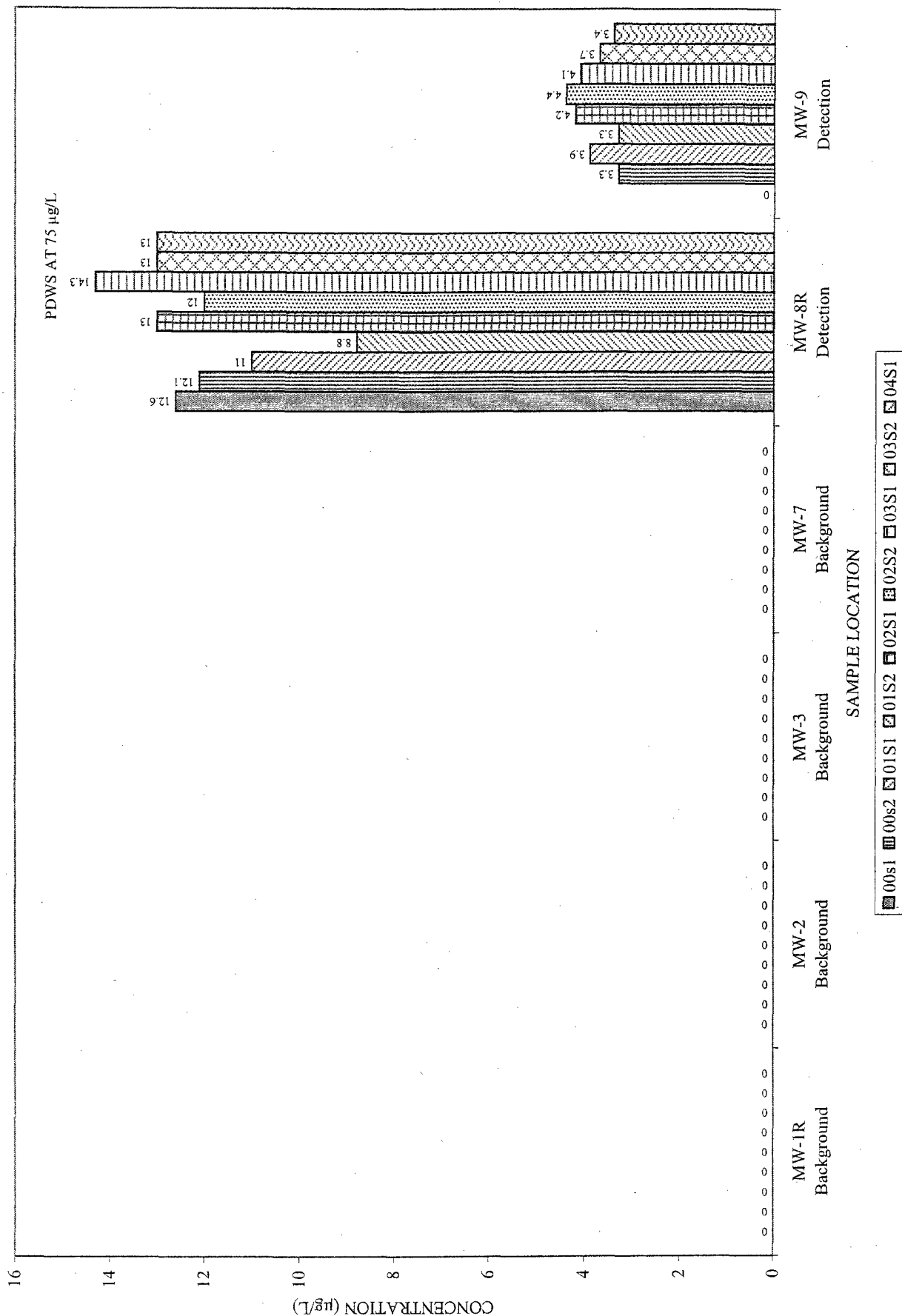


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1,1-DICHLOROETHANE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

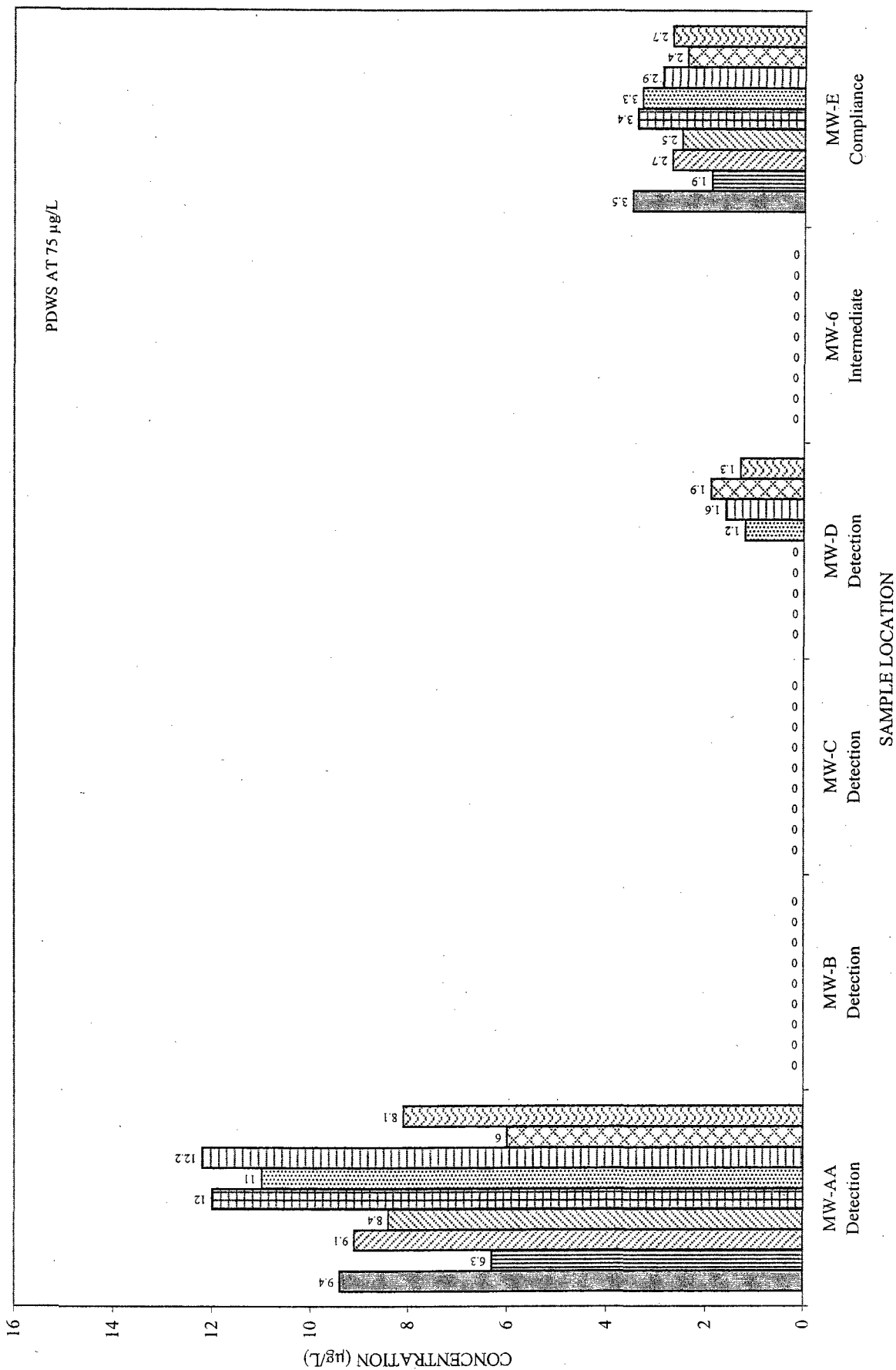


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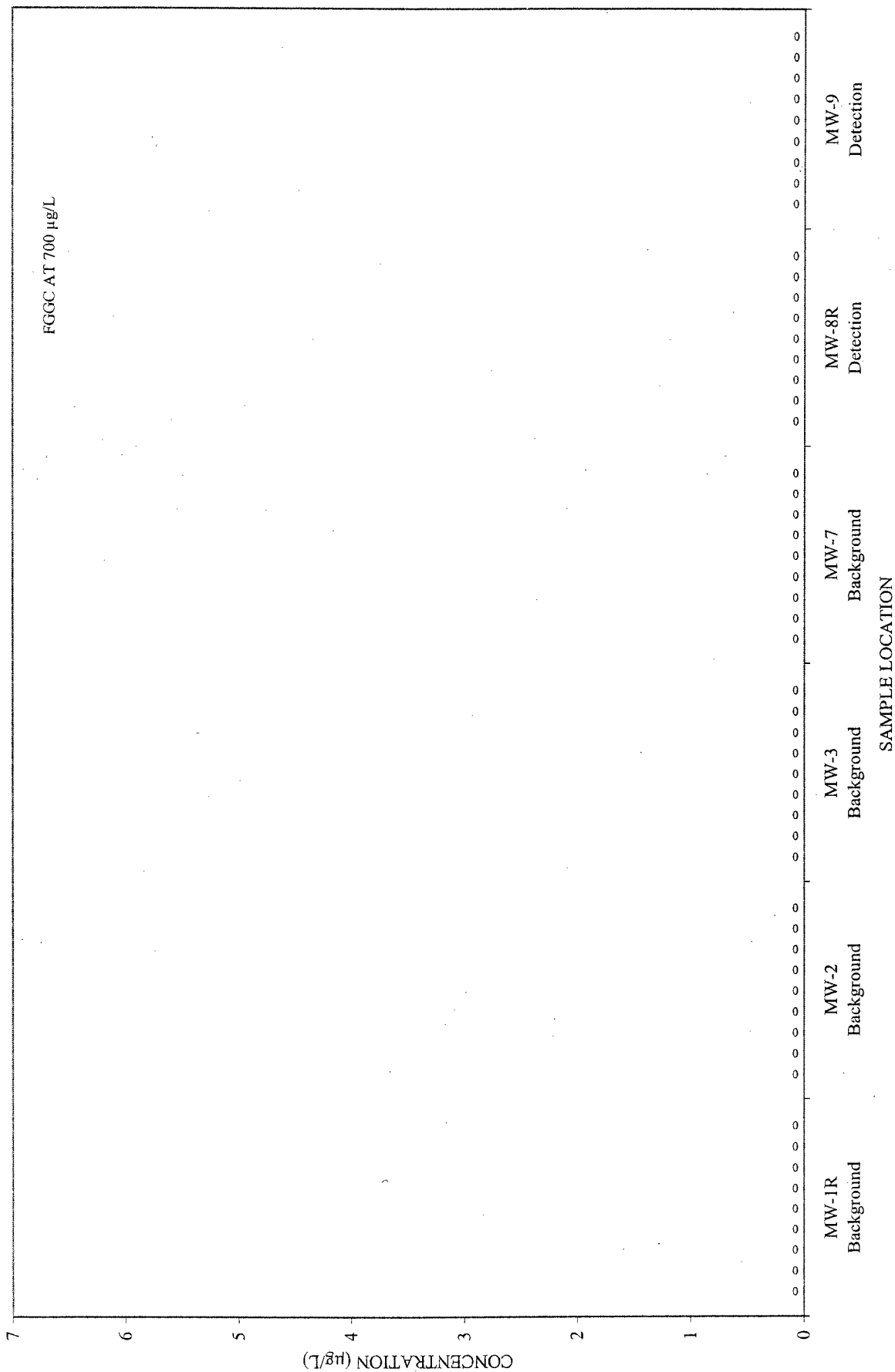
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1,4-DICHLOROBENZENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

ACETONE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

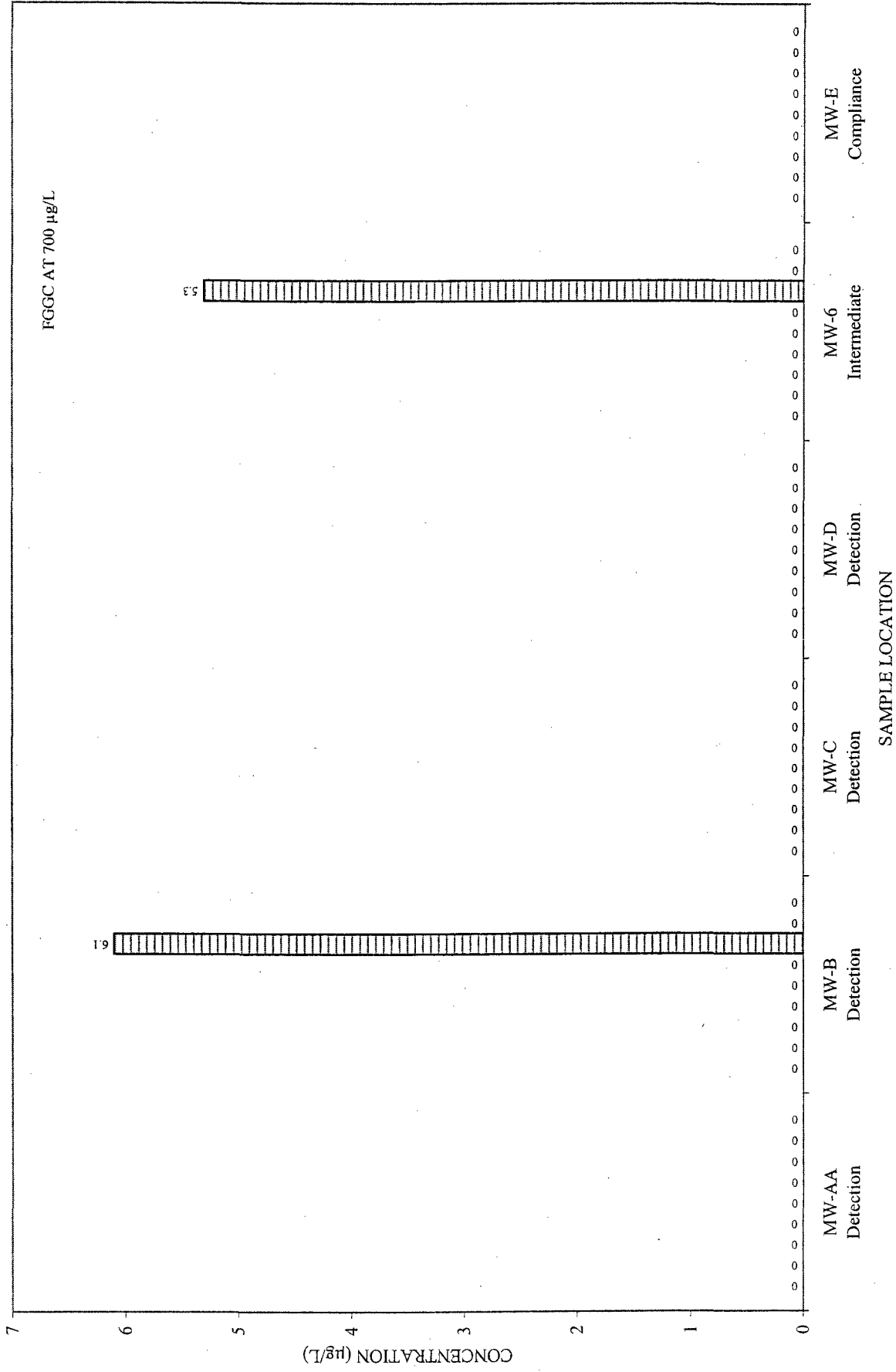


00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

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ACETONE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

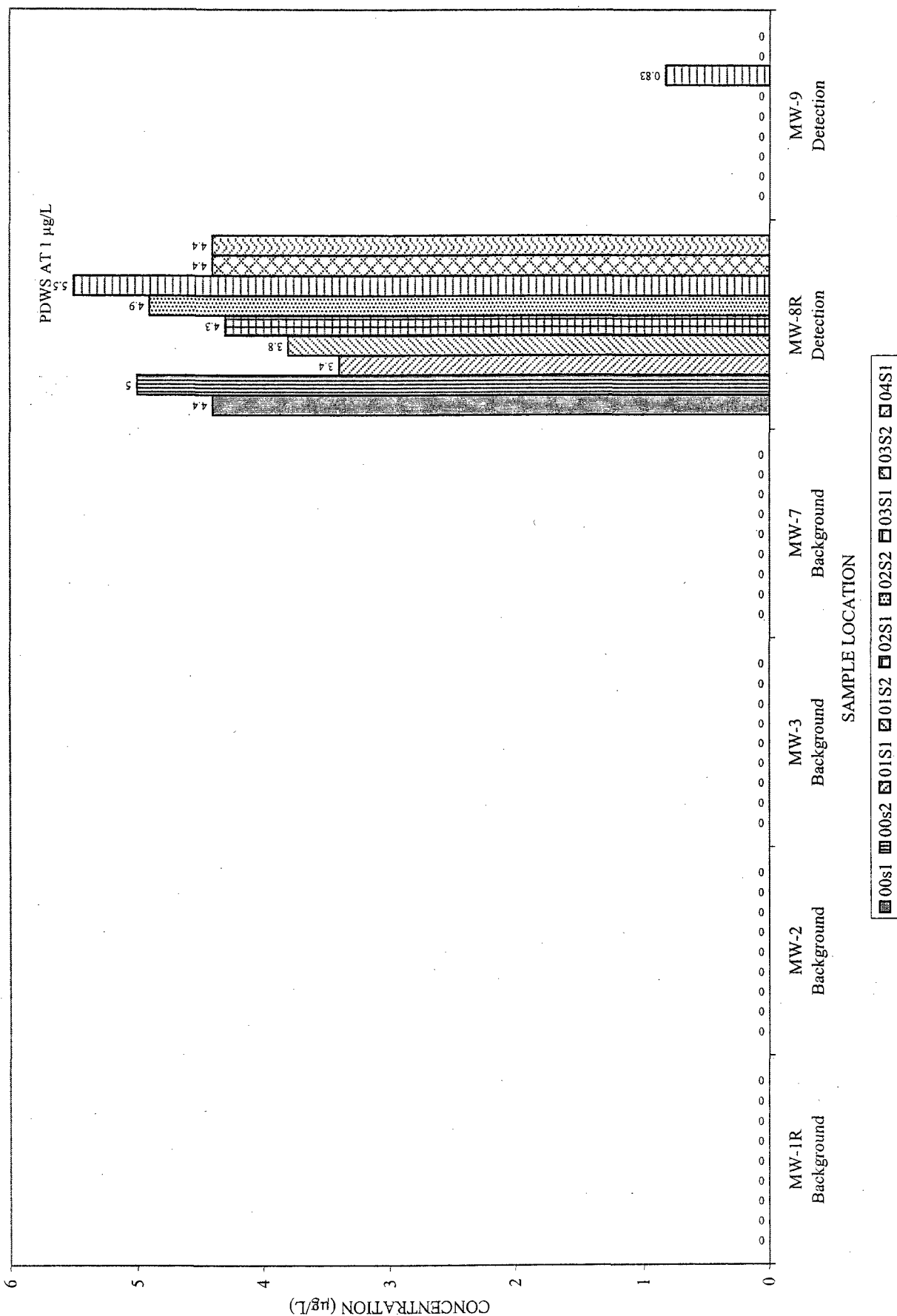


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BENZENE

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

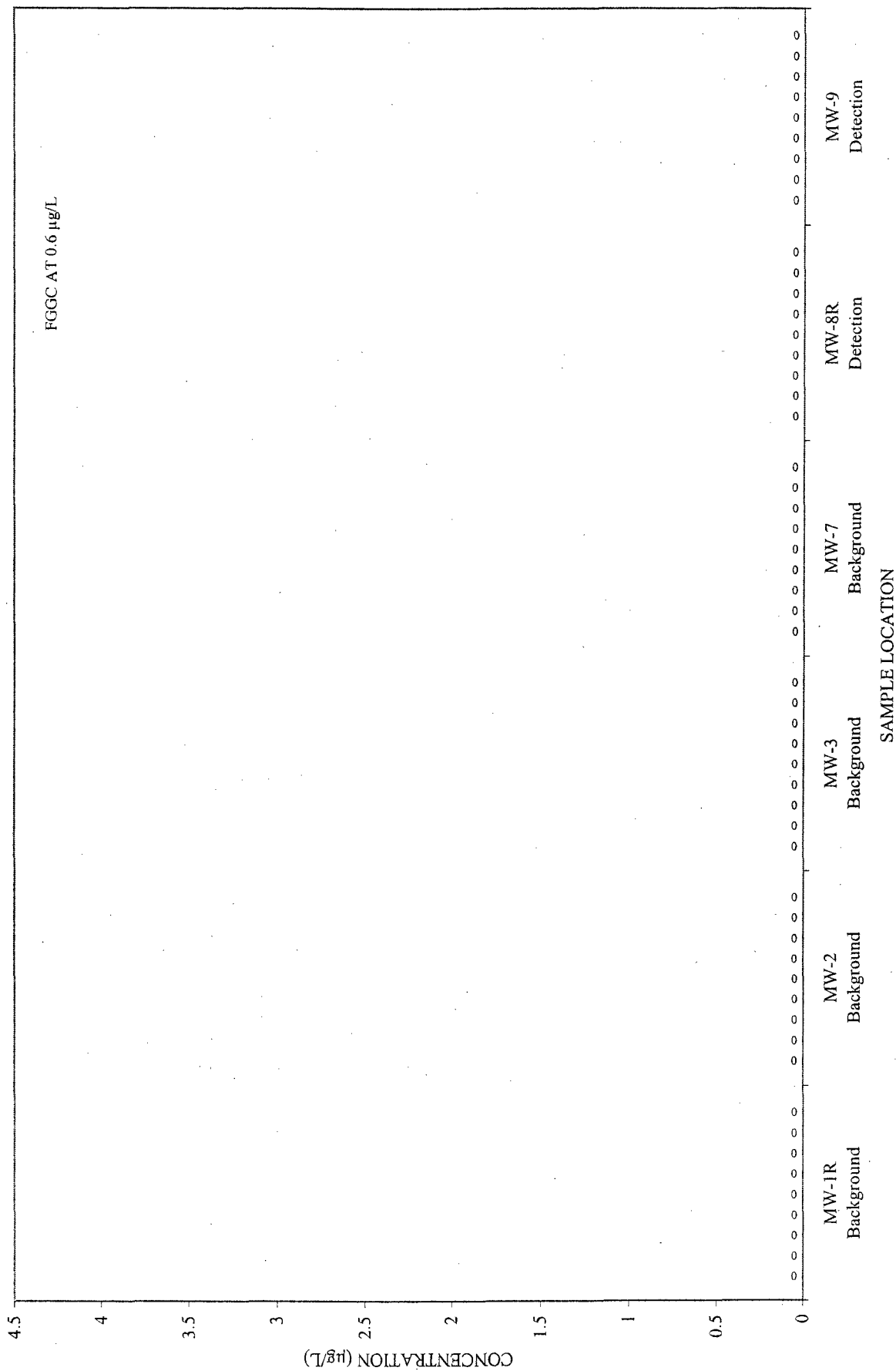


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BENZENE



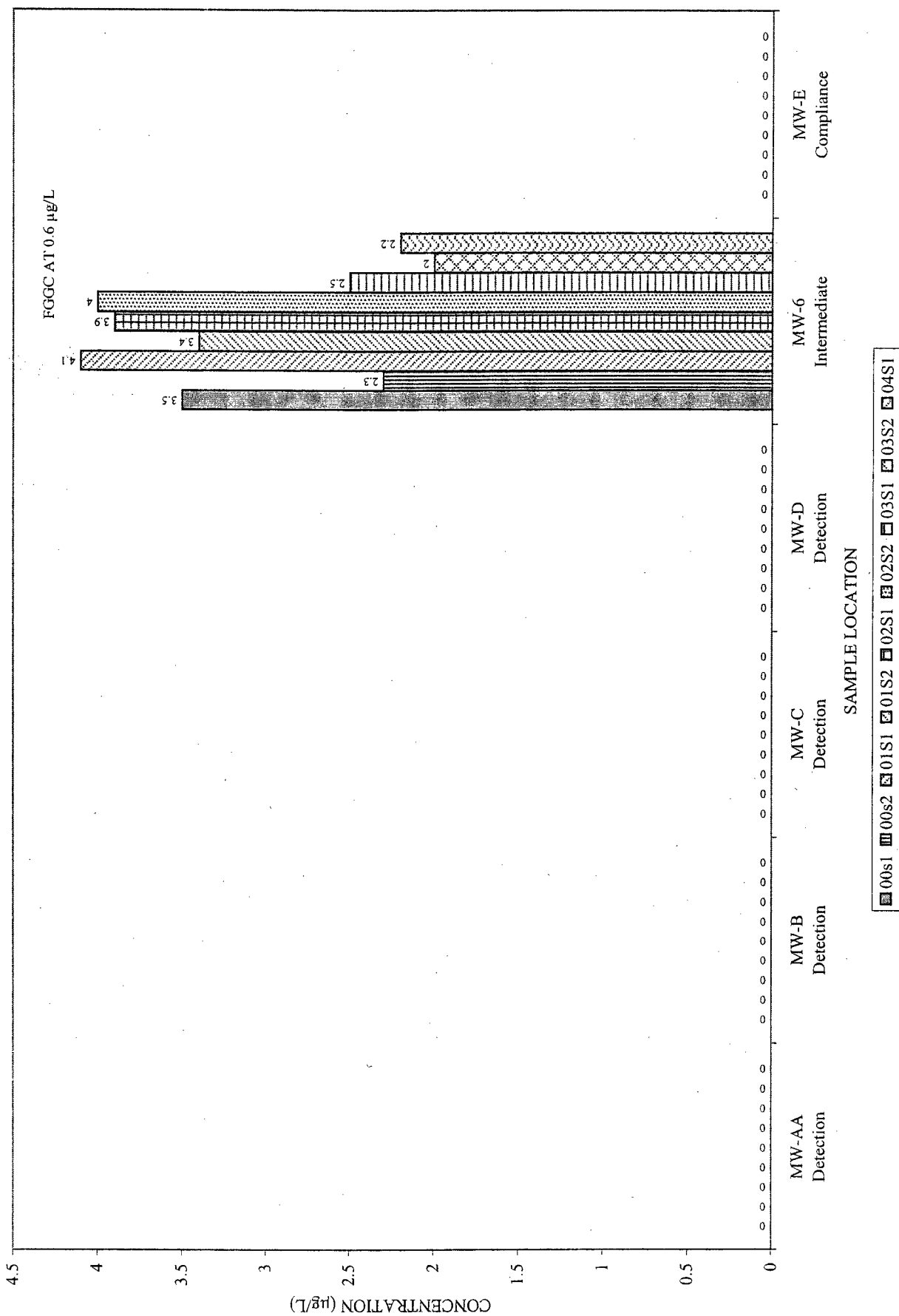
BROMODICHLOROMETHANE **CITRUS COUNTY CENTRAL LANDFILL** **GROUNDWATER CHEMISTRY GRAPH**



☒ 00s1
 ☐ 00s2
 ☒ 01S1
 ☒ 01S2
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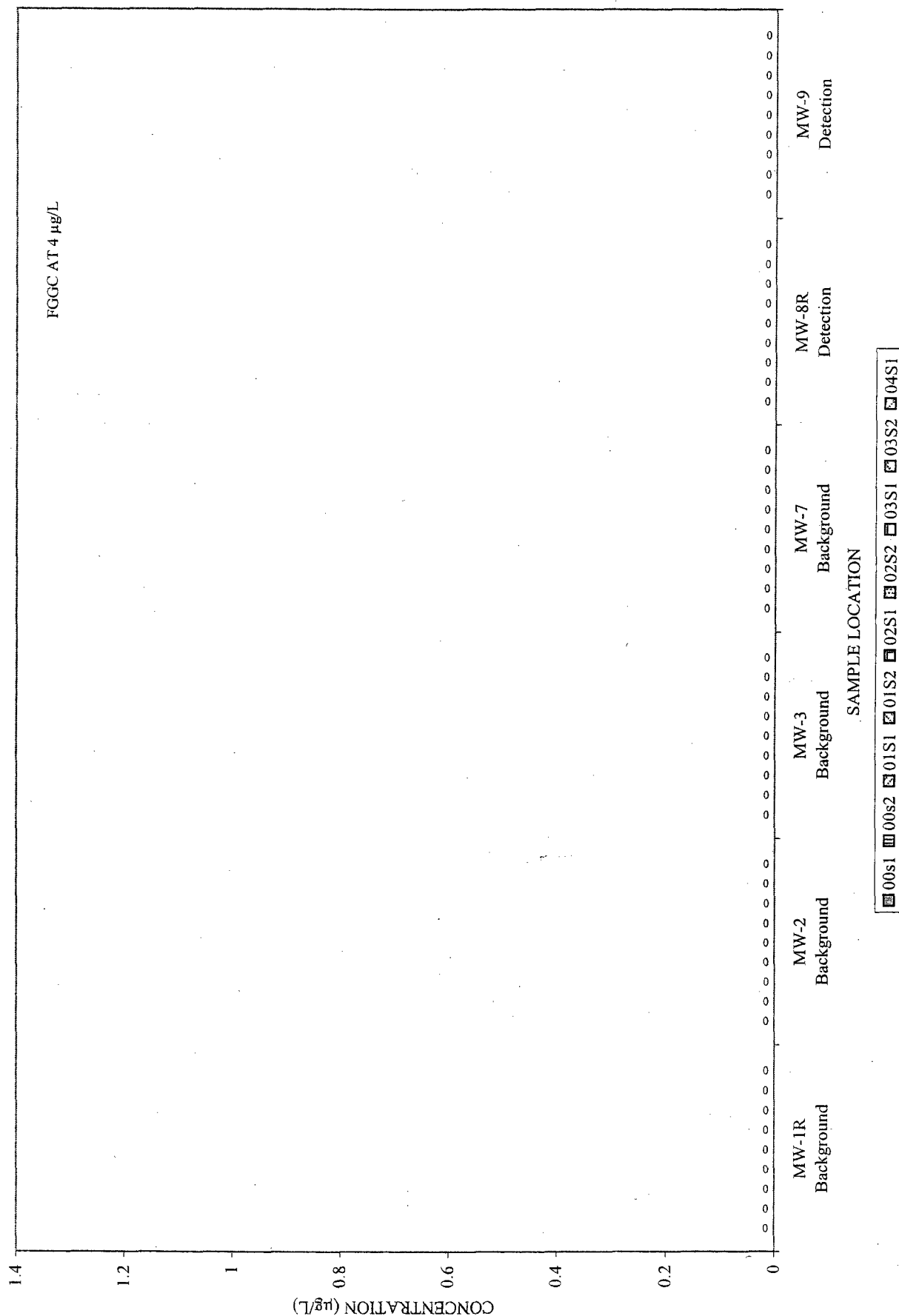
BROMODICHLOROMETHANE
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



BROMOFORM

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

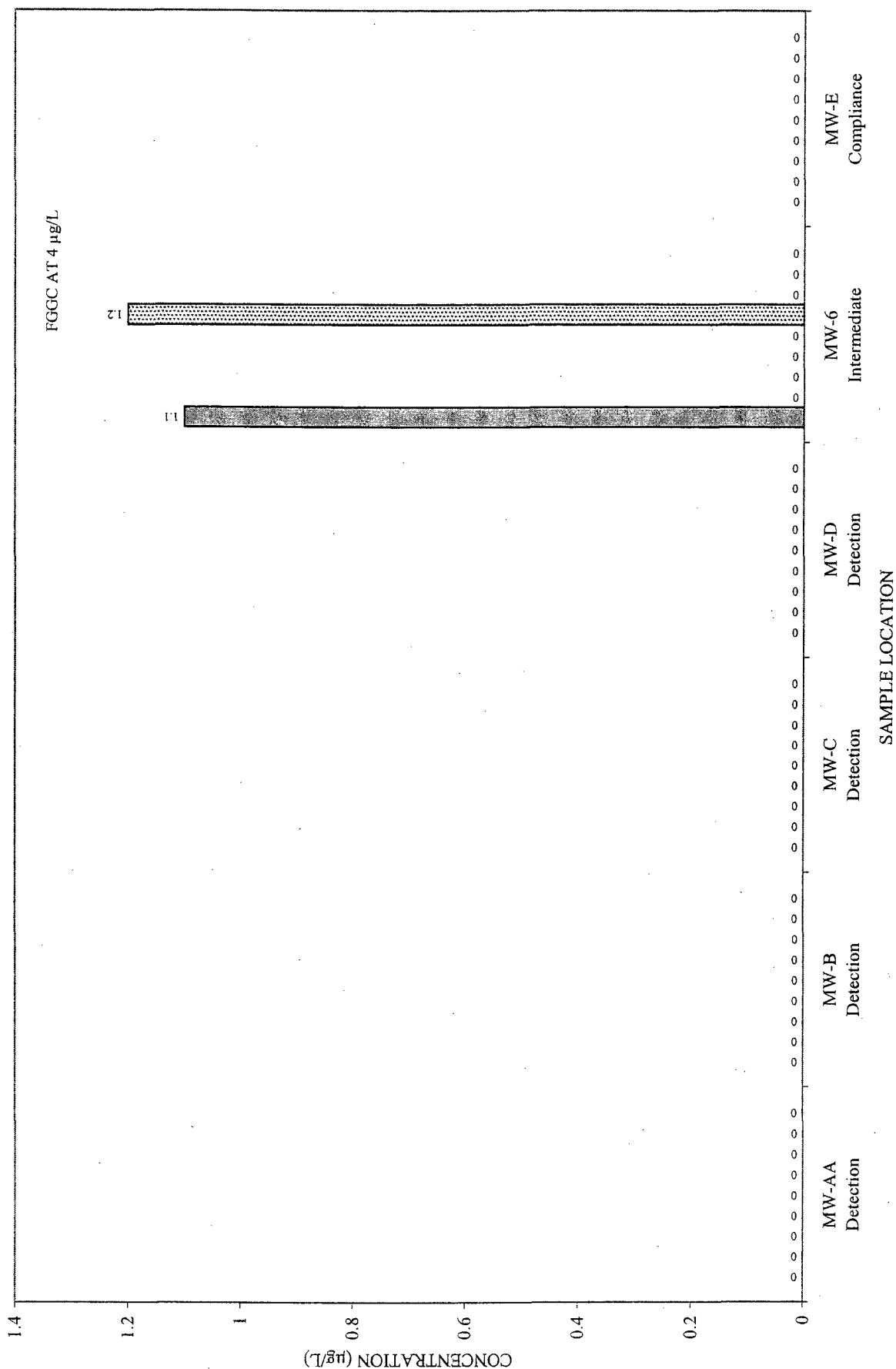


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BROMOFORM

CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH

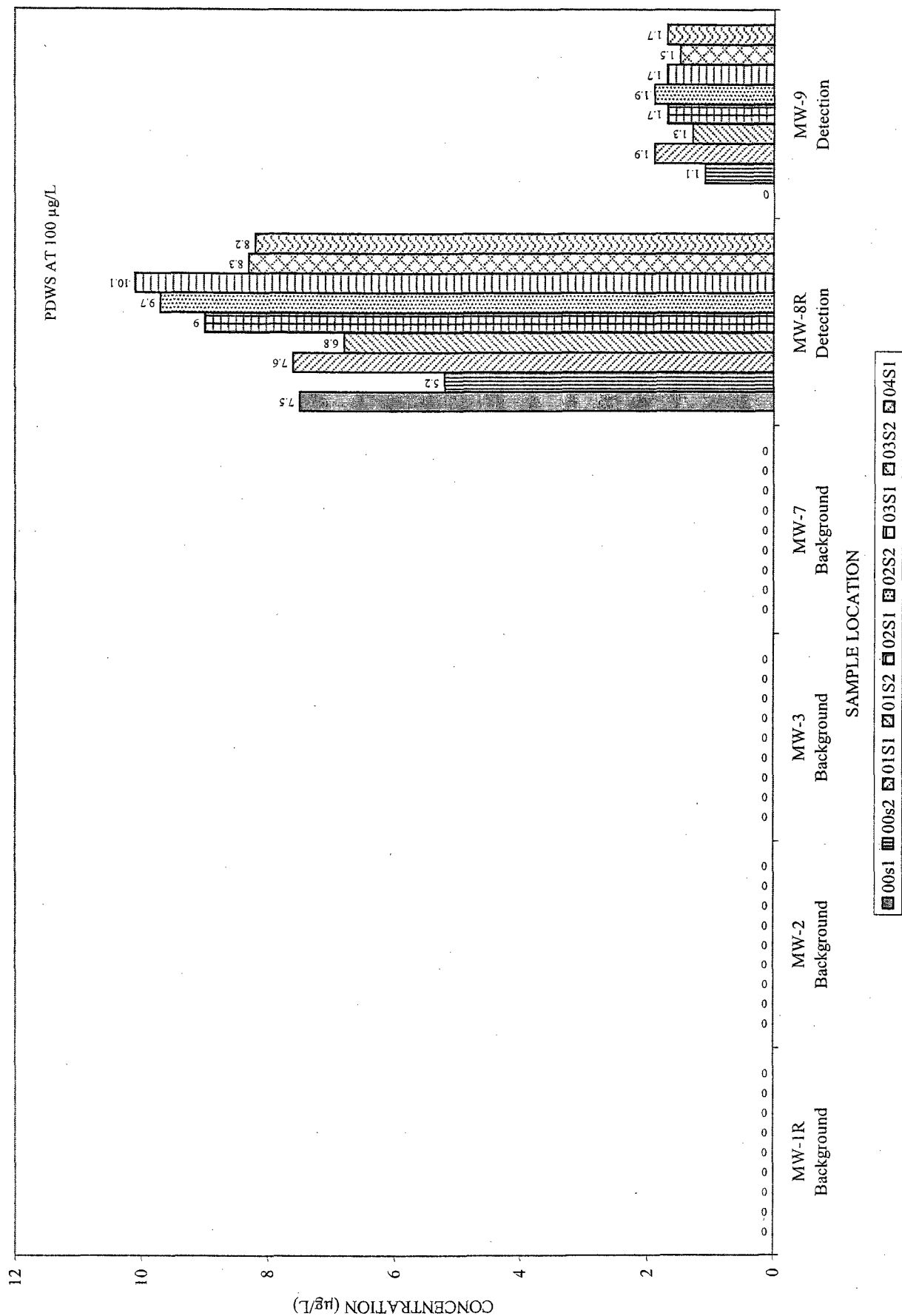


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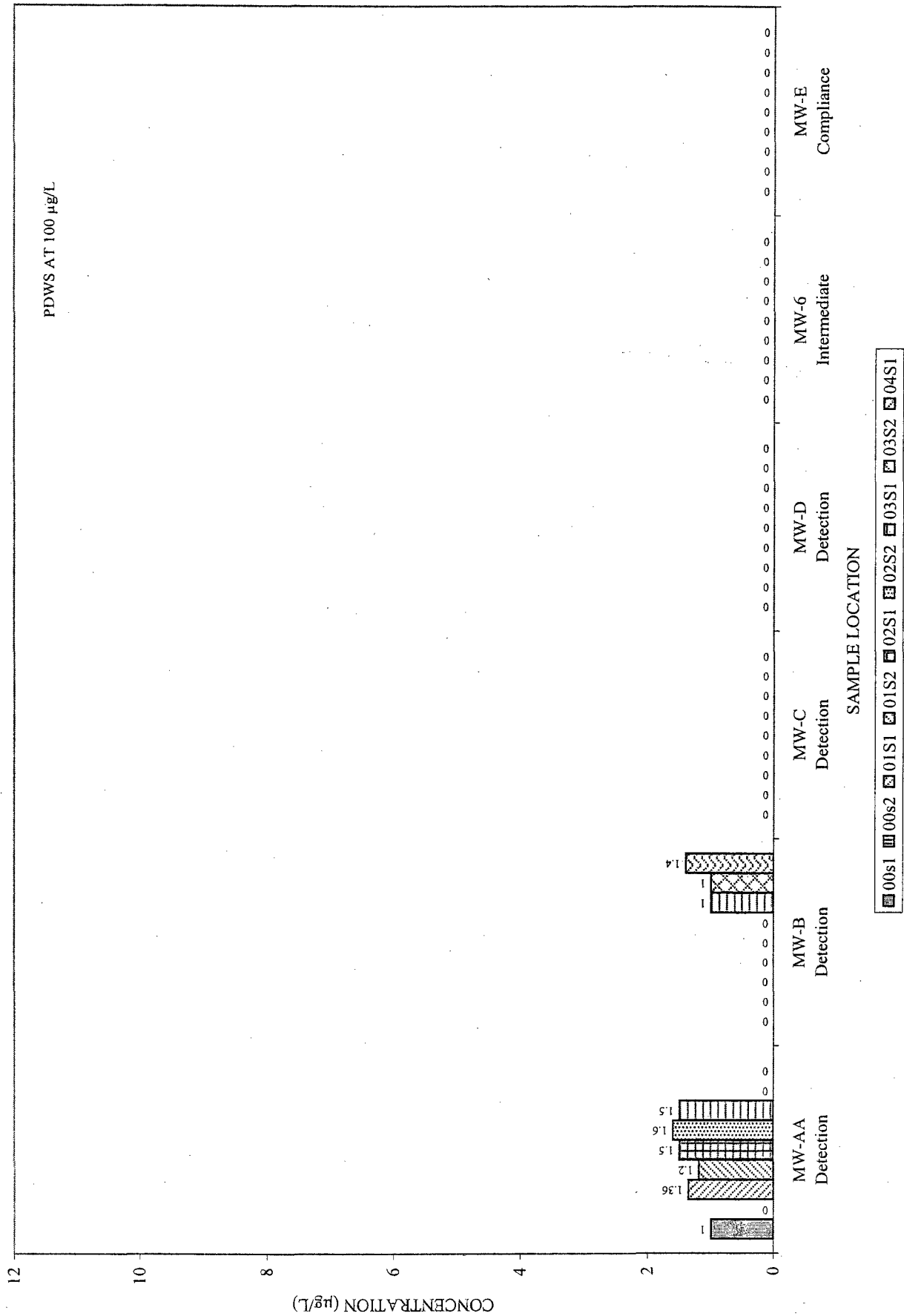
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CHLOROBENZENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

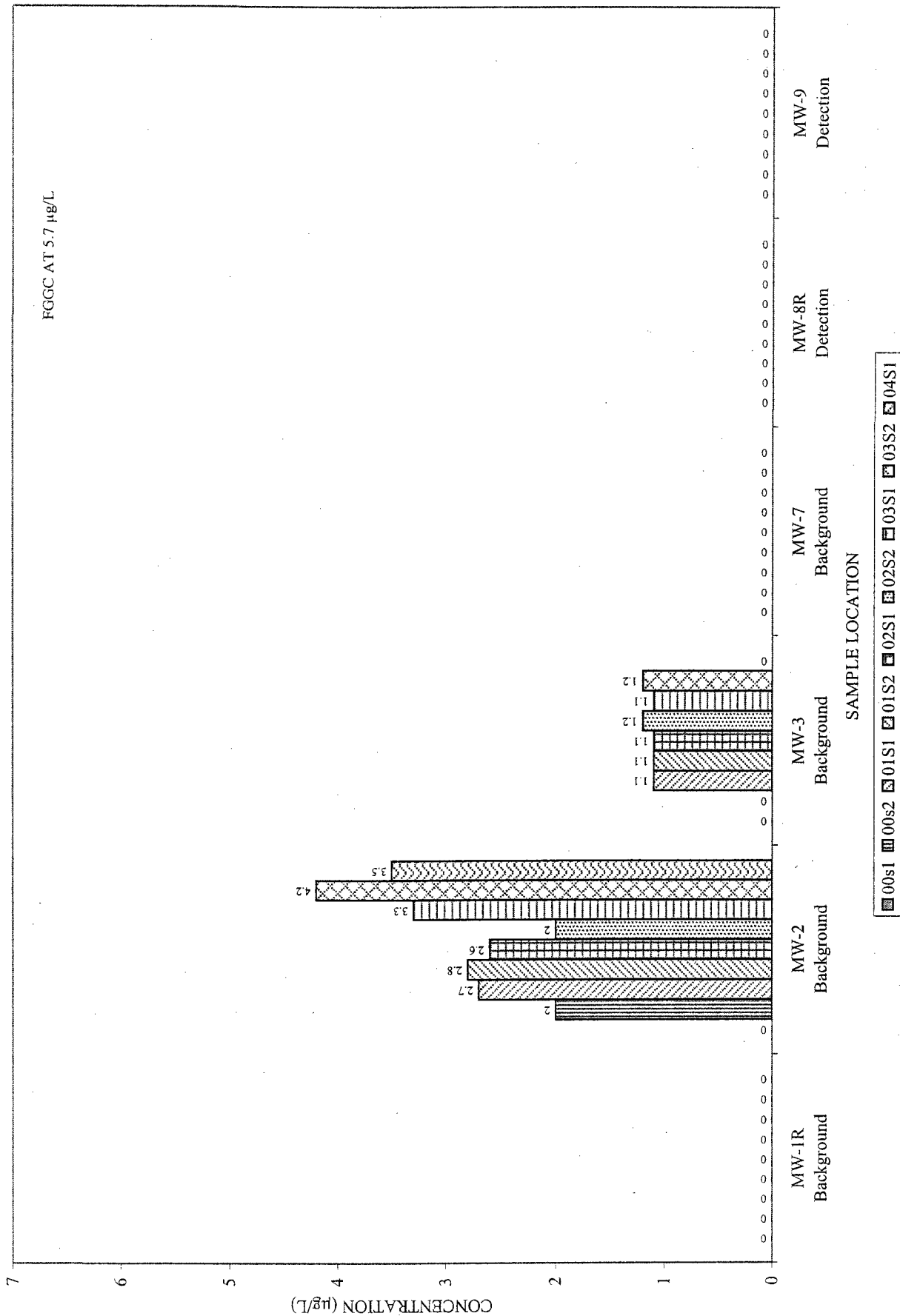


CHLOROBENZENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

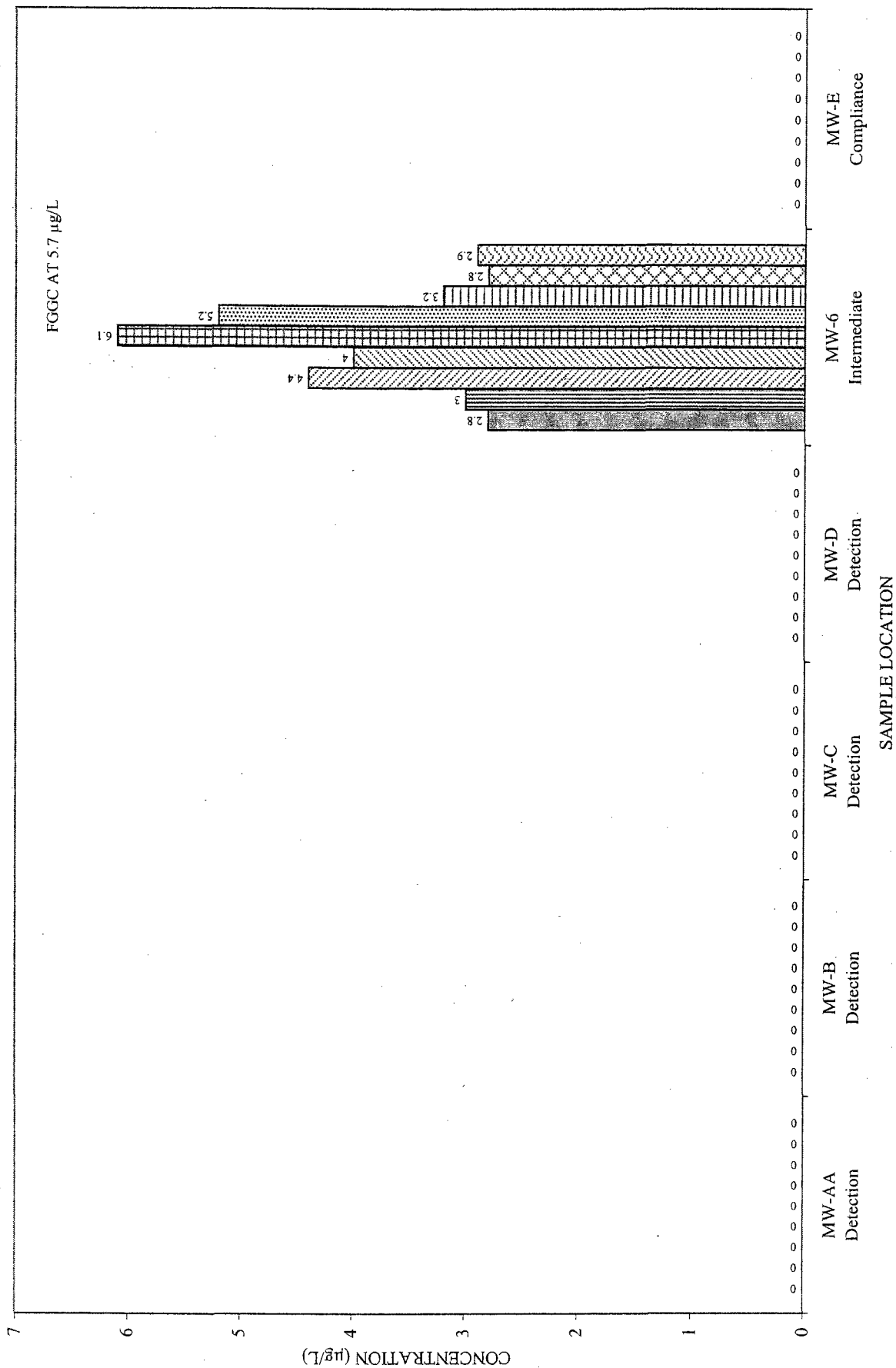


CHLOROFORM

CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



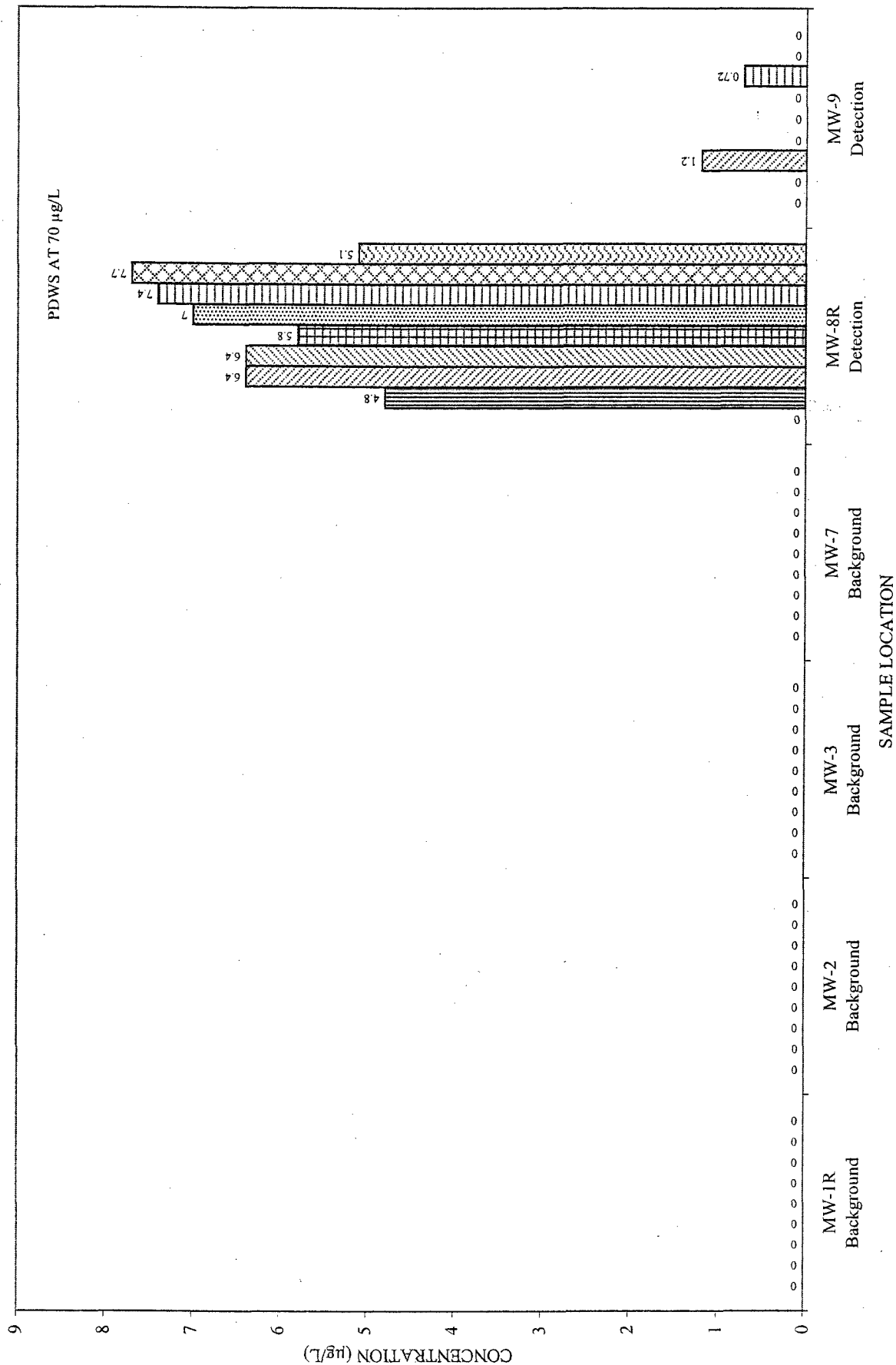
CHLOROFORM CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

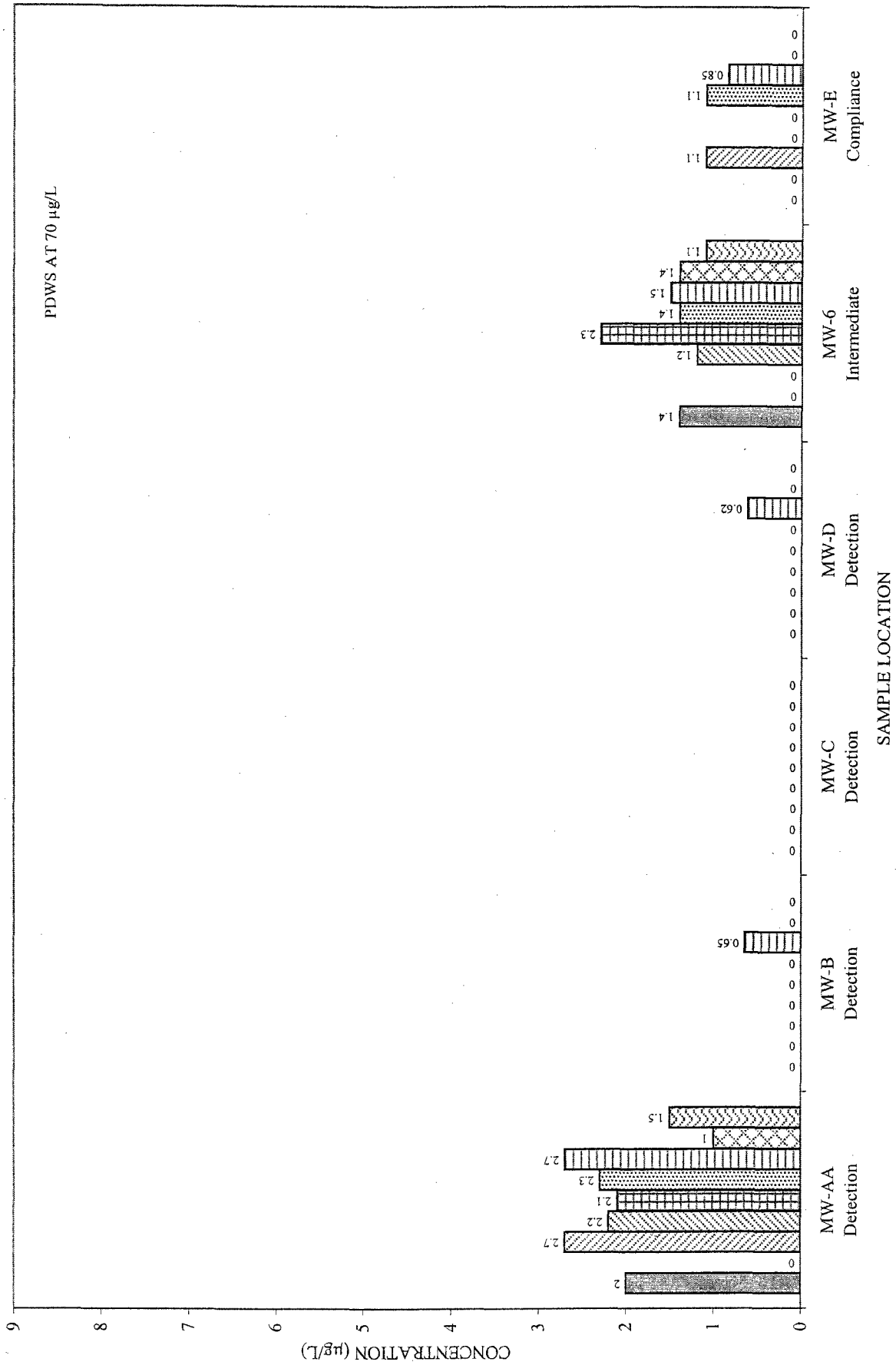
0 = BELOW LABORATORY DETECTION LIMIT

CIS-1,2-DICHLOROETHYLENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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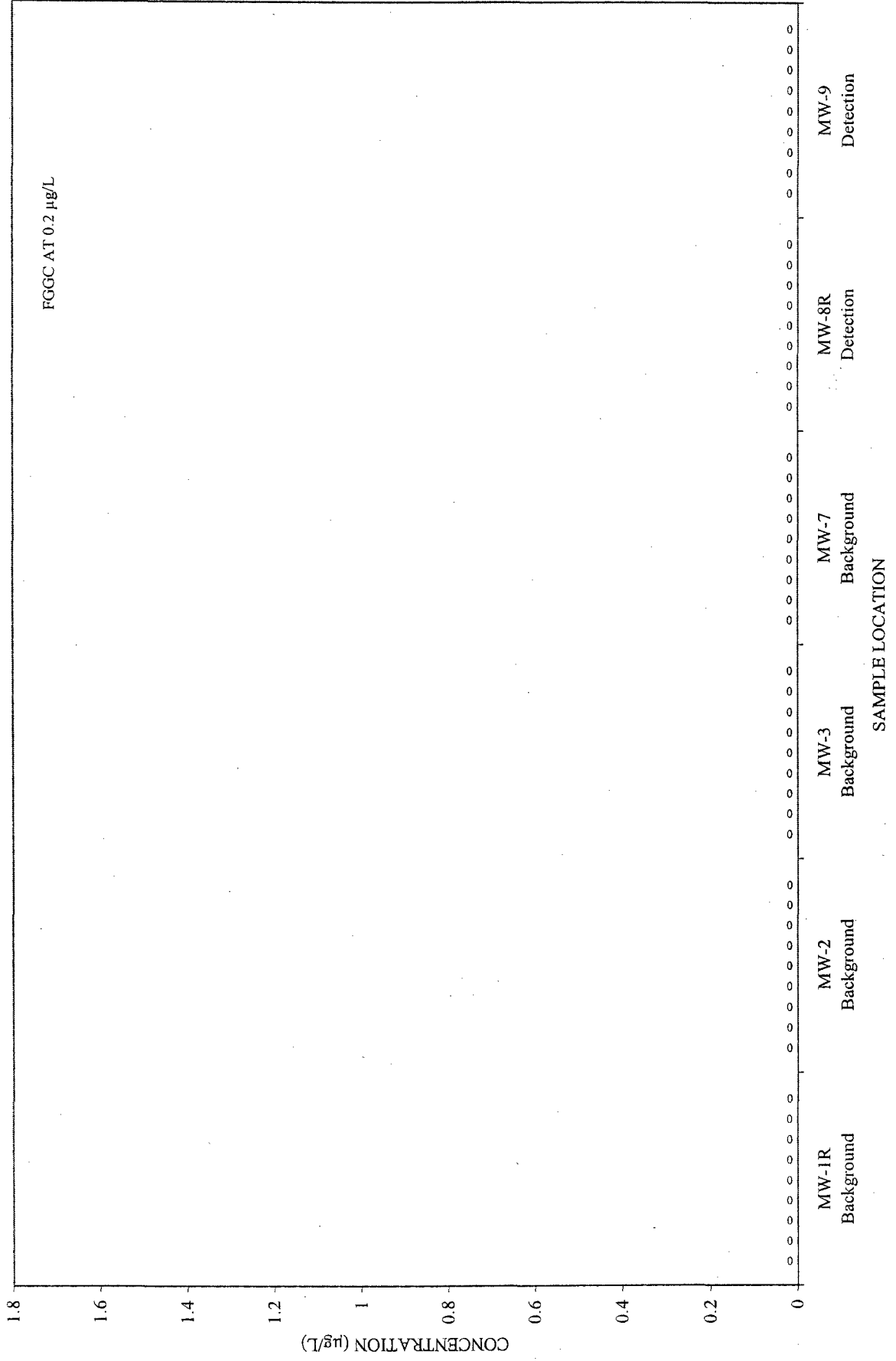
CIS-1,2-DICHLOROETHYLENE
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

CIS-1,3-DICHLOROPROPENE
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH

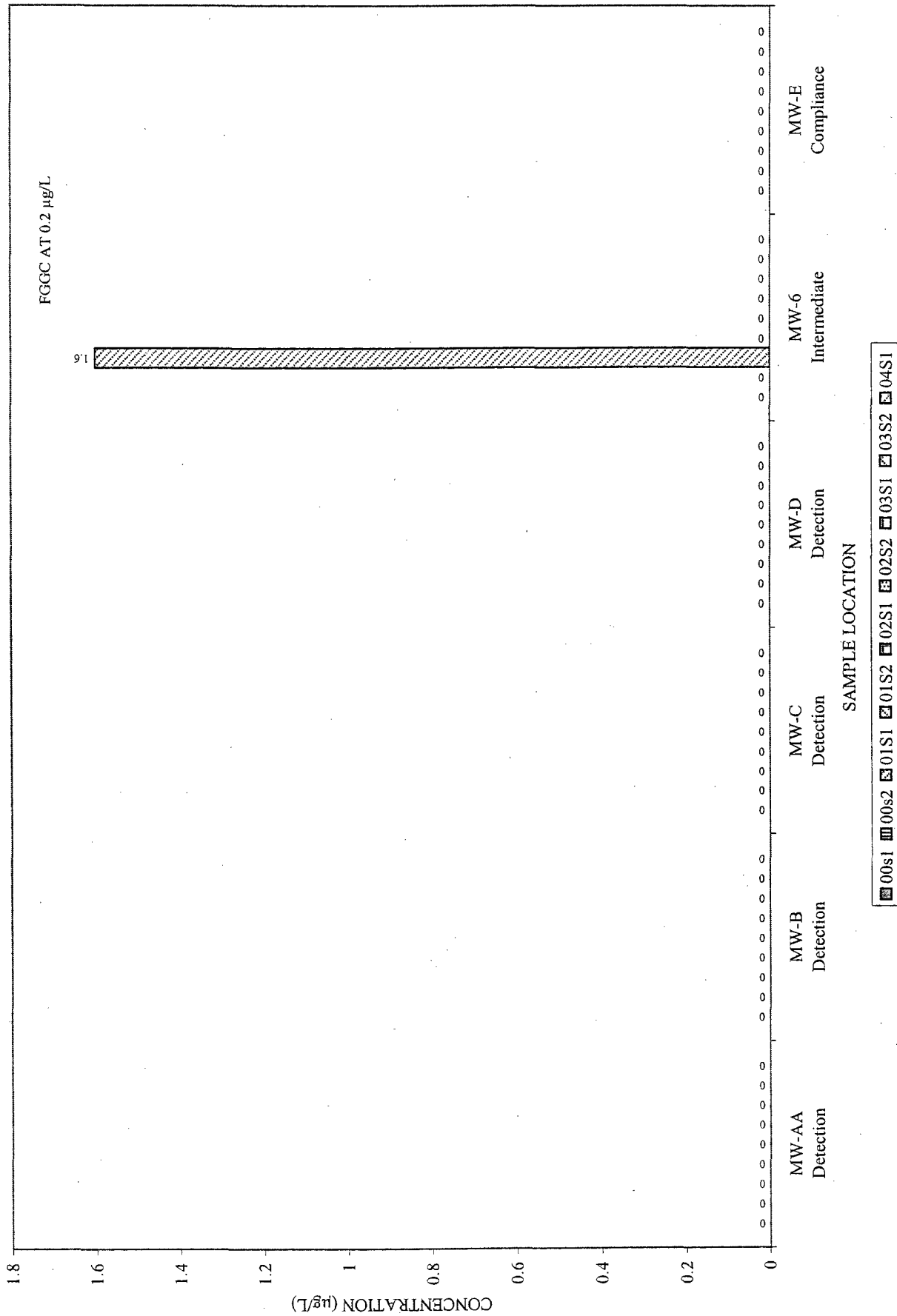


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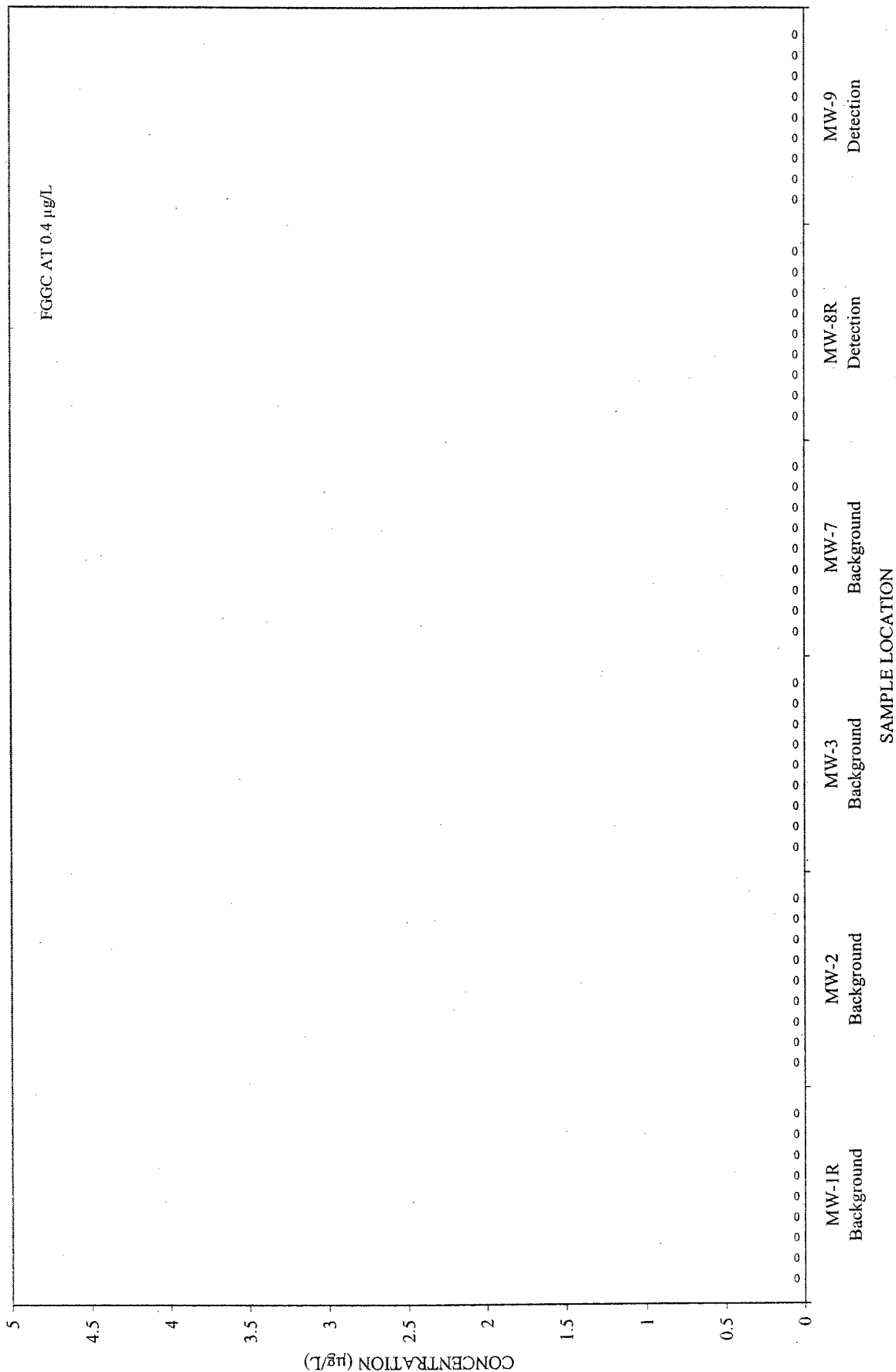
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CIS-1,3-DICHLOROPROPENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

DIBROMOCHLOROMETHANE
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



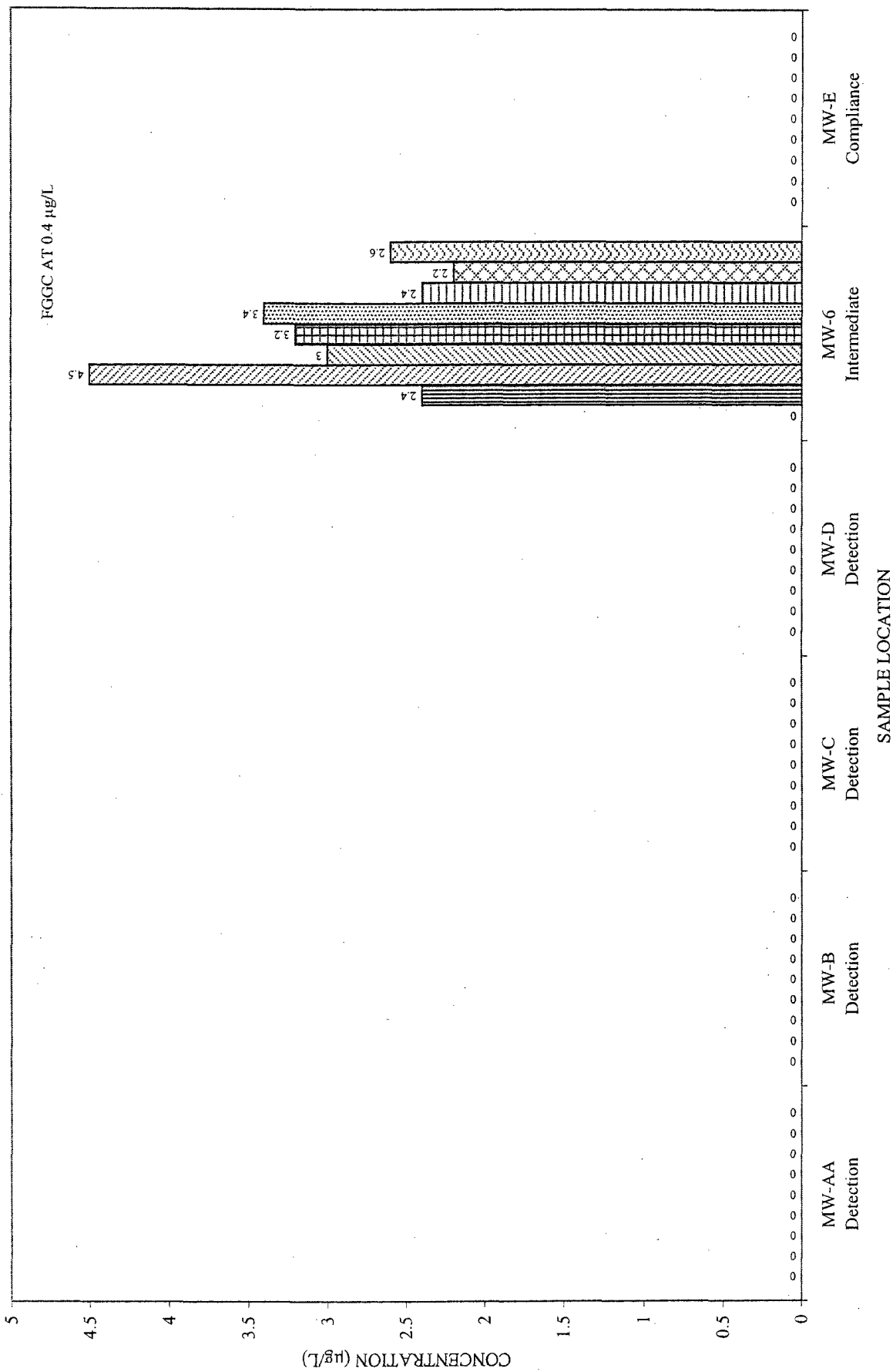
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DIBROMOCHLOROMETHANE

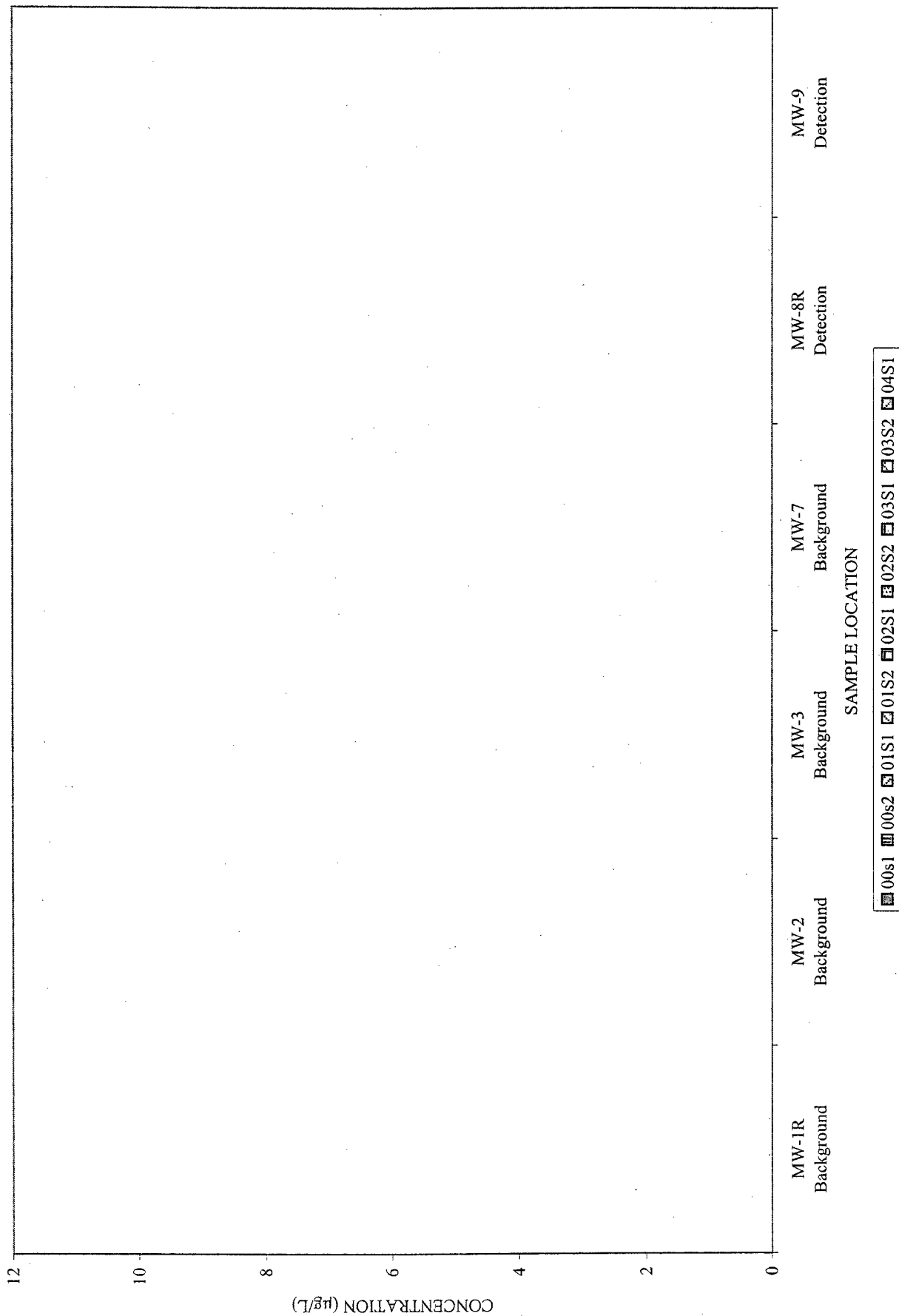
CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH



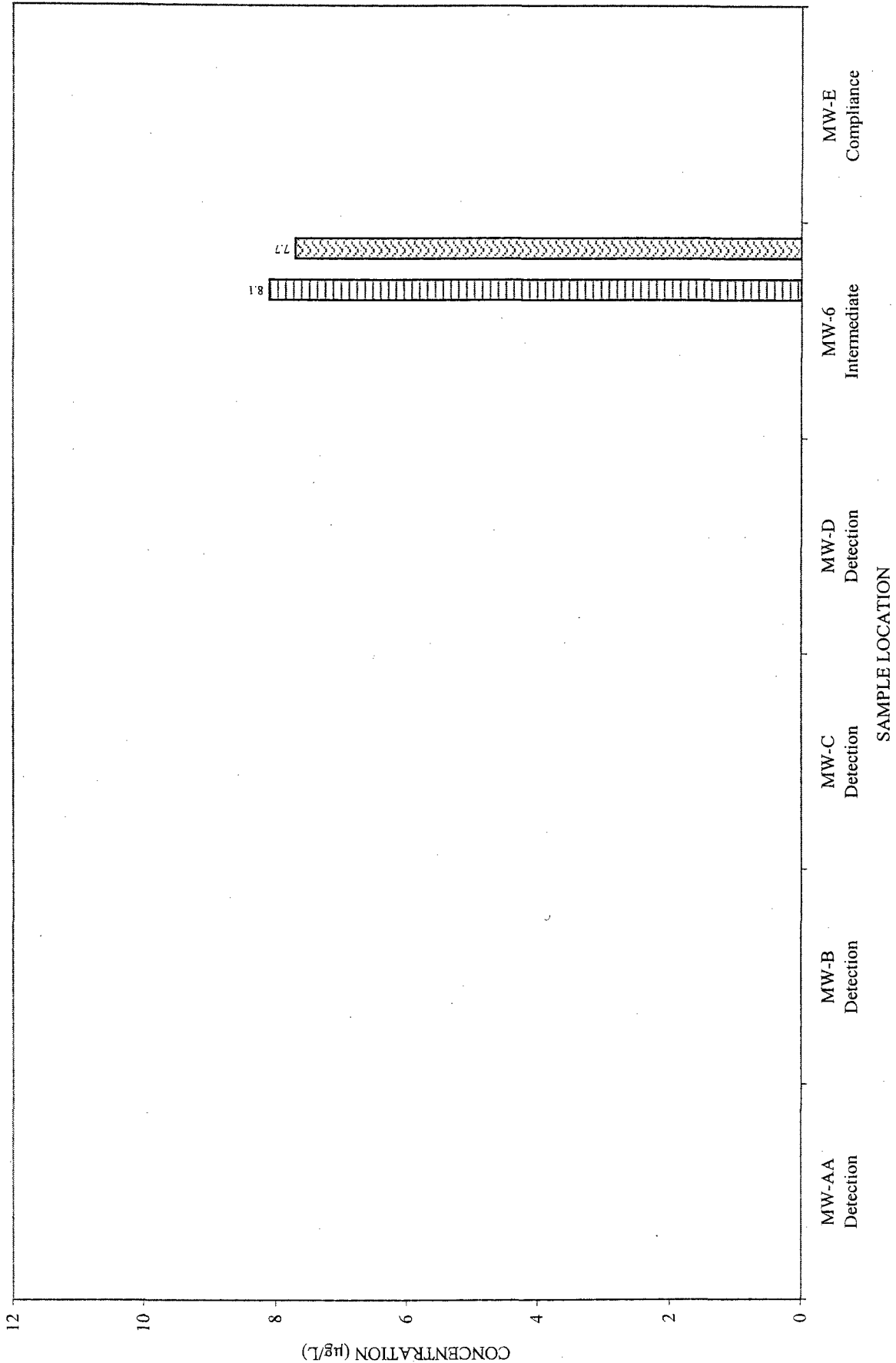
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TOTAL TRIHALOMETHANES
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

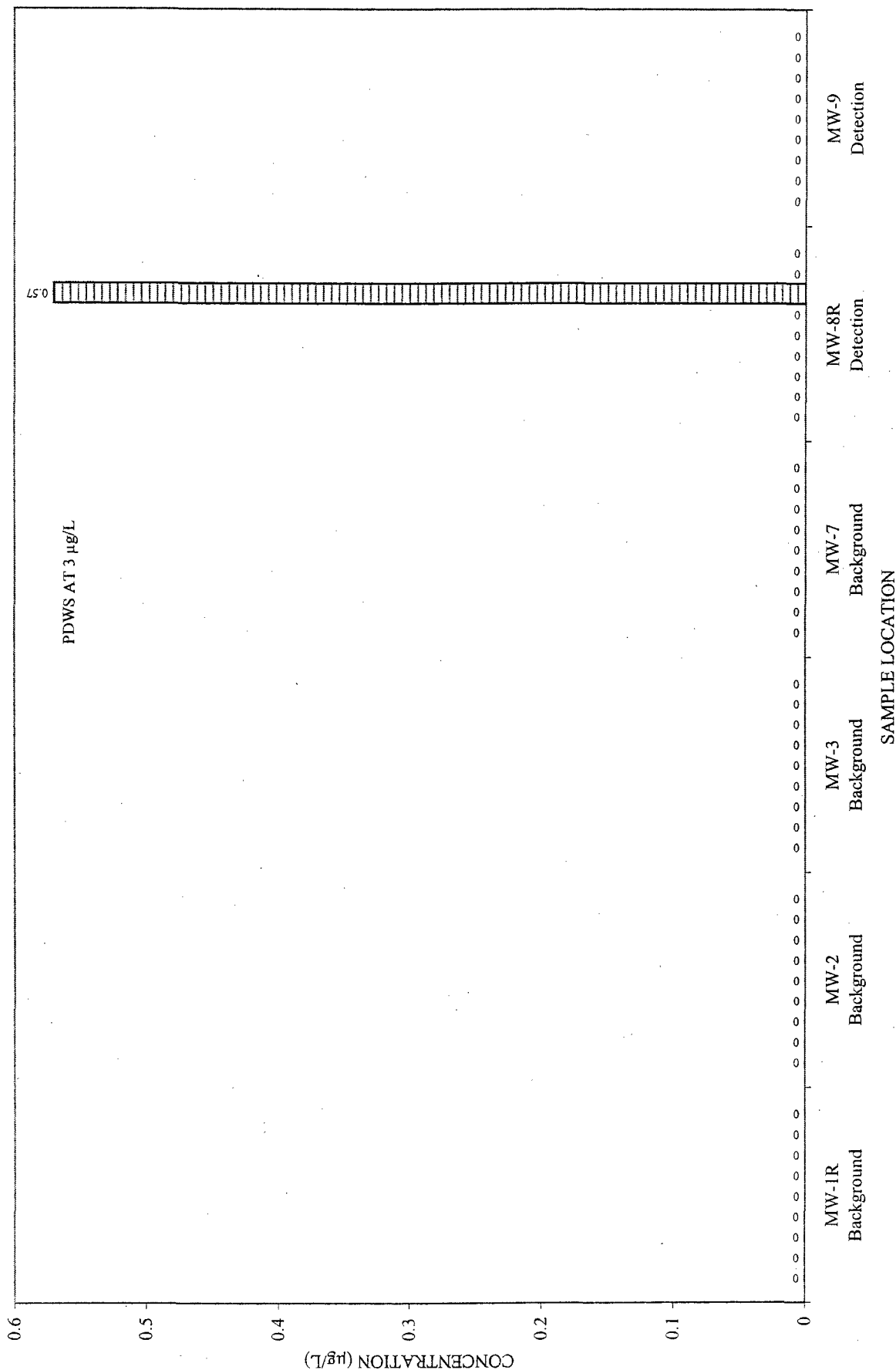
TOTAL TRIHALOMETHANES CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



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0 = BELOW LABORATORY DETECTION LIMIT

TRICHLOROETHENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

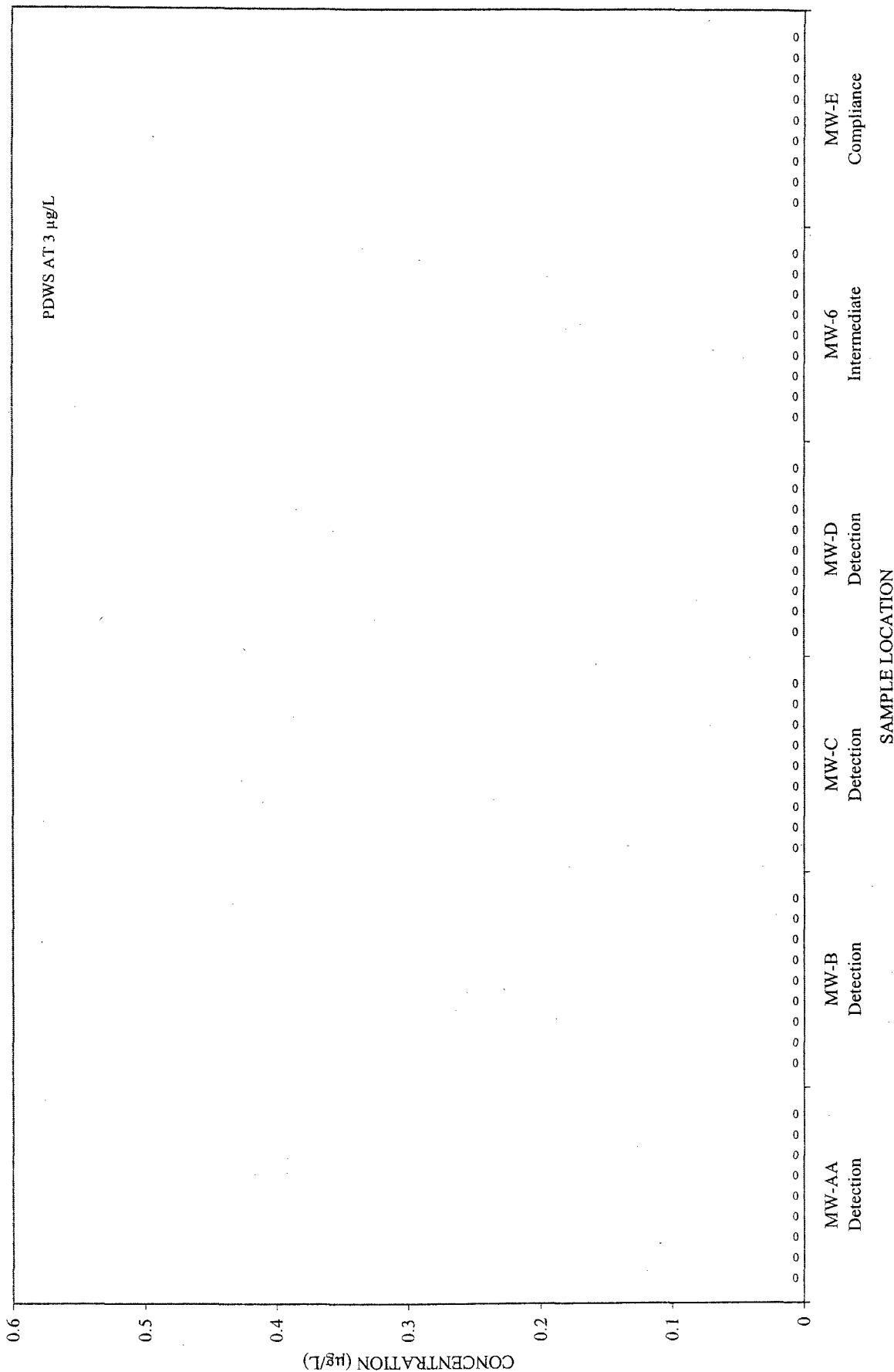


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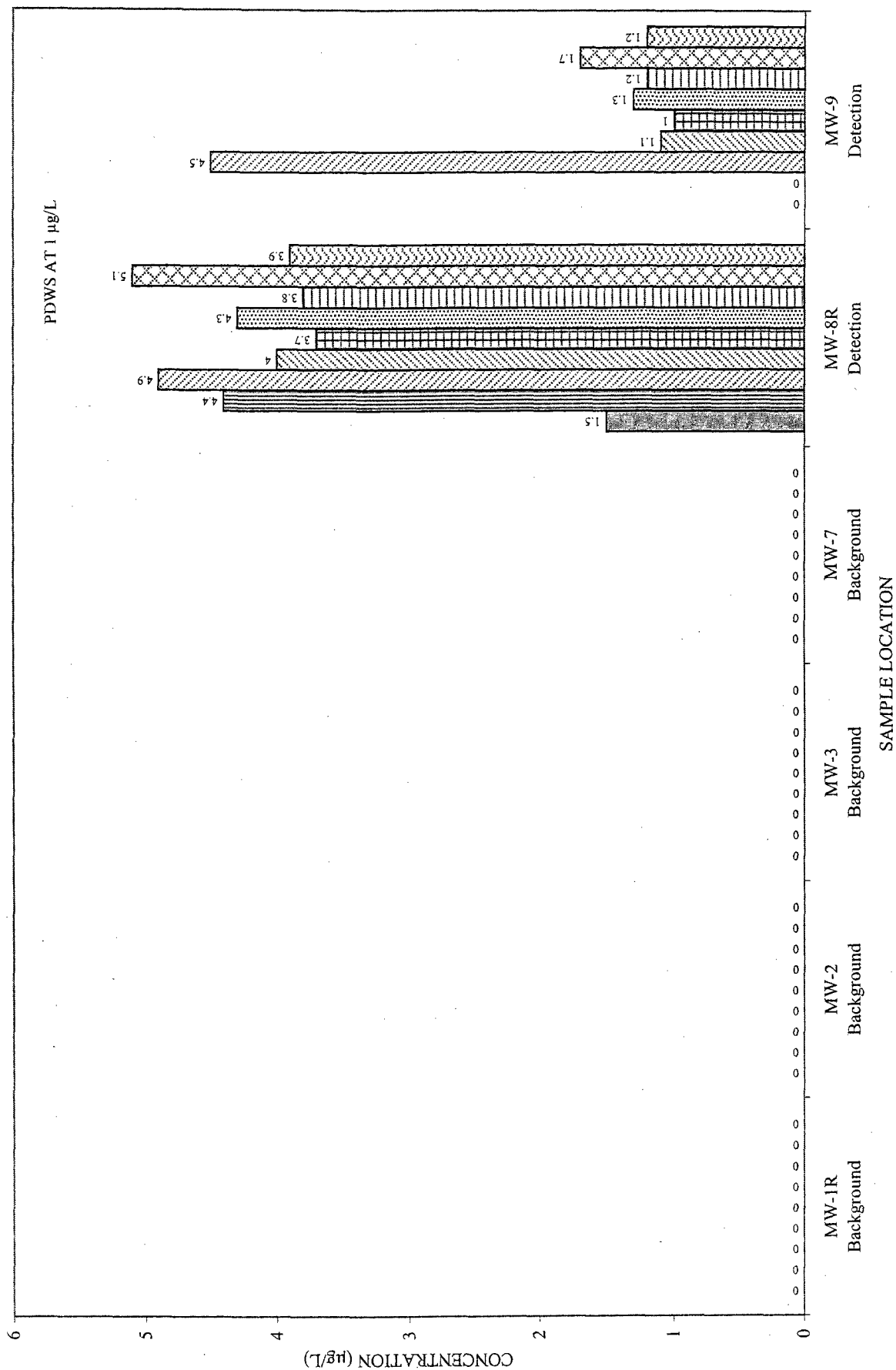
TRICHLOROETHENE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



00s1 00s2 01S1 01S2 02S1 02S2 03S1 03S2 04S1

0 = BELOW LABORATORY DETECTION LIMIT

VINYL CHLORIDE CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH

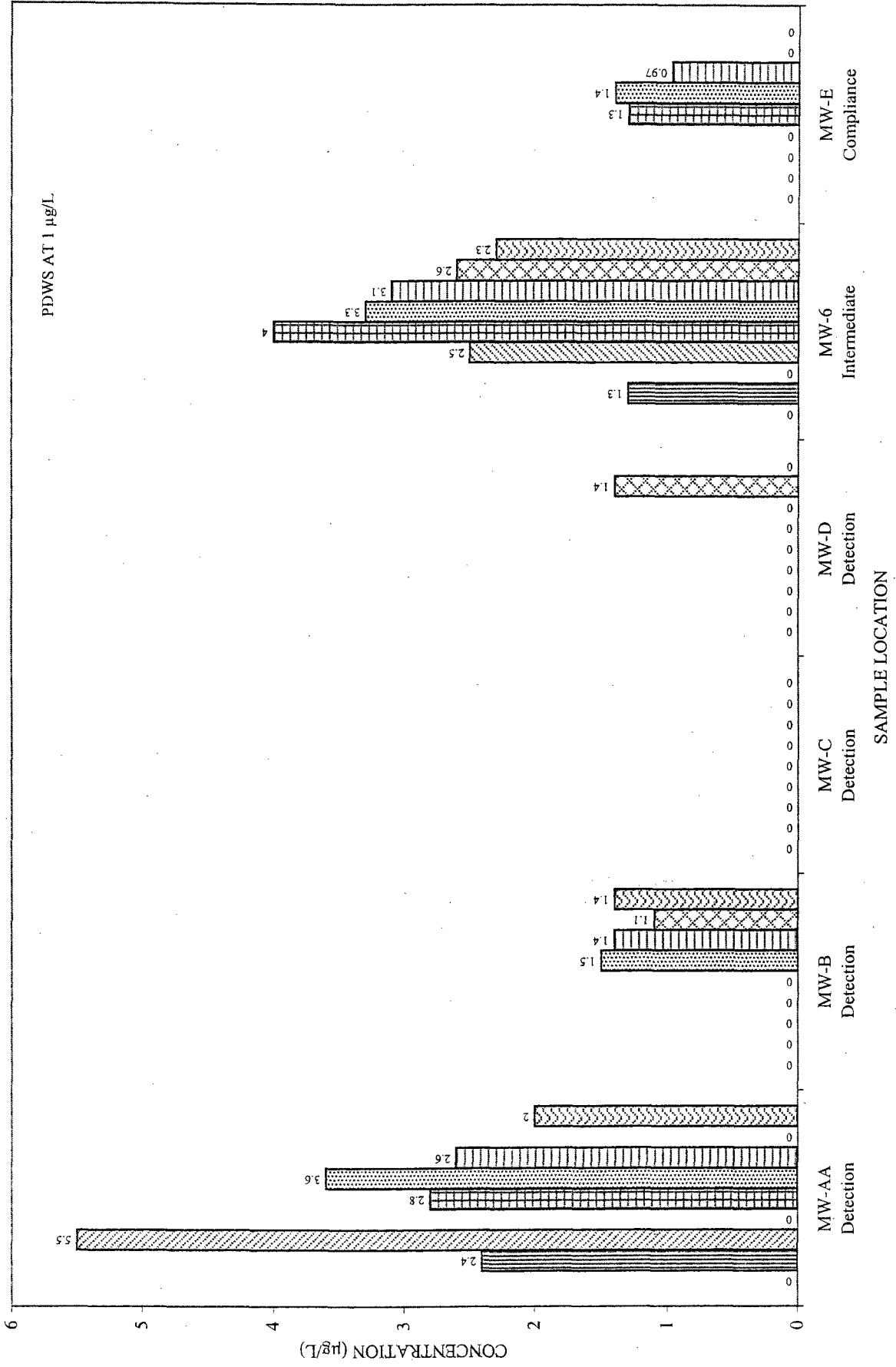


0 = BELOW LABORATORY DETECTION LIMIT

VINYL CHLORIDE

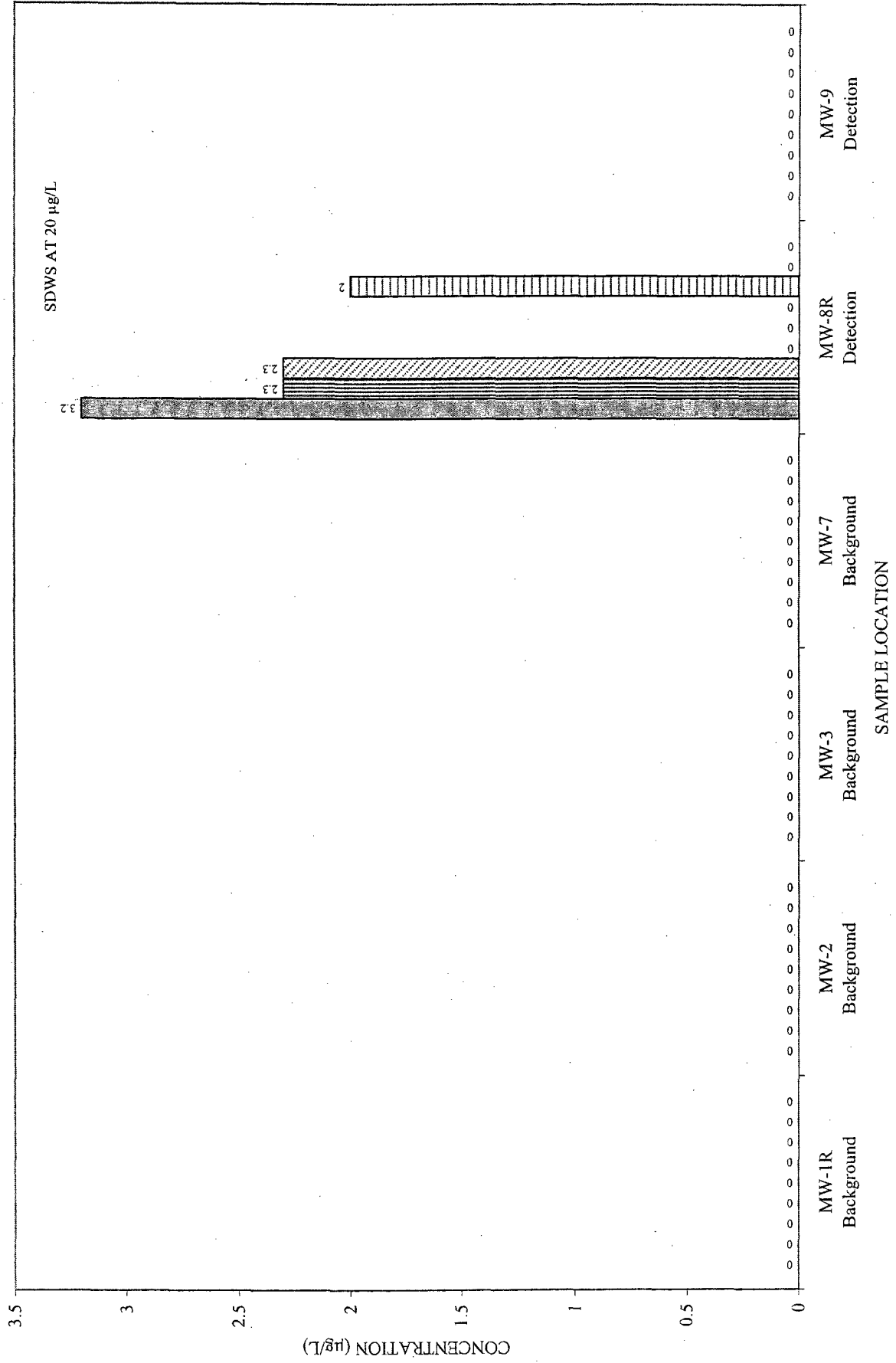
CITRUS COUNTY CENTRAL LANDFILL

GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

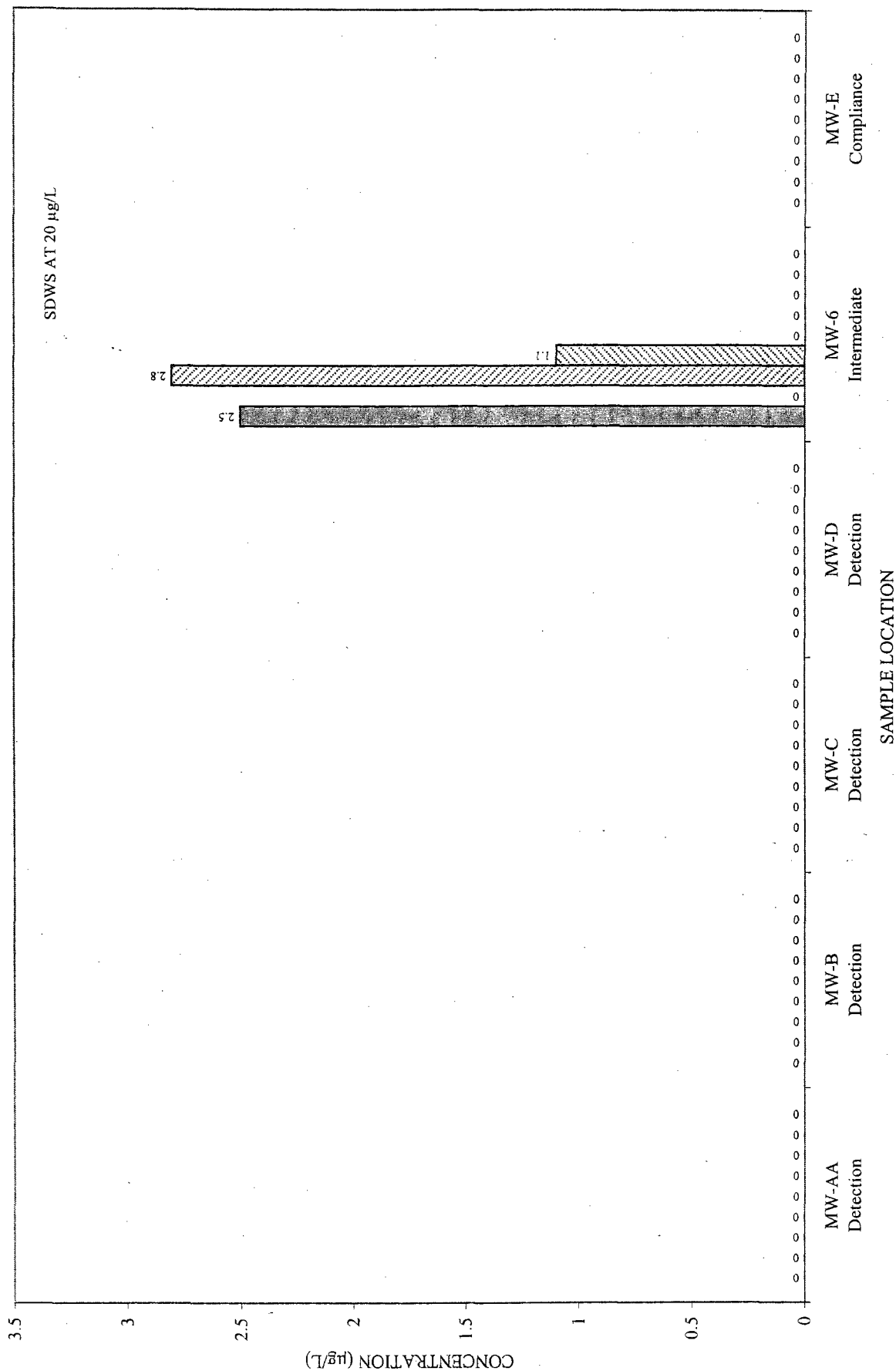
XYLENES CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

XYLENES

CITRUS COUNTY CENTRAL LANDFILL GROUNDWATER CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

ATTACHMENT 6

HISTORICAL DATA SUMMARY

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	CONDUCTIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	pH (FIELD)	TEMPER- ATURE (FIELD)	TURBIDITY (FIELD)	TURBIDITY, FILTERED (FIELD)	AMMONIA NITROGEN	BICARB- ONATE ALKALINITY AS CaCO3	CHLORIDE mg/L	NITRATE NITROGEN	NITRATE/ NITRITE	NITRITE NITROGEN (TOTAL AS N)	PERCENT SOLIDS	SPECIFIC CONDUCT- TANCE (LAB)
STANDARD UNITS	(1) UMHOS/CM	(1) ppm	(1) deg C	(1) NTU	(1) NTU	- NTU	(1) mg/L	(1) mg/L	250 mg/L**	10 mg/L*	10 mg/L*	1 mg/L*	(1) %	(1) UMHOS/CM
Background														
MW-1R	95.6	4.6	5.82	26.0	2.19	-	<0.02	-	10	0.36	-	-	-	-
MW-1R	96.2	2.2	5.58	26.3	2.24	-	<0.02	-	8.8	<0.05	-	-	-	-
MW-1R	76	7.61	5.19	20.3	3.95	-	<0.2	-	<20	<0.1	-	-	-	-
MW-1R	116	2.14	5.73	26.3	2.36	-	<0.02	-	6.7	1.2	-	<0.1	-	-
MW-1R	143	2.96	5.57	24.4	0.39	-	<0.02	-	3.8	9	-	<0.1	-	-
MW-1R	152	1.70	5.48	27.2	0.61	-	<0.02	-	4.5	7.9	-	<0.1	-	-
MW-2	20.8	6.6	5.60	21.8	1.79	-	<0.02	-	3.4	0.23	-	-	-	-
MW-2	49.2	2.18	6.11	27.2	1.2	-	0.1	-	4.2	<0.05	-	-	-	-
MW-2	19	3.58	5.11	22.4	1.40	-	<0.2	-	<20	<0.1	-	-	-	-
MW-2	19	3.49	5.04	22.6	0.90	-	<0.02	-	3	<0.1	-	<0.1	-	-
MW-2	22	5.54	5.02	22.5	0.46	-	<0.02	-	4.1	<0.1	-	<0.1	-	-
MW-2	25.0	5.46	4.73	22.7	0.67	-	<0.02	-	5.8	<0.1	-	<0.1	-	-
MW-3	34.6	6.6	5.57	22.4	1.67	-	<0.02	-	5	0.42	-	-	-	-
MW-3	38	5.6	5.28	24.1	2.12	-	0.037	-	11	0.15	-	-	-	-
MW-3	35	6.64	5.19	17.7	2.87	-	<0.2	-	<20	<0.1	-	-	-	-
MW-3	59	5.04	5.55	23.5	3.30	-	<0.02	-	5.4	0.38	-	<0.1	-	-
MW-3	45	5.23	5.10	22.9	0.47	-	<0.02	-	6.2	0.2	-	<0.1	-	-
MW-3	49	4.05	4.66	24.0	0.86	-	<0.02	-	7.3	0.21	-	<0.1	-	-
MW-7	155.4	6.0	6.48	22.4	40.3	-	<0.02	-	14	2.4	-	-	-	-
MW-7	260	3.61	6.42	28.0	39.8	0.29	<0.02	-	12	0.27	-	-	-	-
MW-7	282	3.27	5.85	22.6	63.9	-	<0.2	-	<20	0.29	-	-	-	-
MW-7	245	0.72	6.29	24.7	63.1	-	<0.02	-	5.6	0.33	-	<0.1	-	-
MW-7	168	1.30	5.99	24.2	-	0.38	<0.02	-	8.5	0.2	-	<0.1	-	-
MW-7	205	1.19	5.85	29.5	14.8	3.05	<0.02	-	8.3	<0.1	-	<0.1	-	-
Compliance														
MW-E	627	5.0	6.79	24.2	102.1	-	0.86	-	7.1	0.19	-	-	-	-
MW-E	680	1.6	6.70	26.4	1.79	-	0.82	-	5.7	<0.05	-	-	-	-
MW-E	678	2.83	6.62	25.8	124	0.41	0.58	-	3.5	<0.05	-	-	-	-
MW-E	658	0.56	6.33	24.6	0.52	-	1.3	-	<20	<0.1	-	-	-	-
MW-E	668	0.33	6.77	25.2	1.22	-	1.4	-	3.9	<0.1	-	<0.1	-	-
MW-E	695	0.49	6.67	24.2	0.44	-	3.8	-	3.8	<0.1	-	<0.1	-	-
MW-E	698	0.74	6.66	25.9	0.66	-	1.3	-	5.4	<0.1	-	<0.1	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	CONDUCTIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	pH (FIELD)	TEMPER- ATURE (FIELD)	TURBIDITY (FIELD)	TURBIDITY, FILTERED	AMMONIA NITROGEN	BICARB- ONATE ALKALINITY AS CaCO3	CHLORIDE	NITRATE NITROGEN	NITRATE/ NITRITE	NITRITE NITROGEN (TOTAL AS N)	PERCENT SOLIDS	SPECIFIC CONDUCT- TANCE (LAB)
STANDARD UNITS	(1) UMHOS/CM	(1) ppm	6.5-8.5 S.U.** S.U.	(1) deg C	(1) NTU	- NTU	(1) mg/L	(1) mg/L	250 mg/L** mg/L	10 mg/L* mg/L	10 mg/L* mg/L	1 mg/L* mg/L	(1) %	(1) UMHOS/CM
Detection														
MW-8R	100.2	6.2	4.80	25.6	1.79	-	1.9	-	11	0.2	-	-	-	-
MW-8R	122	3.15	5.18	25.7	1.79	-	2	-	10	<0.05	-	-	-	-
MW-8R	94	0.72	4.70	22.9	0.85	-	1.2	-	<20	<0.1	-	-	-	-
MW-8R	119	0.43	5.21	25.3	0.87	-	1.3	-	8.2	<0.1	-	<0.1	-	-
MW-8R	93	0.47	5.03	23.8	0.28	-	1.1	-	8.8	<0.1	-	<0.1	-	-
MW-8R	113	0.70	4.96	26.0	0.38	-	1.4	-	11	<0.1	-	<0.1	-	-
MW-9	655	7.8	6.49	26.9	2.92	-	2.5	-	13	0.19	-	-	-	-
MW-9	604	2.36	6.69	28.0	81.8	0.29	2.6	-	11	0.28	-	-	-	-
MW-9	657	0.83	6.35	25.5	0.60	-	2.2	-	<20	<0.1	-	-	-	-
MW-9	724	0.29	6.75	25.5	1.39	-	3.4	-	10	<0.1	-	<0.1	-	-
MW-9	732	0.67	6.69	25.1	0.75	-	3.2	-	12	<0.1	-	<0.1	-	-
MW-9	710	0.34	6.64	25.7	1.72	-	1.8	-	12	<0.1	-	<0.1	-	-
MW-AA	367	8.1	6.30	24.8	5.21	-	0.46	-	6.1	0.21	-	-	-	-
MW-AA	690	1.7	6.2	27.9	4.86	-	0.69	-	4.1	0.11	-	-	-	-
MW-AA	649	4.54	6.29	28.7	11.1	0.2	0.4	-	1.9	<0.05	-	-	-	-
MW-AA	749	0.66	6.03	24.4	2.29	-	1.7	-	<20	<0.1	-	-	-	-
MW-AA	694	0.61	6.42	25.7	7.62	-	3.3	-	3	<0.1	-	<0.1	-	-
MW-AA	693	1.10	6.34	24.1	2.04	-	0.68	-	2.9	<0.1	-	<0.1	-	-
MW-AA	751	0.49	6.30	26.9	1.03	-	0.97	-	4.6	<0.1	-	<0.1	-	-
MW-B	64.8	7.4	4.41	22.9	3.89	-	<0.02	-	8.9	1.3	-	-	-	-
MW-B	68	1.27	4.67	26.1	1.18	-	0.17	-	9	0.75	-	-	-	-
MW-B	57	0.66	4.04	24.2	2.39	-	<0.2	-	<20	0.29	-	-	-	-
MW-B	59	0.59	4.71	24.2	1.19	-	<0.02	-	6.9	0.42	-	<0.1	-	-
MW-B	51	0.24	4.40	23.7	0.66	-	<0.02	-	6.7	0.31	-	<0.1	-	-
MW-B	51	0.87	4.42	24.5	0.82	-	<0.02	-	7.6	0.16	-	<0.1	-	-
MW-C	215	5.9	7.91	26.2	3.93	-	<0.02	-	6.7	0.25	-	-	-	-
MW-C	230	3.5	7.80	27.2	8.08	0.31	<0.02	-	4.9	<0.05	-	-	-	-
MW-C	225	3.00	7.35	23.3	4.21	-	<0.2	-	<20	<0.1	-	-	-	-
MW-C	209	3.50	7.84	23.8	16.5	-	<0.02	-	4.3	0.1	-	<0.1	-	-
MW-C	196	4.49	7.91	23.4	2.47	-	<0.02	-	4.7	<0.1	-	<0.1	-	-
MW-C	210	3.40	7.76	23.9	1.19	-	<0.02	-	5.3	<0.1	-	<0.1	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER		CONDUCTIVITY (UMHOS/CM)	DISSOLVED OXYGEN (FIELD)	pH (FIELD)	TEMPERATURE (FIELD)	TURBIDITY (FIELD)	TURBIDITY, FILTERED NTU	AMMONIA NITROGEN mg/L	BICARBONATE ALKALINITY AS CaCO3 mg/L	CHLORIDE mg/L	NITRATE NITROGEN 10 mg/L*	NITRATE/ NITRITE 10 mg/L*	NITRITE NITROGEN (TOTAL AS N) 1 mg/L*	PERCENT SOLIDS (1) %	SPECIFIC CONDUCTANCE (LAB) UMHOS/CM (1)
STANDARD UNITS		(1)	(1)	6.5-8.5 S.U.** S.U.	(1) deg C	(1) NTU	(1) NTU	(1) mg/L	(1) mg/L	250 mg/L** mg/L	10 mg/L* mg/L	10 mg/L* mg/L	1 mg/L* mg/L	(1) %	(1) UMHOS/CM
MW-D	01/28/02	534	4.2	6.82	24.4	7.40	1.02	0.55	-	11	0.2	-	-	-	-
MW-D	06/12/02	460	2.5	6.9	26.6	26.6	0.98	0.48	-	7.8	0.88	-	-	-	-
MW-D	08/07/02	382	1.51	6.98	27.9	42.7	0.27	0.32	-	7.5	<0.05	-	-	-	-
MW-D	01/23/03	510	1.59	6.56	23.7	4.06	-	0.39	-	<20	<0.1	-	-	-	-
MW-D	08/08/03	568	4.76	6.91	24.1	4.23	-	1	-	8.1	<0.1	-	<0.1	-	-
MW-D	02/04/04	556	0.48	6.86	24.0	0.39	-	0.57	-	7.4	<0.1	-	<0.1	-	-
MW-D	07/23/04	491	1.46	6.91	24.5	2.09	-	0.42	-	7.8	<0.1	-	<0.1	-	-
Intermediate															
MW-6	01/22/02	799	6.6	4.40	23.5	1.95	-	1.8	-	160	19	-	-	-	-
MW-6	08/08/02	664	2.59	4.3	26.1	4.72	-	2	-	260	22	-	-	-	-
MW-6	01/22/03	822	0.59	4.04	24.4	1.26	-	1.9	-	178	17.2	-	-	-	-
MW-6	08/08/03	788	0.34	4.44	24.0	0.66	-	1.4	-	200	18	-	<0.1	-	-
MW-6	02/06/04	808	0.41	4.53	24.8	0.66	-	1.4	-	190	18	-	<0.1	-	-
MW-6 R	03/22/04	797	0.50	4.41	23.7	.31	-	-	-	-	-	-	-	-	-
MW-6	07/22/04	844	2.10	4.22	25.4	0.40	-	1.1	-	220	28	-	<0.1	-	-
Leachate															
Leachate Effluent	01/22/02	-	-	-	-	-	-	-	-	370	-	-	-	-	-
Leachate Effluent	04/17/02	-	-	-	-	-	-	-	-	1000	-	-	-	-	-
Leachate Effluent	07/10/02	-	-	-	-	-	-	-	-	1100	-	-	-	-	-
Leachate Effluent	10/16/02	-	-	-	-	-	-	-	-	1040	-	-	-	-	-
Leachate Effluent	01/22/03	-	-	-	-	-	-	-	-	924	-	-	-	-	-
Leachate Effluent	04/15/03	-	-	-	-	-	-	-	-	1100	-	-	-	-	-
Leachate Effluent	08/06/03	2950	3.92	8.06	24.9	2.25	-	-	-	700	-	-	-	-	-
Leachate Effluent	10/01/03	-	-	-	-	-	-	-	-	1000	-	-	-	-	-
Leachate Effluent	03/22/04	4182	3.43	8.33	21.2	2.6	-	-	-	1200	-	-	-	-	-
Leachate Effluent	04/28/04	-	-	8.06	21.3	4.06	-	-	-	1400	-	-	-	-	3900
Leachate Effluent	07/22/04	3748	3.87	8.17	28.8	1.57	-	-	-	870	-	-	-	-	-
Leachate Effluent	10/27/04	2610	4.50	8.50	23.1	1.47	-	-	-	540	-	-	-	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	CONDUCTIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	pH (FIELD)	TEMPERATURE (FIELD)	TURBIDITY (FIELD)	TURBIDITY, FILTERED (FIELD)	AMMONIA NITROGEN	BICARBONATE ALKALINITY AS CaCO3	CHLORIDE	NITRATE NITROGEN	NITRATE/NITRITE	NITRITE NITROGEN (TOTAL AS N)	PERCENT SOLIDS	SPECIFIC CONDUCTANCE (LAB)
STANDARD UNITS	(1) UMHOS/CM	(1) ppm	6.5-8.5 S.U.** S.U.	(1) deg C	(1) NTU	(1) NTU	(1) mg/L	(1) mg/L	250 mg/L** mg/L	10 mg/L* mg/L	10 mg/L* mg/L	1 mg/L* mg/L	(1) %	(1) UMHOS/CM
Leachate Influent	07/10/02	6200	7.1	7.3	-	-	400	2000	770	0.94	-	-	-	-
Leachate Influent	08/06/03	5580	5.52	7.48	24.1	85.2	300	2100	740	<1	<1	<1	-	-
Leachate Influent	07/22/04	10203	2.49	7.23	34.6	24.1	12	250	1200	<1	-	<1	-	-
LEACH EFF PRE CL	02/06/04	2094	3.54	8.27	23.8	7.32	-	-	-	25	49	24	-	-
Leach Eff Split	02/06/04	2094	3.54	8.27	23.8	7.32	-	-	-	2.8	51	48	-	-
Sludge														
SLUDGE	09/04/02	-	-	6.3	-	-	-	-	-	-	-	-	1.5	-
SLUDGE	08/06/03	2800	1.07	7.19	24.0	>1000	-	-	-	-	-	-	2.2	-
Sludge	07/22/04	5098	6.15	5.61	28.9	>1000	-	-	-	-	-	-	2.4	-

LEGEND

* =Primary Drinking Water Standard
 ** =Secondary Drinking Water Standard
 *** =Florida Groundwater Guidance Concentration
 (1) =No Standard
 - =Not Analyzed
 I = Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
 J = Estimated value
 V = Analyte found in associated method blank
 Q = Estimated value; analyte analyzed after acceptable holding time

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	TOTAL DISSOLVED SOLIDS	TOTAL SULFIDE	ARSENIC	ARSENIC: FILTERED	BARIUM	BARIUM: FILTERED	CHROMIUM	COBALT	COBALT: FILTERED	COPPER	IRON	IRON: FILTERED	LEAD	MERCURY
STANDARD UNITS	500 mg/L**	(1) mg/L	10 µg/L*	10 µg/L*	2000 µg/L*	2000 µg/L*	100 µg/L*	420 µg/L***	420 µg/L***	1000 µg/L**	300 µg/L**	300 µg/L**	15 µg/L*	2 µg/L*
Background														
MW-1R	44	-	<10	-	13	-	<10	<10	-	<10	220	-	12	<0.2
MW-1R	64	-	<10	-	<10	-	<10	<10	-	<10	570	-	<5	<2
MW-1R	71	-	<10	-	<200	-	<10	<50	-	<25	325	-	<5	<1
MW-1R	64	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-1R	92	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-1R	130	-	<10	-	<100	-	<10	<50	-	<50	<50	-	<10	<0.2
MW-2	<2	-	<10	-	<10	-	<10	<10	-	<10	<100	-	<5	<0.02
MW-2	34	-	<10	-	<10	-	<10	<10	-	16	340	-	<5	<2
MW-2	15	-	<10	-	<200	-	<10	<50	-	<25	<300	-	6	<1
MW-2	16	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-2	<2	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-2	60	-	<10	-	<100	-	<10	<50	-	<50	60	-	<10	<0.2
MW-3	<2	-	<10	-	10	-	<10	<10	-	12	<100	-	41	<0.02
MW-3	38	-	<10	-	12	-	<10	<10	-	28	210	-	20	<2
MW-3	34	-	<10	-	<200	-	<10	<50	-	<25	694	-	<5	<1
MW-3	40	-	<10	-	<100	-	<10	<50	-	<50	<100	-	18	<0.2
MW-3	68	-	<10	-	<100	-	<10	<50	-	<50	<100	-	17	<0.2
MW-3	150	-	<10	-	<100	-	<10	<50	-	<50	<50	-	16	<0.2
MW-7	110	-	<10	-	<10	-	<10	<10	-	<10	100	-	<5	<0.2
MW-7	210	-	<10	<10	-	110	-	<10	<10	-	-	<100	-	-
MW-7	272	-	<10	<10	-	<200	-	<50	<50	-	-	<300	-	-
MW-7	180	-	<10	<10	-	<100	-	<50	<50	-	-	100	-	-
MW-7	180	-	<10	<10	-	<100	-	<50	<50	-	-	<100	-	-
MW-7	220	-	<10	<10	-	<100	-	<50	<50	-	-	<50	-	-
Compliance														
MW-E	350	-	<10	-	82	-	<10	<10	-	<10	11000	-	<5	<0.2
MW-E	360	-	<10	-	92	-	<10	<10	-	<10	1200	-	<5	<0.2
MW-E	260	-	-	<10	-	83	-	<50	<10	-	-	320	-	-
MW-E	378	-	<10	-	<200	-	<10	<50	-	<25	10500	-	11.1	<1
MW-E	300	-	<10	-	<100	-	<10	<50	-	<50	11000	-	<10	<0.2
MW-E	250	-	<10	-	<100	-	<10	<50	-	<50	9100	-	<10	<0.2
MW-E	490	-	<10	-	<100	-	<10	<50	-	<50	7900	-	<10	<0.2

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	TOTAL DISSOLVED SOLIDS	TOTAL SULFIDE	ARSENIC	ARSENIC: FILTERED	BARIUM	BARIUM: FILTERED	CHROMIUM	COBALT	COBALT: FILTERED	COPPER	IRON	IRON: FILTERED	LEAD	MERCURY
STANDARD UNITS	500 mg/L**	(1) mg/L	10 µg/L*	10 µg/L*	2000 µg/L*	2000 µg/L*	100 µg/L*	420 µg/L***	420 µg/L***	1000 µg/L**	300 µg/L**	300 µg/L**	15 µg/L*	2 µg/L*
Detection														
MW-8R	46	-	<10	-	16	-	<10	<10	-	<10	2400	-	<5	<0.2
MW-8R	50	-	<10	-	<10	-	<10	<10	-	<10	2700	-	<5	<2
MW-8R	47	-	<10	-	<200	-	<10	<50	-	<25	2770	-	<5	<1
MW-8R	52	-	<10	-	<100	-	<10	<50	-	<50	3400	-	<10	<0.2
MW-8R	92	-	<10	-	<100	-	<10	<50	-	<50	3100	-	<10	<0.2
MW-8R	140	-	<10	-	<100	-	<10	<50	-	<50	3600	-	<10	<0.2
MW-9	350	-	<10	-	89	-	<10	<10	-	<10	9100	-	<5	<0.2
MW-9	350	-	-	<10	-	80	-	-	<10	-	-	<100	-	-
MW-9	353	-	<10	-	<200	-	<10	<50	-	<25	8970	-	<5	<1
MW-9	390	-	<10	-	<100	-	<10	<50	-	<50	10000	-	<10	<0.2
MW-9	440	-	<10	-	<100	-	<10	<50	-	<50	9800	-	<10	<0.2
MW-9	630	-	<10	-	<100	-	<10	<50	-	<50	8500	-	<10	<0.2
MW-AA	400	-	<10	-	45	-	<10	<10	-	<10	7500	-	<5	<0.2
MW-AA	410	-	<10	-	41	-	<10	20	-	<10	8400	-	<5	<0.2
MW-AA	280	-	-	<10	-	22	-	-	14	-	-	4500	-	-
MW-AA	434	-	<10	-	<200	-	<10	<50	-	<25	9400	-	<5	<1
MW-AA	430	-	-	<10	-	<100	-	-	<50	-	-	1700	-	-
MW-AA	400	-	<10	-	<100	-	<10	<50	-	<50	6400	-	<10	<0.2
MW-AA	560	-	<10	-	<100	-	<10	<50	-	<50	7400	-	<10	<0.2
MW-B	28	-	<10	-	12	-	<10	<10	-	<10	<100	-	<5	<0.2
MW-B	26	-	<10	-	<10	-	<10	<10	-	21	<100	-	<5	<2
MW-B	42	-	<10	-	<200	-	<10	<50	-	<25	<300	-	<5	<1
MW-B	40	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-B	36	-	<10	-	<100	-	<10	<50	-	<50	<100	-	<10	<0.2
MW-B	140	-	<10	-	<100	-	<10	<50	-	<50	<50	-	<10	0.43
MW-C	120	-	<10	-	<10	-	<10	<10	-	<10	<100	-	<5	<0.2
MW-C	140	-	-	<10	-	<10	-	-	<10	-	-	<100	-	-
MW-C	131	-	<10	-	<200	-	<10	<50	-	<25	4900	-	<5	<1
MW-C	120	-	-	<10	-	<100	-	<50	<50	-	-	<100	-	-
MW-C	130	-	<10	-	<100	-	<10	<50	-	<50	150	-	<10	<0.2
MW-C	200	-	<10	-	<100	-	<10	<50	-	<50	200	-	<10	<0.2

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	TOTAL DISSOLVED SOLIDS	TOTAL SULFIDE	ARSENIC	ARSENIC FILTERED	BARIUM	BARIUM FILTERED	CHROMIUM	COBALT	COBALT FILTERED	COPPER	IRON	IRON FILTERED	LEAD	MERCURY
STANDARD UNITS	500 mg/L**	(1) mg/L	10 µg/L*	10 µg/L*	2000 µg/L*	2000 µg/L*	100 µg/L*	420 µg/L***	420 µg/L***	1000 µg/L**	300 µg/L**	300 µg/L**	15 µg/L*	2 µg/L*
MW-D	290	-	-	11	-	100	-	-	<10	-	-	5300	-	-
MW-D	270	-	-	<10	-	83	-	-	20	-	-	2500	-	-
MW-D	260	-	-	<10	-	63	-	-	<10	-	-	<100	-	-
MW-D	304	-	<10	-	<200	-	<10	<50	-	<25	417	-	5.8	<1
MW-D	430	-	<10	-	110	-	<10	<50	-	<50	7200	-	<10	<0.2
MW-D	270	-	<10	-	110	-	<10	<50	-	<50	6500	-	<10	<0.2
MW-D	500	-	<10	-	<100	-	<10	<50	-	<50	4200	-	<10	<0.2
Intermediate														
MW-6	450	-	<10	-	56	-	<10	<10	-	16	1300	-	40	<0.2
MW-6	450	-	<10	-	47	-	<10	<10	-	<10	240	-	<5	<2
MW-6	451	-	<10	-	<200	-	<10	<50	-	<25	<300	-	16.2	<1
MW-6	540	-	<10	-	<100	-	<10	<50	-	<50	220	-	17	<0.2
MW-6	470	-	<10	-	<100	-	<10	<50	-	<50	930	-	<10	<0.2
MW-6 R	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	660	-	<10	-	<100	-	<10	<50	-	<50	180	-	<10	<0.2
Leachate														
Leachate	950	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	2100	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	2100	-	29	-	79	-	<10	<10	-	<10	<100	-	10	<2
Effluent	1820	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	2210	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	1600	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	1500	-	16	-	<100	-	<10	<50	-	<50	170	-	<10	<0.2
Effluent	2200	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	2400	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	2800	-	-	-	-	-	-	-	-	-	-	-	-	-
Effluent	1900	<1	31	-	<100	-	<10	<50	-	<50	<50	-	<10	<0.2
Effluent	1600	-	-	-	-	-	-	-	-	-	-	-	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDELL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	TOTAL DISSOLVED SOLIDS	TOTAL SULFIDE	ARSENIC µg/L*	ARSENIC FILTERED µg/L*	BARIUM µg/L*	BARIUM FILTERED µg/L*	CHROMIUM µg/L*	COBALT µg/L***	COBALT FILTERED µg/L	COPPER µg/L**	IRON µg/L**	IRON: FILTERED µg/L	LEAD µg/L	MERCURY µg/L
STANDARD UNITS	500 mg/L**	(1) mg/L	10 µg/L*	10 µg/L*	2000 µg/L*	2000 µg/L*	100 µg/L*	420 µg/L***	420 µg/L***	1000 µg/L**	300 µg/L**	300 µg/L**	15 µg/L*	2 µg/L*
Leachate Influent	2500	<0.1	33	-	40	-	<10	<10	-	<10	5000	-	<10	<2
Leachate Influent	2600	3	47	-	<100	-	18	<50	-	<50	12000	-	<10	<0.2
Leachate Influent	3300	6	60	-	<100	-	<10	<50	-	<50	5800	-	<10	<0.2
LEACH EFF PRE CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leach Eff Split	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sludge														
SLUDGE	-	-	<20	-	<2500	-	<100	-	-	-	-	-	<100	<10
SLUDGE	-	-	<200	-	<10000	-	<1000	-	-	-	-	-	<1000	<1
Sludge	-	-	<200	-	<10000	-	<1000	-	-	-	-	-	<1000	<1

LEGEND

- * =Primary Drinking Water Standard
- ** =Secondary Drinking Water Standard
- *** =Florida Groundwater Guidance Concentration
- (1) =No Standard
- =Not Analyzed
- I = Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
- J = Estimated value
- V = Analyte found in associated method blank
- Q = Estimated value; analyte analyzed after acceptable holding time

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	NICKEL	SILVER	SODIUM	SODIUM: FILTERED	THALLIUM	VANADIUM	ZINC	ZINC: FILTERED	1,1- DICHLORO- ETHANE	1,4- DICHLORO- BENZENE	ACETONE	BENZENE	BROMO- DICHLORO- METHANE	BROMO- FORM
STANDARD UNITS	100 µg/L*	100 µg/L**	160 µg/L*	160 mg/L	2 µg/L*	49 µg/L***	5000 µg/L**	5000 µg/L**	70 µg/L***	75 µg/L*	700 µg/L***	1 µg/L*	0.6 µg/L***	4 µg/L***
	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Background														
MW-1R	<10	<20	10000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-1R	<10	<10	10000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-1R	<40	<10	20600	-	<1	<49	<20	-	<2	<2	<50	<1	<2	<2
MW-1R	<50	<10	6600	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-1R	<50	<10	7200	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-1R	<10	<10	4700	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-2	<10	<20	10000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-2	<10	<10	10000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-2	<40	<10	<5000	-	<1	<49	<20	-	<2	<2	<50	<1	<2	<2
MW-2	<50	<10	1900	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-2	<50	<10	1600	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-2	<10	<10	2700	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-3	<10	<20	10000	-	50	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-3	<10	<10	10000	-	<2	<10	110	-	<1	<1	<1	<1	<1	<1
MW-3	<40	<10	<5000	-	<1	<49	<20	-	<2	<2	<50	<1	<2	<2
MW-3	<50	<10	5300	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-3	<50	<10	2700	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-3	<10	<10	<1000	-	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-7	<10	<20	37000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-7	-	-	45000	-	-	-	66	-	<1	<1	<1	<1	<1	<1
MW-7	-	-	54600	-	-	-	<20	-	<2	<2	<50	<1	<2	<2
MW-7	-	-	51000	-	-	-	<100	-	<4	<1	<50	<1	<0.6	<2
MW-7	-	-	30000	-	-	-	<100	-	<4	<1	<50	<1	<0.6	<2
MW-7	-	-	25000	-	-	-	<100	-	<4	<1	<50	<1	<0.6	<2
Compliance														
MW-E	<10	<20	10000	-	<2	<10	<50	-	<1	3.4	<1	<1	<1	<1
MW-E	<10	<20	10000	-	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-E	-	-	10000	-	-	-	-	<50	<1	3.3	<1	<1	<1	<1
MW-E	<40	<10	<5000	-	<1	<49	<20	-	<2	2.9	<50	<1	<2	<2
MW-E	<50	<10	2100	-	<2	<10	<100	-	<4	2.4	<50	<1	<0.6	<2
MW-E	<50	<10	4300	-	<2	<10	<100	-	<4	2.7	<50	<1	<0.6	<2
MW-E	<10	<10	2300	-	<2	<10	<100	-	<4	2.7	<50	<1	<0.6	<2

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	NICKEL	SILVER	SODIUM	SODIUM: FILTERED	THALLIUM	VANADIUM	ZINC	ZINC: FILTERED	1,1- DICHLORO- ETHANE	1,4- DICHLORO- BENZENE	ACETONE	BENZENE	BROMO- DICHLORO- METHANE	BROMO- FORM
STANDARD UNITS	100 µg/L*	100 µg/L**	160 µg/L*	160 mg/L*	2 µg/L*	49 µg/L***	5000 µg/L**	5000 µg/L**	70 µg/L***	75 µg/L*	700 µg/L***	1 µg/L*	0.6 µg/L***	4 µg/L***
Detection														
MW-8R	01/28/02	<10	<20	10000	<2	<10	<50	-	<1	13	<1	4.3	<1	<1
MW-8R	08/07/02	<10	<10	10000	<2	<10	<50	-	<1	12	<1	4.9	<1	<1
MW-8R	01/20/03	<40	<10	<5000	<1	<49	<20	-	0.79J	14.3	<50	5.5	<2	<2
MW-8R	08/07/03	<50	<10	4100	<2	<10	<100	-	<4	13	<50	4.4	<0.6	<2
MW-8R	02/03/04	<50	<10	2500	<2	<10	<100	-	<4	13	<50	4.4	<0.6	<2
MW-8R	07/23/04	<10	<10	<1000	<2	<10	<100	-	<4	20	<50	6.6	<0.6	<2
MW-9	01/28/02	<10	<20	10000	<2	<10	58	-	<1	4.2	<1	<1	<1	<1
MW-9	08/08/02	-	-	10000	-	-	<50	<50	<1	4.4	<1	<1	<1	<1
MW-9	01/21/03	<40	<10	5730	<1	<49	<20	-	<2	4.1	<50	0.83J	<2	<2
MW-9	08/07/03	<50	<10	7400	<2	<10	<100	-	<4	3.7	<50	<1	<0.6	<2
MW-9	02/04/04	<50	<10	7400	<2	<10	<100	-	<4	3.4	<50	<1	<0.6	<2
MW-9	07/23/04	<10	<10	1700	<2	<10	<100	-	<4	5.5	<50	<1	<0.6	<2
MW-AA	01/28/02	<10	<20	10000	<2	<10	<50	-	<1	12	<1	1.2	<1	<1
MW-AA	06/12/02	17	<20	10000	<2	<10	<50	-	<1	<1	<1	1.4	<1	<1
MW-AA	08/08/02	-	-	10000	-	-	<50	<50	<1	11	<1	1.4	<1	<1
MW-AA	01/20/03	<40	<10	<5000	<1	<49	<20	-	<2	12.2	<50	1.5	<2	<2
MW-AA	08/06/03	-	-	6500	-	-	<100	<100	<4	6	<50	<1	<0.6	<2
MW-AA	02/04/04	<50	<10	4300	<2	<10	<100	-	<4	8.1	<50	<1	<0.6	<2
MW-AA	07/21/04	<10	<10	2000	<2	<10	<100	-	<4	8.8	<50	<1	<0.6	<2
MW-B	01/29/02	<10	<20	10000	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-B	08/08/02	<10	<10	10000	<2	<10	67	-	<1	<1	<1	<1	<1	<1
MW-B	01/22/03	<40	<10	<5000	<1	<49	<20	-	0.62J	<2	6.1J	0.89J	<2	<2
MW-B	08/08/03	<50	<10	4200	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-B	02/03/04	<50	<10	3000	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-B	07/23/04	<10	<10	<1000	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-C	01/28/02	<10	<20	10000	<2	<10	<50	-	<1	<1	<1	<1	<1	<1
MW-C	08/07/02	-	-	10000	-	-	<50	<50	<1	<1	<1	<1	<1	<1
MW-C	01/23/03	<40	<10	<5000	<1	<49	65.2	-	<2	<2	<50	<1	<2	<2
MW-C	08/07/03	-	-	2300	-	-	<100	<100	<4	<1	<50	<1	<0.6	<2
MW-C	02/03/04	<50	<10	2200	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2
MW-C	07/23/04	<10	<10	<1000	<2	<10	<100	-	<4	<1	<50	<1	<0.6	<2

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDELL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	NICKEL	SILVER	SODIUM	SODIUM: FILTERED	THALLIUM	VANADIUM	ZINC	ZINC: FILTERED	1,1- DICHLORO- ETHANE	1,4- DICHLORO- BENZENE	ACETONE	BENZENE	BROMO- DICHLORO- METHANE	BROMO- FORM
STANDARD UNITS	100 µg/L*	100 µg/L**	160 µg/L*	160 mg/L*	2 µg/L*	49 µg/L***	5000 µg/L**	5000 µg/L	70 µg/L***	75 µg/L*	700 µg/L***	1 µg/L*	0.6 µg/L***	4 µg/L***
MW-D	-	-	-	10000	-	-	-	<50	<1	<1	<1	<1	<1	<1
MW-D	-	-	-	10000	-	-	-	<50	<1	1.3	<1	<1	<1	<1
MW-D	-	-	-	10000	-	-	-	<50	<1	1.2	<1	<1	<1	<1
MW-D	<40	<10	<5000	-	<1	<49	27.4	-	<2	1.6J	<50	<1	<2	<2
MW-D	<50	<10	5200	-	<2	<10	<100	-	<4	1.9	<50	<1	<0.6	<2
MW-D	<50	<10	4100	-	<2	<10	<100	-	<4	1.3	<50	<1	<0.6	<2
MW-D	<10	<10	<1000	-	<2	<10	<100	-	<4	1.4	<50	<1	<0.6	<2
Intermediate														
MW-6	24	<20	110000	-	<50	<10	<50	-	<1	<1	<10	1.4	3.9	<1
MW-6	11	<10	130000	-	<2	<10	<50	-	<1	<1	<1	1.1	4	1.2
MW-6	<40	<10	119000	-	<1	<49	22.5	-	<2	<2	5.3J	1.5	2.5	<2
MW-6	<50	<10	130000	-	<2	<10	<100	-	<4	<1	<50	1.1	2	<2
MW-6	<50	<10	130000	-	<2	<10	<100	-	<4	<1	<50	1	2.2	<2
MW-6 R	-	-	-	-	-	-	-	-	<4	<1	<50	1.2	3.2	<2
MW-6	<10	<10	120000	-	<2	<10	<100	-	<4	<1	<50	<1	4.5	<2
Leachate														
Leachate Effluent	-	-	230000	-	-	-	-	-	-	-	-	<1	86	28
Leachate Effluent	-	-	570000	-	-	-	-	-	-	-	-	<1	-	-
Leachate Effluent	45	<10	710000	-	<2	<10	50	-	<1	<1	<1	<5	<5	<5
Leachate Effluent	-	-	581000	-	-	-	-	-	-	-	-	<1	-	-
Leachate Effluent	-	-	497000	-	-	-	-	-	-	-	-	<1	37.8	9.4
Leachate Effluent	-	-	650000	-	-	-	-	-	-	<1	-	<1	-	-
Leachate Effluent	53	12	560000	-	<2	17	<100	-	<4	<1	<50	<1	24	13
Leachate Effluent	-	-	630000	-	-	-	-	-	-	<1	-	<1	-	-
Leachate Effluent	-	-	500000	-	-	-	-	-	<4	<1	<50	<1	4.3	3.7
Leachate Effluent	-	-	740000	-	-	-	-	-	-	-	-	<1	-	-
Leachate Effluent	37	<10	460000	-	<2	<10	<100	-	<4	<1	<50	<1	11	10
Leachate Effluent	-	-	390000	-	-	-	-	-	-	-	-	<1	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	NICKEL	SILVER	SODIUM	SODIUM: FILTERED	THALLIUM	VANADIUM	ZINC	ZINC: FILTERED	1,1- DICHLORO- ETHANE	1,4- DICHLORO- BENZENE	ACETONE	BENZENE	BROMO- DICHLORO- METHANE	BROMO- FORM
STANDARD UNITS	100 µg/L*	100 µg/L**	160 µg/L*	160 mg/L*	2 µg/L*	49 µg/L***	5000 µg/L**	5000 µg/L**	70 µg/L***	75 µg/L*	700 µg/L***	1 µg/L*	0.6 µg/L***	4 µg/L***
Leachate Influent	47	<10	810000	-	<2	<10	<50	-	<1	8.8	<1	1.5	<1	<1
Leachate Influent	65	22	770000	-	<2	29	<100	-	<4	15	<50	2.5	<0.6	<2
Leachate Influent	66	<10	500000	-	<2	<10	<100	-	<4	13	<50	1.6	<0.6	<2
LEACH EFF PRE CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leach Eff Split	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sludge														
SLUDGE	-	<100	-	-	-	-	-	-	-	<10	-	<10	-	-
SLUDGE	-	<1000	-	-	-	-	-	-	-	<50	-	<200	-	-
Sludge	-	<1000	-	-	-	-	-	-	-	<50	-	<200	-	-

LEGEND

* =Primary Drinking Water Standard
 ** =Secondary Drinking Water Standard
 *** =Florida Groundwater Guidance Concentration
 (1) =No Standard
 - =Not Analyzed
 I = Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
 J = Estimated value
 V = Analyte found in associated method blank
 Q = Estimated value; analyte analyzed after acceptable holding time

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	BROMO- METHANE (METHYL BROMIDE)	CHLORO- BENZENE	CHLORO- FORM	CHLORO- METHANE (METHYL CHLORIDE)	CIS-1,2- DICHORO- ETHYLENE	DIBROMO- CHORO- METHANE	DIBROMO- METHANE	ETHYL- BENZENE	M&P- XYLENES	METHYL- ETHYL- KETONE	O-XYLENES	TOLUENE	TOTAL TRIHALO- METHANES	TRICHLORO- ETHENE
STANDARD UNITS	9.8 µg/L***	100 µg/L*	5.7 µg/L***	2.7 µg/L***	70 µg/L*	0.4 µg/L***	(1) µg/L	30 µg/L**	20 µg/L**	4200 µg/L***	20 µg/L**	40 µg/L**	(1) µg/L	3 µg/L*
Background														
MW-1R	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
01/29/02														
MW-1R	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
08/08/02														
MW-1R	<2	<2	<2	<2	<2	<2	-	<2	-	<10	-	<2	-	<2
01/23/03														
MW-1R	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
08/05/03														
MW-1R	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
02/05/04														
MW-1R	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
07/21/04														
MW-2	<1	<1	2.6	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
01/29/02														
MW-2	<1	<1	2.0	<5	<1	<1	-	<1	-	<5	-	<1	-	<1
08/08/02														
MW-2	<2	<2	3.3	<2	<2	<2	-	<2	-	<10	-	<2	-	<2
01/21/03														
MW-2	<2	<1	4.2	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
08/05/03														
MW-2	<2	<1	3.5	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
02/05/04														
MW-2	<2	<1	3.8	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
07/29/04														
MW-3	<1	<1	1.1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
01/29/02														
MW-3	<1	<1	1.2	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
08/08/02														
MW-3	<2	<2	1.1J	<2	<2	<2	-	<2	-	<10	-	<2	-	<2
01/23/03														
MW-3	<2	<1	1.2	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
08/05/03														
MW-3	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
02/05/04														
MW-3	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
07/21/04														
MW-7	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
01/29/02														
MW-7	<1	<1	<1	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
08/08/02														
MW-7	<2	<2	<2	<2	<2	<2	-	<2	-	<10	-	<2	-	<2
01/21/03														
MW-7	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
08/06/03														
MW-7	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
02/05/04														
MW-7	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
07/22/04														
Compliance														
MW-E	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
01/28/02														
MW-E	<1	<1	<1	<1	1.2	<1	-	<1	-	<1	-	<1	-	<1
06/12/02														
MW-E	<1	<1	<1	<1	1.1	<1	-	<1	-	<5	-	<1	-	<1
08/08/02														
MW-E	<2	<2	<2	<2	0.85J	<2	-	<2	-	<10	-	<2	-	<2
01/20/03														
MW-E	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
08/07/03														
MW-E	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
02/04/04														
MW-E	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
07/21/04														

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	BROMO- METHANE (METHYL BROMIDE)	CHLORO- BENZENE	CHLORO- FORM	CHLORO- METHANE (METHYL CHLORIDE)	CIS-1,2- DICHORO- ETHYLENE	DIBROMO- CHLORO- METHANE	DIBROMO- METHANE	ETHYL- BENZENE	M&P- XYLENES	METHYL- ETHYL- KETONE	O-XYLENES	TOLUENE	TOTAL TRIHALO- METHANES	TRICHLORO- ETHENE
STANDARD UNITS	9.8 µg/L*** µg/L	100 µg/L* µg/L	5.7 µg/L*** µg/L	2.7 µg/L*** µg/L	70 µg/L* µg/L	0.4 µg/L*** µg/L	(1) µg/L	30 µg/L** µg/L	20 µg/L** µg/L	4200 µg/L*** µg/L	20 µg/L** µg/L	40 µg/L** µg/L	(1) µg/L	3 µg/L* µg/L
Detection														
MW-8R	<1	9	<1	<1	5.8	<1	-	<1	-	<1	-	<1	-	<1
MW-8R	<1	9.7	<1	<1	7	<1	-	<1	-	<5	-	<1	-	<1
MW-8R	<2	10.1	<2	<2	7.4	<2	-	<2	-	<10	-	<2	-	0.57J
MW-8R	<2	8.3	<1	<1	7.7	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-8R	<2	8.2	<1	<1	5.1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-8R	<2	15	<1	<1	10	<0.4	<1	<1	<2	<20	<1	<1	-	<1
MW-9	<1	1.7	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
MW-9	<1	1.9	<1	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
MW-9	<2	1.7J	<2	<2	0.72J	<2	-	<2	-	<10	-	<2	-	<2
MW-9	<2	1.5	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-9	<2	1.7	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-9	<2	2.3	<1	<1	1.7	<0.4	<1	<1	<2	<20	<1	<1	-	<1
MW-AA	<1	1.5	<1	<1	2.1	<1	-	<1	-	<1	-	<1	-	<1
MW-AA	<1	1.5	<1	<1	2.9	<1	-	<1	-	<1	-	<1	-	<1
MW-AA	<1	1.6	<1	<1	2.3	<1	-	<1	-	<5	-	<1	-	<1
MW-AA	<2	1.5J	<2	<2	2.7	<2	-	<2	-	<10	-	<2	-	<2
MW-AA	<2	<1	<1	<1	1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-AA	<2	<1	<1	<1	1.5	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-AA	<2	1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
MW-B	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
MW-B	<1	<1	<1	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
MW-B	<2	1J	<2	<2	0.65J	<2	-	<2	-	<10	-	<2	-	<2
MW-B	<2	1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-B	<2	1.4	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-B	<2	1.5	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
MW-C	<1	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
MW-C	<1	<1	<1	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
MW-C	<2	<2	<2	<2	<2	<2	-	<2	-	<10	-	<2	-	<2
MW-C	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-C	<2	<1	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-C	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
MW-C	<2	<1	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	BROMO- METHANE (METHYL BROMIDE)	CHLORO- BENZENE	CHLORO- FORM	CHLORO- METHANE (METHYL CHLORIDE)	CIS-1,2- DICHLORO- ETHYLENE	DIBROMO- CHLORO- METHANE	DIBROMO- METHANE	ETHYL- BENZENE	M&P- XYLENES	METHYL- ETHYL- KETONE	O-XYLENES	TOLUENE	TOTAL TRIHALO- METHANES	TRICHLORO- ETHENE
STANDARD UNITS	9.8 µg/L*** µg/L	100 µg/L* µg/L	5.7 µg/L*** µg/L	2.7 µg/L*** µg/L	70 µg/L* µg/L	0.4 µg/L*** µg/L	(1) µg/L	30 µg/L** µg/L	20 µg/L** µg/L	4200 µg/L*** µg/L	20 µg/L** µg/L	40 µg/L** µg/L	(1) µg/L	3 µg/L* µg/L
MW-D	01/28/02	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
MW-D	06/12/02	<1	<1	<1	<1	<1	-	<1	-	<1	-	<1	-	<1
MW-D	08/07/02	<1	<1	<1	<1	<1	-	<1	-	<5	-	<1	-	<1
MW-D	01/23/03	<2	<2	<2	0.62J	<2	-	<2	-	<10	-	<2	-	<2
MW-D	08/08/03	<2	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-D	02/04/04	<2	<1	<1	<1	<0.4	<1	<1	-	<20	-	<1	-	<1
MW-D	07/23/04	<2	<1	<1	<1	<0.4	<1	<1	<2	<20	<1	<1	-	<1
Intermediate														
MW-6	01/22/02	<1	<1	<1	2.3	3.2	-	<1	-	<5	-	<1	-	<1
MW-6	08/08/02	<1	<1	<1	1.4	3.4	-	<1	-	<5	-	<1	-	<1
MW-6	01/22/03	<2	<2	<2	1.5J	2.4	-	<2	-	<10	-	<2	8.1	<2
MW-6	08/08/03	<2	<1	<1	1.4	2.2	<1	<1	-	<20	-	<1	-	<1
MW-6	02/06/04	<2	<1	<1	1.1	2.6	<1	<1	-	<20	-	<1	7.7	<1
MW-6 R	03/22/04	<2	<1	<1	1.1	3.6	<1	<1	-	<20	-	<1	10.8	<1
MW-6	07/22/04	<2	<1	<1	<1	5.2	<1	<1	<2	<20	<1	<1	15	<1
Leachate														
Leachate Effluent	01/22/02	-	43	-	-	81	-	<1	-	-	-	<1	238	-
Leachate Effluent	04/17/02	-	-	-	-	-	-	<1	-	-	-	<1	-	-
Leachate Effluent	07/10/02	<1	<1	<1	<1	<5	<1	<5	-	<1	-	<5	<20	<1
Leachate Effluent	10/16/02	-	-	-	-	-	-	<1	-	-	-	<1	-	-
Leachate Effluent	01/22/03	-	15.6	-	-	25	-	<2	-	-	-	<2	87.8	-
Leachate Effluent	04/15/03	-	-	-	-	-	-	<1	-	-	-	<1	-	-
Leachate Effluent	08/06/03	<2	10	<1	<1	27	<1	<1	-	<20	-	<1	-	<1
Leachate Effluent	10/01/03	-	-	-	-	-	-	<1	-	-	-	<1	-	-
Leachate Effluent	03/22/04	3.1	1.5	1.8	<1	5.4	<1	<1	-	<20	-	<1	-	<1
Leachate Effluent	04/28/04	-	-	-	-	-	-	<1	-	-	-	<1	-	-
Leachate Effluent	07/22/04	<2	4.9	<1	<1	16	1.1	<1	<2	<20	<1	<1	42	<1
Leachate Effluent	10/27/04	-	-	-	-	-	-	<1	-	-	-	<1	-	-

Thursday, April 28, 2005

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	BROMO- METHANE (METHYL BROMIDE)	CHLORO- BENZENE	CHLORO- FORM	CHLORO- METHANE (METHYL CHLORIDE)	CIS-1,2- DICHLORO- ETHYLENE	DIBROMO- CHLORO- METHANE	DIBROMO- METHANE	ETHYL- BENZENE	M&P- XYLENES	METHYL- ETHYL- KETONE	O-XYLENES	TOLUENE	TOTAL TRIHALO- METHANES	TRICHLORO- ETHENE
STANDARD UNITS	9.8 µg/L***	100 µg/L*	5.7 µg/L***	2.7 µg/L***	70 µg/L*	0.4 µg/L***	(1) µg/L	30 µg/L**	20 µg/L**	4200 µg/L***	20 µg/L**	40 µg/L**	(1) µg/L	3 µg/L*
Leachate Influent	<1	1.5	<1	<1	<1	<1	<1	<1	-	-	-	1	-	<1
Leachate Influent	<2	3.2	<1	<1	1.1	<0.4	<1	9.7	-	<20	-	2.2	-	<1
Leachate Influent	<2	3.3	<1	<1	<1	<0.4	<1	45	11	87	6.4	3	-	<1
LEACH EFF PRE CL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Leach Eff Split	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sludge														
SLUDGE	-	<10	<10	-	-	-	-	-	-	<50	-	-	-	<10
SLUDGE	-	<200	<200	-	-	-	-	-	-	<1000	-	-	-	<200
Sludge	-	<200	<200	-	-	-	-	-	-	<1000	-	-	-	<200

LEGEND

- * =Primary Drinking Water Standard
- ** =Secondary Drinking Water Standard
- *** =Florida Groundwater Guidance Concentration
- (1) =No Standard
- =Not Analyzed
- I = Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
- J = Estimated value
- V = Analyte found in associated method blank
- Q = Estimated value; analyte analyzed after acceptable holding time

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	VINYL CHLORIDE	XYLENES	TOTAL VOCs	2,4-D	NAPHTHA- LENE	O-TOLUIDINE
STANDARD UNITS	1 µg/L*	20 µg/L**	(1) µg/L	70 µg/L*	20 µg/L***	50 µg/L***
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Background						
MW-1R	01/29/02	<1	<1	-	-	-
MW-1R	08/08/02	<1	<2	-	-	-
MW-1R	01/23/03	<1	<6	-	-	-
MW-1R	08/05/03	<1	<3	-	-	-
MW-1R	02/05/04	<1	<3	-	-	-
MW-1R	07/21/04	<1	-	-	-	-
MW-2	01/29/02	<1	<1	2.6	-	-
MW-2	08/08/02	<1	<2	2	-	-
MW-2	01/21/03	<1	<6	3.3	-	-
MW-2	08/05/03	<1	<3	4.2	-	-
MW-2	02/05/04	<1	<3	3.5	-	-
MW-2	07/29/04	<1	-	3.8	-	-
MW-3	01/29/02	<1	<1	1.1	-	-
MW-3	08/08/02	<1	<2	1.2	-	-
MW-3	01/23/03	<1	<6	1.1	-	-
MW-3	08/05/03	<1	<3	1.2	-	-
MW-3	02/05/04	<1	<3	-	-	-
MW-3	07/21/04	<1	-	-	-	-
MW-7	01/29/02	<1	<1	-	-	-
MW-7	08/08/02	<1	<2	-	-	-
MW-7	01/21/03	<1	<6	-	-	-
MW-7	08/06/03	<1	<3	-	-	-
MW-7	02/05/04	<1	<3	-	-	-
MW-7	07/22/04	<1	-	-	-	-
Compliance						
MW-E	01/28/02	1.3	<1	4.7	-	-
MW-E	06/12/02	1.8	<1	3	-	-
MW-E	08/08/02	1.4	<2	5.8	-	-
MW-E	01/20/03	0.97J	<6	4.72	-	-
MW-E	08/07/03	<1J	<3	2.4	-	-
MW-E	02/04/04	<1	<3	2.7	-	-
MW-E	07/21/04	<1	-	2.7	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	VINYL CHLORIDE	XYLENES	TOTAL VOCs	2,4-D	NAPHTHA- LENE	O-TOLUIDINE
STANDARD UNITS	1 µg/L* µg/L	20 µg/L** µg/L	(1) µg/L	70 µg/L* µg/L	20 µg/L*** µg/L	50 µg/L*** µg/L
Detection						
MW-8R	01/28/02	3.7	<1	35.8	-	-
MW-8R	08/07/02	4.3	<2	37.9	-	-
MW-8R	01/20/03	3.8	2J	44.46	-	-
MW-8R	08/07/03	5.1	<3	38.5	-	-
MW-8R	02/03/04	3.9	<3	34.6	-	-
MW-8R	07/23/04	5	-	56.6	-	-
MW-9	01/28/02	1	<1	6.9	-	-
MW-9	08/08/02	1.3	<2	7.6	-	-
MW-9	01/21/03	1.2	<6	8.55	-	-
MW-9	08/07/03	1.7	<3	6.9	-	-
MW-9	02/04/04	1.2	<3	6.3	-	-
MW-9	07/23/04	1.7	-	11.2	-	-
MW-AA	01/28/02	2.8	<1	19.6	-	-
MW-AA	06/12/02	4.4	<1	10.2	-	-
MW-AA	08/08/02	3.6	<2	19.9	-	-
MW-AA	01/20/03	2.6	<6	20.5	-	-
MW-AA	08/06/03	<1	<3	7	-	-
MW-AA	02/04/04	2	<3	11.6	-	-
MW-AA	07/21/04	1.8	-	11.6	-	-
MW-B	01/29/02	<1	<1	-	-	-
MW-B	08/08/02	1.5	<2	1.5	-	-
MW-B	01/22/03	1.4	<6	10.66	-	-
MW-B	08/08/03	1.1	<3	2.1	-	-
MW-B	02/03/04	1.4	<3	2.8	-	-
MW-B	07/23/04	<1	-	1.5	-	-
MW-C	01/28/02	<1	<1	-	-	-
MW-C	08/07/02	<1	<2	-	-	-
MW-C	01/23/03	<1	<6	-	-	-
MW-C	08/07/03	<1	<3	-	-	-
MW-C	02/03/04	<1	<3	-	-	-
MW-C	07/23/04	<1	-	-	-	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	VINYL CHLORIDE	XYLENES	TOTAL VOCs	2,4-D	NAPHTHA- LENE	O-TOLUIDINE
STANDARD UNITS	1 µg/L* µg/L	20 µg/L** µg/L	(1) µg/L	70 µg/L* µg/L	20 µg/L*** µg/L	50 µg/L*** µg/L
MW-D	01/28/02	<1	-	-	-	-
MW-D	06/12/02	<1	1.3	-	-	-
MW-D	08/07/02	<1	1.2	-	-	-
MW-D	01/23/03	<1	2.22	-	-	-
MW-D	08/08/03	1.4	3.3	-	-	-
MW-D	02/04/04	<1	1.3	-	-	-
MW-D	07/23/04	1	2.4	-	-	-
Intermediate						
MW-6	01/22/02	4	20.9	-	-	-
MW-6	08/08/02	3.3	19.6	-	-	-
MW-6	01/22/03	3.1	27.6	-	-	-
MW-6	08/08/03	2.6	12.1	-	-	-
MW-6	02/06/04	2.3	19.8	-	-	-
MW-6 R	03/22/04	2.4	26.3	-	-	-
MW-6	07/22/04	1.9	32.2	-	-	-
Leachate						
Leachate Effluent	01/22/02	-	476	-	-	-
Leachate Effluent	04/17/02	-	-	-	-	-
Leachate Effluent	07/10/02	<1	-	-	-	-
Leachate Effluent	10/16/02	-	-	-	-	-
Leachate Effluent	01/22/03	-	175.6	-	-	-
Leachate Effluent	04/15/03	-	-	-	-	-
Leachate Effluent	08/06/03	<1	74	-	-	-
Leachate Effluent	10/01/03	-	-	-	-	-
Leachate Effluent	03/22/04	<1	19.8	-	-	-
Leachate Effluent	04/28/04	-	-	-	-	-
Leachate Effluent	07/22/04	<1	85	<1	<3	<20
Leachate Effluent	10/27/04	-	-	-	-	-

Thursday, April 28, 2005

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
CITRUS COUNTY CENTRAL LANDFILL
JANUARY 2002 THROUGH OCTOBER 2004

PARAMETER	VINYL CHLORIDE	XYLENES	TOTAL VOCs	2,4-D	NAPHTHA- LENE	O-TOLUIDINE
STANDARD UNITS	1 µg/L* µg/L	20 µg/L** µg/L	(1) µg/L	70 µg/L* µg/L	20 µg/L*** µg/L	50 µg/L*** µg/L
Leachate Influent	07/10/02 1.1	11	24.9	<1	<10	25
Leachate Influent	08/06/03 2.7	13.8	50.2	2.2	24	<20
Leachate Influent	07/22/04 <1	-	170.3	<50	24	<100
LEACH EFF PRE CL	02/06/04 -	-	-	-	-	-
Leach Eff Split	02/06/04 -	-	-	-	-	-
Sludge						
SLUDGE	09/04/02 <10	-	-	<70	-	-
SLUDGE	08/06/03 <200	-	-	<5	-	-
Sludge	07/22/04 <200	-	-	<5	-	-

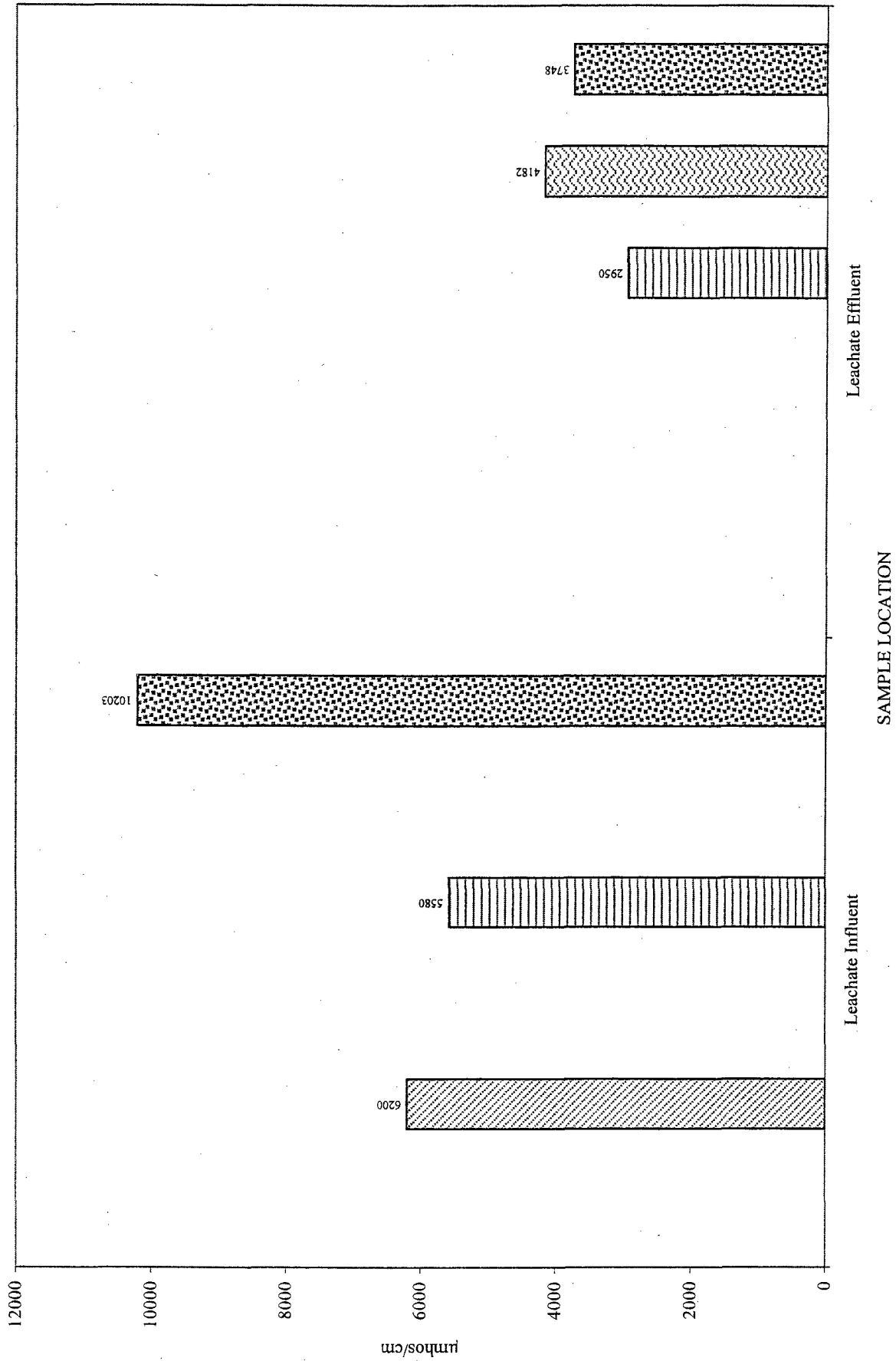
LEGEND

* =Primary Drinking Water Standard
 ** =Secondary Drinking Water Standard
 *** =Florida Groundwater Guidance Concentration
 (1) =No Standard
 . =Not Analyzed
 I = Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
 J = Estimated value
 V = Analyte found in associated method blank
 Q = Estimated value; analyte analyzed after acceptable holding time

ATTACHMENT 7

LEACHATE GRAPHS

CONDUCTIVITY (FIELD) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

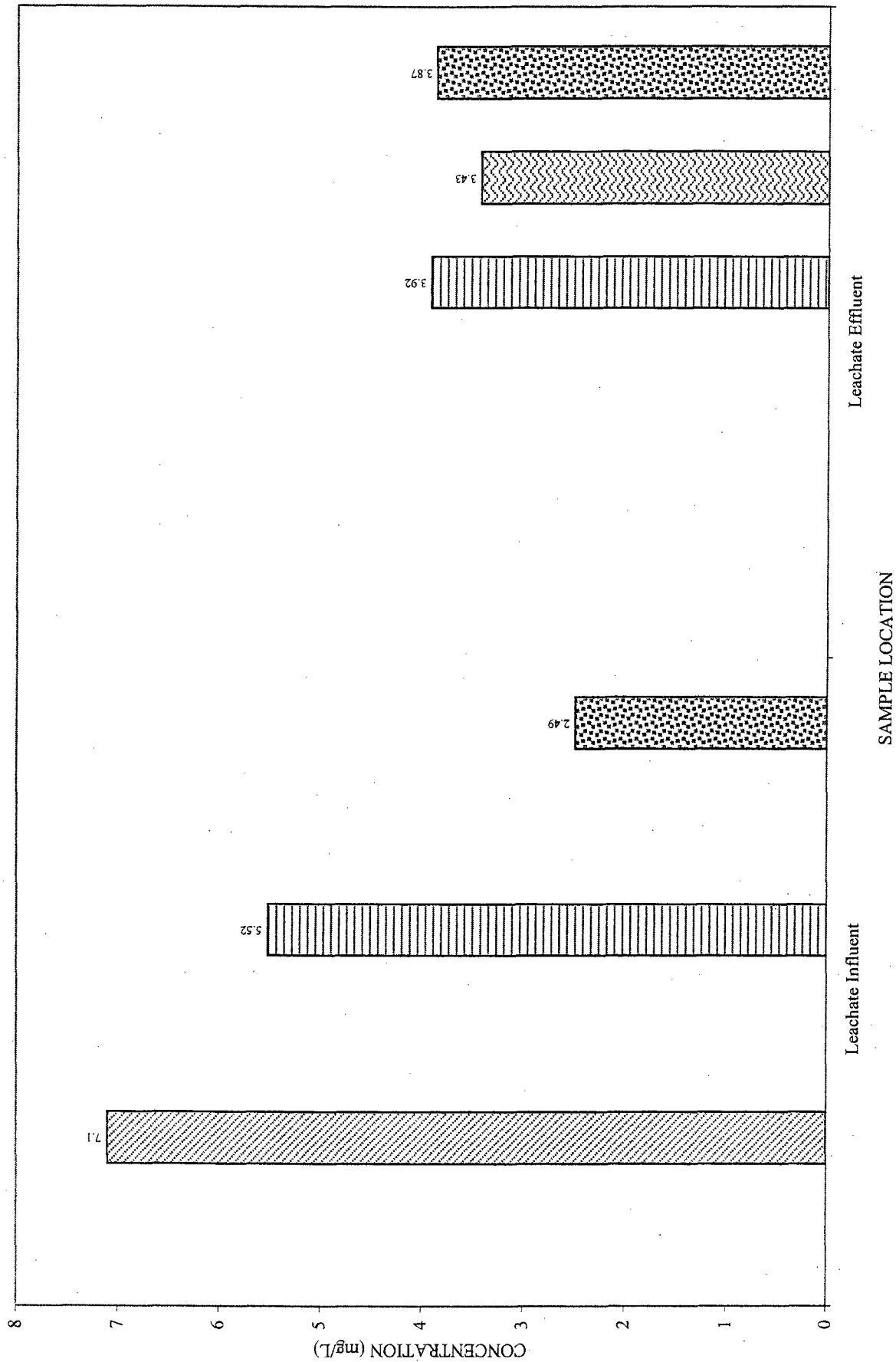


02Q1 02Q2 02Q3 02Q4 03Q1 03Q2 03Q3 03Q4 04Q1 04Q2 04Q3

0 = BELOW LABORATORY DETECTION LIMIT

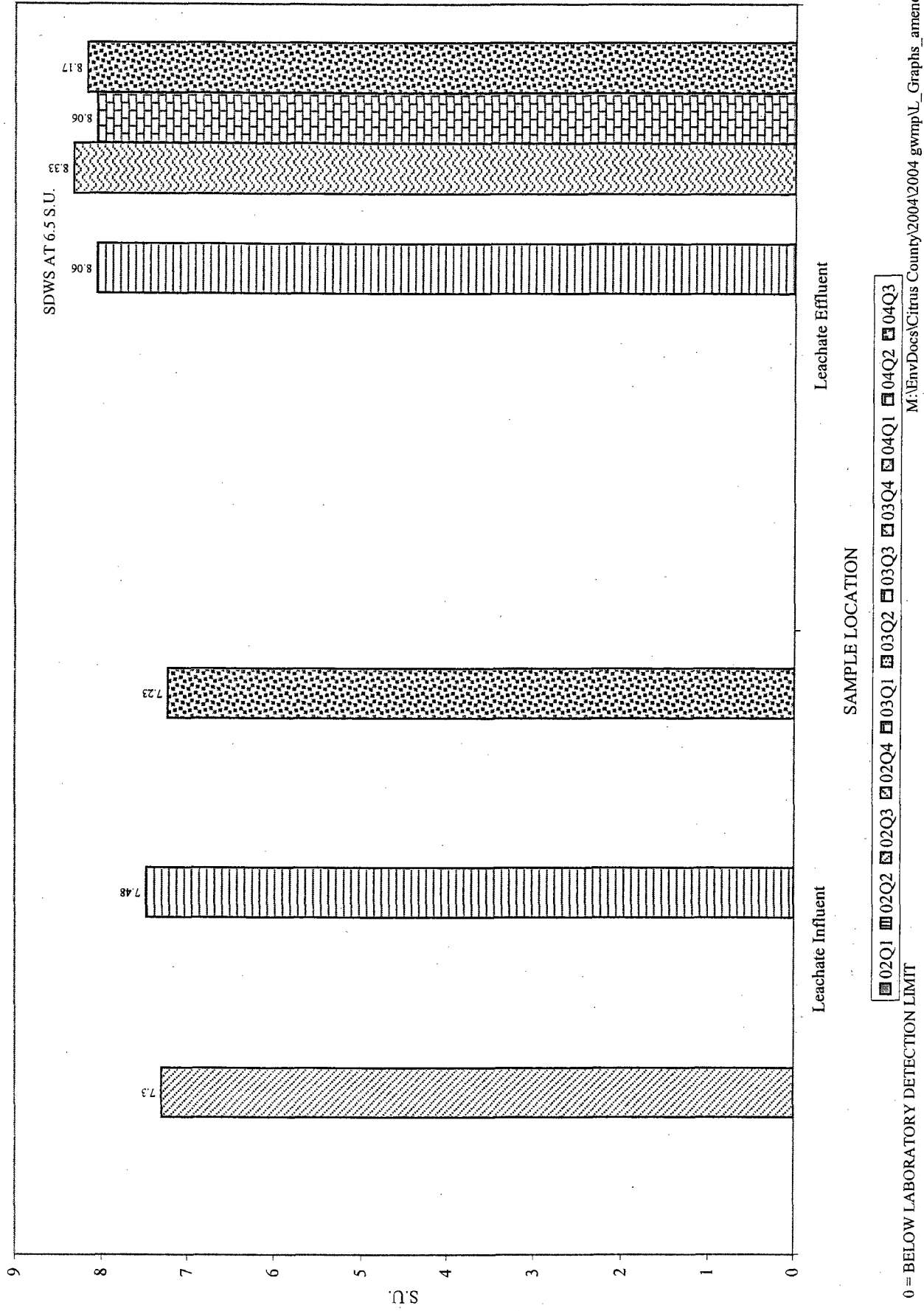
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DISSOLVED OXYGEN (FIELD) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

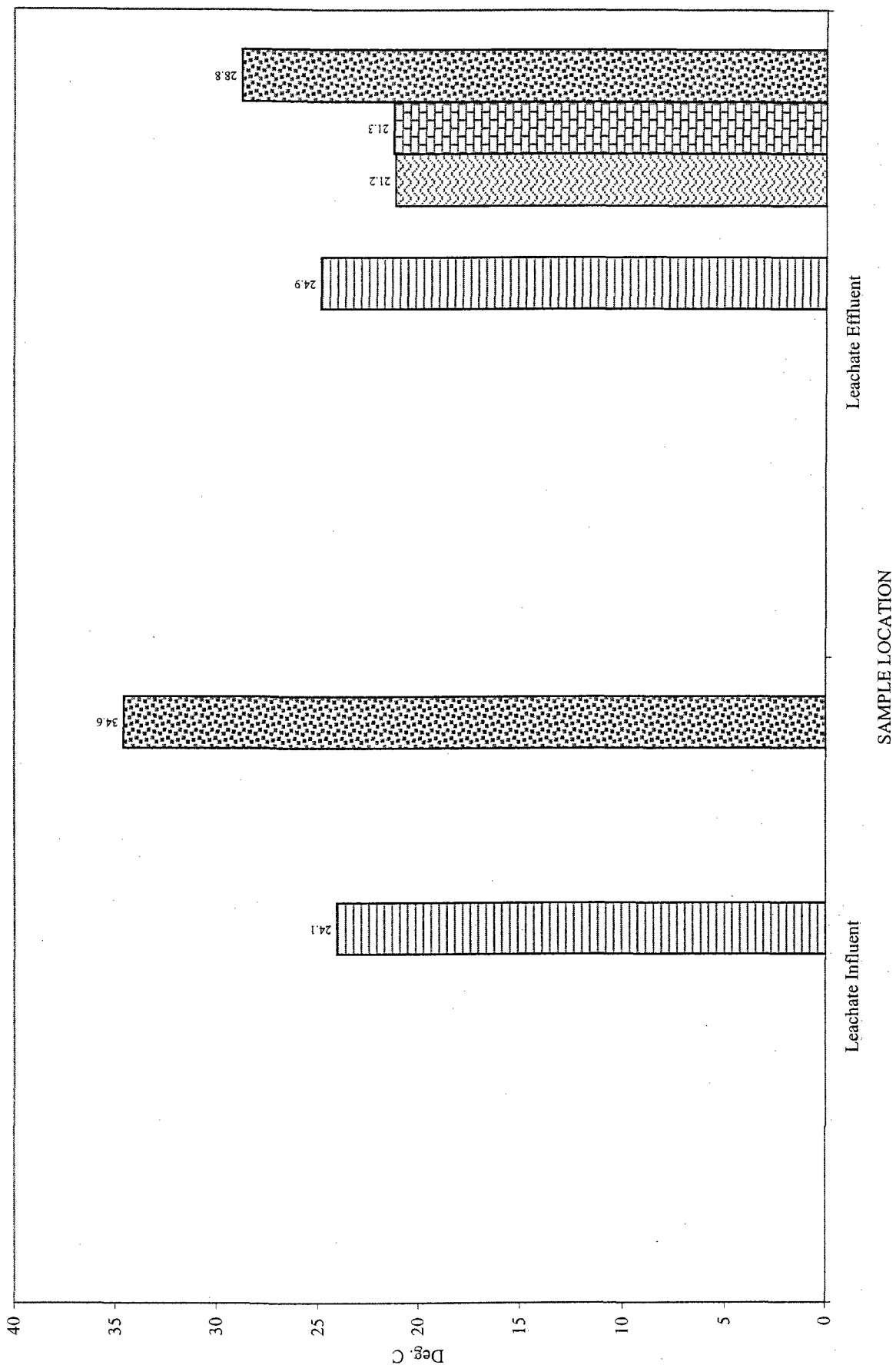


0 = BELOW LABORATORY DETECTION LIMIT

pH (FIELD) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



TEMPERATURE (FIELD) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

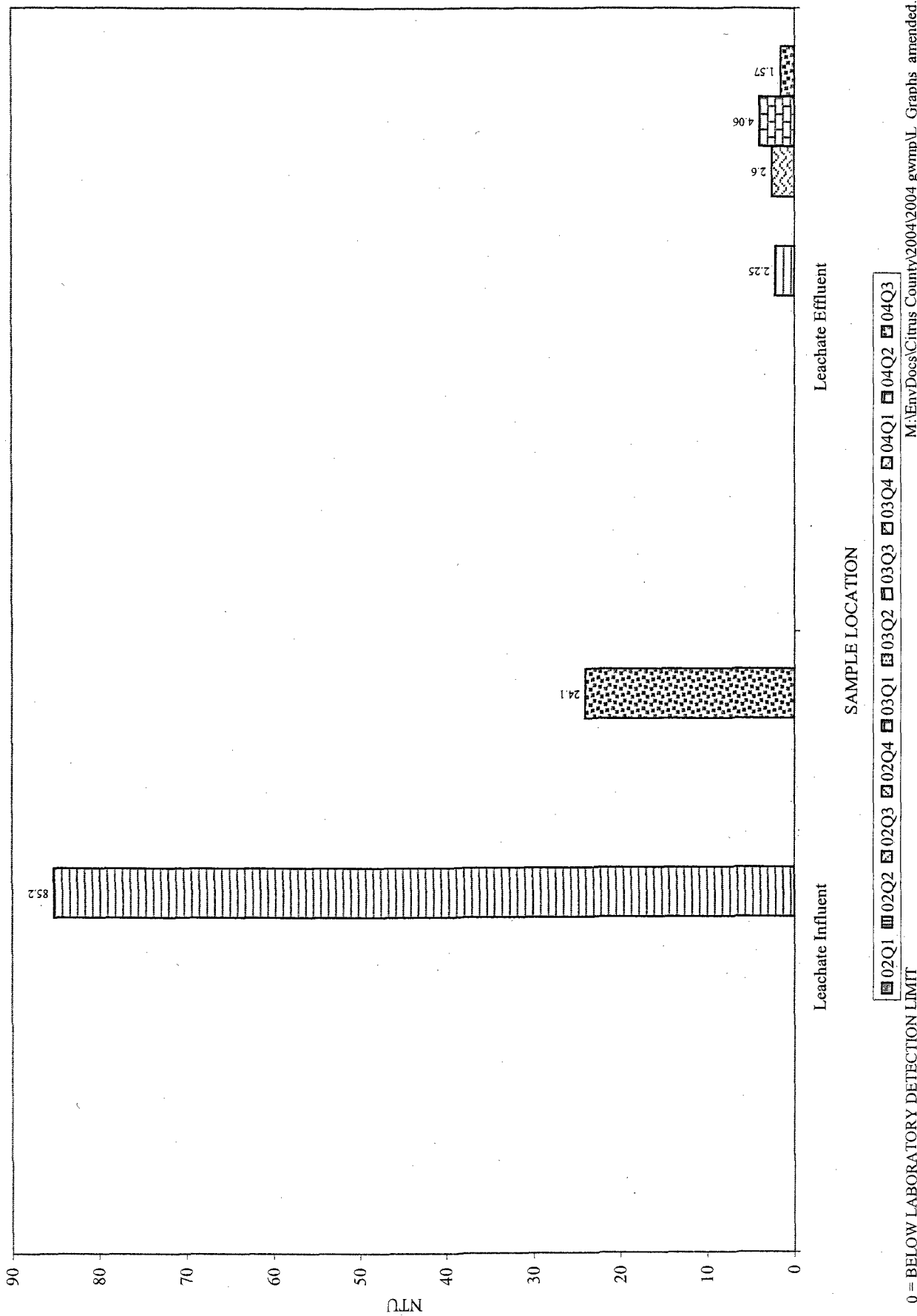


02Q1 02Q2 02Q3 02Q4 03Q1 03Q2 03Q3 03Q4 04Q1 04Q2 04Q3

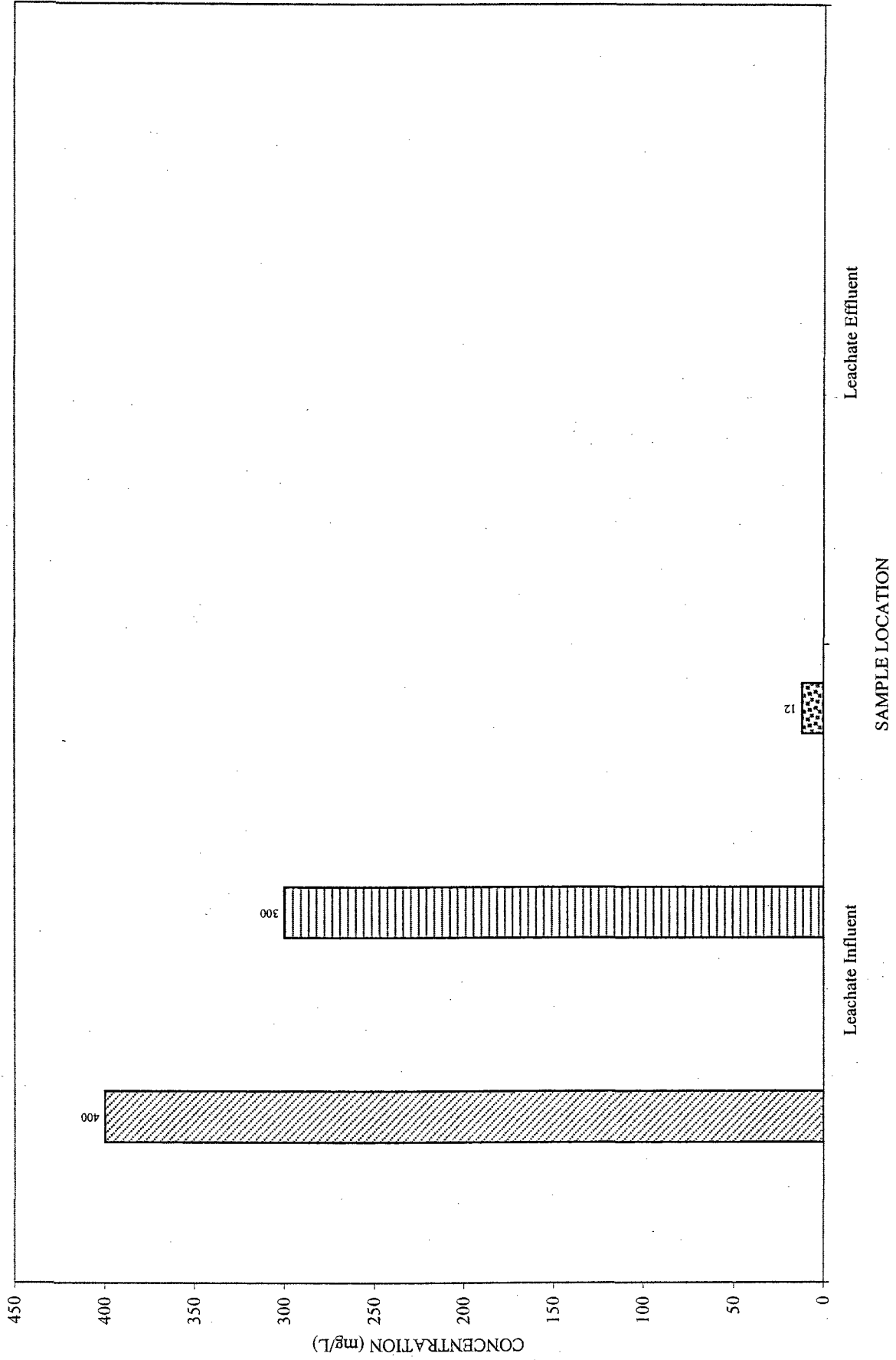
0 = BELOW LABORATORY DETECTION LIMIT

M:\EnvDocs\Citrus County\2004\2004 gwmp\L_Graphs_amended.xls:TEMP

TURBIDITY (FIELD) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



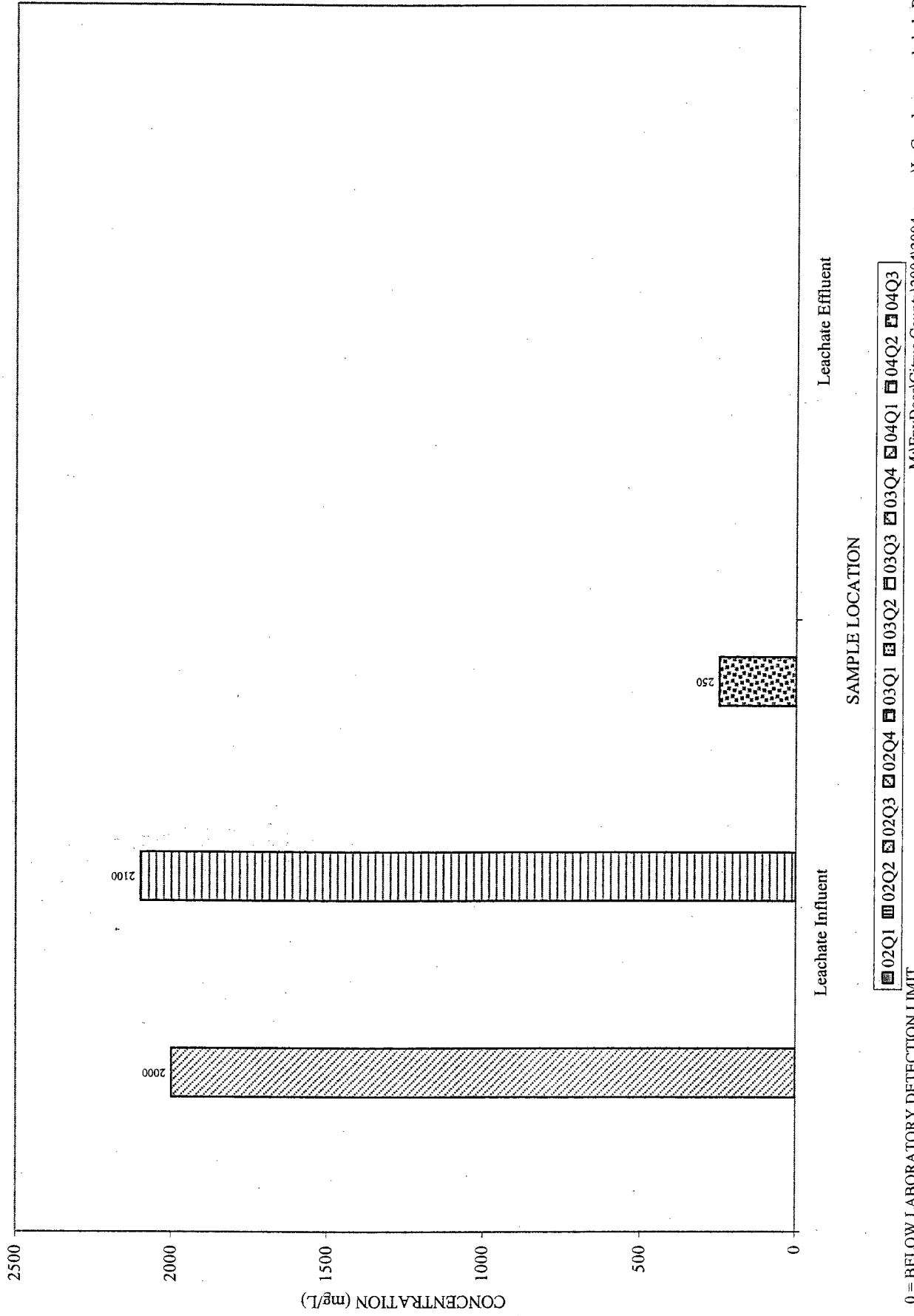
AMMONIA NITROGEN CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

M:\EnvDocs\Citrus County\2004\2004 gwmp\L_Graphs_amended.xls:NH3

BICARBONATE ALKALINITY AS CaCO3
CITRUS COUNTY CENTRAL LANDFILL
LEACHATE CHEMISTRY GRAPH

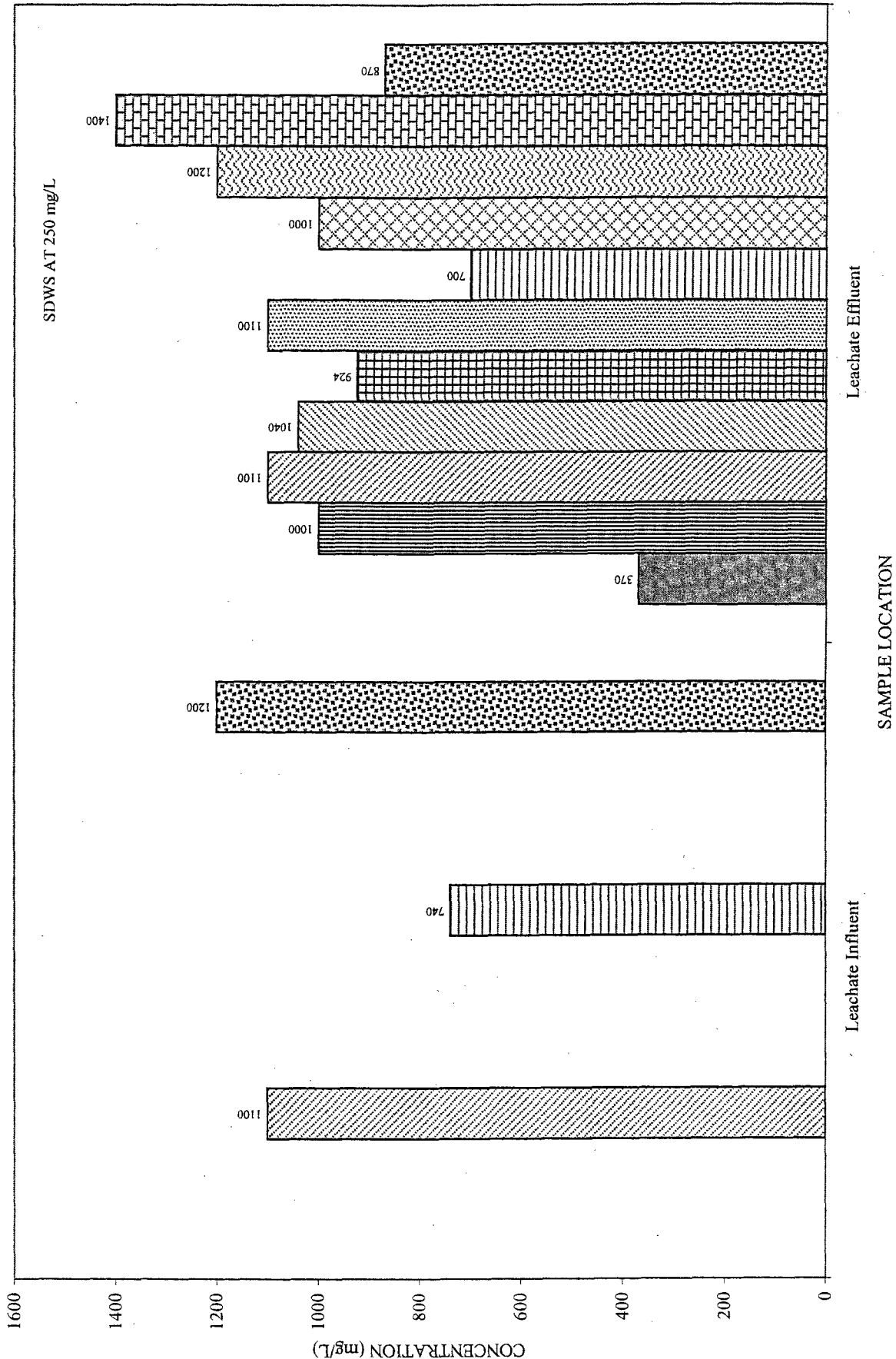


0 = BELOW LABORATORY DETECTION LIMIT

CHLORIDE

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH

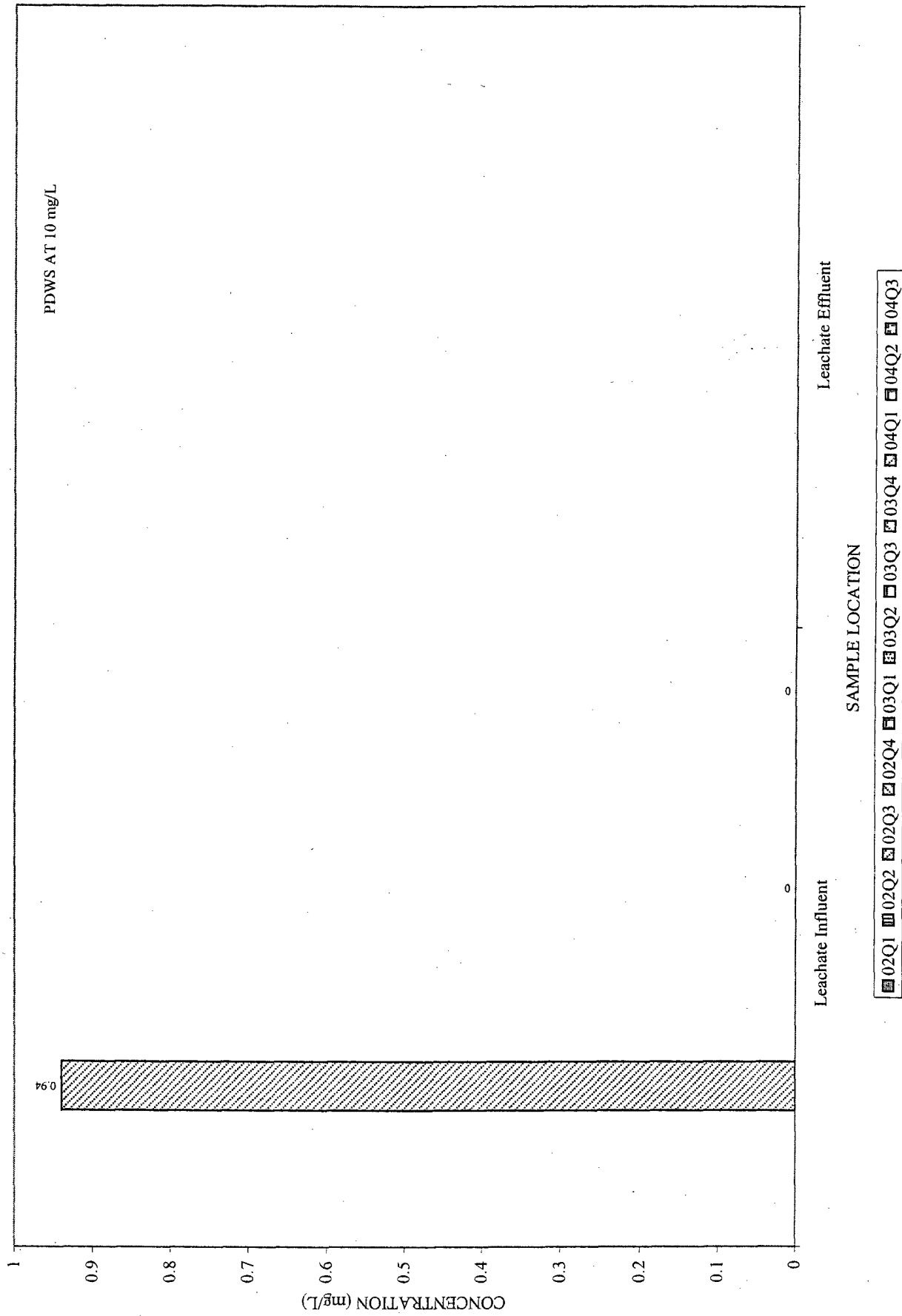


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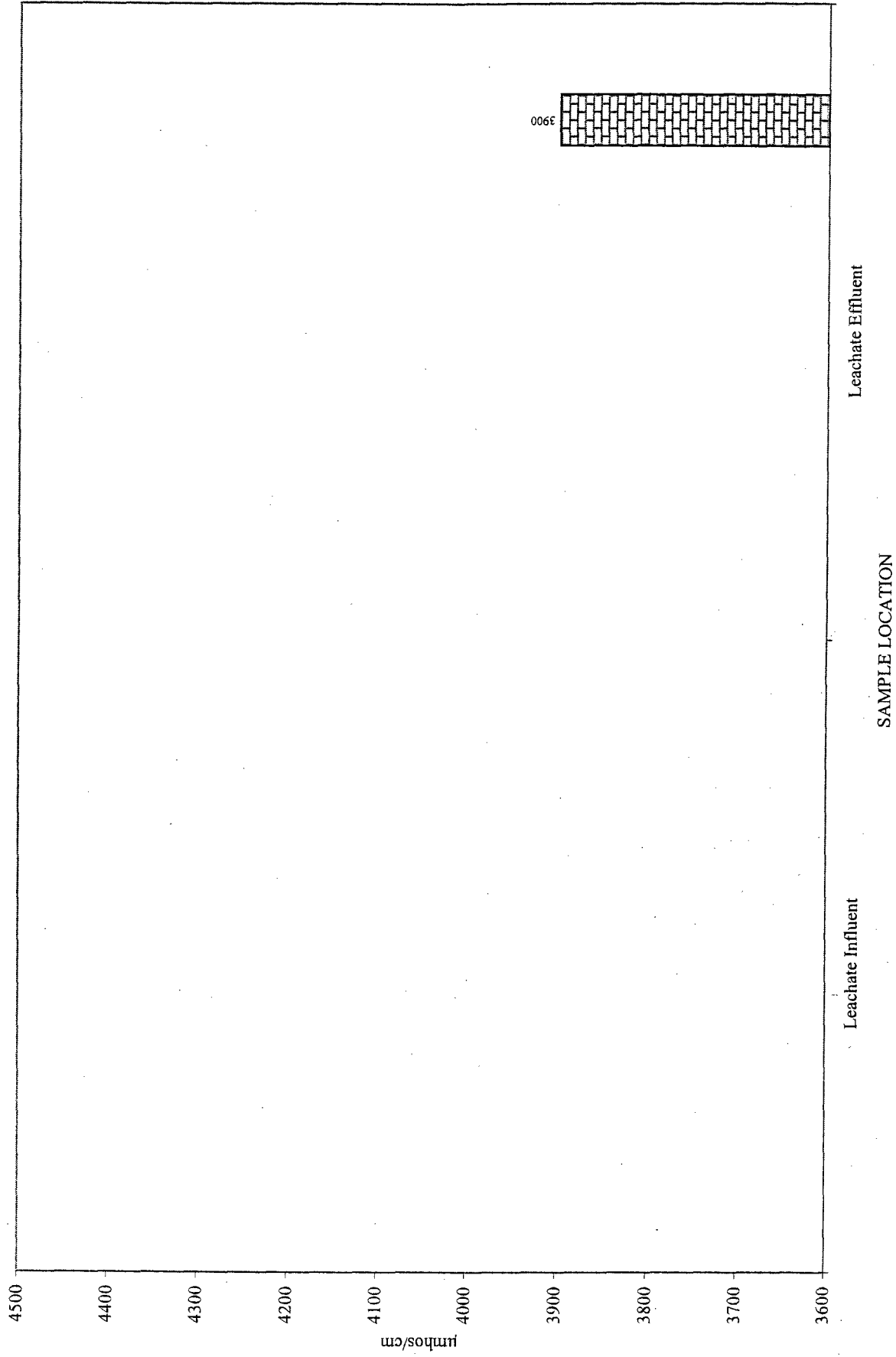
0 = BELOW LABORATORY DETECTION LIMIT

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NITRATE NITROGEN CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



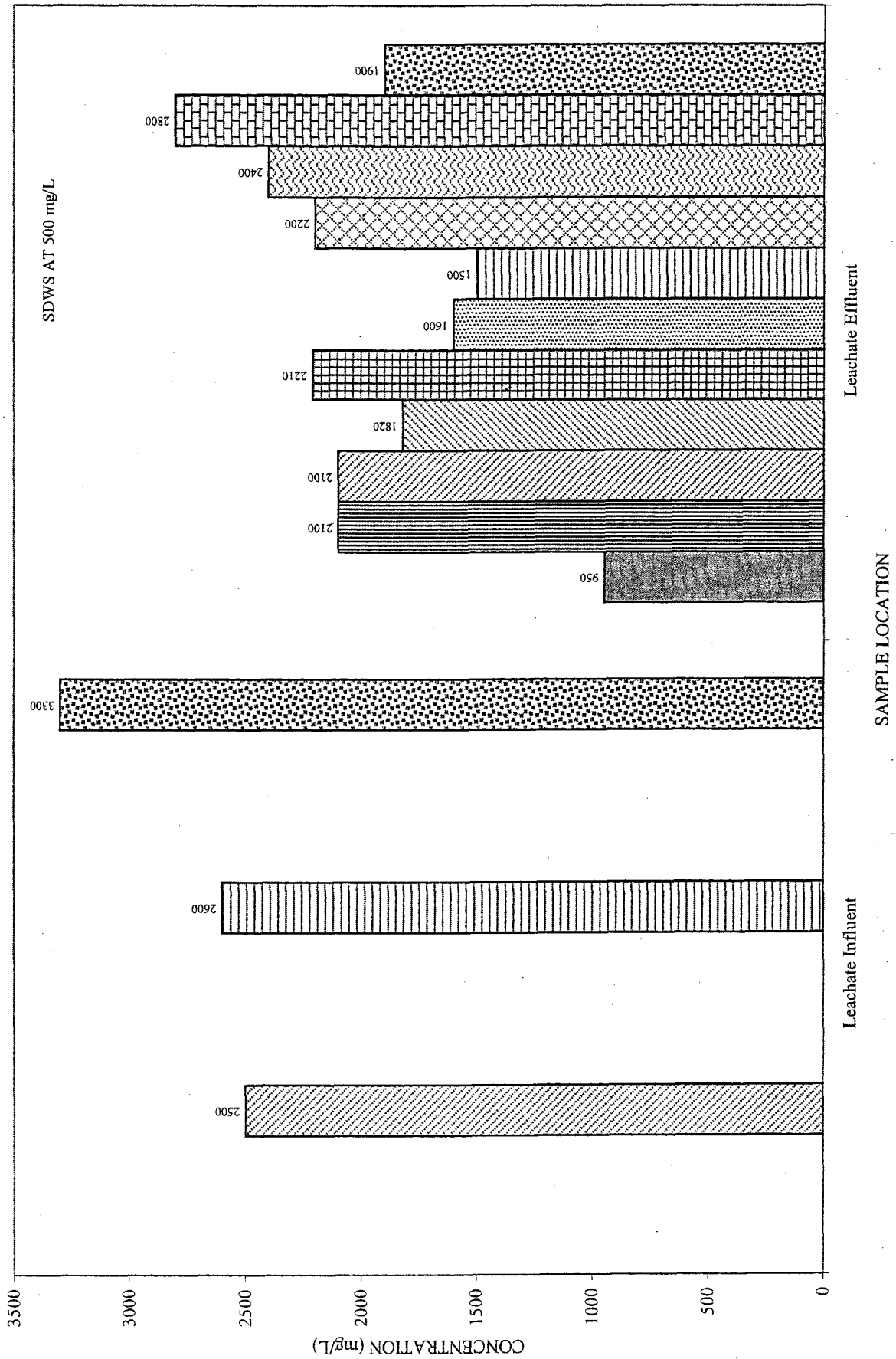
SPECIFIC CONDUCTANCE CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



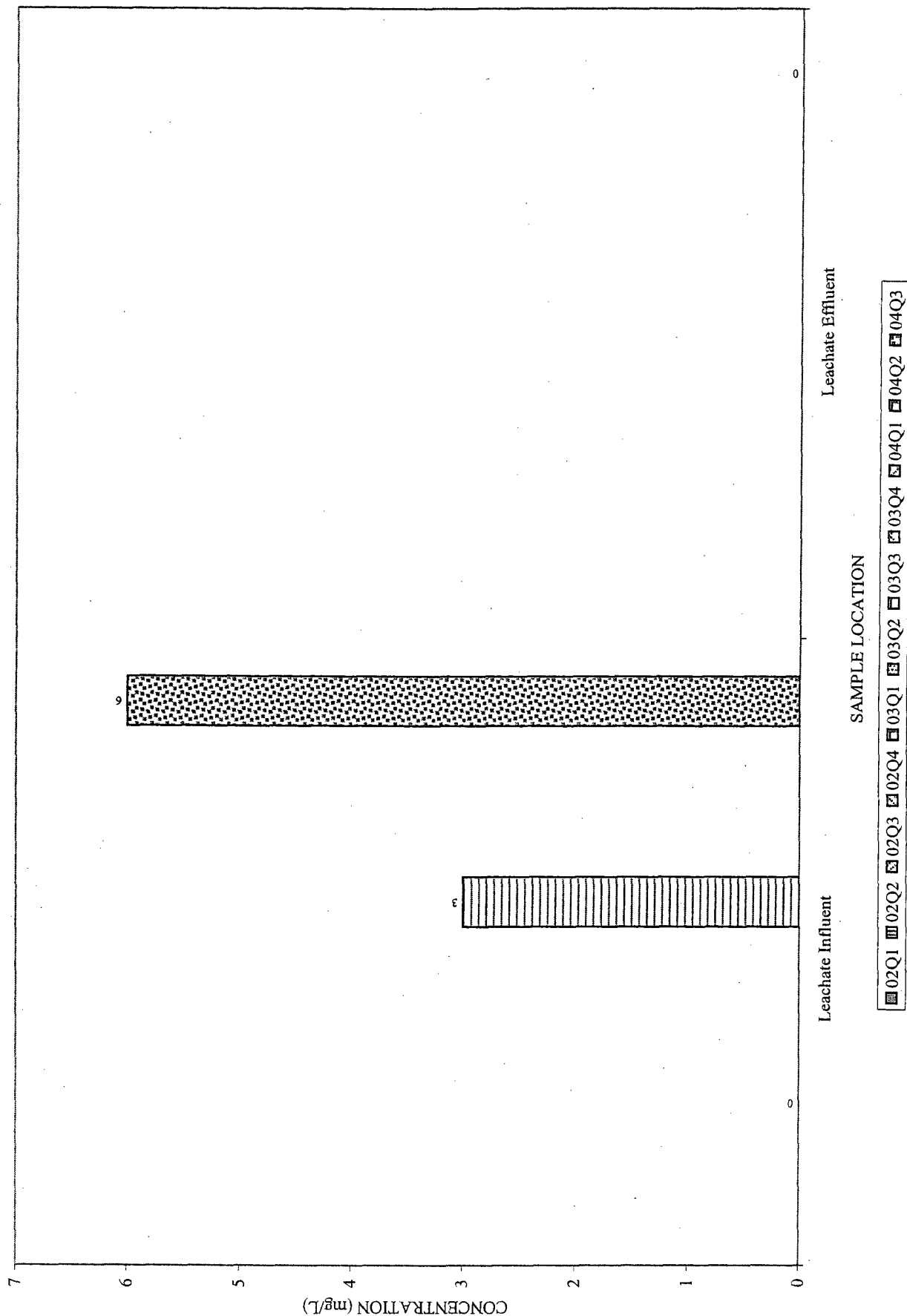
0 = BELOW LABORATORY DETECTION LIMIT

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TOTAL DISSOLVED SOLIDS CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

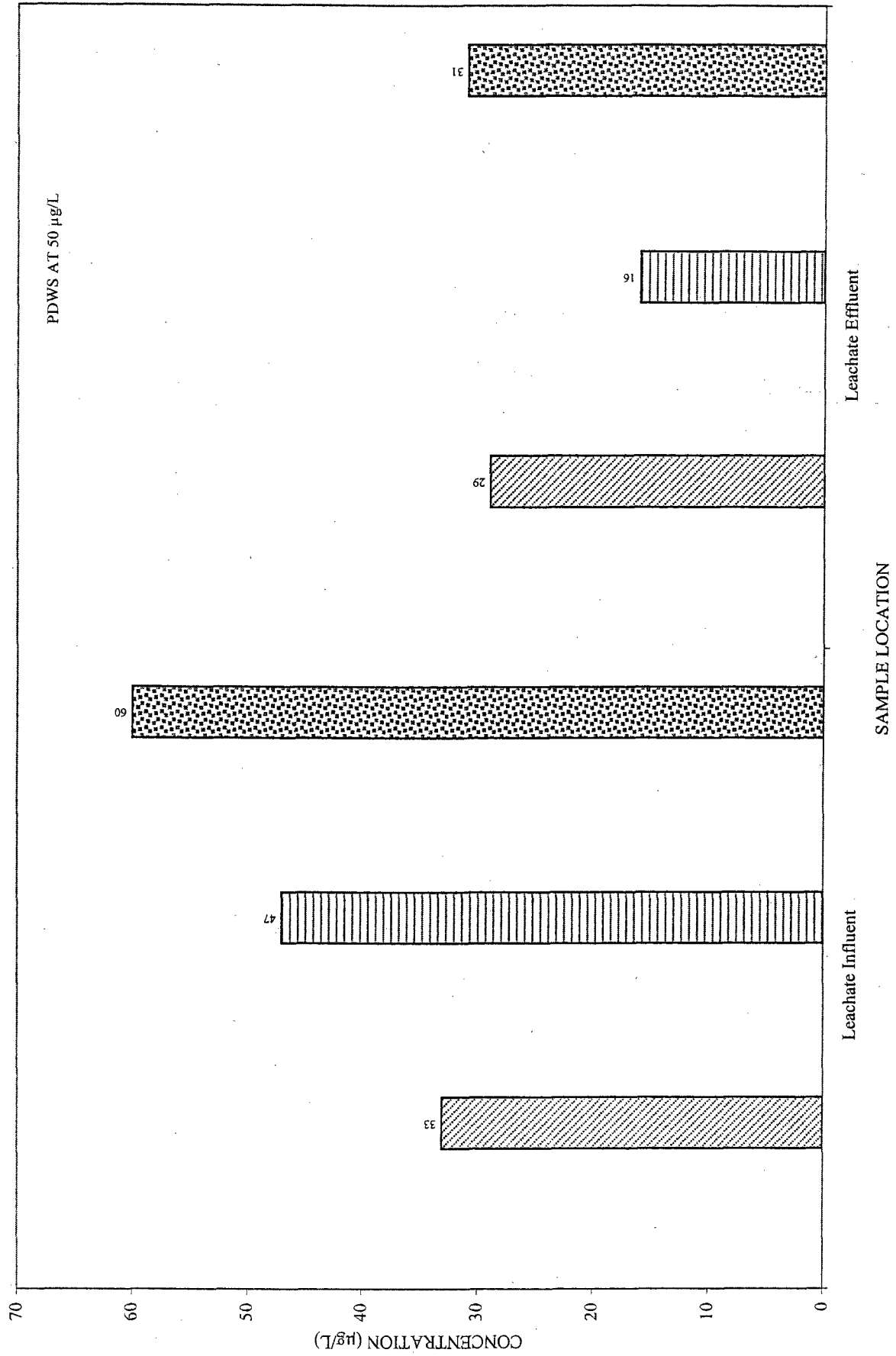


TOTAL SULFIDE CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

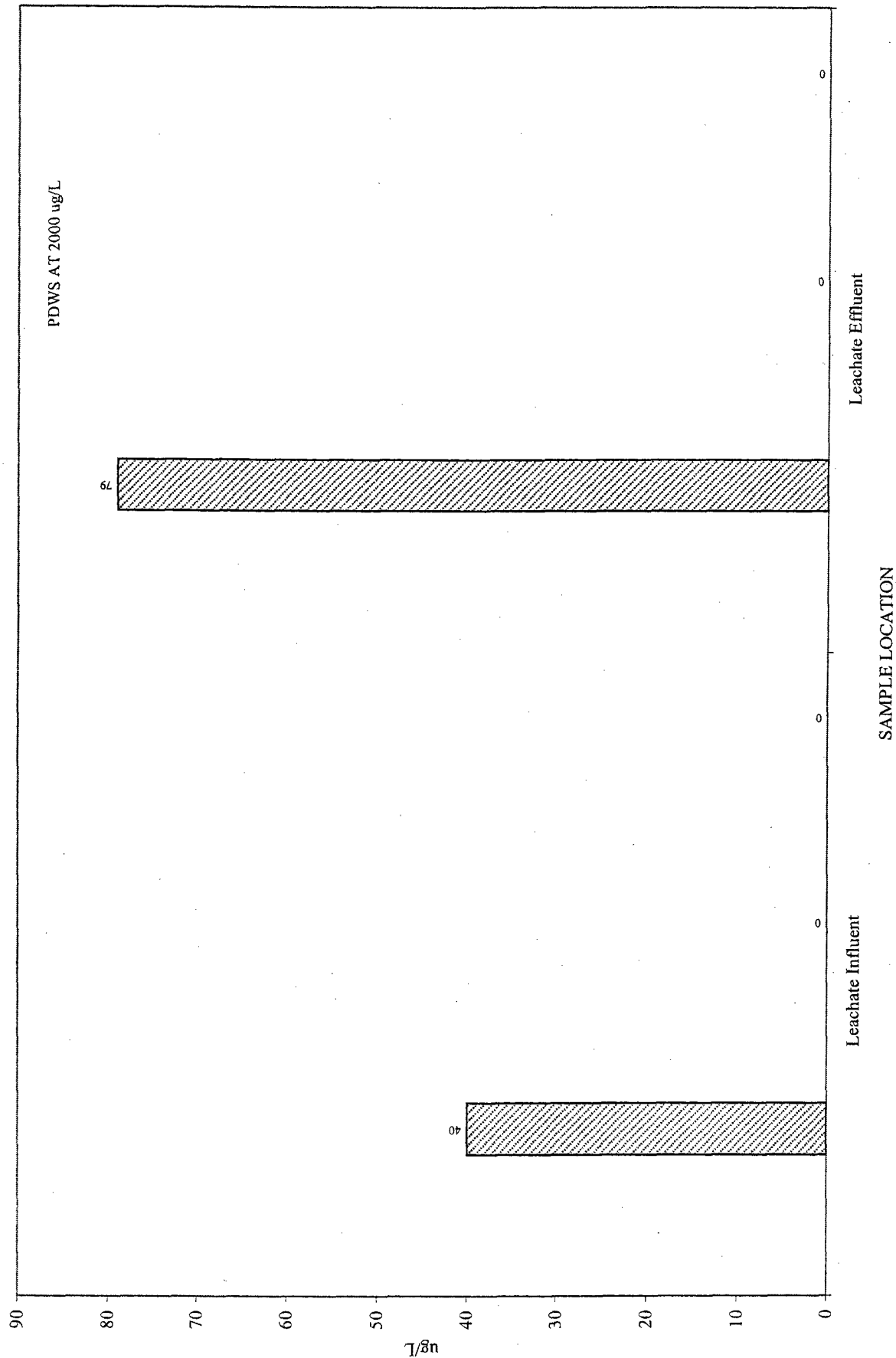
ARSENIC CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



BARIUM

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH

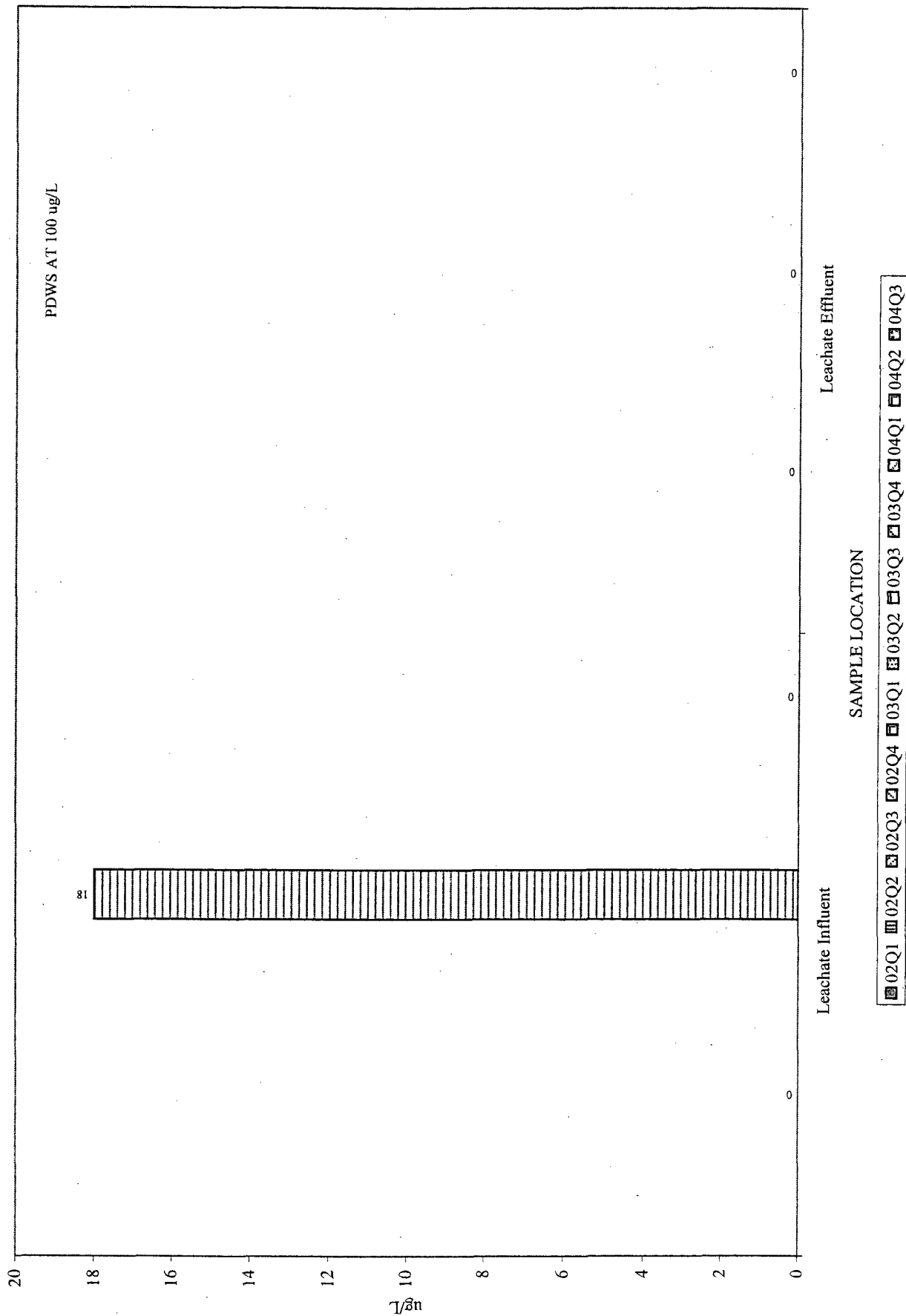


0 = BELOW LABORATORY DETECTION LIMIT

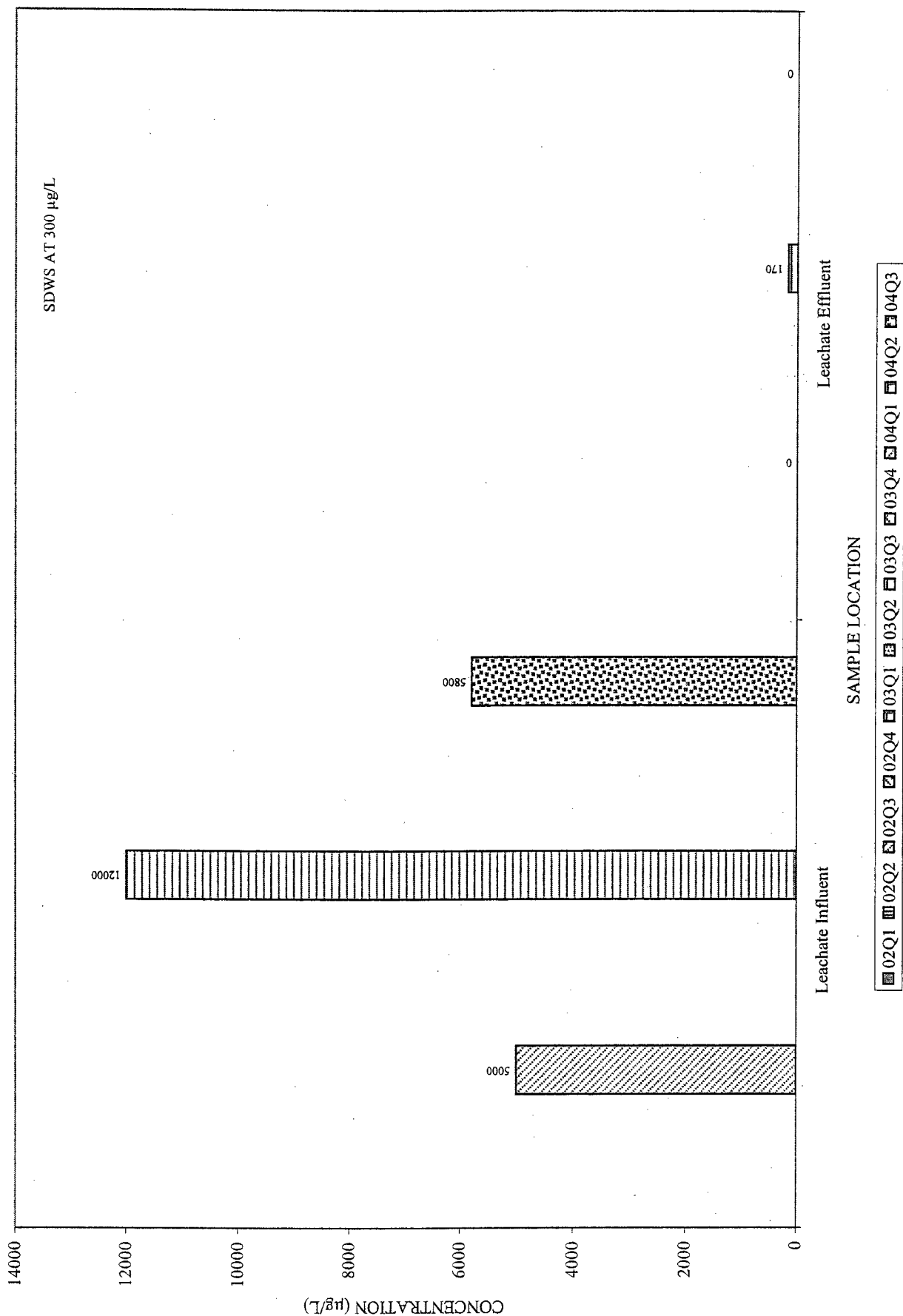
CHROMIUM

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH

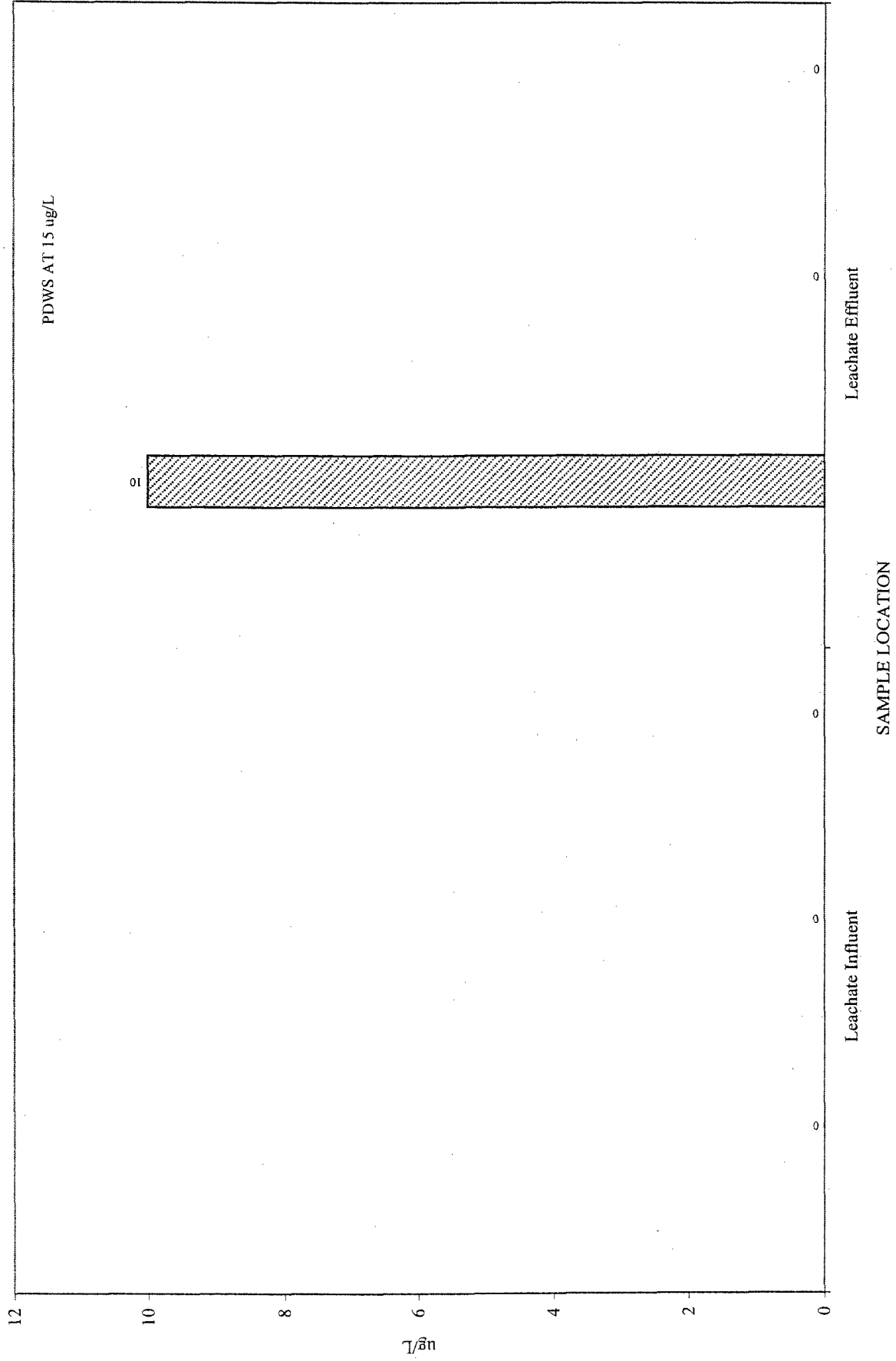


IRON CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



LEAD

CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

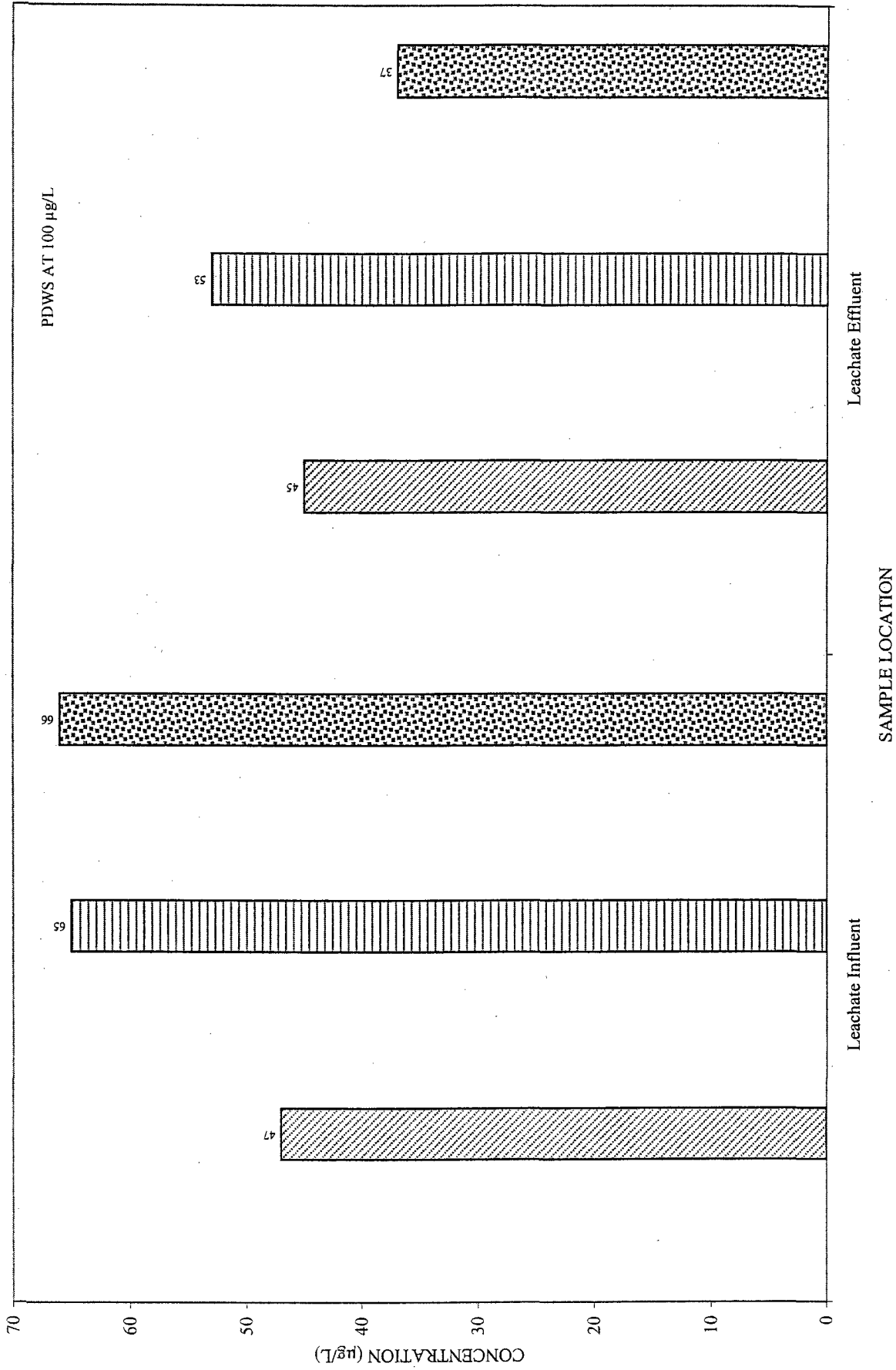


☐ 02Q1 ☐ 02Q2 ☐ 02Q3 ☐ 02Q4 ☐ 03Q1 ☐ 03Q2 ☐ 03Q3 ☐ 03Q4 ☐ 04Q1 ☐ 04Q2 ☐ 04Q3

0 = BELOW LABORATORY DETECTION LIMIT

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NICKEL CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



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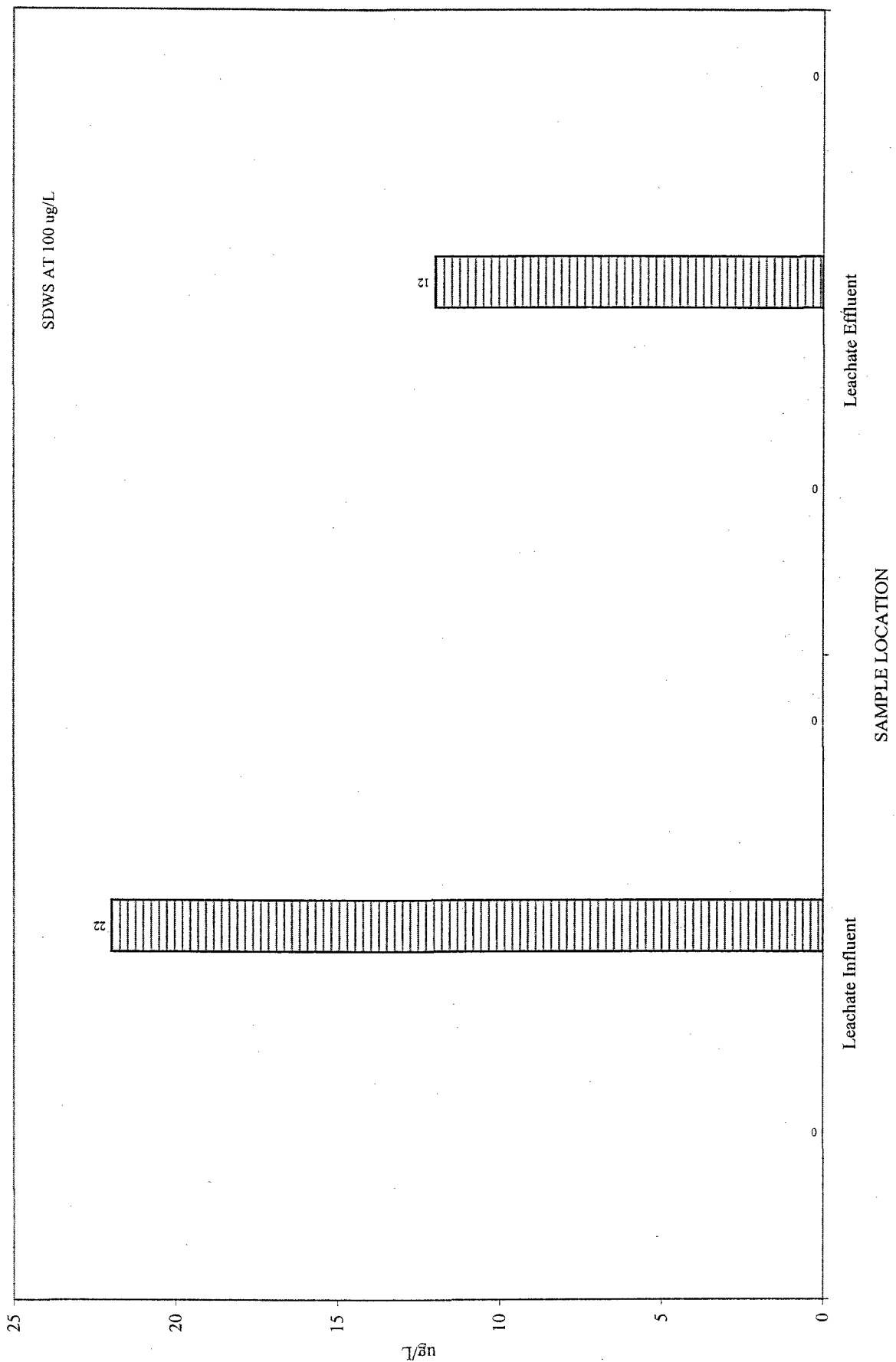
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SILVER

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH

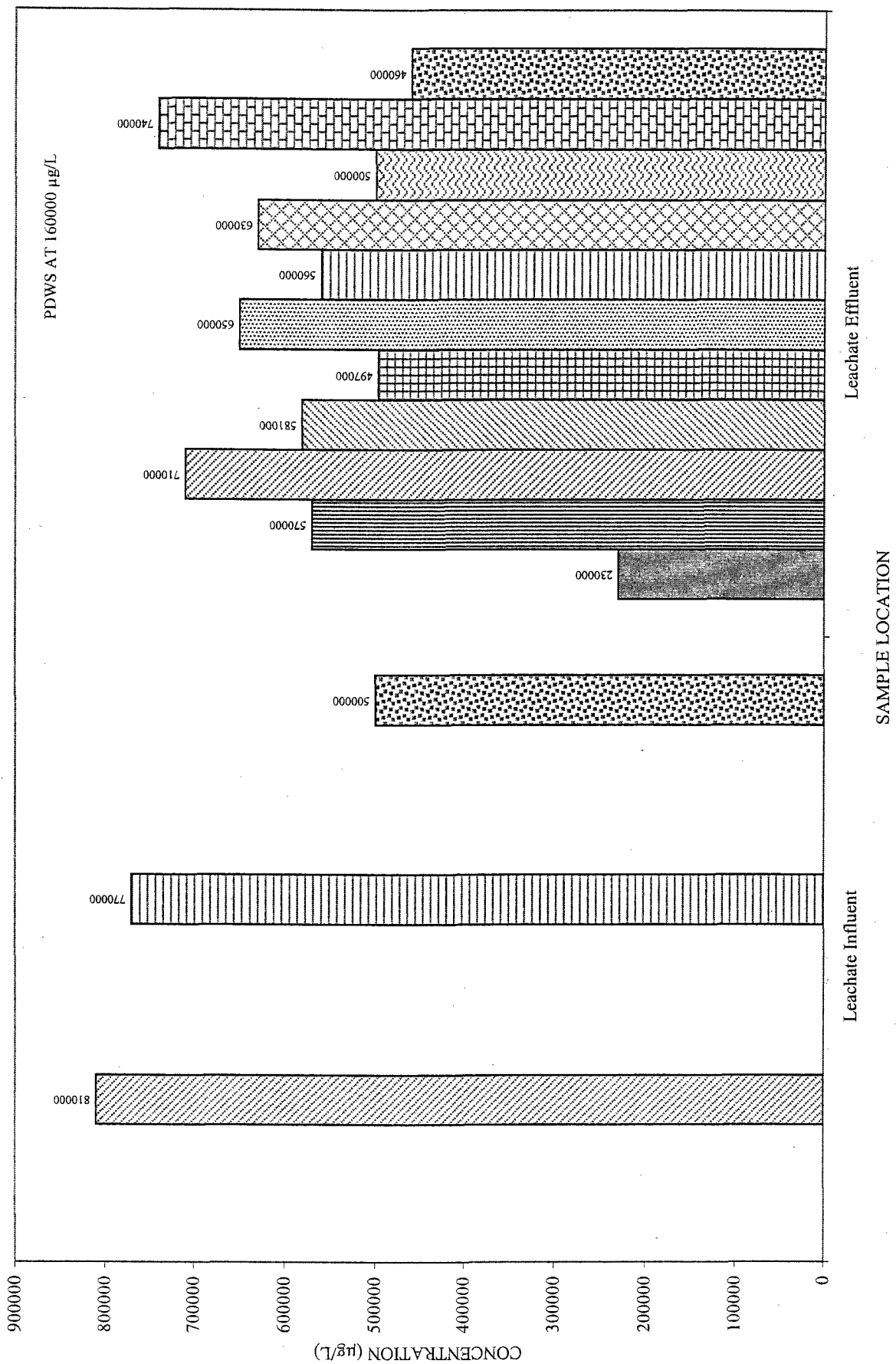


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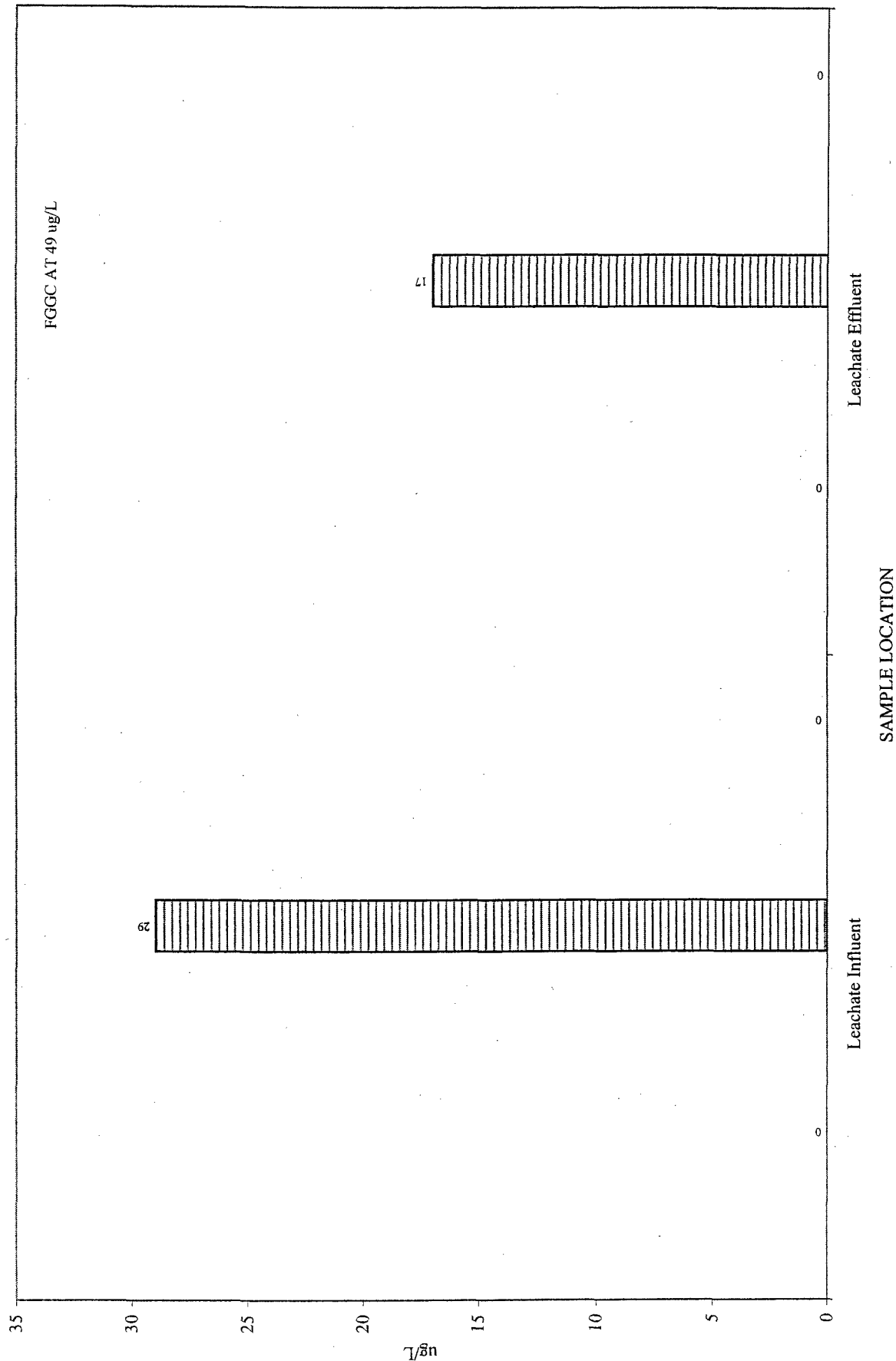
SODIUM

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH



VANADIUM CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH

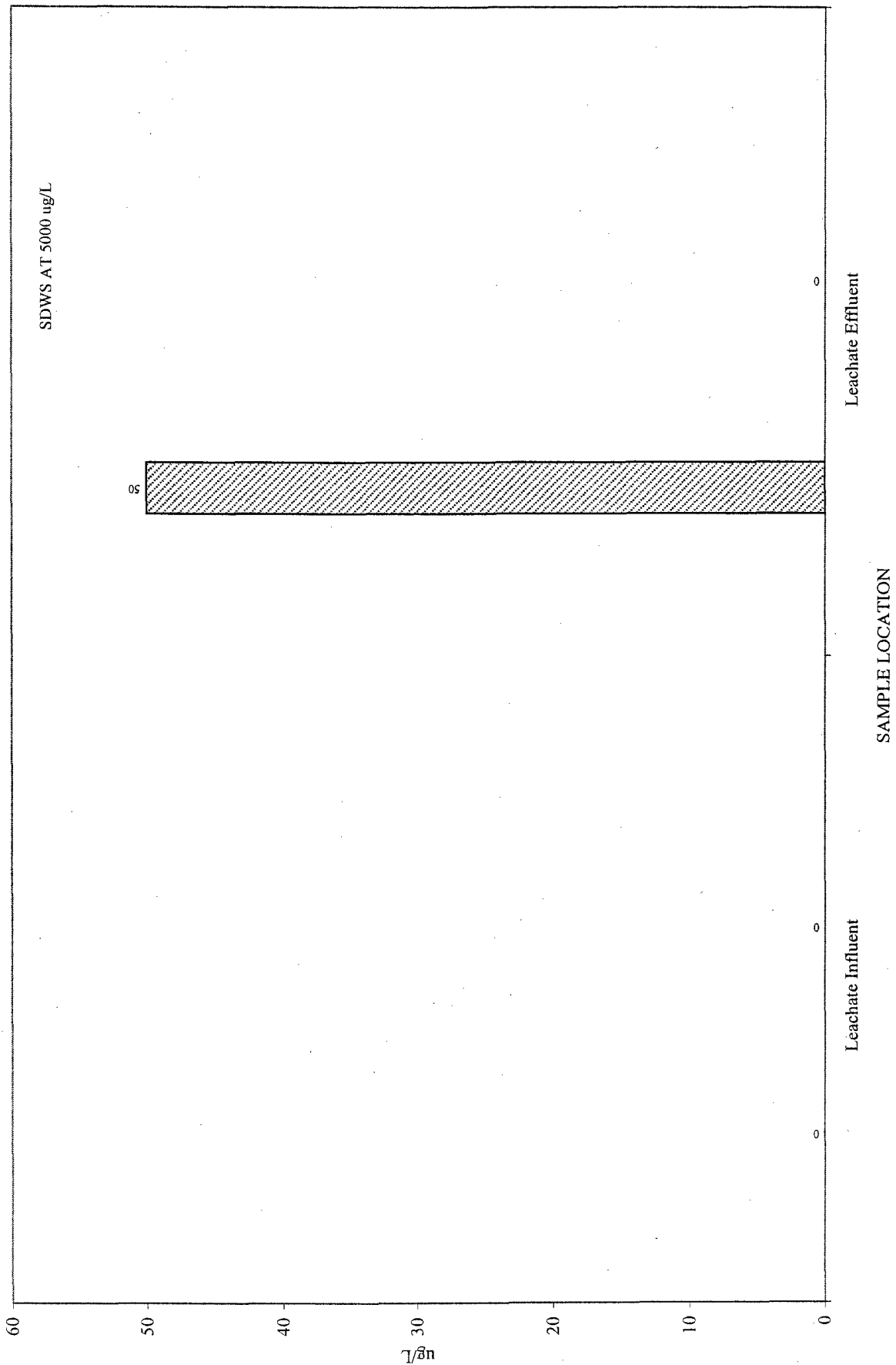


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ZINC

CITRUS COUNTY CENTRAL LANDFILL

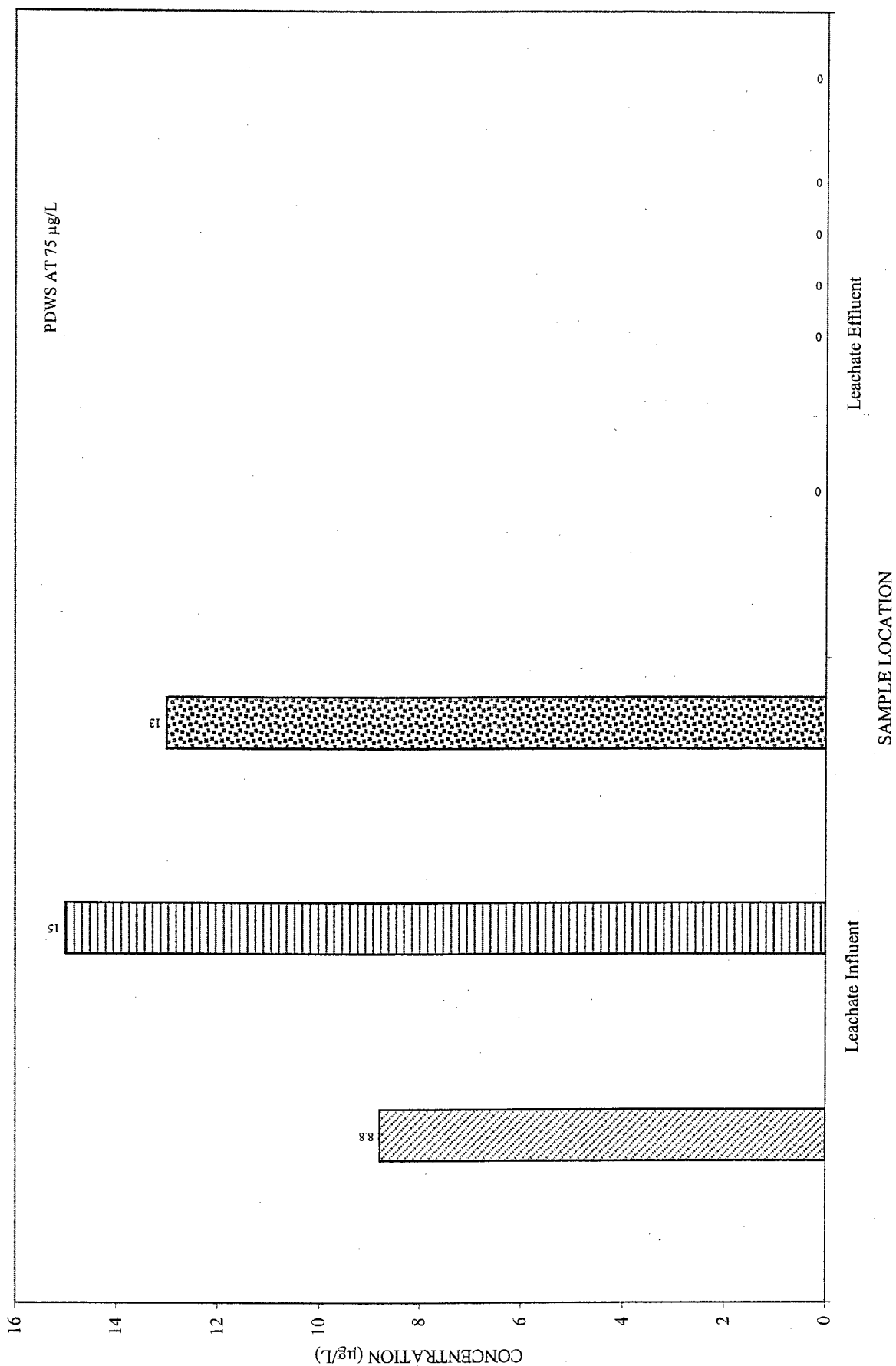
LEACHATE CHEMISTRY GRAPH



0 = BELOW LABORATORY DETECTION LIMIT

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1,4-DICHLOROBENZENE CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



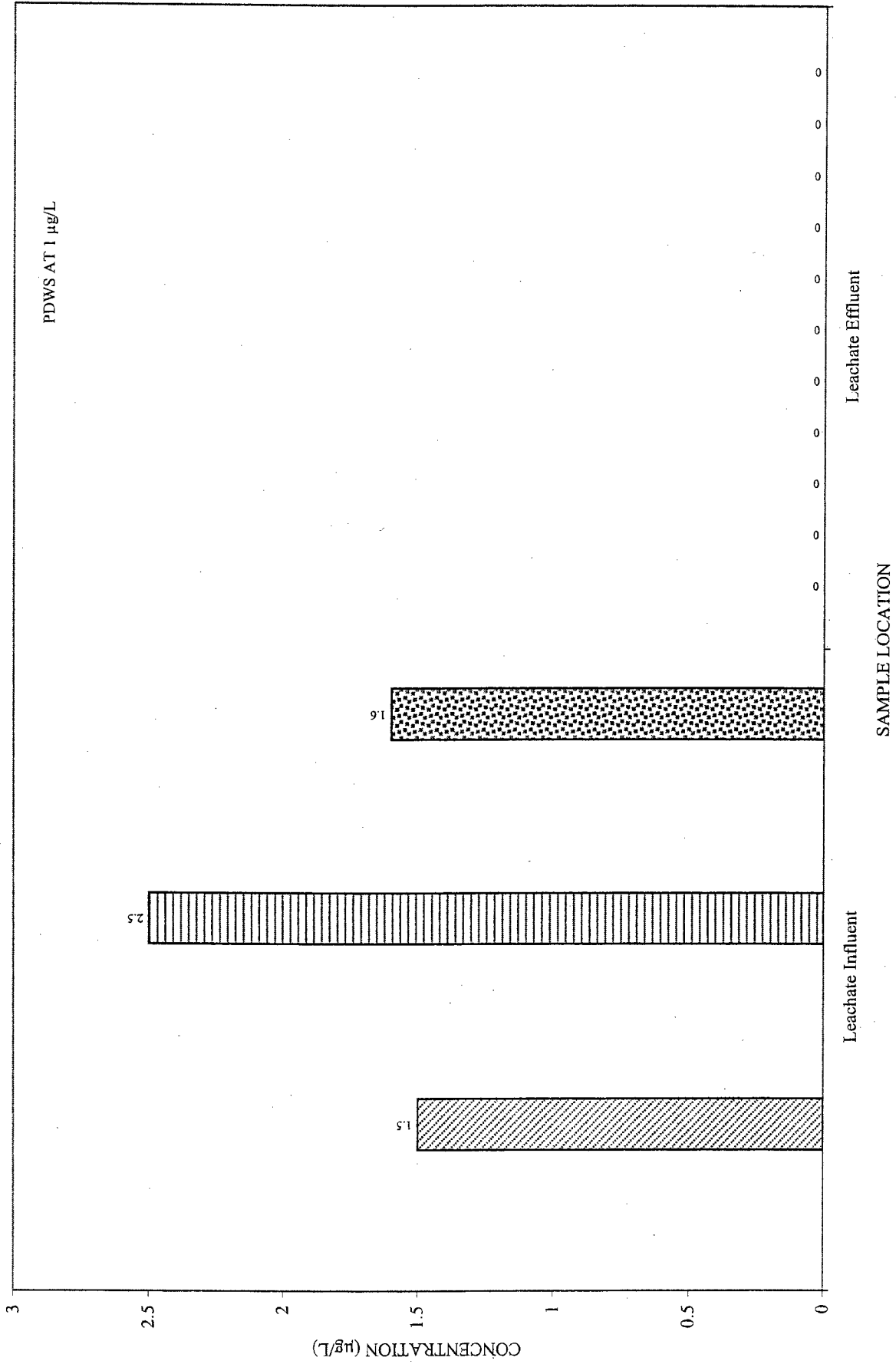
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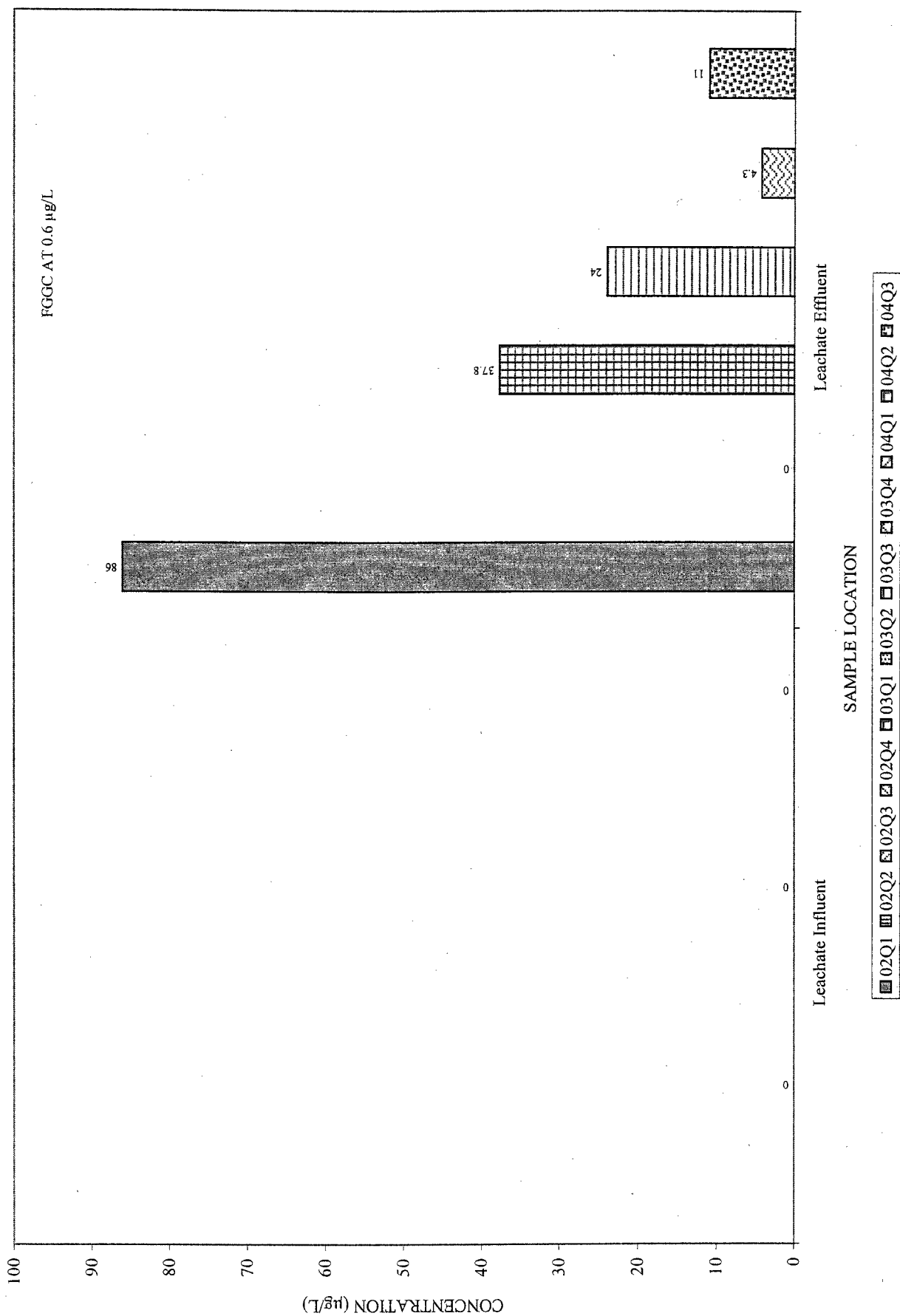
BENZENE

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH



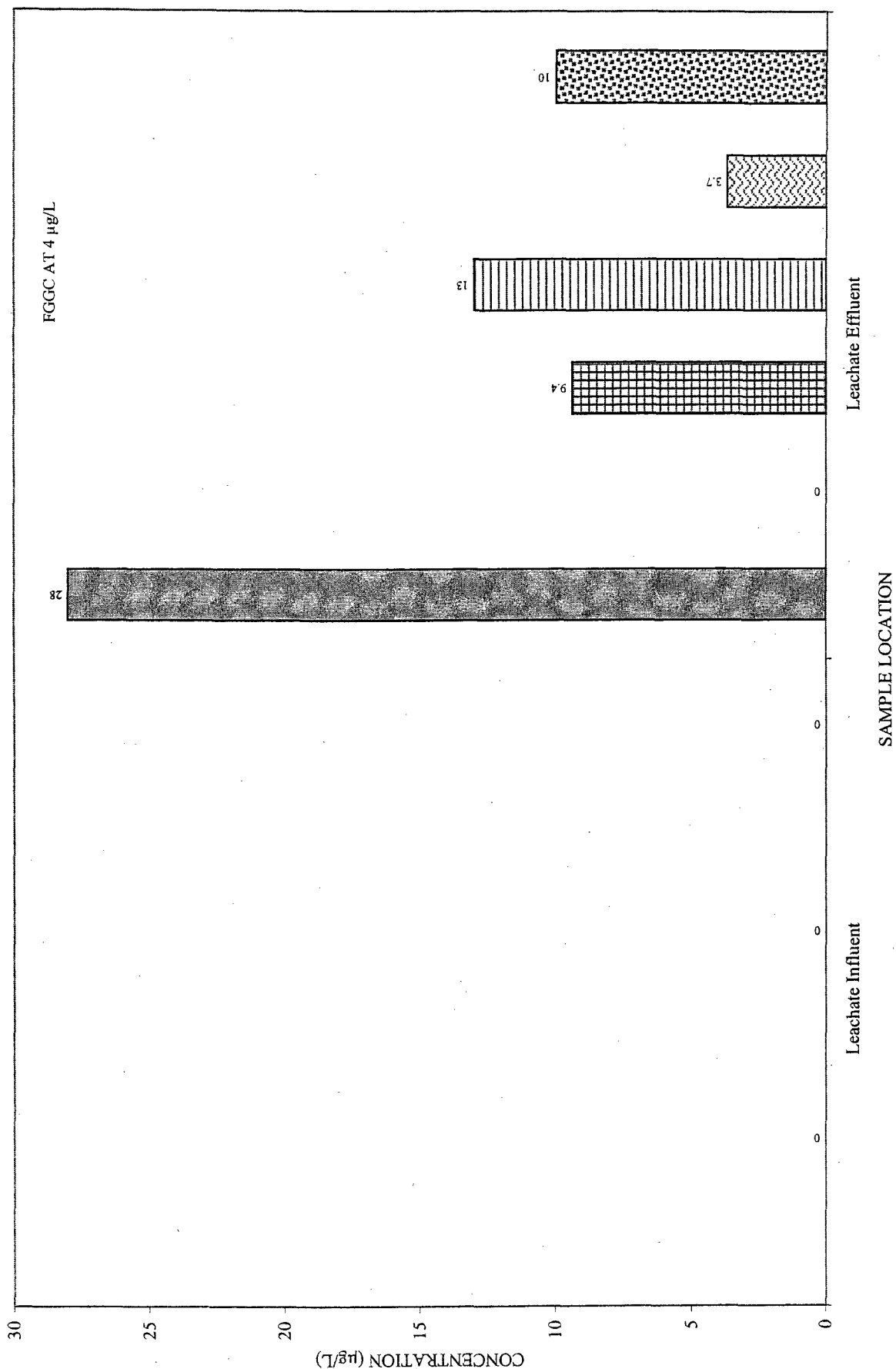
BROMODICHLOROMETHANE **CITRUS COUNTY CENTRAL LANDFILL** **LEACHATE CHEMISTRY GRAPH**



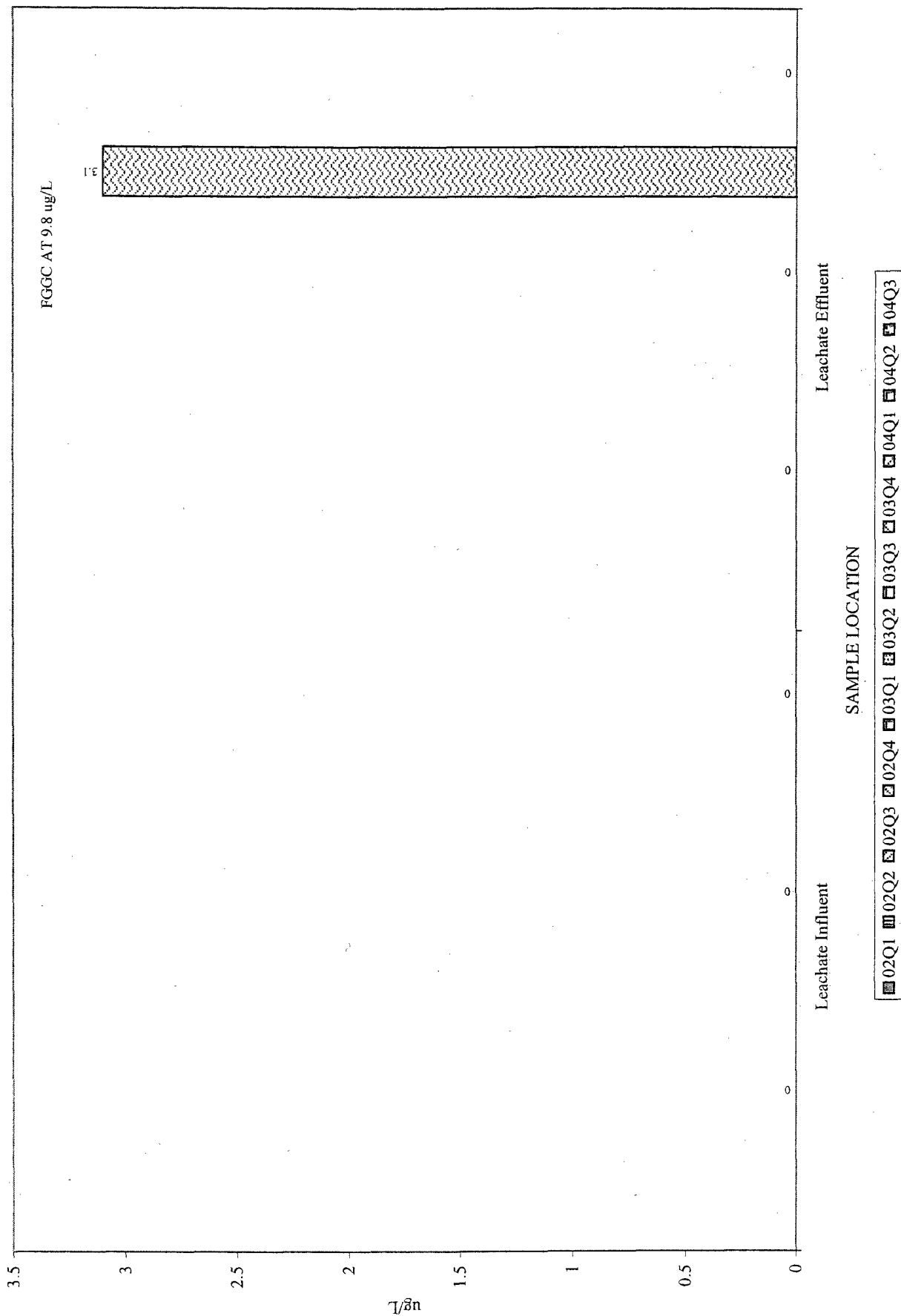
BROMOFORM

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH



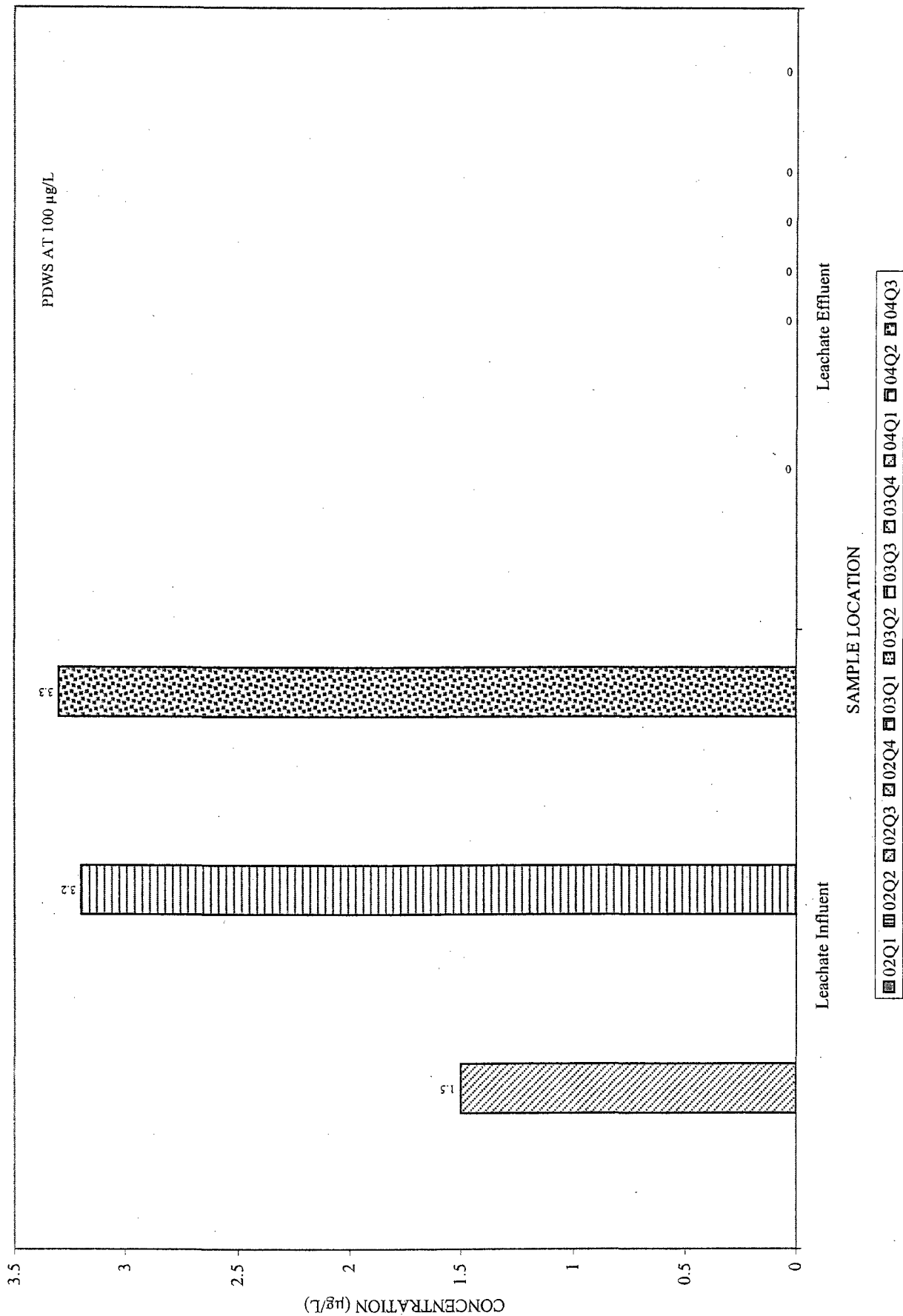
BROMOMETHANE (METHYL BROMIDE)
CITRUS COUNTY CENTRAL LANDFILL
LEACHATE CHEMISTRY GRAPH



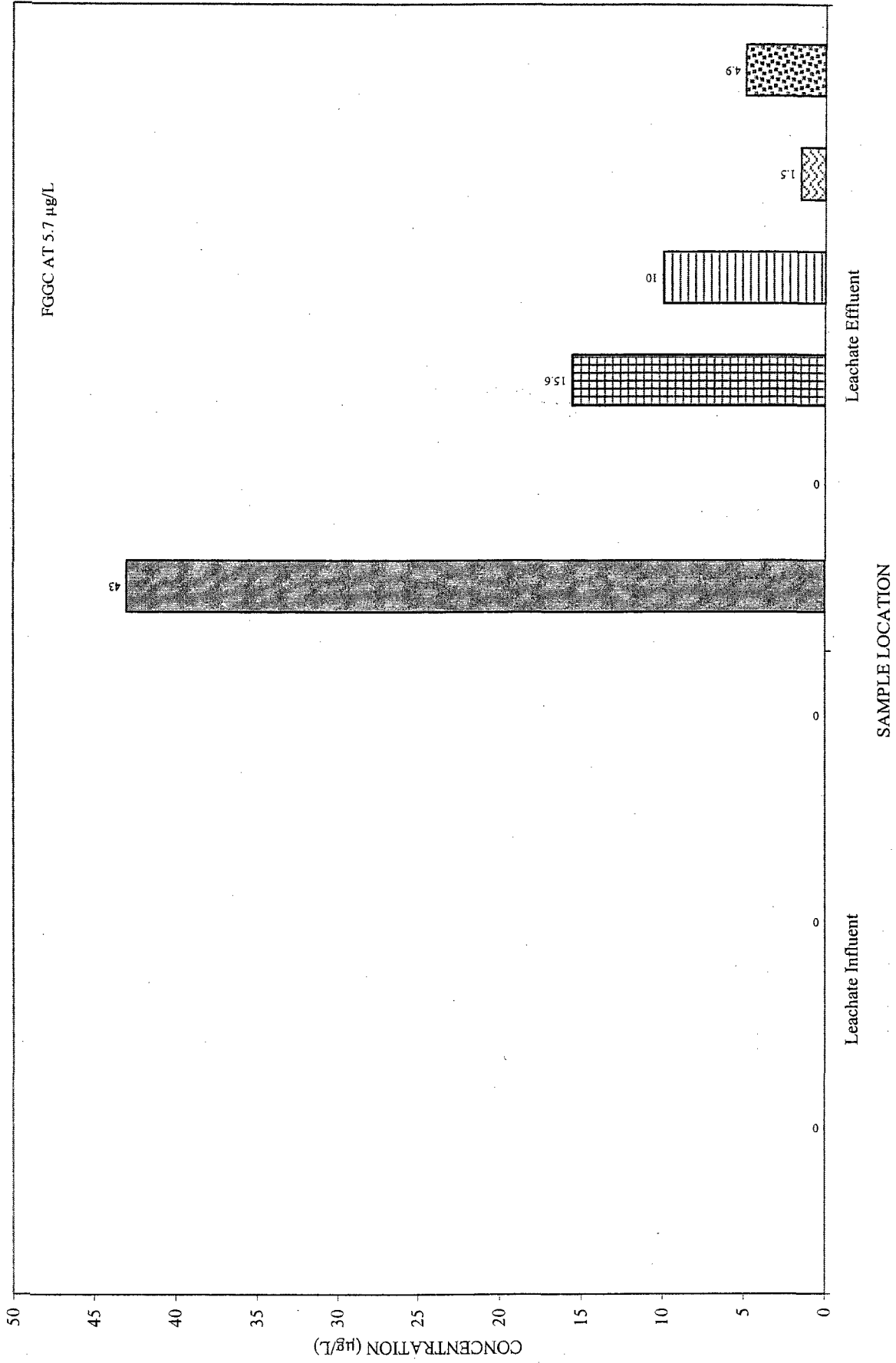
CHLOROBENZENE

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH



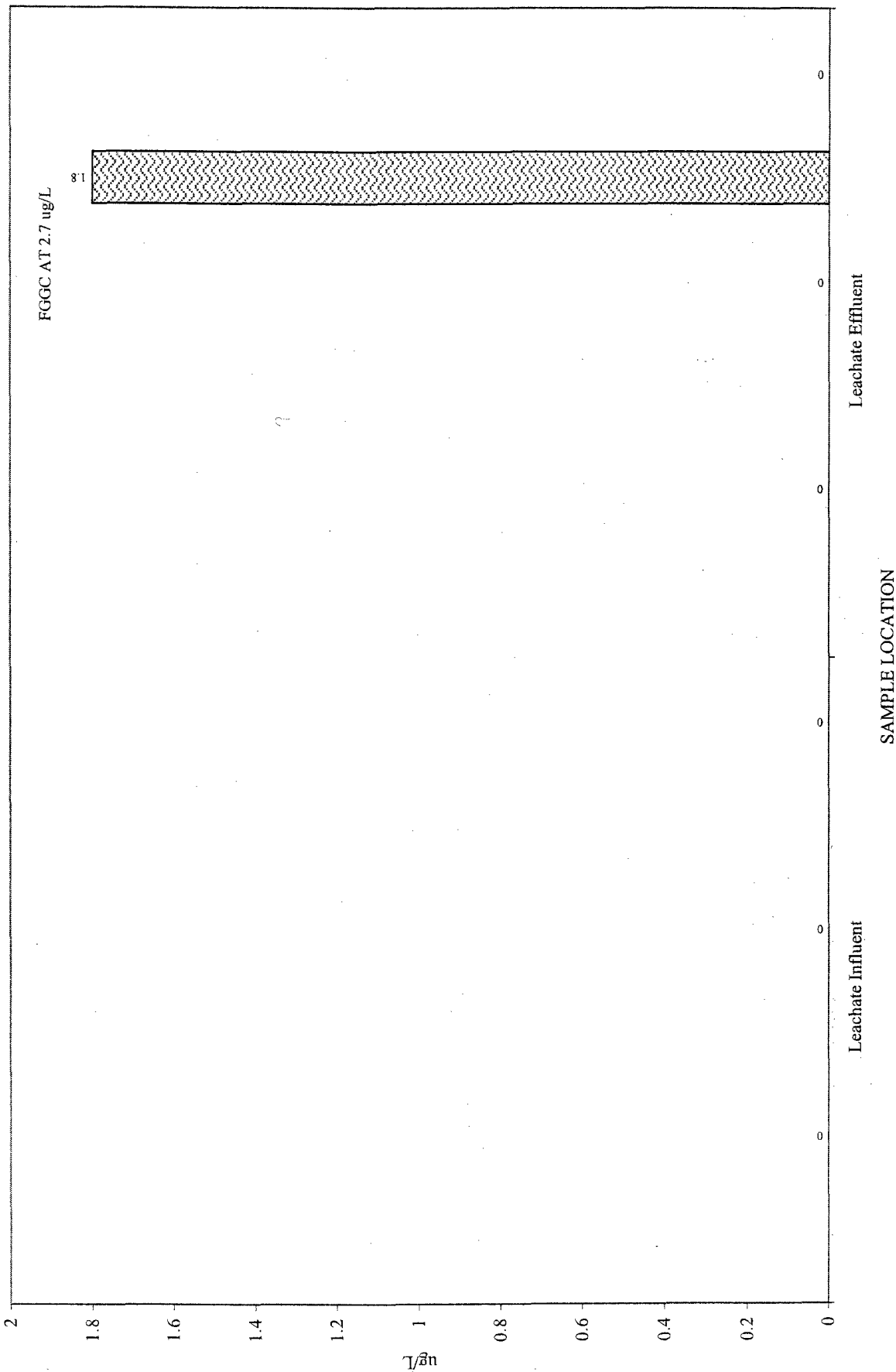
CHLOROFORM CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



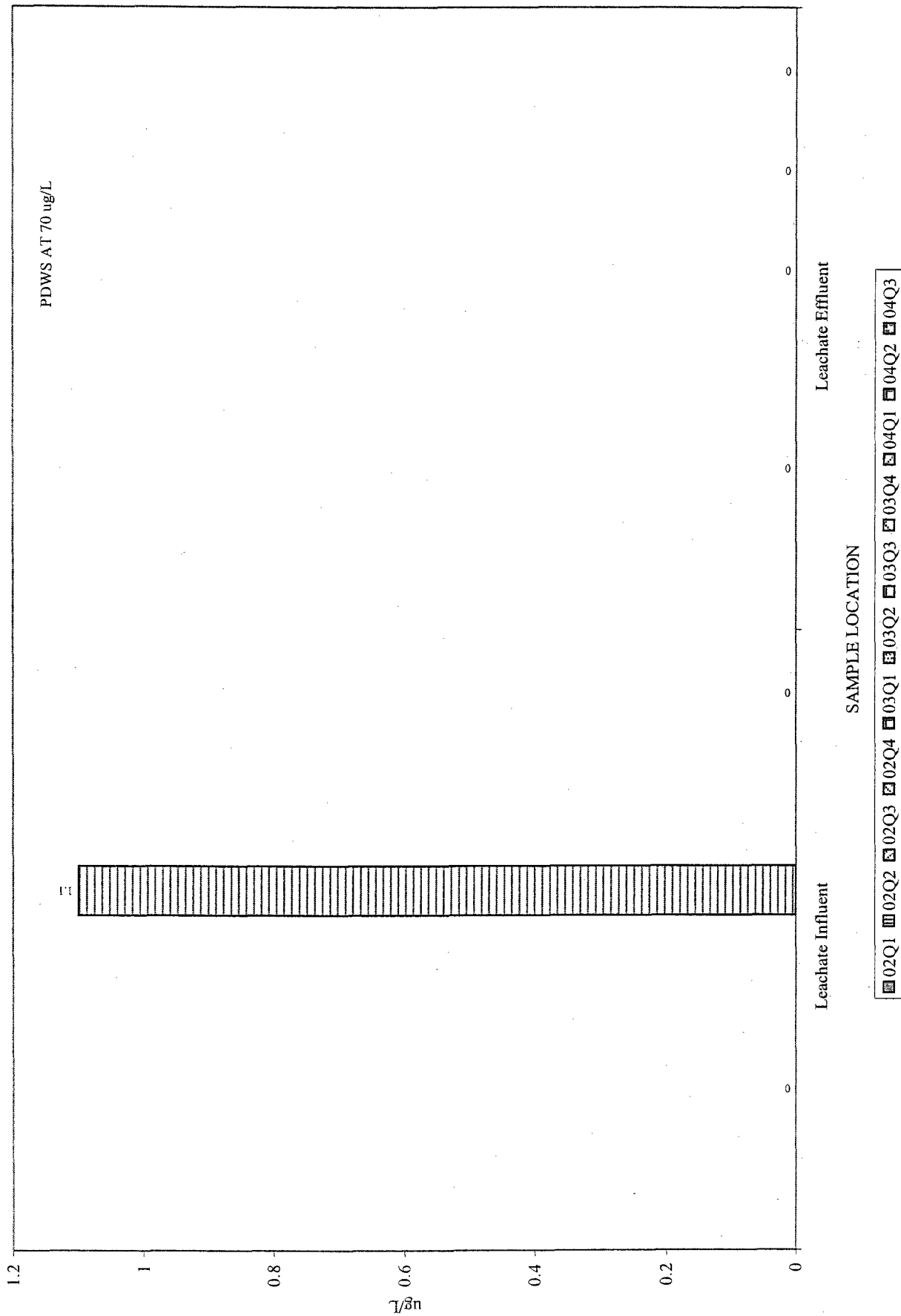
0 = BELOW LABORATORY DETECTION LIMIT

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CHLOROMETHANE (METHYL CHLORIDE) CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



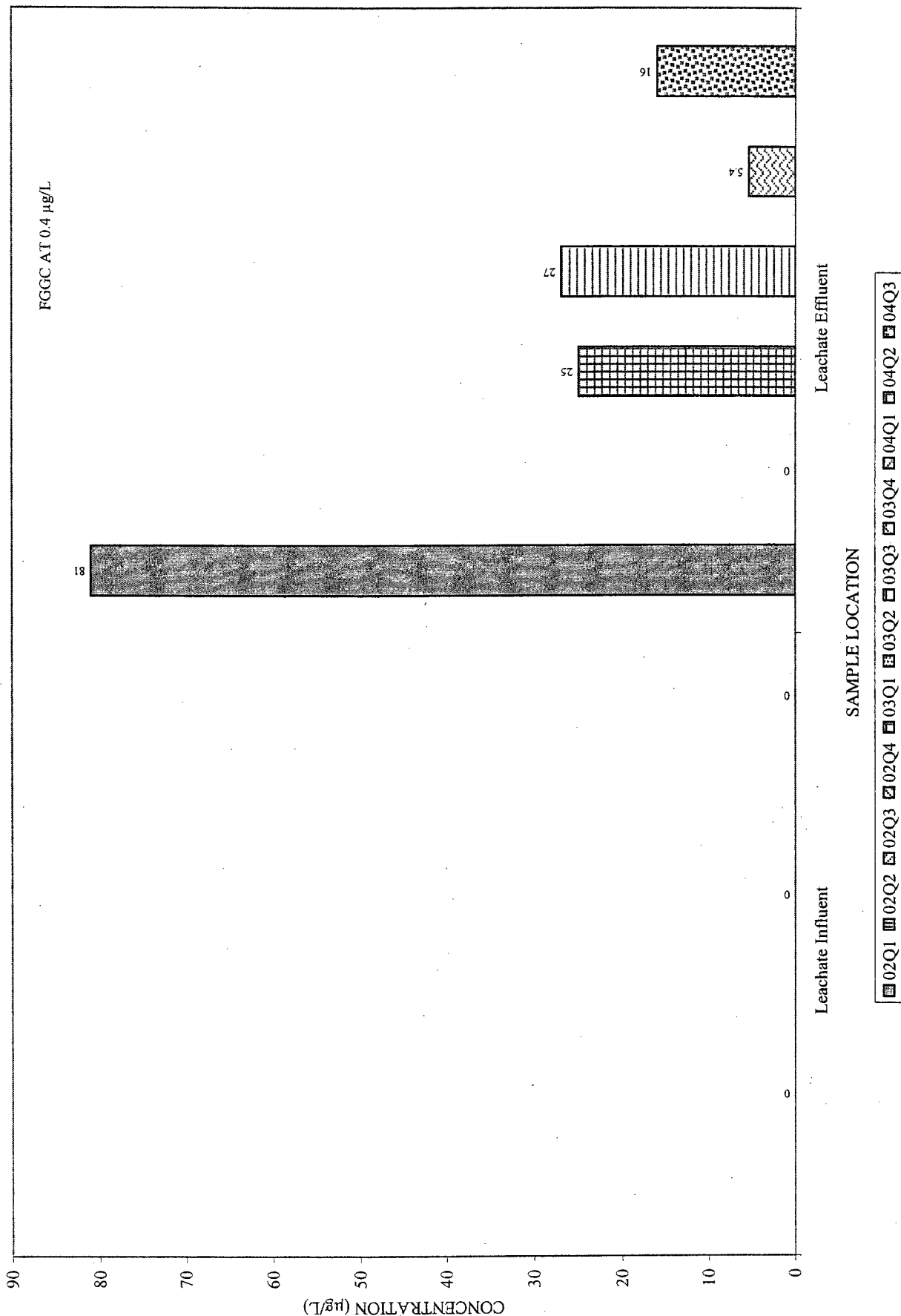
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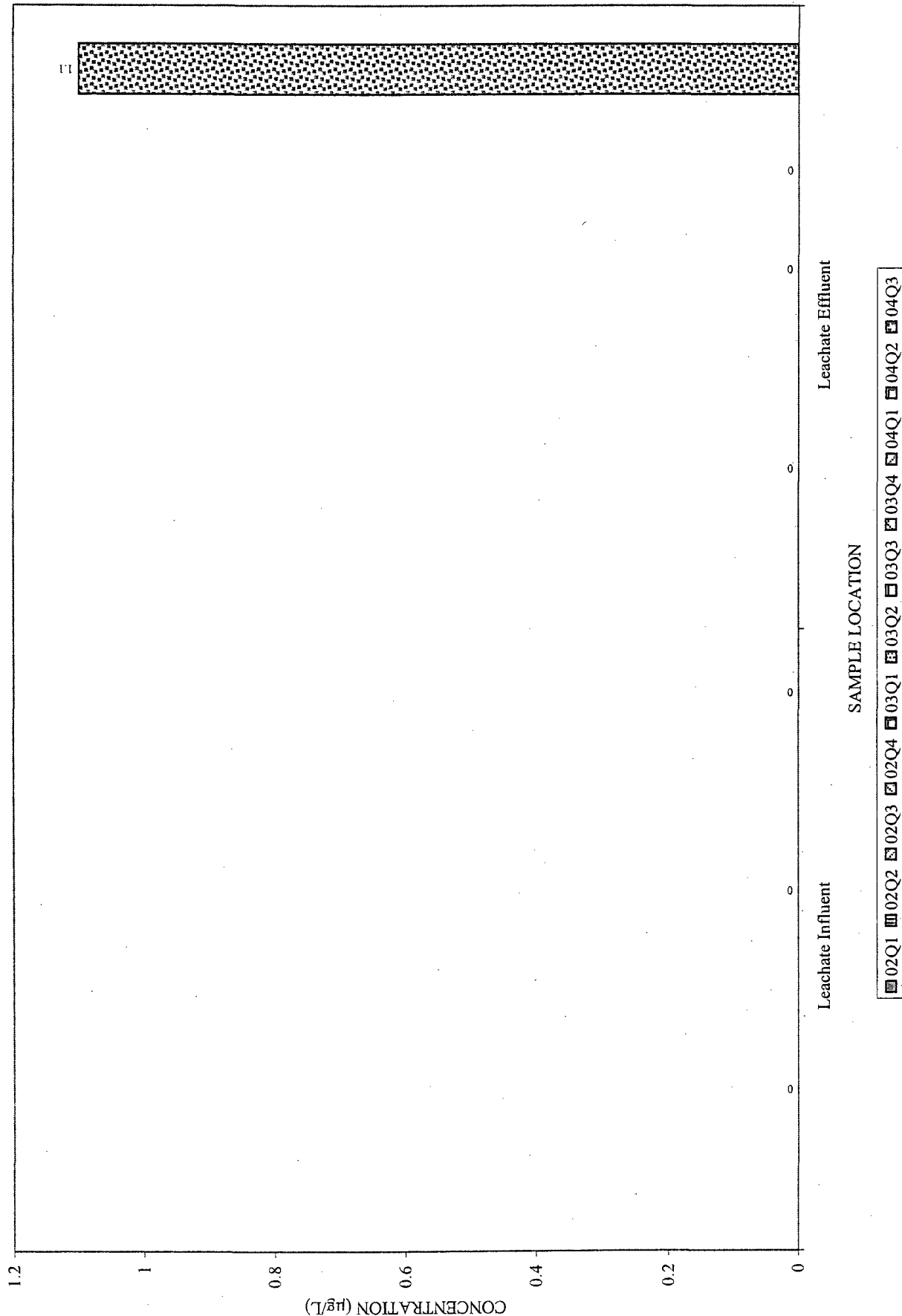
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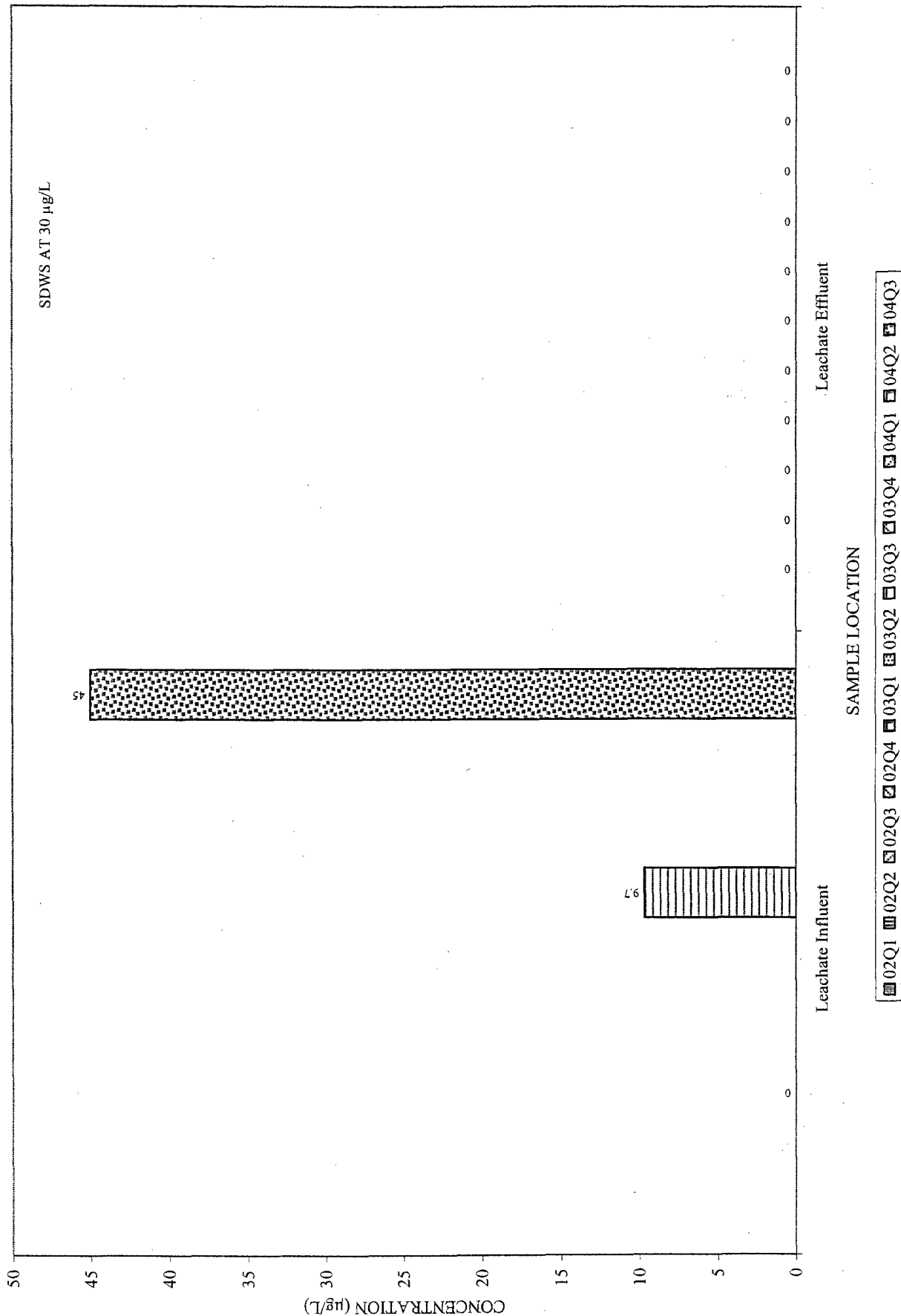
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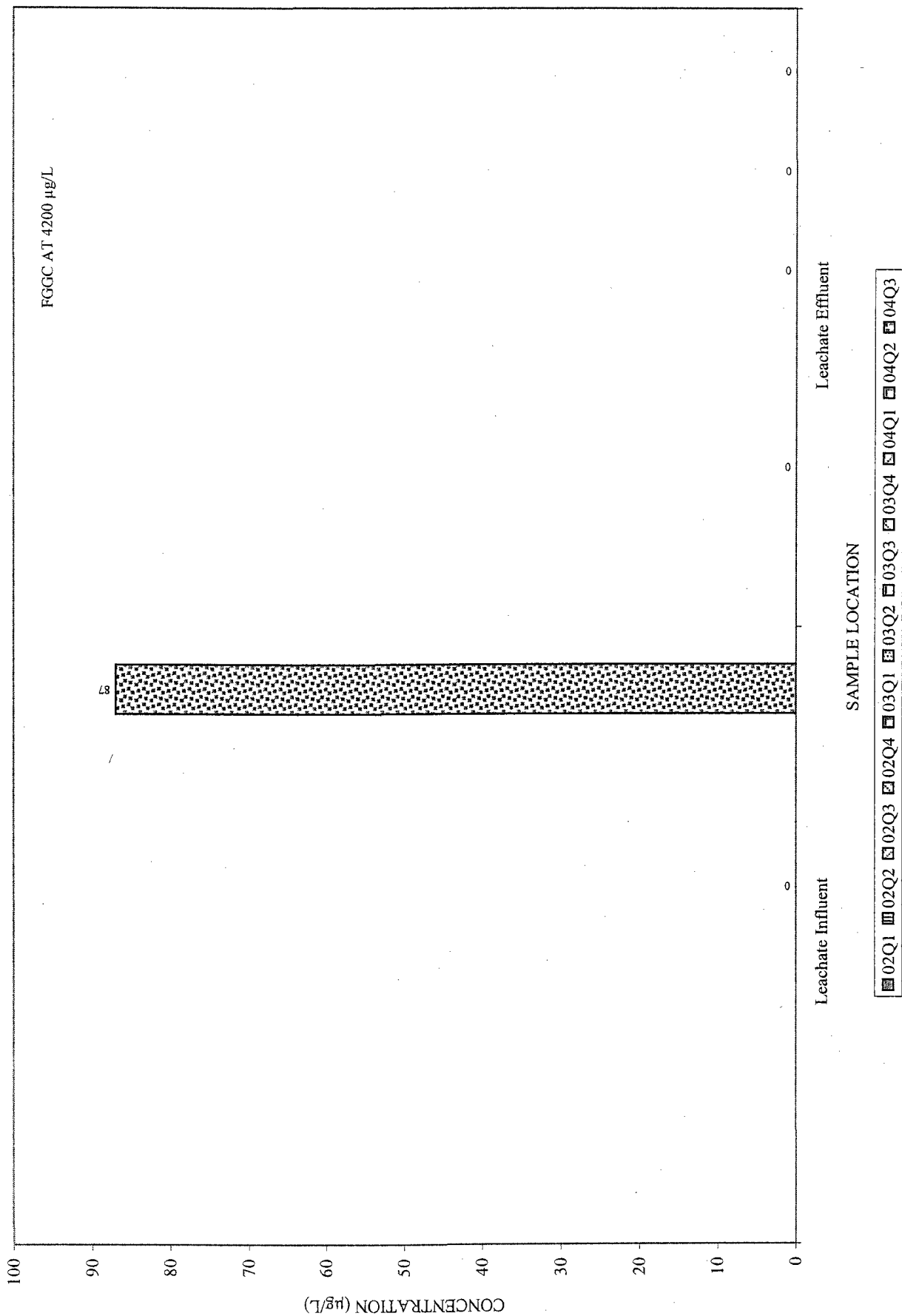
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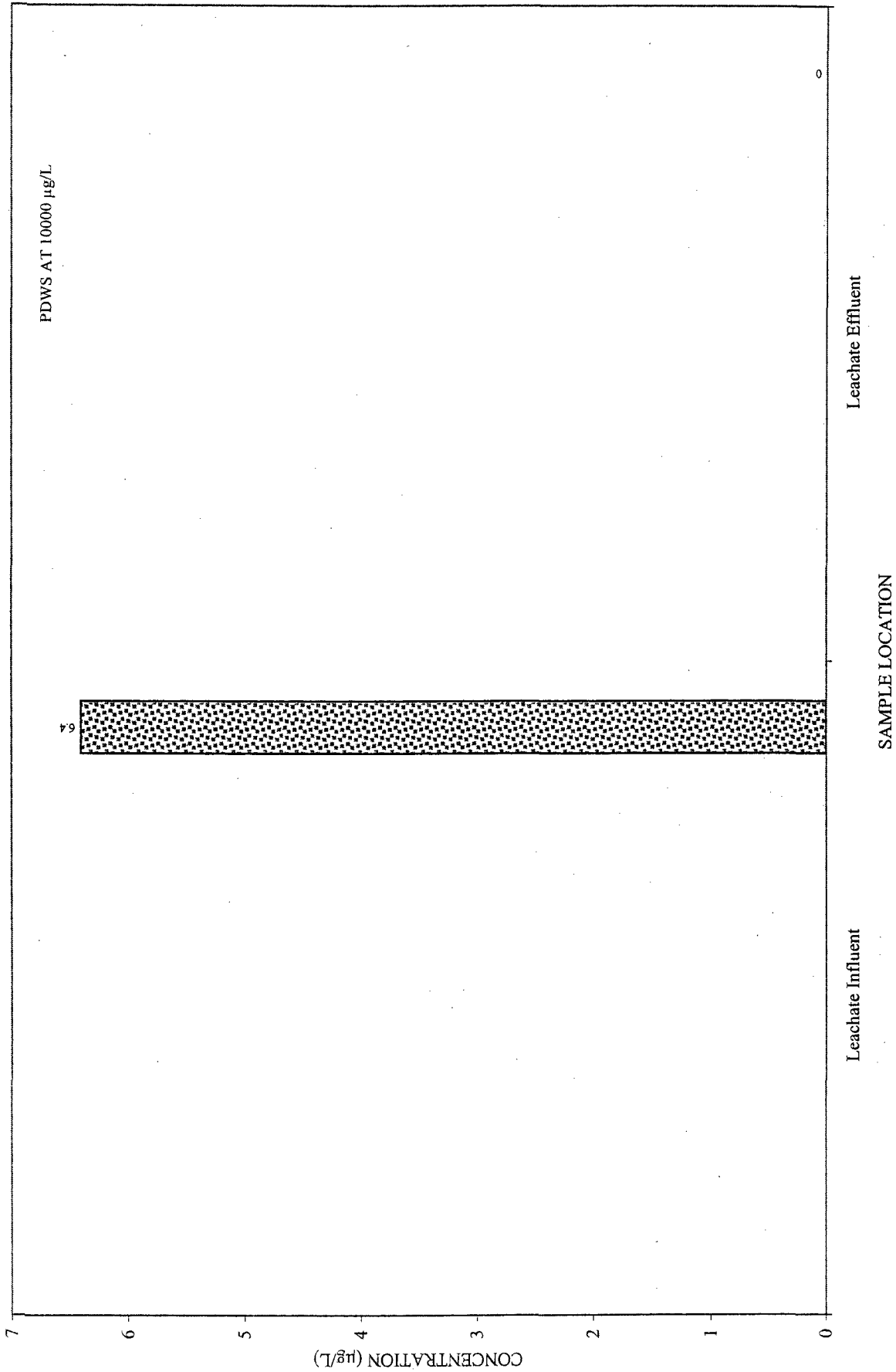


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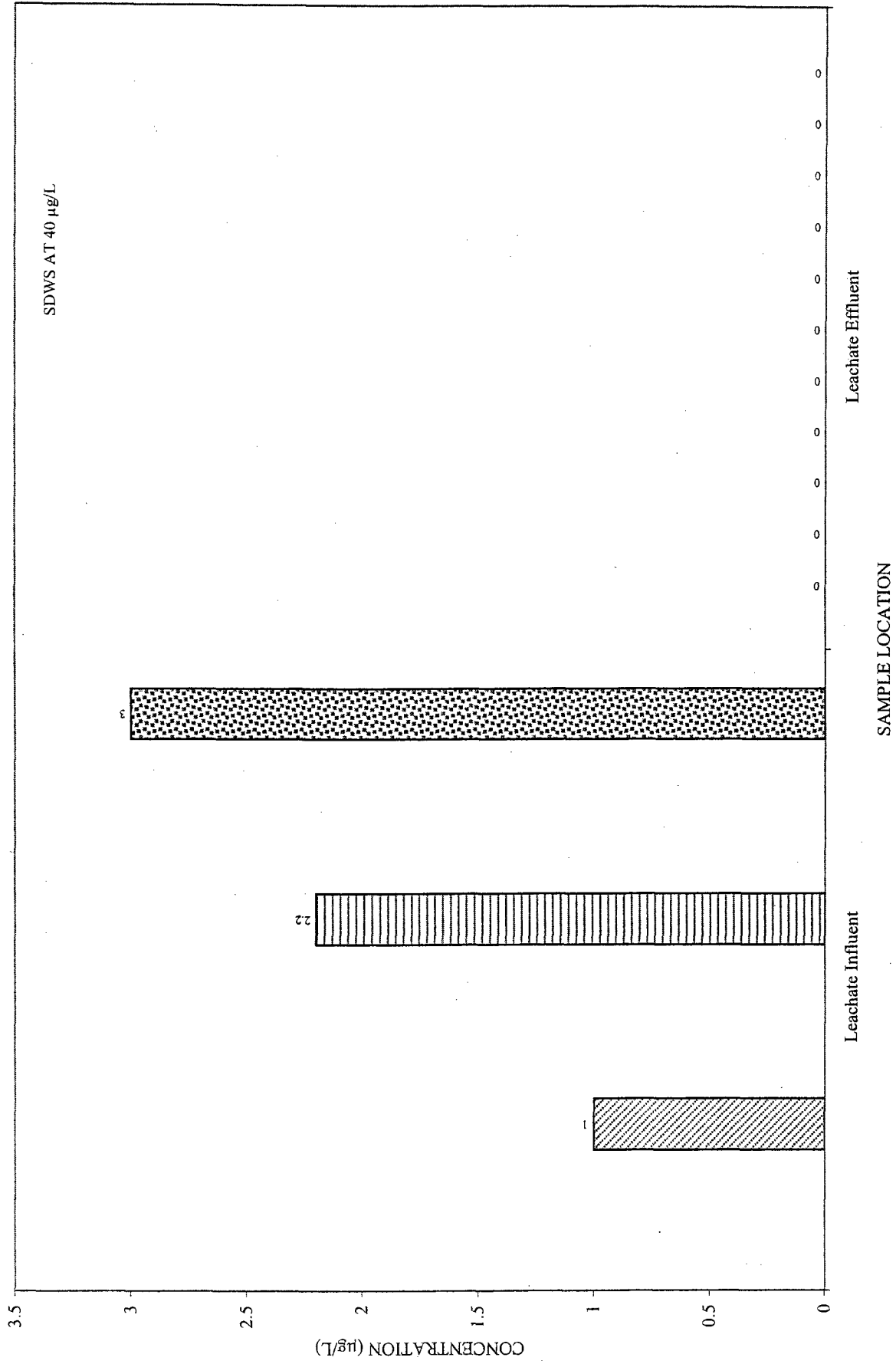


O-XYLENES CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



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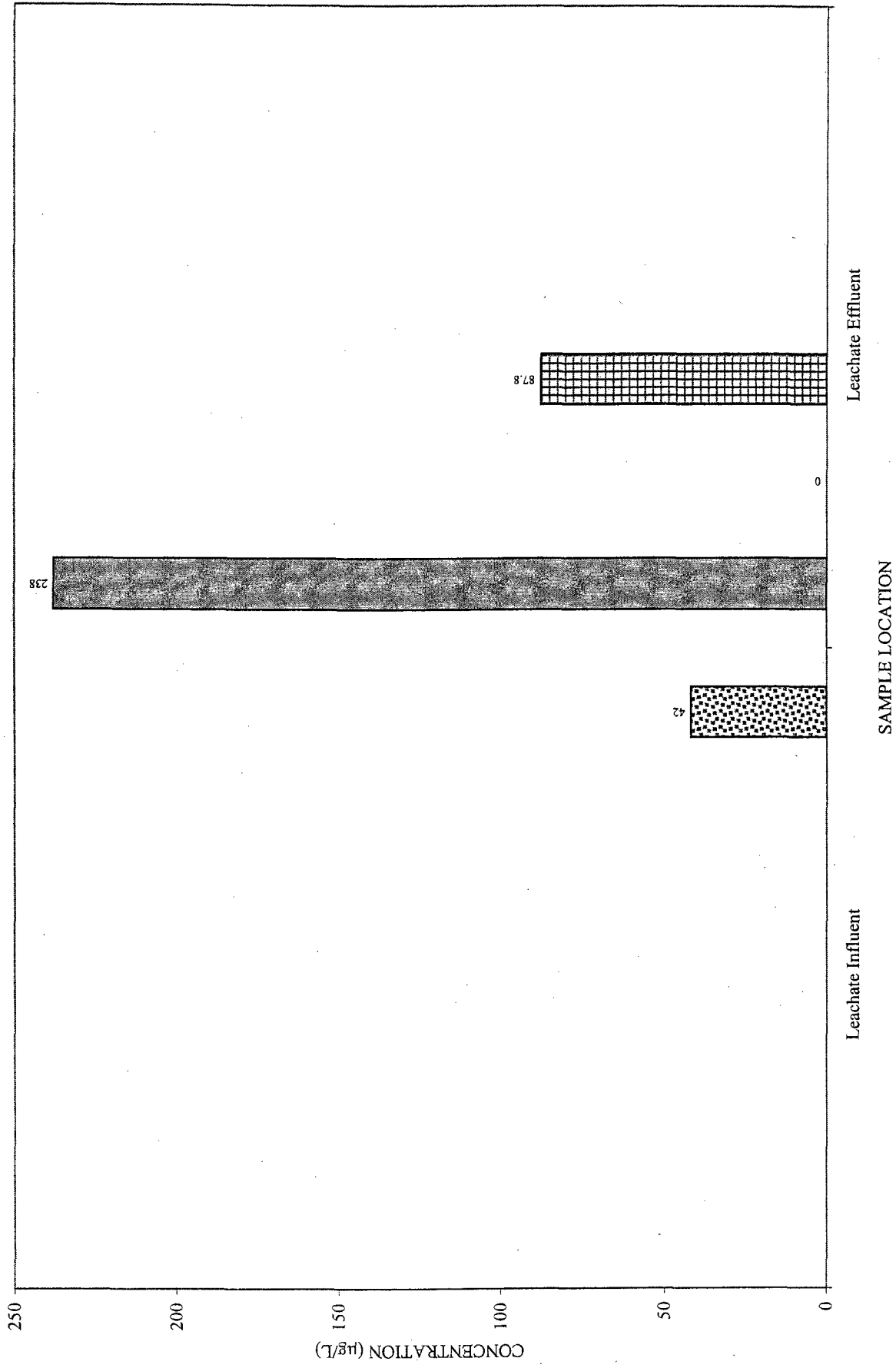


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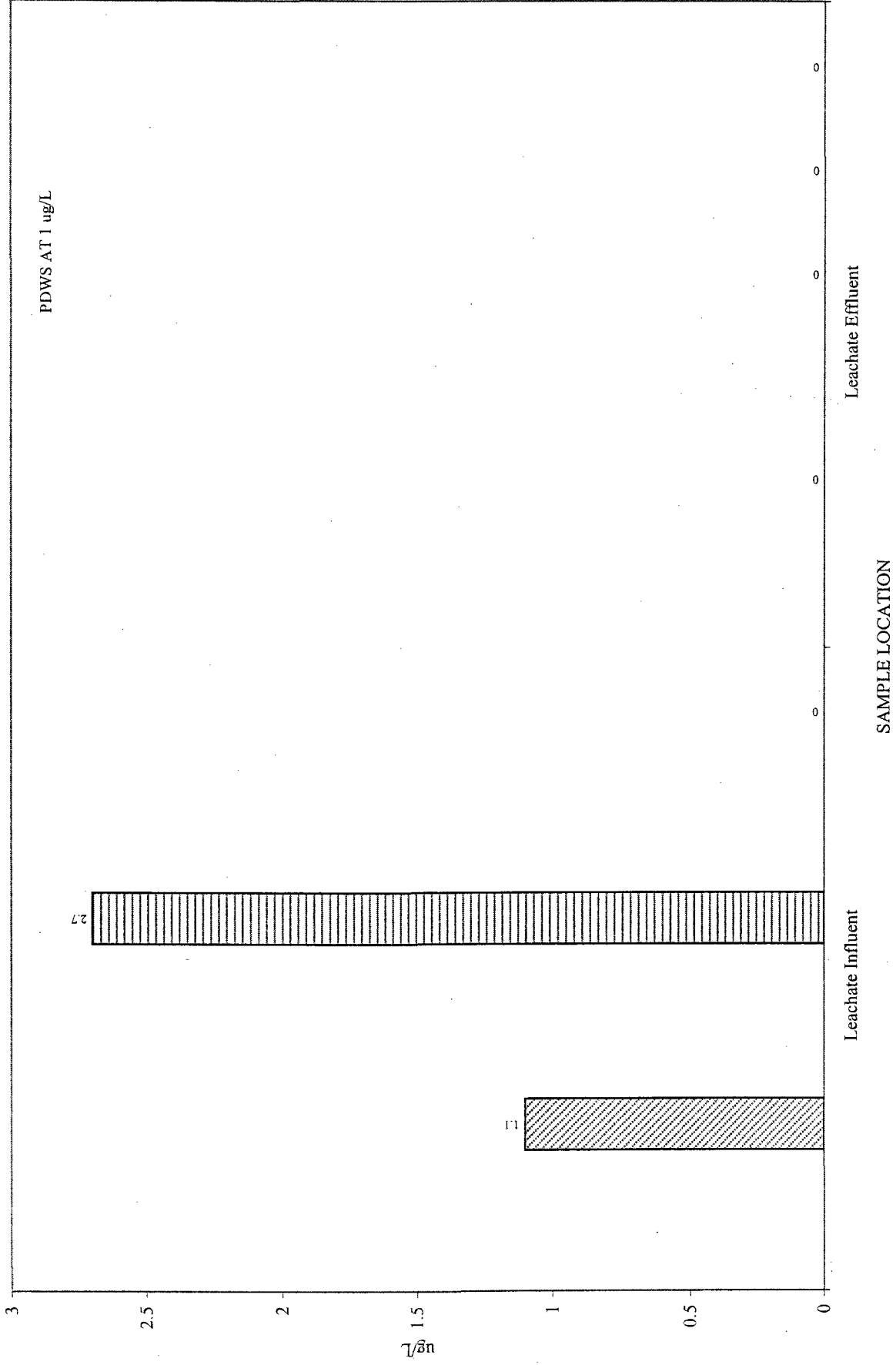
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VINYL CHLORIDE

CITRUS COUNTY CENTRAL LANDFILL

LEACHATE CHEMISTRY GRAPH



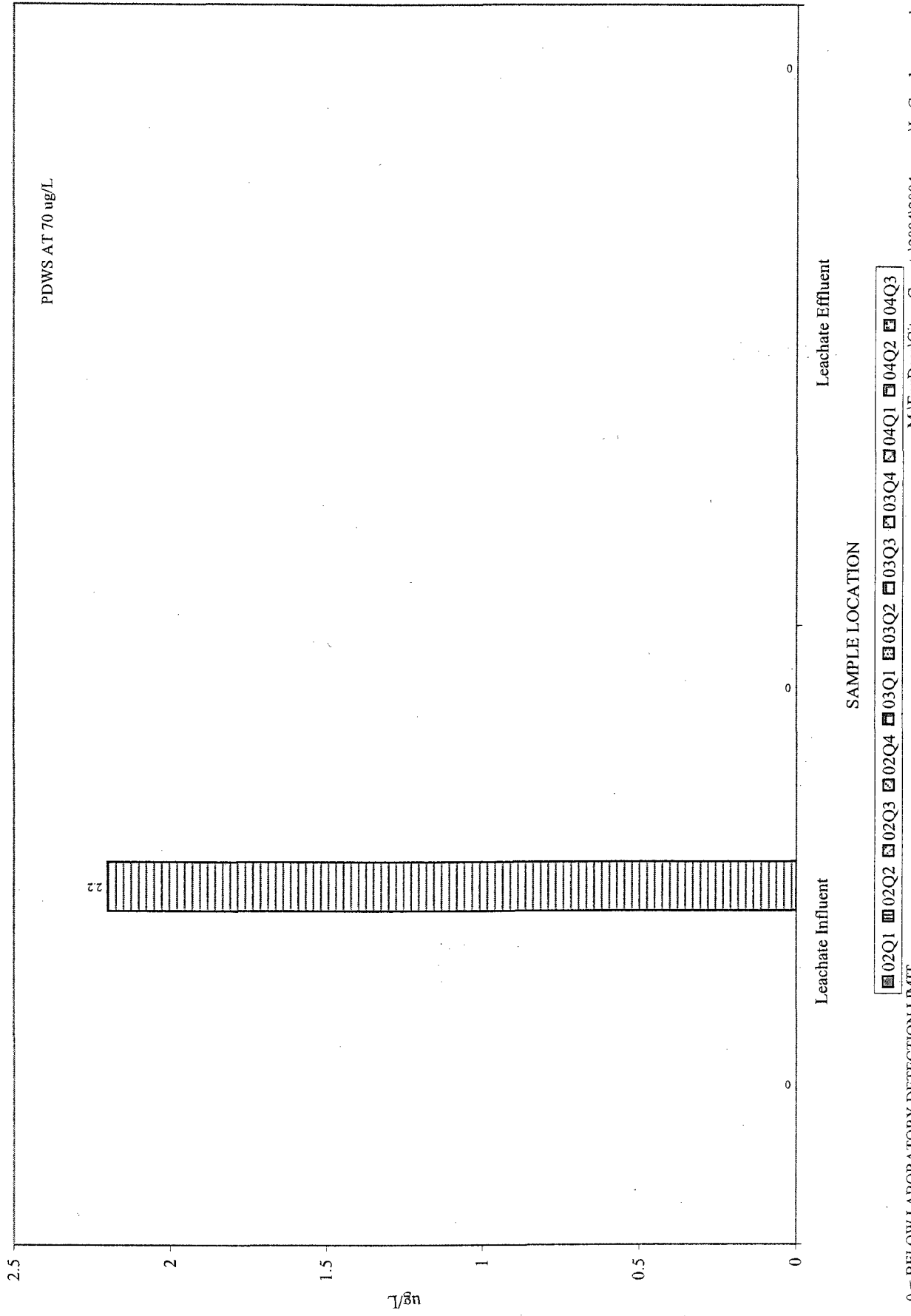
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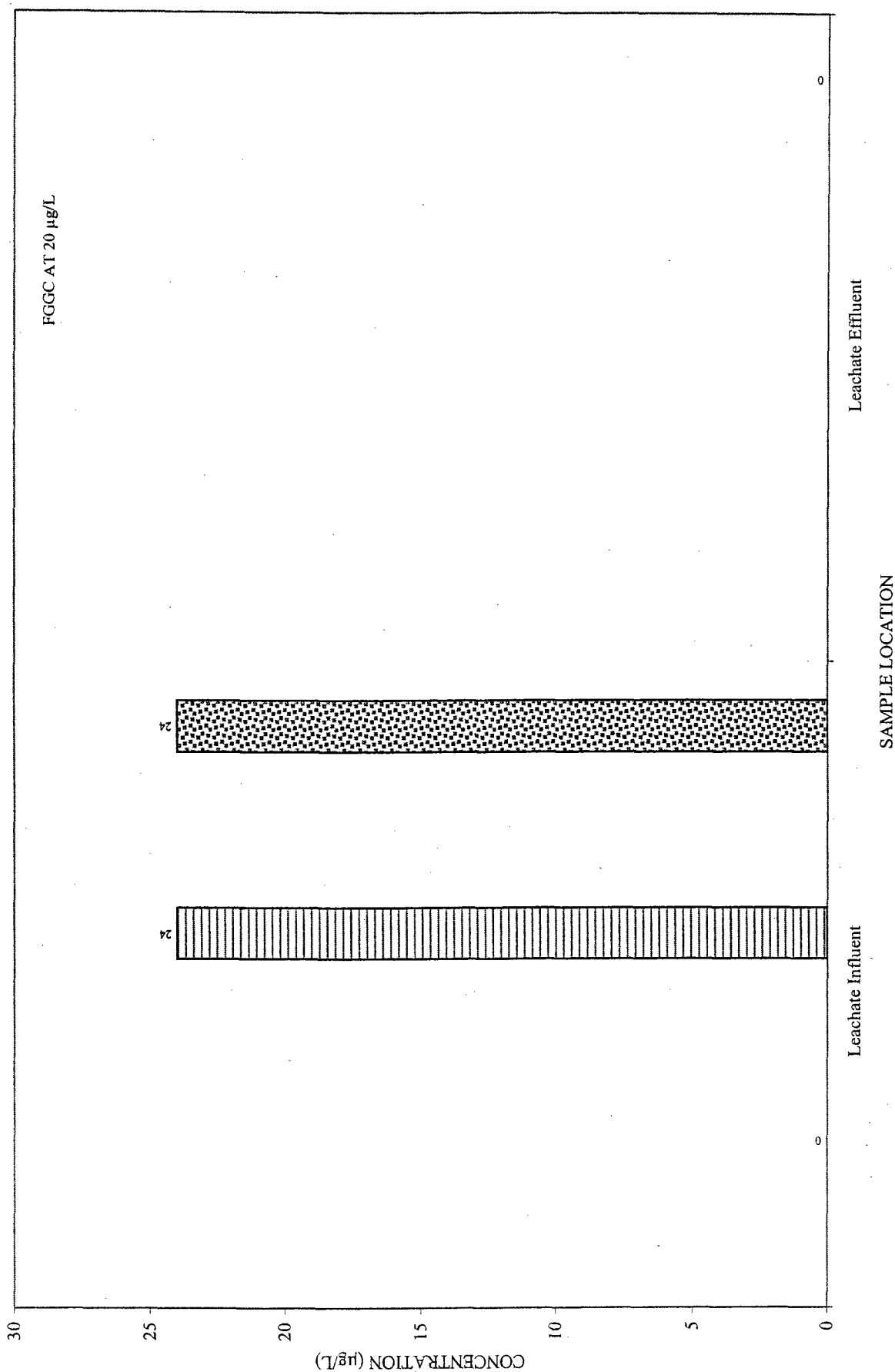
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CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



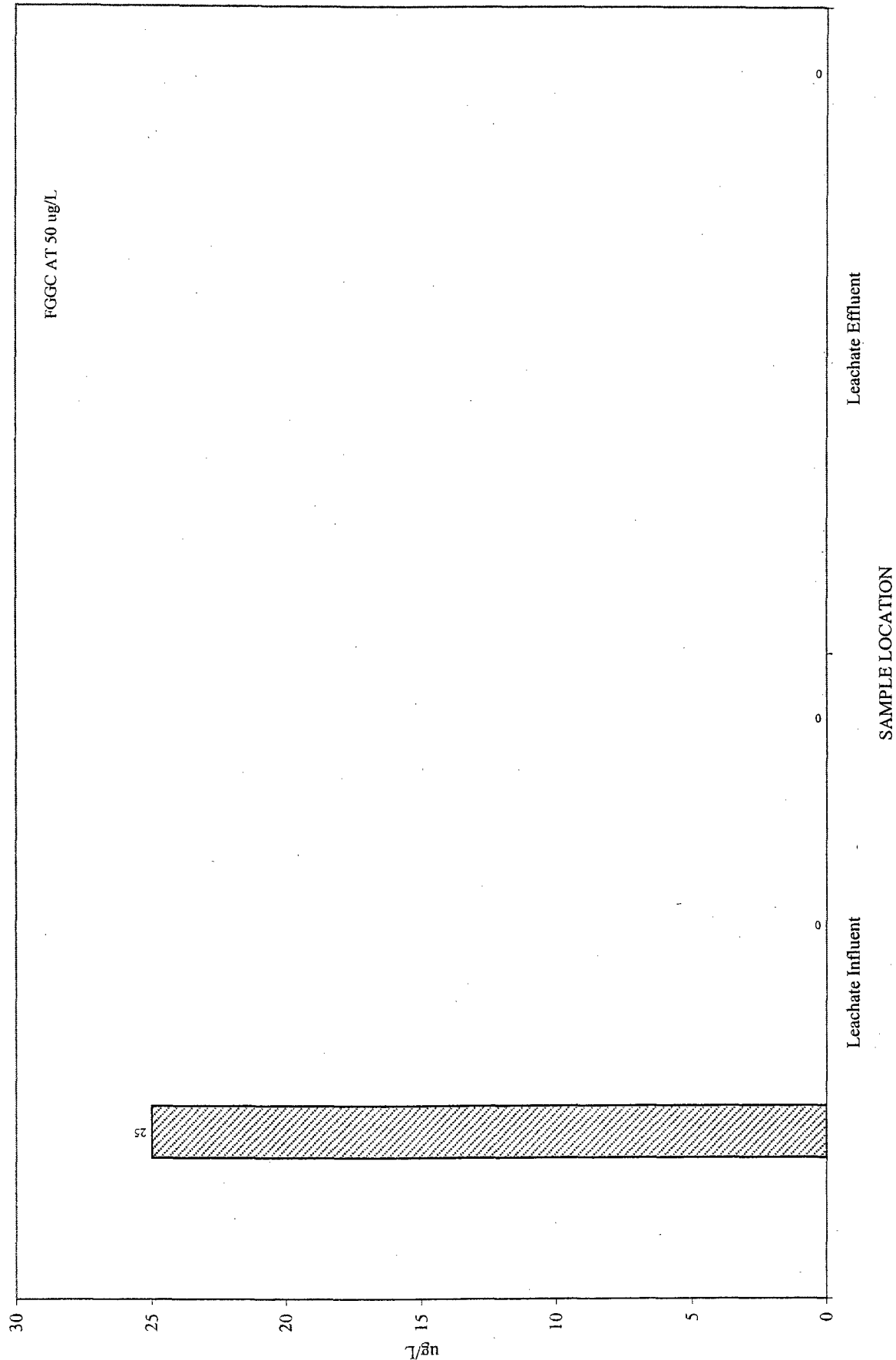
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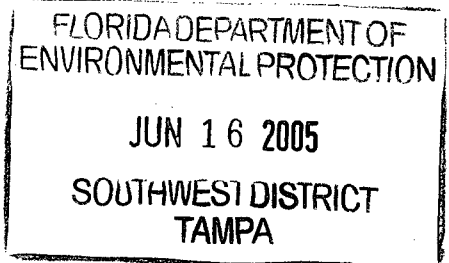
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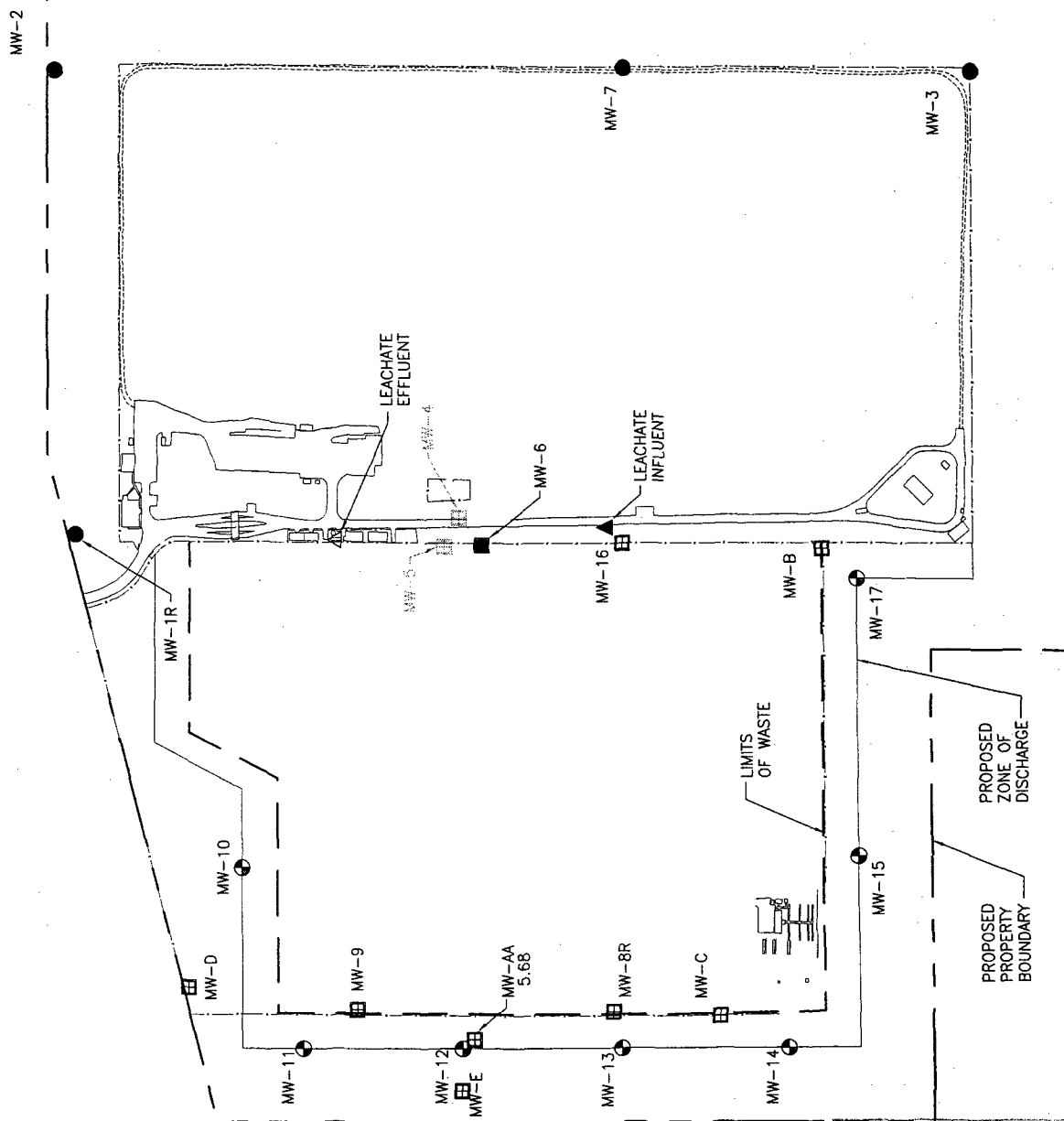
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O-TOLUIDINE CITRUS COUNTY CENTRAL LANDFILL LEACHATE CHEMISTRY GRAPH



ATTACHMENT 8
~~Groundwater Contour Map—Floridan Aquifer—Showing Monitoring Well Locations~~
~~Citrus County Central Landfill~~
July 21, 2004
Site Plan with Proposed Well Locations
[Revised]





LEGEND

- BACKGROUND WELLS
- ◐ PROPOSED COMPLIANCE WELL
- ◑ INTERMEDIATE WELL
- ◒ PROPOSED WATER LEVEL WELLS
- ◓ EXISTING WATER LEVEL WELLS
- ▲ LEACHATE INFLUENT SAMPLING LOCATION
- △ LEACHATE EFFLUENT SAMPLING LOCATION

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SOUTHWEST DISTRICT
TAMPA

SITE PLAN WITH PROPOSED WELL LOCATIONS
CITRUS COUNTY CENTRAL LANDFILL

*Jones
Edmonds &
Associates, Inc. JEA*

ATTACHMENT 9

**CITRUS COUNTY CENTRAL LANDFILL
PROPOSED WELL CONSTRUCTION DETAILS
(REVISED)**

Citrus County Central Landfill
Proposed Well Construction Details

Existing Wells:

Monitoring Well ID	Top of Casing Elevation (NGVD)	Well Screen Elevation (NGVD)		Groundwater Elevation (NGVD)	
		Top*	Bottom*	Maximum	Minimum
MW-1R	118.25	5.3	-4.8	10.46	4.52
MW-2	136.19	-4.8	-24.8	10.69	6.26
MW-3	120.43	16.8	1.8	13.59	6.68
MW-4	122.37	6.5	-3.6	12.59	3.77
MW-5	121.13	8.7	-1.3	12.65	6.28
MW-6	118.48	7.8	-2.2	12.83	6.47
MW-7	128.58	9.6	-10.4	11.9	6.13
MW-8R	118.08	17.1	-3	10.2	0.26
MW-9	113.46	11.8	-8.3	10.13	5.63
MW-AA	106.07	-0.4	-10.4	9.77	4.11
MW-B	113.46	5.5	-14.5	10.22	4.58
MW-C ⁺	115.44	-85	-92	9.91	4.08
MW-D ⁺	109.83	-81	-101	9.82	4.64
MW-E	109.51	12.6	-7.3	9.88	4.88

Table Notes:

Groundwater Elevations in this table are continuous round

+ Well completed as open borehole.

*Elevations are approximate, based on well construction logs

Proposed Wells:

Monitoring Well ID	Estimated Top of Casing Elevation (NGVD)	Proposed Well Screen Interval (NGVD)	
		Top	Bottom
MW-10	115	16	-4
MW-11	115	16	-4
MW-12	115	16	-4
MW-13	115	16	-4
MW-14	115	16	-4
MW-15	115	16	-4
MW-16	120	16	-4
MW-17	115	16	-4
MW-18	115	16	-4

Table Notes:

TOC elevations and proposed well screen intervals are approximate; based on land surface elevations and historical groundwater elevations.

ATTACHMENT 10
(NEW ATTACHMENT)

PART M
WATER QUALITY AND LEACHATE MONITORING
REQUIREMENTS

ATTACHMENT 10

PART M
WATER QUALITY AND LEACHATE MONITORING
REQUIREMENTS

1. WATER QUALITY AND LEACHATE MONITORING PLAN

Jones, Edmunds & Associates, Inc. prepared this summary review of the Groundwater Monitoring Plan (GWMP) for the Citrus County Central Landfill to supplement the GWMPE and Part M [Water Quality and Leachate Monitoring Requirements (62-701.510, F.A.C.)] of the DEP permit application.

The GWMP proposes a monitoring network (MN) that includes a network of monitoring wells and leachate sampling points to detect potential impacts from the landfill. The GWMP will specify the methods of collecting and analyzing groundwater and leachate samples and for reporting the results to the DEP and describing actions to be taken if an impact occurs.

The proposed MN is summarized in the following table:

<u>Background Wells</u>	<u>Detection</u>	<u>Compliance Wells</u>	<u>Compliance Well</u>	<u>Leachate</u>
MW-1R	MW-10		MW-18	Influent
MW-2	MW-11			Effluent
MW-3	MW-12			
MW-7	MW-13			
	MW-14			
	MW-15			
	MW-17			
<u>Intermediate Well</u>	<u>Water Level Only Wells</u>			
MW-6	MW-4	<u>MW-C</u>		
	MW-5	<u>MW-D</u>		
	MW-16	<u>MW-E</u>		
	<u>MW-AA</u>	<u>MW-8R</u>		
	<u>MW-B</u>	<u>MW-9</u>		

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A map of site features, including the groundwater monitoring well locations and leachate collection points is attached to this summary review and as Attachment 8 of the GWMPE.

1.a. The water quality and leachate monitoring plan is based on the information obtained in the hydrogeological investigation and other reports for the site, and the GWMPE has been signed, dated, and sealed by the P.G. who prepared it as required by Chapter 62-701.510(2)(a) F.A.C.

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1.b. Sampling and analysis will be performed in accordance with Chapter 62-160 F.A.C. (Quality Assurance), Chapter 62-701.510(2)(b) F.A.C., and the DEP Standard Operating Procedures 001/01.

1.c. GROUNDWATER MONITORING REQUIREMENTS (62-701.510(3) F.A.C.)

- (1) Seven detection compliance wells and ~~one compliance well~~ comprise the proposed downgradient groundwater monitoring locations. The well locations are shown on the attached map and Attachment 8 of the GWMPE.
- (2) Downgradient compliance wells will be installed in accordance with Chapter 62-701.510(7)(a) F.A.C.. ~~If a monitored parameter exceeds the regulatory limit in a detection well, evaluation monitoring will be initiated. A compliance well(s) will be installed at the compliance line of the zone of discharge if evaluation monitoring verifies the necessity.~~
- (3) Four background wells screened in the uppermost water bearing unit and installed upgradient of the landfill will be maintained throughout the life of the landfill.
- (4) The proposed locations for each monitoring well and each background well are shown on the attached map and Attachment 8 of the GWMPE. New well locations will be determined by a Florida Registered Surveyor. The survey will provide horizontal location (DMS latitude and longitude) and the elevation of the top of the well casing to within 0.01 foot (NGVD 1929).
- (5) The detection compliance wells will be positioned 500 feet or less apart and ~~50~~100 feet or less from the ~~eastern~~northern, southern, and western limits of waste. The background well will be positioned no more than 1500 feet upgradient of the landfill.
- (6) The well screen intervals (unconfined aquifer) will be selected to allow sampling of the water table at all times.
- (7) Unused wells or piezometers, i.e. any wells or piezometers not listed above, will be abandoned properly, as specified in Chapter 40D-3.531 F.A.C.
- (8) Detection sensors are not being proposed.

The water quality monitoring plan shall comply with the provisions of Rule 62-522.600(3), F.A.C.

1.d. SURFACE WATER MONITORING REQUIREMENTS (62-701.510(4) F.A.C.)

Surface water sampling is not performed and not warranted at the facility.

1.e. LEACHATE SAMPLING LOCATIONS (62-701.510(5) F.A.C.)

Composite samples (Leachate Influent) will be collected from the master lift station sump. The location was chosen so that samples will represent the leachate composition in the leachate collection and removal system as it comes from the wastes and before it is subjected to conditions that may change its characteristics.

Grab samples (Leachate effluent) will be collected directly from the chlorine contact chamber.

1.f. INITIAL AND ROUTINE SAMPLING FREQUENCY REQUIREMENTS (62-

JUN 16 2005

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1.g. ~~PROCEDURES FOR IMPLEMENTING EVALUATION MONITORING (62-701.510(7) F.A.C.)~~

If monitoring parameters are detected in detection wells at concentrations that are significantly above background water quality, or that are at concentrations above the Department's water quality standards or criteria specified in 62-520, F.A.C., the well will be resampled within 30 days after the initial analytical data are received to confirm the data. If the data are confirmed or the well is not resampled, the Department will be notified in writing within 14 days of the finding. It is understood that the Department will initiate Evaluation Monitoring upon receipt of this notification.

Evaluation Monitoring:

- (1) ~~Routine monitoring of all monitoring wells will continue according to the GWMP.~~
- (2) ~~Within 90 days of initiating evaluation monitoring and annually thereafter, the background wells and all affected detection wells will be sampled for the parameters listed in 62-701.510(8)(d) F.A.C.. Any new parameter detected and confirmed in the downgradient wells will be added to the routine groundwater monitoring parameter list.~~
- (3) ~~Within 90 days of initiating evaluation monitoring, compliance monitoring wells will be installed at the compliance line of the zone of discharge and downgradient of the affected detection wells. The compliance wells will be installed in accordance with 62-701.510(3)(d) F.A.C. and samples from these wells and the affected detection wells will be sampled and analyzed quarterly for the parameters listed in 62-701.510(8)(d) F.A.C.~~
- (4) ~~Within 180 days of initiating evaluation monitoring, a contamination evaluation plan will be submitted to the Department. The contamination plan will be designed to delineate the extent and cause of contamination and to predict the probability that Department water quality standards are not violated outside of the zone of discharge and to evaluate methods to prevent any violations. Upon agreement with the Department that the plan is so designed, a contamination evaluation report will be submitted to the Department. All reasonable efforts will be made to prevent further degradation of water quality from the landfill activities.~~

1.h. WATER QUALITY MONITORING REPORT REQUIREMENTS (62-701.510(9) F.A.C.)

- (1) Water quality monitoring reports will be submitted to the Department semiannually. The report will include at least the following:
 - The facility name and ID number, sample collection dates, and analysis dates.
 - All analytical results, including peaks even below maximum contaminant levels.

sampling will be analyzed for the parameters listed in 62-701.510(8)(a) F.A.C. and 8(d) (Table M-1-1).

- (2) Leachate influent will be collected annually and analyzed for the parameters listed in 62-701.510(6)(c) F.A.C. (Table M-1-2). Leachate effluent will be collected for the parameters and frequencies listed in Table M-1-3. The DEP will be notified in writing if a parameter listed in 40CFR Part 261.24 exceeds the regulatory level.
- (3) Water samples from all background, detection, and intermediate monitoring wells will be sampled and analyzed semiannually for the parameters listed in 62-701.510(8)(a) F.A.C. (Table M-1-4). In addition the intermediate monitoring well will be analyzed semiannually for Fecal Coliform and Total Trihalomethane.
- (4) Surface water sampling is not performed and not warranted at this facility.
- (5) Waste sludge from the leachate treatment plant will be analyzed annually for the parameters listed in Table M-1-5.

Table M-1-1 Initial and Permit Renewal Groundwater Sampling Parameters

Field Parameters	Laboratory Parameters
Static Water Levels	Total Ammonia - N
Specific Conductivity	Chlorides
Temperature	Iron
Ph	Mercury
Dissolved Oxygen	Nitrate
Turbidity	Sodium
Colors and Sheens (by observation)	Total Dissolved Solids
	Those Parameters listed in 40 CFR Part 258, Appendix I and Appendix II

Table M-1-2 Leachate Influent Sampling Parameters

Field Parameters	Laboratory Parameters
Specific Conductivity	Total Ammonia - N
pH	Bicarbonate
Dissolved Oxygen	Chlorides
Colors and Sheens (by observation)	Iron
	Mercury
	Nitrate
	Sodium
	Total Dissolved Solids
	Those parameters listed in 40 CFR Part 258, Appendix II

Table M-1-3 Leachate Effluent Sampling Parameters

Field Parameters		Laboratory Parameters	
Flow	Daily	CBOD5	Weekly
pH	Daily	Total Suspended Solids (TSS)	Weekly
		Nitrate-N	Weekly
		Chloride	Quarterly
		Sodium	Quarterly
		Total Dissolved Solids (TDS)	Quarterly
		Benzene	Quarterly
		Toluene	Quarterly
		Ethylbenzene	Quarterly
		Total Xylenes	Quarterly
		Ethylene Dibromide (EDB)	Quarterly
		Total Trihalomethanes	Semi-Annually
		Arsenic	Annually
		Barium	Annually
		Cadmium	Annually
		Chromium	Annually
		Iron	Annually
		Mercury	Annually
		Lead	Annually
		Selenium	Annually
		Silver	Annually
		40 CFR Part 258 Appendix I	Annually

Table M-1-4 Groundwater Sampling Parameters

Field Parameters	Laboratory Parameters
Static Water Levels	Total Ammonia - N
Specific Conductivity	Chlorides
Temperature	Iron
Ph	Mercury
Dissolved Oxygen	Nitrate
Turbidity	Sodium
Colors and Sheens (by observation)	Total Dissolved Solids
	Those Parameters listed in 40 CFR Part 258, Appendix I

Table M-1-5 Treatment Plant Sludge Parameters

Laboratory Parameters
Percent Solids
TCLP Parameters listed in 40 CFR Part 261.24, Table 1

1.g. PROCEDURES FOR IMPLEMENTING EVALUATION MONITORING (62-701.510(7) F.A.C.)

If monitoring parameters are detected in detection wells at concentrations that are significantly above background water quality, or that are at concentrations above the Department's water quality standards or criteria specified in 62-520, F.A.C., the well will be resampled within 30 days after the initial analytical data are received to confirm the data. If the data are confirmed or the well is not resampled, the Department will be notified in writing within 14 days of the finding. It is understood that the Department will initiate Evaluation Monitoring upon receipt of this notification.

Evaluation Monitoring:

- (1) Routine monitoring of all monitoring wells will continue according to the GWMP.
- (2) Within 90 days of initiating evaluation monitoring and annually thereafter, the background wells and all affected detection wells will be sampled for the parameters listed in 62-701.510(8)(d) F.A.C.. Any new parameter detected and confirmed in the downgradient wells will be added to the routine groundwater monitoring parameter list.
- (3) Within 90 days of initiating evaluation monitoring, compliance monitoring wells will be installed at the compliance line of the zone of discharge and downgradient of the affected detection wells. The compliance wells will be installed in accordance with 62-701.510(3)(d) F.A.C. and samples from these wells and the affected detection wells will be sampled and analyzed quarterly for the parameters listed in 62-701.510(8)(d) F.A.C.
- (4) Within 180 days of initiating evaluation monitoring, a contamination evaluation plan will be submitted to the Department. The contamination plan will be designed to delineate the extent and cause of contamination and to predict the probability that Department water quality standards are not violated outside of the zone of discharge and to evaluate methods to prevent any violations. Upon agreement with the Department that the plan is so designed, a contamination evaluation report will be submitted to the Department. All reasonable efforts will be made to prevent further degradation of water quality from the landfill activities.

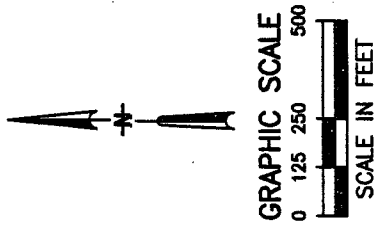
1.h. WATER QUALITY MONITORING REPORT REQUIREMENTS (62-701.510(9) F.A.C.)

- (1) Water quality monitoring reports will be submitted to the Department semiannually. The report will include at least the following:
 - The facility name and ID number, sample collection dates, and analysis dates.
 - All analytical results, including peaks even below maximum contaminant levels.

- Identification numbers of all surface water and groundwater monitoring points.
- Applicable water quality standards.
- Quality assurance, quality control notations.
- Method detection limits.
- STORET code numbers for all parameters.
- Water levels recorded before evacuating wells or sample collection (continuous round) with elevations referenced to the top of casing and land surface at each well to within 0.01 foot (NGVD 1929).
- Updated groundwater table contour map signed and sealed by a P.G. or P.E. Contour intervals will be no greater than one foot.
- A summary of water quality standards or criteria that are exceeded.

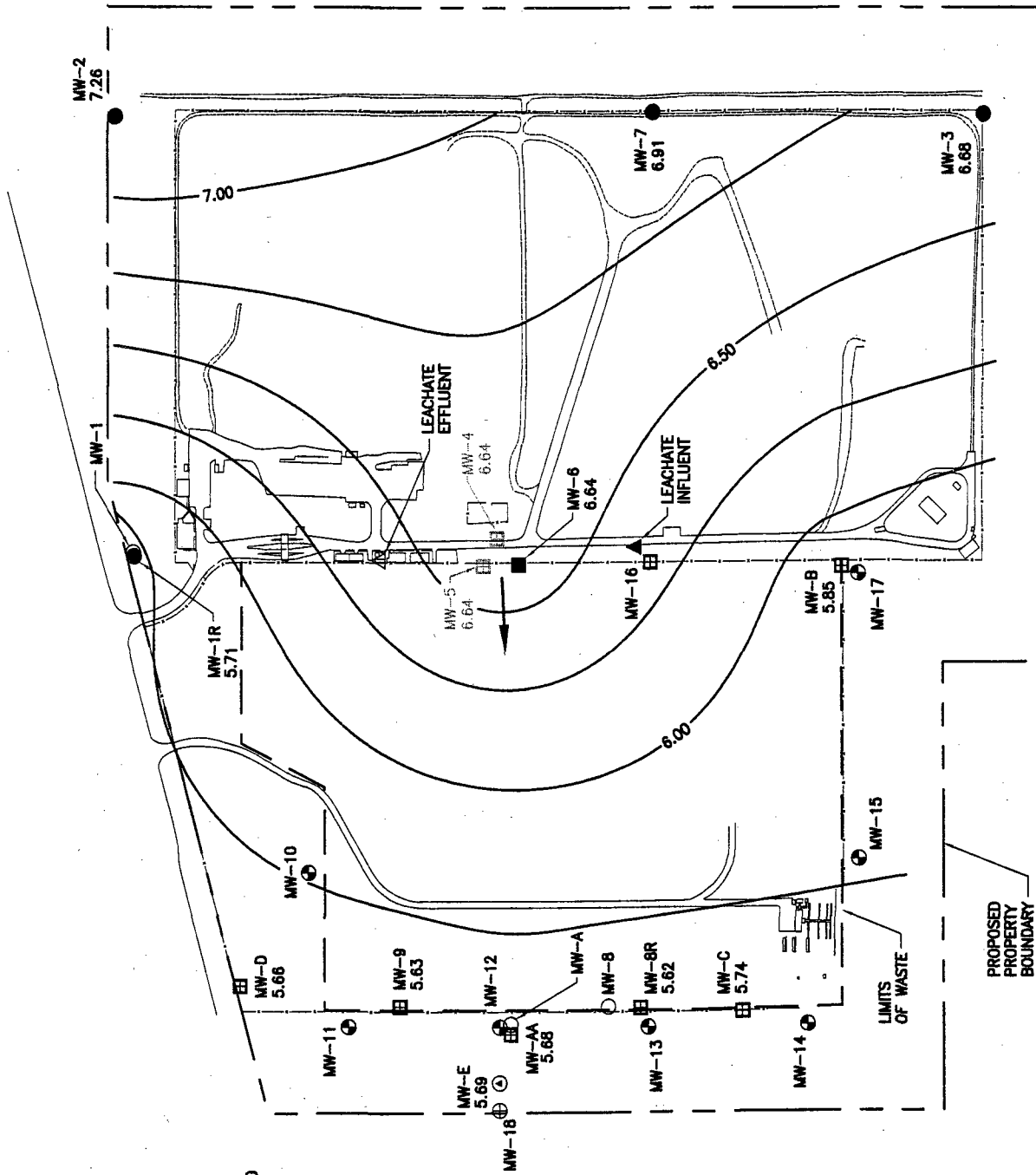
(2) A technical report signed, sealed, and dated by a P.G. or P.E. will be submitted to the Department every two years and updated at the time of permit renewal. The report will summarize and interpret the water quality and leachate monitoring results and water level measurements collected during the two year period. The report will include at least the following:

- Tabular display of data showing all detected parameters.
- Graphical display of any leachate key indicator parameters.
- Trend analysis of any monitoring parameter consistently detected.
- Comparisons between shallow-, medium-, and deep-zone wells.
- Comparisons between background water quality and the water quality in detection and compliance wells.
- Correlations between related parameters such as total dissolved solids and specific conductance.
- Discussions of erratic and/or poorly correlated data.
- Interpretation of groundwater contour maps including an evaluation of groundwater flow rates.
- An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.



LEGEND

- Background (Upgradient) Wells
- ⊙ Proposed Detection (Downgradient) Wells
- ⊕ Proposed Compliance Well
- ⊖ Intermediate Well
- ⊙ Proposed Abandoned Well
- Existing Abandoned Well
- ▢ Proposed Water Level Wells
- ▢ Existing Water Level Wells
- ▲ Leachate Influent Sampling Location
- △ Leachate Effluent Sampling Location
- MW-1R 5.63 Monitoring Well Groundwater Elevation
- 6.50- Groundwater Contours At 0.25 Ft Intervals
- Groundwater Flow Direction



Site Plan and
Groundwater Contour Map – Floridan Aquifer
Citrus County Central Landfill
July 21, 2004

*Jones
Edmunds &
Associates, Inc. JEA*

ATTACHMENT 11

(New Attachment)

GROUNDWATER INVESTIGATION PLAN

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

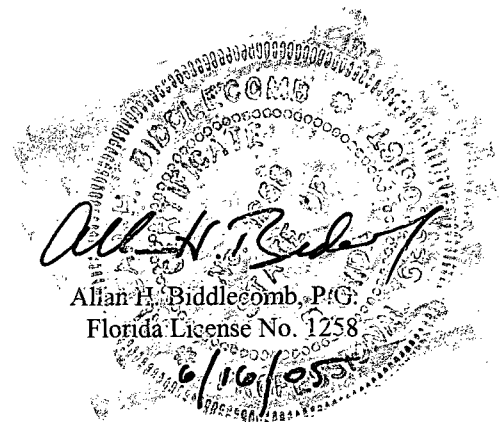
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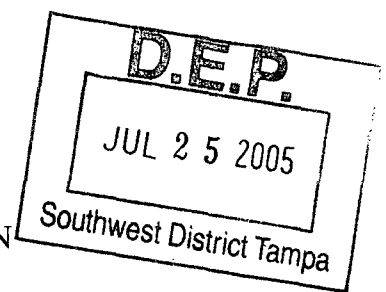
CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER INVESTIGATION PLAN

Prepared by:
JONES EDMUNDS & ASSOCIATES, INC.
730 N.E. Waldo Road
Gainesville, Florida 32641-5699
Certificate of Authorization # 1841

June 2005

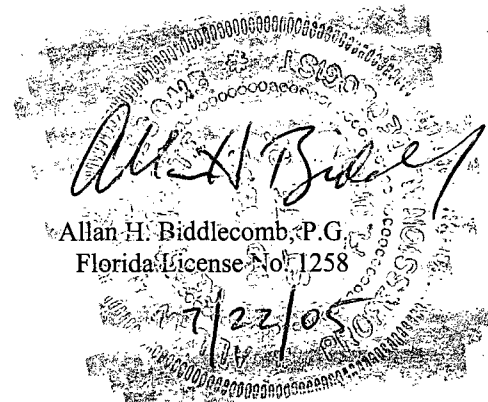


CITRUS COUNTY CENTRAL LANDFILL
GROUNDWATER INVESTIGATION PLAN



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July 2005



FILE

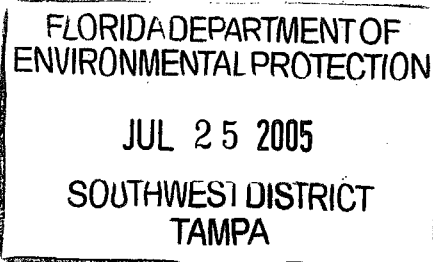
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- 1.0 INTRODUCTION
- 2.0 PHYSICAL LOCATION AND GEOLOGICAL SETTING
- 3.0 LEASE EXPANSION
- 4.0 COMPLIANCE MONITORING WELL INSTALLATION
- 5.0 SITE ASSESSMENT
- 6.0 SCHEDULE

FIGURE 1 SITE PLAN WITH PROPOSED MONITORING WELL LOCATIONS

TABLE 1 COMPLIANCE WELL CONSTRUCTION DETAILS

TABLE 2 INITIAL GROUNDWATER ANALYTICAL PARAMETER LIST



JUL 25 2005

SOUTHWEST DISTRICT
TAMPA

1.0 INTRODUCTION

The Citrus County Central Landfill (Landfill) is currently operated under Florida Department of Environmental Protection permit 21375-003-SO. Modifications to the current groundwater monitoring plan have been proposed as part of the 2005 permit renewal application. These modifications are in response to inadequate monitoring well construction, proximity of monitoring wells to waste, and groundwater analytical data in exceedance of drinking water standards. The following plan outlines the proposed course of action to address deficiencies in the current plan. Several "steps" in the plan are contingent upon the outcome of previous "steps". An outline of the plan including key decision points and resultant activities is provided below:

1. Lease Expansion Agreement is Approved

- a. Minor Modification of Operating Permit
 - Submit permit modification to identify new property boundary, establish new zone of discharge 100 feet from the edge of waste, and establish routine groundwater sampling frequency within 30 days of approval of lease expansion.
- b. If no exceedances of primary drinking water standards are reported in the initial sampling event results, conduct routine monitoring at new compliance wells (MW-10 through MW-15 and MW-17).
- c. If exceedances of primary drinking water standards are reported in the initial sampling event results, commence site assessment activities at affected new wells in accordance with Chapter 62-780, F.A.C., within 60 days of receipt of analytical data. Conduct site assessment activities and submit a Site Assessment Report in accordance with the requirements of Rule 62-780.600, F.A.C., as summarized in Section 5.0.

2. Lease Expansion Agreement is Denied

- a. Commence site assessment activities at existing property line in accordance with Chapter 62-780, F.A.C., within 60 days of denial of lease expansion, or end of DEP extensions.
- b. Conduct site assessment activities and submit a Site Assessment Report in accordance with the requirements of Rule 62-780.600, F.A.C., as summarized in Section 5.0.

2.0 PHYSICAL LOCATION AND GEOLOGICAL SETTING

The Landfill is located in central Citrus County approximately three miles east of Lecanto, Florida, near State Road 44. The landfill is located at latitude 28° 51' 07" North and longitude 82°26'12" West in Section 1, Township 19 South, Range 18 East. The Landfill is composed of a closed 60-acre site and an active 80-acre site. The active landfill is a lined cell with a leachate collection system. Except for seven acres, the closed landfill is unlined and is not served by a leachate collection system. The entire closed landfill is capped with a membrane and soil cover.

The Landfill lies within the Hernando Hammock physiographic subdivision of the Ocala Uplift District as described by Brooks (1981). This region is characterized by remnant erosional hills and ridges, which are in-filled with thick, weathered deposits of sand and clayey sand. The

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landfill is also within the northern portion of the Brooksville Ridge. The Brooksville Ridge is characterized as an extensive, internally drained, karst terrain with high local relief.

Near-surface regional geology in the landfill area is typically characterized by undifferentiated sands and clays of the Hawthorn Group. The thickness and continuity of individual strata varies greatly in the area. The sand and clays act as a partial confining unit for the Floridan aquifer in some parts of the region. Beneath the undifferentiated sands and clays lies a thick sequence of Eocene age carbonate deposits, which generally consist of the Suwannee limestone, Ocala Group, and Avon Park formations.

Site specific geology is characterized by approximately 130 feet of surficial sands ranging from fine to medium sands to clayey, silty fine sands. Several 1-foot to 2-foot discontinuous clay layers are present between 50 and 80 feet bls. These sediments, when present, form a low permeability unit over the Floridan aquifer with an average hydraulic conductivity of 0.024 foot per day. These sediments do not have sufficient lateral continuity at the site to form a confining layer or support a separate perched water table aquifer. Beneath these sediments lies the Suwannee Formation. The Suwannee has a highly irregular surface beneath the site, with elevations ranging from 80 feet NGVD to -54 feet NGVD. The Floridan aquifer occurs under water-table conditions at the site and is the only consistent aquifer system present beneath the site.

3.0 LEASE EXPANSION

The County has initiated negotiations with the adjacent landowner (Florida State Division of Forestry) to expand the limits of the current lease agreement to increase the property boundary of the Landfill facility. Discussions with Ms. Gloria Nelson of the DEP Division of State Lands indicate that the current lease agreement can be amended within 90 days of submittal of a letter of intent from the local Division of Forestry representative. The letter of intent will include a legal description of the proposed expansion area. The Department may elect to grant the County up to 30 additional days from the effective date of the consent order to obtain and submit the agreement. The proposed boundary of the lease expansion is shown in Figure 1. Upon successful execution of the lease expansion, a minor permit modification application will be submitted to DEP to expand the Zone of Discharge boundary to 100 feet from the edge of waste as shown in Figure 1.

4.0 COMPLIANCE MONITORING WELL INSTALLATION

Seven new compliance monitoring wells (MW-10 through MW-15 and MW-17) will be installed with a spacing of no more than 500 feet between wells and within 100 feet of the edge of waste. The locations of the proposed downgradient monitoring wells are shown in Figure 1.

Each proposed monitoring well will be constructed of 2-inch PVC with 20-feet of 0.010-inch slotted screen extending from approximately -4 to 16 feet NGVD. This screen interval should accommodate the severe water level fluctuations observed at the site, while allowing for monitoring of the uppermost water bearing unit. The proposed monitoring well construction details are included below (Table 1).

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Table 1 Proposed Wells			
Monitoring Well ID	Estimated Top of Casing Elevation (NGVD)	Proposed Well Screen Interval (NGVD)	
		Top	Bottom
MW-10	115	16	-4
MW-11	115	16	-4
MW-12	115	16	-4
MW-13	115	16	-4
MW-14	115	16	-4
MW-15	115	16	-4
MW-16	120	16	-4
MW-17	115	16	-4

Table

Notes:

TOC elevations and proposed well screen intervals are approximate; based on land surface elevations and historical groundwater elevations.

A piezometer (MW-16) will be installed south of existing well MW-6, to provide additional groundwater flow information. The proposed location of the new piezometer is shown in Figure 1. Proposed construction details are included above (Table 1-2).

Groundwater samples will be collected from wells MW-10, 11, 12, 13, 14, 15 and 17 to determine initial groundwater quality. Groundwater samples from the initial sampling will be analyzed for the parameters listed in Table 2 .

Table 2 Initial Groundwater Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Levels	Total Ammonia - N
Specific Conductivity	Chlorides
Temperature	Iron
Ph	Mercury
Dissolved Oxygen	Nitrate
Turbidity	Sodium
Colors and Sheens (by observation)	Total Dissolved Solids
	Those Parameters listed in 40 CFR Part 258, Appendix I and Appendix II

Upon the completion of the above activities, a Groundwater Monitoring Plan Evaluation Report will be submitted to DEP that includes; a discussion of the work performed, a summary of the findings and, if necessary, additional changes to the existing Groundwater Monitoring Plan. The report will also address the need to implement a Site Assessment if warranted according to 62-780.600 (1), F.A.C.

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5.0 SITE ASSESSMENT

As required by 62-780.600 (1), F.A.C., a site assessment will commence within 60 days after discovery of an offsite discharge. A site assessment will be performed if one of two events occur: (1) the expanded lease agreement is approved and drinking water standard exceedances are reported for the initial sampling of the newly installed compliance monitoring wells, (2) the expanded lease agreement is denied.

The Site Assessment will be designed and implemented to comply with the requirements of 62-780.600 (3), (4), and (5), F.A.C. As defined in 62-780.600 (3), F.A.C., the objectives of the site assessment will be as follows:

- a) To evaluate the current exposure and potential risk of exposure to humans and the environment, including multiple pathways of exposure. The physical, chemical, and biological characteristics of each contaminant and the individual site characteristics shall be considered. The individual site characteristics include:
 1. The current and projected use of the affected groundwater and surface water in the vicinity of the site;
 2. The current and projected land use of the area affected by the contamination;
 3. The exposed human population and ecological receptors including the presence of threatened or endangered species (flora and fauna). A general literature review and analysis based on site-specific conditions may be sufficient;
 4. The location of the plume;
 5. The degree and extent of contamination;
 6. The rate and direction of migration of the plume;
 7. The apparent or potential rate of degradation of contaminants through natural attenuation; and
 8. The potential for further migration in relation to the source property boundary;
- (b) To determine whether contamination is present and the types of contaminants present, and to determine the horizontal and vertical extent of contamination in every medium found to be contaminated (for soil in the unsaturated zone, to the more stringent of the direct exposure residential soil CTLs and the applicable leachability-based soil CTLs provided in Chapter 62-777, F.A.C., Table II; and for groundwater, to the groundwater CTLs or to the surface water CTLs provided in Chapter 62-777, F.A.C., Table I, as applicable);
- (c) To determine or confirm the origin(s) of the source(s) of contamination, if technologically feasible;
- (d) To establish the background concentrations;
- (e) To establish the horizontal extent and thickness of free product, if technologically feasible. If the soil concentration of a contaminant is above its soil saturation concentration (C_{sat}), free product may be present. [Refer to the technical report referenced in subsection 62-780.100(2), F.A.C., for development of soil CTLs based on C_{sat} .];
- (f) To determine whether source removal, in addition to any interim source removal already performed pursuant to Rule 62-780.500, F.A.C., is warranted;
- (g) To describe relevant geologic and hydrogeologic characteristics that influence migration and transport of contaminants at the site, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.:

- (h) To determine by means of a well survey whether any public water supply wells, as defined in Chapter 62-550, F.A.C., are present within a 1/2 mile radius of the site, whether the site is located within the regulated wellhead protection zone of a public water supply well or well field, and whether any private water supply wells (including potable, irrigation, and industrial wells) are present within a 1/4 mile radius of the site, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.
- (i) To determine whether any surface water will be exposed to contamination that migrates beyond the boundaries of the property at which site rehabilitation was initiated pursuant to this chapter;
- (j) To report any off-site activities (for example, dewatering, active remediation, or flood control pumping) in the immediate vicinity of the site that may have an effect on the groundwater flow at the site, unless the site meets the No Further Action criteria of subsection 62-780.680(1), F.A.C.; and
- (k) To facilitate the selection of a remediation strategy for the site that is protective of human health and the environment, and considers the proposed property use, identifies risks posed by the contamination based on the proposed use, and describes how those risks will be managed, unless No Further Action is deemed appropriate pursuant to the provisions of subsection 62-780.680(1), F.A.C.

Following completion of the Site Assessment, a Site Assessment Report (SAR) will be prepared which summarizes all tasks that were completed pursuant to subsections 62-780.600(3), (4), and (5), F.A.C., and the results obtained. The SAR will include one of the following:

1. A No Further Action Proposal without institutional controls or without institutional and engineering controls shall be included if the site meets the applicable No Further Action criteria of subsection 62-780.680(1), F.A.C., or a No Further Action Proposal with institutional controls or both institutional and engineering controls may be included if the site meets the applicable No Further Action criteria of subsection 62-780.680(2) or (3), F.A.C.;
2. A Natural Attenuation with Monitoring Plan may be included if the site meets the Natural Attenuation with Monitoring criteria of Rule 62-780.690, F.A.C.;
3. A recommendation to prepare a risk assessment or a Risk Assessment work plan shall be included if the PRSR chooses to justify alternative CTLs using risk assessment studies demonstrating that human health, public safety, and the environment are protected to at least the same degree provided by the CTLs referenced in this chapter. The work plan shall include a schedule for completion of a risk assessment and documentation adequate to support the request to do one or more of the task elements of subsection 62-780.650(1), F.A.C., and shall specify the parameters or exposure assumptions that will be used to develop the alternative CTLs pursuant to Rule 62-780.650, F.A.C.; or
4. A recommendation to prepare a Remedial Action Plan pursuant to Rule 62-780.700, F.A.C., shall be included, unless a recommendation pursuant to subparagraph 62-780.600(8)(b)1., 2., or 3., F.A.C., is included.

6.0 SCHEDULE

1. Within 5 days of the effective date of the consent agreement:
 - a. Obtain Interim Access Agreement from local office of Division of Forestry to install new groundwater monitoring wells.

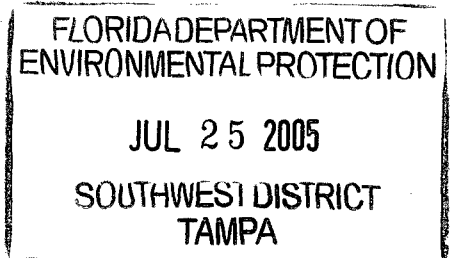
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2. Within 90 days of the effective date of the consent agreement:
 - a. Obtain lease expansion agreement with Division of Forestry and DEP Division of State Lands. Submit copy of agreement and updated boundary survey to DEP.
 - b. Install and develop new downgradient monitoring wells within 100 feet of the edge of waste as shown in Figure 1.
 - c. Conduct initial groundwater sampling and analysis of new wells
 - d. Perform hydraulic conductivity testing at new wells
 - e. Submit summary report with recommendations for routine groundwater sampling frequency and the need to conduct further assessment activities to DEP.

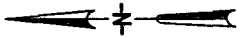
As required by 62-780 Table A, the SAR will be submitted within 270 days of discovery of discharge.



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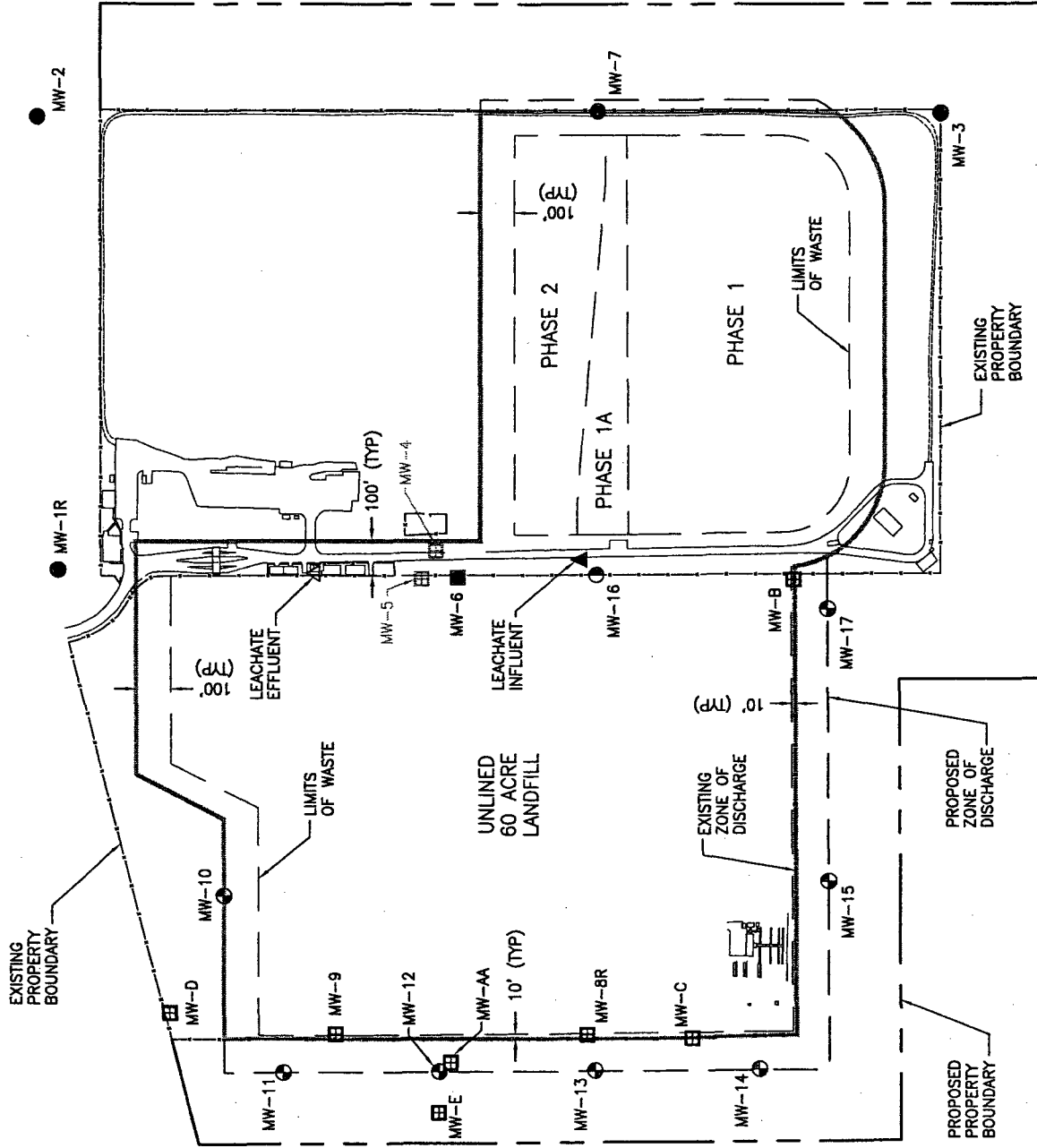
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GRAPHIC SCALE
0 125 250 500
SCALE IN FEET

LEGEND

- BACKGROUND WELLS
- ◐ PROPOSED MONITORING WELL
- INTERMEDIATE WELL
- ▣ EXISTING COMPLIANCE WELL
- ▤ EXISTING WATER LEVEL WELLS
- ▲ LEACHATE INFLUENT SAMPLING LOCATION
- △ LEACHATE EFFLUENT SAMPLING LOCATION
- PROPOSED WATER LEVEL WELL
- PROPOSED ZONE OF DISCHARGE
- EXISTING ZONE OF DISCHARGE
- EXISTING LIMITS OF WASTE
- PROPOSED PROPERTY BOUNDARY



SITE PLAN WITH PROPOSED WELL LOCATIONS
CITRUS COUNTY CENTRAL LANDFILL

Jones
Edmunds &
Associates, Inc. JEA