Locklear & Associates, Inc.
Environmental Consulting Services

March 14, 2013

Mr. Steve Morgan
Florida Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

RE: Enterprise Class III Landfill, Pasco County [WACS facility #87895]
Construction Permit Renewal Application, Pending Permit #177982-019-SC/T3
Operation Permit Renewal Application, Pending Permit #177982-020-SO/T3
Response to Environmental Monitoring Review Comments

Dear Mr. Morgan:

Locklear & Associates, Inc. (L&A), on behalf of Angelo's Aggregate Materials, Ltd., is pleased to provide the enclosed responses to the Departments Comments above referenced facility. Specifically, this submittal addresses the questions contained with the January 14, 2013 memorandum from Mr. John Morris, P.G. Our response includes the following:

- Responses to comments with references to revised documents;
- A revised Water Quality Monitoring Plan Evaluation report;
- A revised Groundwater Monitoring Plan.

Please do not hesitate to call me at 352-672-6867 if you have any questions regarding this submittal.

Sincerely,

John Locklear, P.G.
President
Locklear & Associates, Inc.

CC: John Arnold, P.E., Angelo's Aggregate Materials, Ltd.
Rebecca Kelner, P.E., Kelner Engineering, Inc.

Attachment 1 Responses to Comments
Attachment 2 Revised Water Quality Monitoring Plan Evaluation
Attachment 3 Revised Groundwater Monitoring Plan

ATTACHMENT 1
RESPONSES TO COMMENTS

REFERENCES

1. Section VI [References] was added to the revised 2012 WQMPE document which indicated that the current evaluation of site hydrogeology relied upon the information presented in Section 5 in the document entitled "Enterprise Recycling and Disposal Facility, Class III Landfill Permit Renewal Application," prepared by Tetra Tech HAI, Inc., dated August 2005 (and subsequently revised) and Section 5 in the document entitled "Enterprise Recycling and Disposal Facility, Class III Landfill Permit Application,' prepared by Hartman & Associates, Inc., dated November 2000 (and subsequently revised). ***No additional information is requested.***

2. ***H.1.b.: Direction and rate of ground water and surface water flow including seasonal variations.***
[Rule 62-701.410(1)(a)1, F.A.C.]

a. The response letter and Section III of the revised 2012 WQMPE document (new sub-section entitled "Groundwater Flow Characteristics") referred to hydraulic conductivity values determined through slug tests conducted at the facility. It appears that revised Table 5-2 of the information prepared by Jones Edmunds received July 6, 2006 (Responses to Second Request for Additional Information) indicated the data reported for P-3B (B-5) represented a vertical hydraulic conductivity value obtained from a laboratory permeability test rather than a horizontal hydraulic conductivity value obtained from a slug test. Please submit revisions to the response letter and the "Groundwater Flow Characteristics" sub-section of the revised 2012 WQMPE document that delete the value presented for P-3B (B-5).

RESPONSE TO COMMENT 2A

The "Groundwater Flow Characteristics" sub-section of the WQMPE document has been revised to delete the values presented for P-3B (B-5).

b. The response letter referred to Tables 2, 3 and 4 and to Figure 3 of the revised 2012 WQMPE document that were annotated to indicate that water levels in wells MW-3A, MW-8, MW-9 and MW-10 represented water retained in the well sumps. ***No additional information is requested.***

c. The response letter indicated that the ground water elevation reported for well MW-12A for the September 2011 sampling event was 69.91 feet NGVD, and referred to Table 2 of the revised 2012 WQMPE document that was amended to reflect this value. Please submit revisions to Figure 2 to indicate a ground water elevation of 69.91 feet NGVD was measured at well MW-12A for the September 2011 sampling event.

The response letter also indicated that Section III of the revised 2012 WQMPE document included a new recommendation that well MW-12A be re-developed and sampled, or that well MW-12A be replaced if re-development is not effective. It is noted that the report for the most recent sampling event conducted at the facility during September 2012 (received January 10, 2013) indicated more than an 8-foot rise in water levels compared with the previous sampling event conducted during March 2012. However, this report also indicated that well MW-12A was not able to be sampled during September 2012 as it pumped dry during the lowest achievable flow rate. Please implement the proposed recommendation to investigate the ability to sample existing well MW-12A and submit additional revisions to Section III regarding the need to install a replacement. In the event that a replacement well is proposed, please include the rationale for construction details of the replacement well (including unique identification number) in Section III of the revised 2012 WQMPE document.

RESPONSE TO COMMENT 2C

Figure 2 of the WQMPE document has been revised to indicate a groundwater elevation of 69.91 feet NGVD was measured at well MW-12A for the September 2011 sampling event.

A groundwater sample was not able to be collected from well MW-12A during the September 2012 sampling event despite the presence of a significant water column in the well. However, since MW-12A is proposed to be utilized as a "water level only" well (see Table 1 and Figure 1 of the GWMP), installing a replacement monitoring well does not appear to be warranted.

d. The response letter referred to Tables 2, 3 and 4 and to Figure 3 of the revised 2012 WQMPE document that were annotated to indicate that water levels in wells MW-3A, MW-8, MW-9 and MW-10 represented water retained in the well sumps. ***No additional information is requested.***

e. The response letter and Section III of the revised 2012 WQMPE document (new sub-section entitled "Well Clusters 8, 9 and 10") indicated surficial aquifer wells MW-8, MW-9 and MW-10 were installed as deep as practical to characterize the occurrence of saturated conditions above the confining unit overlying the sediments of the Floridan aquifer. ***No additional information is requested.***

f. The response letter indicated well MW-8B was re-surveyed during November 2012, and the new top of casing elevation was used to revise Table 5 and Figure 4 of the revised 2012 WQMPE document. Please submit a copy of the new survey information prepared for well MW-8B.

The response letter also referred to amendments provided to Table 1 of the revised 2012 WQMPE document. Please submit additional revisions to Table 1 to include a summary of construction details for recently installed wells MW-15B, MW-16B and MW-17B.

RESPONSE TO COMMENT 2F

A copy of the new survey information prepared for well MW-8B will be provided under separate cover.

Table 1 of the WQMPE document has been revised to include a summary of construction details for recently installed wells MW-15B, MW-16B and MW-17B.

g. The response letter indicated a contour map for ground water elevations recorded during the September 2011 sampling event was added to Appendix F of the revised 2012 WQMPE document. ***No additional information is requested.***

3. ***H.1.d.: Any on-site hydraulic connections between aquifers.*** *[Rule 62-701.410(1)(a)3, F.A.C.]*
The response letter and Section III of the revised 2012 WQMPE document (new sub-section entitled "Confining Unit Characteristics") presented the vertical gradient and vertical ground water velocity calculations included in Section 5.2.3 of the information prepared by Jones Edmunds received July 6, 2006 (Responses to Second Request for Additional Information). Please submit additional revisions to Section III to also discuss the continuity of the confining unit overlying the Floridan aquifer at the facility. Please evaluate ground water elevations reported for paired surficial aquifer wells and Floridan aquifer wells during the review period (April 2009 through September 2011). Of particular interest are the ground water elevations at wells MW-4/MW-4B and MW-5A/MW-5B that appear to indicate a potential for downward flow, while the ground water elevations at wells MW-7A/MW-7BR, MW-11/MW-11B and MW-12A/MW-12B appear to be coincident. Please also evaluate whether the mimicry in the hydrographs prepared for the surficial aquifer wells [Figure 2] and for the Floridan aquifer wells [Figure 4] for the review period suggest a hydraulic connection between the aquifers is present at the site.

RESPONSE TO COMMENT 3

Section III of the WQMPE document has been revised to include a discussion of the continuity of the confining unit overlying the Floridan aquifer at the facility.

4. ***H.1.e.: Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill.*** *[Rule 62-701.410(1)(a)4, F.A.C.]*
The response letter referred to Section III of the revised 2012 WQMPE document (new sub-section entitled "Groundwater Flow Characteristics") that presented an updated calculation of ground water velocity using horizontal hydraulic gradient values reported during the review period. ***No additional information is requested.***

5. ***H.1.g.: Inventory of all public and private water wells within a one-mile radius of the landfill . . .***

H.1.i.: Include a map showing locations of all potable wells . . .
[Rules 62-701.410(1)(b) and 62-701.410(1)(d), F.A.C., respectively].
The response letter referred to revisions to Item H.1.g., of the Engineering Report which discussed the query of new potable wells listed in the Southwest Florida Water Management District's Well Construction Permitting database in the "general vicinity" of the facility (provided as Attachment C-1 entitled "SWFWMD Potable Water Well Inventory"). Please submit revisions to the appropriate section of the Engineering Report to provide an updated inventory of all public and private water wells within a one-mile radius of the landfill site.

The response letter referred to the revision to item H.1.i., of the Application Form (provided in Section 1) that referenced new information regarding the location of potable wells within 500 feet of the waste storage and disposal areas (provided as revised Figure S-1). ***No additional information is requested.***

RESPONSE TO COMMENT 5

Item H.1.g of the Engineering Report has been revised to include an updated inventory of all public and private water wells within a one-mile radius of the landfill site.

6. ***L.1.: Water quality and leachate monitoring plan shall be submitted describing the proposed . . .***
[Rule 62-701.510(1), F.A.C.].

a. The response letter referred to the rule citations presented in ¶1 of the revised 2012 GWMP document. ***No additional information is requested.***

b. The response letter indicated that Table 1 and Figure 1 of the revised 2012 GWMP document were amended to reflect the monitoring network associated with disposal up to and including Cell 7. Please submit additional revisions to Figure 1 as follows:

- *Change the symbols for wells MW-1A and MW-1B to indicate they will be used as "water level only well locations;" and,*
- *Delete the well MW-13 location.*

RESPONSE TO COMMENT 6B

Figure 1 of the GWMP has been revised to change the symbols for wells MW-1A and MW-1B to "water level only" locations and to remove the well MW-13 location.

c. The response letter indicated that Table 1 of the revised 2012 GWMP document had been amended to include existing well MW-1A. The response letter also indicated that Figure 1 of the revised GWMP document had been amended to show the locations of wells MW-1A, MW-9, MW-10, MW-11 and the remaining piezometers (P-4, P-6, P-8, P-10 and P-11). ***No additional information is requested.***

7. ***L.1.c.(2): Downgradient compliance wells as required*** *[Rule 62-701.510(3)(b), F.A.C.].*
The response letter indicated that Section 1.d., of the revised 2012 GWMP document had been amended to describe proposed background wells BW-1A and BW-1B. The response letter also indicated that Figure 1 of the revised 2012 GWMP document had been amended to include the zone of discharge associated with disposal up to and including Cell 7. ***No additional information is requested.***

8. ***L.1.c.(3): Background wells screened in all aquifers below the landfill that may be affected by the landfill***
[Rule 62-701.510(3)(c), F.A.C.].
The response letter indicated that Table 1 and Figure 1 of the revised 2012 GWMP document had been amended to include unique identification numbers and locations for proposed background wells BW-1A and BW-1B. Table 1 of the revised 2012 GWMP document was also amended to designate existing wells MW-10 and MW-10B as detection wells. ***No additional information is requested.***

9. ***L.1.c.(6): Well screen locations properly selected*** *[Rule 62-701.510(3)(d)4, F.A.C.].*

a. The response letter indicated that Section 1.d., Figure 2, and Figure 3 of the revised 2012 GWMP document had been amended to provide the construction details for proposed wells MW-18A/MW-18B, MW-19A/MW-19B, and MW-20A/MW-20B. Please submit additional revisions to Section 1.d., Figure 2 and Figure 3 to provide the justification of construction details for proposed wells BW-1A, BW-1B and MW-6B.

RESPONSE TO COMMENT 9A

Section 1.d and Figures 2 and 3 of the GWMP have been revised to include construction details for proposed wells BW-1A, BW-1B and MW-6B.

b. The response letter indicated that Section 1.d., of the revised 2012 GWMP document had been amended to refer to Department Form #62-701.900(30). ***No additional information is requested.***

10. ***L.1.c.(8): Procedures for properly abandoning monitoring wells*** *[Rule 62-701.510(3)(d)5, F.A.C.].*
The response letter indicated that Section 1.d., of the revised 2012 GWMP document had been amended to refer to the well abandonment requirements of Rule 62-532-500(5), F.A.C. ***No additional information is requested.***

11. ***L.1.d.(1): Location of and justification for all proposed surface water monitoring points***
[Rule 62-701.510(4)(a), F.A.C.].
The response letter indicated Section 1.e., of the revised 2012 GWMP document had been amended to describe semi-annual surface water monitoring at Pond 1 (southeast of Cell 2) and at Pond 2 (east of Cell 1), and that Figure 1 had been revised to show the associated surface water sampling locations (SW-1 and SW-2, respectively). Please submit additional revisions to Section 1.e., and/or Figure 1 to identify where water discharging from Pond 1 and Pond 2 would leave the property.

RESPONSE TO COMMENT 11

Ponds 1 and 2 do not discharge off-property. Any potential discharges from Ponds 1 and 2 will flow to the Temporary Pond identified in Figure 1 as Pond 3. Therefore, Section 1.e and Figure 1 of the GWMP have been revised to remove surface water sampling locations SW-1 and SW-2. In the event that groundwater impacts are observed in future compliance monitoring, a surface water sample will be collected from Pond 3.

12. ***L.1.d.(2): Each monitoring location to be marked and its position determined . . .***
[Rule 62-701.510(4)(c), F.A.C.]
The response letter referred to the response provided to Comment #11, above. Please submit additional revisions to Section 1.e., of the revised 2012 GWMP document to clarify if sampling locations SW-1 and SW-2 represent discharge structures or weirs constructed at Pond 1 and Pond 2.

RESPONSE TO COMMENT 12

See the Response to Comment 11.

13. ***L.1.f.(1): Initial background ground water and surface water sampling and analysis requirements***
[Rule 62-701.510(5), F.A.C. - formerly Rule 62-701.510(6), F.A.C.].
The response letter indicated Section 1.g.(1), of the revised 2012 GWMP document had been amended to describe the "initial" ground water sampling event. Please submit revisions to Section 1.g.(1) to reference the parameters listed in Rule 62-701.510(7)(a) and (7)(c), F.A.C. (formerly the parameters listed in Rules 62-701.510(8)(a) and (8)(d), F.A.C.).

RESPONSE TO COMMENT 13

Section 1.g.(1) of the GWMP has been revised to reference the parameters listed in Rule 62-701.510(7)(a) and (7)(c), F.A.C.

*14. **L.1.f.(3): Routine monitoring well sampling and analysis requirements** [Rule 62-701.510(5)(c), F.A.C. – formerly 62-701.510(6)(d), F.A.C.].*
*The response letter indicated Section 1.g.(2), of the revised 2012 GWMP document had been amended to demonstrate that conducting routine ground water sampling at a semi-annual frequency is appropriate as the maximum ground water velocity calculated for the surficial and Floridan aquifers was less than 50 feet in six months. **No additional information is requested.***

*15. **L.1.f.(4): Routine surface water sampling and analysis requirements** [Rule 62-701.510(5)(d), F.A.C. – formerly 62-701.510(6)(e), F.A.C.].*
The response letter indicated Table 4 of the revised 2012 GWMP document had been amended to list the surface water sampling parameters. Please submit revisions to the response letter to indicate the surface water parameters are listed in Rule 62-701.510(7)(b), F.A.C. (formerly Rule 62-701.510(8)(b), F.A.C.). Please submit revisions to Table 4 to indicate surface water samples will be sampled for total phosphorus (as mg/L P) rather than total phosphates.

RESPONSE TO COMMENT 15

Section 1.g.(3) of the GWMP has been revised to reference Rule 62-701.510(7)(b), F.A.C. Table 4 of the GWMP has been revised to indicate that surface water samples (if they are collected) will be sampled for total phosphorus rather than total phosphates.

*16. **L.1.g.: Describe procedures for implementing evaluation monitoring . . .** [Rule 62-701.510(6)(a), F.A.C. – formerly 62-701.510(7)(a), F.A.C.].*
The response letter indicated Section 1.h., of the revised 2012 GWMP document was amended to be consistent with the requirements for evaluation monitoring, prevention measures and corrective actions. Please submit revisions to the response letter to reference the requirements of Rule 62-701.510(6)(a)3., F.A.C. (formerly Rule 62-701.510(7)(a)3, F.A.C.). Please submit revisions to the following items in Section 1.h.:

- *2nd bullet item – please reference the parameters listed in Rule 62-701.510(7)(c), F.A.C. (formerly Rule 62-701.510(8)(d), F.A.C.);*
- *3rd bullet item – please reference the sampling requirements of Rule 62-701.510(6)(a)2, F.A.C. (formerly Rule 62-701.510(7)(a)2, F.A.C.); and,*
- *3rd bullet item – please reference the parameters listed in Rule 62-701.510(7)(c), F.A.C. (formerly Rule 62-701.510(8)(d), F.A.C.).*

RESPONSE TO COMMENT 16

Section 1.h of the GWMP has been revised as requested to reflect the correct Rule references for each bulleted item.

*17. **L.1.h.(1): Semi-annual report requirements** [Rule 62-701.510(8)(a), F.A.C. – formerly 62-701.510(9)(a), F.A.C.].*
*The response letter indicated Section 1.i.(1), of the revised 2012 GWMP document was amended to refer to Department Form #62-701.900(31). **No additional information is requested.***

*18. **L.1.h.(3): Two and one-half year report requirements . . .** [Rule 62-701.510(8)(b), F.A.C. – formerly 62-701.510(9)(b), F.A.C.].*
The following review comments referred to the revised 2012 WQMPE document.

a. Section IV – Groundwater Quality

1) The response letter referred to ¶1 of this section that was revised to indicate monitoring results were compared to ground water standards and minimum criteria. ***No additional information is requested.***

2) The following comments referred to the tabular summary of analytical data provided in Appendix G:

i) April 2009 sampling event – the response letter indicated ground water elevations for all monitor wells included in this sampling event were revised to be consistent with Table 2 or Table 5. ***No additional information is requested.***

ii) October 2009 sampling event – the response letter indicated ground water elevations for wells MW-7BR and MW-9B were revised to be consistent with Table 5. ***No additional information is requested.***

iii) October 2009 sampling event – the response letter confirmed that the hard copy of the analytical report indicated mercury was reported at a concentration of <0.024 µg/L in the sample collected from well MW-11. The response letter also indicated that the laboratory has been contacted to request a revised ADaPT file be submitted to the Department to include this mercury result for the sample collected from well MW-11. ***No additional information is requested.***

iv) December 2009 sampling event – the response letter indicated ground water elevations for wells MW-1B, MW-5A, MW-5B, MW-6, MW-7A, MW-7BR, MW-8B, MW-11B, and MW-12B were revised to be consistent with Table 2 or Table 5. ***No additional information is requested.***

v) December 2009 sampling event – the response letter indicated redox potential values for all monitor wells included in this sampling event were revised to be consistent with the Sampling Log forms submitted for this event. ***No additional information is requested.***

vi) March 2011 sampling event – the response letter indicated ground water elevations for all monitor wells included in this sampling event were revised to be consistent with Table 2 or Table 5. ***No additional information is requested.***

vii) March 2011 sampling event – the response letter indicated the redox potential at well MW-10B was revised to be consistent with the Sampling Log form for this event (-150.7 mV). ***No additional information is requested.***

viii) September 2011 sampling event – the response letter indicated ground water elevations for all monitor wells included in this sampling event were revised to be consistent with Table 2 or Table 5. ***No additional information is requested.***

3) The response letter indicated that ¶2 in Section IV of the revised 2012 WQMPE document (regarding the use of existing wells MW-10 and MW-10B as background locations) was deleted. ***No additional information is requested.***

4) The response letter indicated Figure 6 (conductivity values reported during the review period) was revised to be consistent with the conductivity values presented in Appendix G. ***No additional information is requested.***

5) The response letter acknowledged the informational comment that indicated all appropriate care should continue to be taken to minimize agitation of the water column during well purging and sample collection activities. ***No additional information is requested.***

6) The response letter indicated that Figure 9 [TDS], Figure 10 [chromium], and Figure 14 [vanadium] were revised to include wells MW-11, MW-11B and MW-12B in the legends. ***No additional information is requested.***

7) The response letter indicated that Figure 12 [mercury] was revised to include a notation regarding the results reported for the re-sampling event conducted at well MW-7A during November 2009. ***No additional information is requested.***

8) The response letter indicated that the sub-section that discussed nickel was revised to clarify that the results of the next routine ground water sampling event conducted during September 2011 did not confirm the elevated result reported for the March 2011 event at well MW-11. ***No additional information is requested.***

b. The response letter indicated that Section III of the revised 2012 WQMPE document was amended to include a calculation of ground water flow rates during the review period. ***No additional information is requested.***

c. The response letter indicated that Section III of the revised 2012 WQMPE document was amended to indicate a semi-annual ground water sampling frequency was appropriate for site conditions. ***No additional information is requested.***

d. The response letter indicated that Section III of the revised 2012 WQMPE document was amended to recommend that proposed Floridan aquifer well MW-6B be installed adjacent to existing surficial aquifer well MW-6. The response letter also indicated that Section III of the revised 2012 WQMPE document was amended to indicate that in the event that existing Floridan aquifer well MW-9B cannot be sampled the Department will be notified within 7 days and a replacement well will be installed to allow sampling during the next semi-annual event. ***No additional information is requested.***

ATTACHMENT 2
REVISED WATER QUALITY MONITORING PLAN

Enterprise Class III Landfill
Water Quality Monitoring Plan Evaluation

~~Revised December 2012~~
March 2013

Prepared for:
Angelo's Aggregate Materials, Inc.
41111 Enterprise Road
Dade City, Florida 33525

Prepared by:
Locklear & Associates, Inc.
4140 NW 37th Place, Suite A
Gainesville, FL 32606

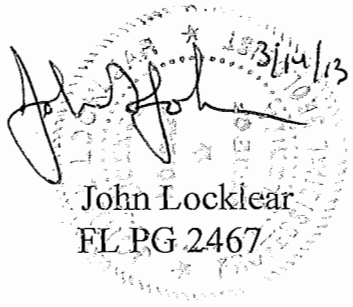


TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

I INTRODUCTION

This Water Quality Monitoring Plan Evaluation Report has been prepared in accordance with Specific Condition E.11 of DEP Permit 177982-007-SO/T3 and Chapter 62-701.510(9)(b), F.A.C. The evaluation includes data collected from the First Semiannual monitoring event of 2009 through the Second Semiannual monitoring event of 2011. Monitoring well construction details are provided in Table 1. Well locations are shown in Figure 1.

TABLE 1 (Revised)

Well	Top of Casing Elevation (ft, NGVD)	Total Well Depth (ft below top of casing)*	Sump Length (ft)**	Screen Length (ft)***	Bottom of Screen Interval Elevation (ft, NGVD)****	Top of Screen Interval Elevation (ft, NGVD)*****	Aquifer Monitored
MW-1A	173.77	67.05	3	20	109.72	129.72	Surficial
MW-1B	174.11	117.00	3	10	60.11	70.11	Floridan
MW-3A	85.39	14.47	3	20	73.92	93.92	Surficial
MW-3B	84.80	43.90	3	10	43.90	53.90	Floridan
MW-4	100.59	26.40	3	20	77.19	97.19	Surficial
MW-4B	100.87	59.52	3	10	44.35	54.35	Floridan
MW-5A	86.74	30.50	3	20	59.24	79.24	Surficial
MW-5B	85.70	47.58	3	10	41.12	51.12	Floridan
MW-6	88.65	30.00	3	20	61.65	81.65	Surficial
MW-7A	100.72	45.85	3	20	57.87	77.87	Surficial
MW-7BR	103.27	61.20	3	10	45.07	55.07	Floridan
MW-8	100.10	35.90	3	20	67.20	87.20	Surficial
MW-8B	108.52	57.55	3	15	53.97	68.97	Floridan
MW-9	108.00	29.75	3	15	81.25	96.25	Surficial
MW-9B	109.75	48.80	3	15	63.95	78.95	Floridan
MW-10	111.62	37.66	3	15	76.96	91.96	Surficial
MW-10B	110.00	61.80	3	15	51.20	66.20	Floridan
MW-11	104.45	42.50	3	20	64.95	84.95	Surficial
MW-11B	106.11	84.90	3	15	24.21	39.21	Floridan
MW-12A	121.43	62.20	3	20	62.23	82.23	Surficial
MW-12B	121.84	90.20	3	15	34.64	49.64	Floridan
MW-15B	147.87	103.4	1	20	45.47	65.47	Floridan
MW-16B	138.01	103.2	1	20	35.81	55.81	Floridan
MW-17B	87.21	81.1	1	20	7.11	27.11	Floridan

* Source: 2008 S1 field measurements by HDR Engineering, Inc.

** Source: 2005 Permit Application by HAI

*** Source: Figures 16A, 17A and 17B 2005 HAI

**** Calculated by subtracting total depth from TOC and adding sump length

***** Calculated by adding screen length to bottom of screen interval elevation

The majority of the top of casing elevations shown in Table 1 were surveyed in August 2005 with the following exceptions:

MW-1B surveyed on January 8, 2008
MW-15B, MW-16B and MW-17B surveyed on April 6, 2012
MW-7A and MW-8B surveyed on November 7, 2012

II GEOLOGY

Regional Geology

The property is located on the eastern edge of the Brooksville Ridge physiographic province near the Western Valley. This ridge is wide with an irregular surface and extends through the north-central portion of Pasco County. The Brooksville Ridge is characterized by a thin layer of sand and clayey sand underlain by a clayey unit that varies from 10 to 30 feet in thickness of Pliocene to recent age. This clayey unit ranges in thickness from about 0 to 50 feet in Pasco County. The thickness of the clay unit in the area of the proposed site is estimated to be approximately 25 feet. Below the sands and clays which comprise the surficial aquifer system is a thick sequence of sedimentary rock comprised mainly of limestone and dolomite, which comprise the Floridan aquifer system. From youngest to oldest, the sedimentary units include the Oligocene age Suwannee Limestone, the Eocene age Ocala Limestone, and the Eocene age Avon Park Formation. The Suwannee Limestone generally thins to the east and is thin or absent beneath the Brooksville Ridge. The limestone surface in the ridge area is irregular and may vary more than 100 feet in elevation over a short distance. The limestone surface elevation varies from –10 feet NGVD near the coast to around 140 feet NGVD on the crest of the Brooksville Ridge (SWFWMD, 1988). In the vicinity of the subject site, the top of the limestone layer is at approximately 40 feet NGVD.

Site Geology

The site geology was determined through review of previous site investigation reports. Hartman & Associates, Inc. prepared geologic cross sections based on soil boring and piezometer installation details as part of the 2001 construction and operations permit application. Copies of the 2001 geologic cross sections are provided in Appendix A. The site geology is comprised of unconsolidated surficial deposits consisting of a mixture of sand, clay and silt of various compositions and multiple colors overlying limestone. Occasionally interbedded layers of rock and clay were encountered in the higher topographic areas and siltier strata discovered in the lower topographic areas. Limestone was encountered between 18 feet NGVD, in the low area in the northeast portion of the site at boring location B-5, and

109 feet NGVD at boring location B-1, atop the ridge along the western boundary of the site. A contour map of the top of limestone is also provided in Appendix A. Review of the geologic cross sections and associated limestone surface contour map reveal several observations which are important to the hydrogeologic interpretation:

- The cross sections illustrate the complex interbedded nature of sands and clays in the upper strata which appear to create opportunities for perched water conditions in small localized areas of the site as discussed in Section III.
- Laterally discontinuous water bearing sand units exist beneath the site, particularly east to west. This is most obviously evidenced by the upper fine sand unit in Section B-B' which is generally found between 80 and 120 feet, NGVD between boring B-8 and boring B-2 but pinches out before reaching B-1. A similar situation is evident from north to south in Section A-A'.
- The elevation of the limestone surface is highly variable across the site. Generally, the limestone surface slopes from a high of 100 feet, NGVD in the western portion of the site to 10 feet, NGVD in the eastern portion. A low point is observed in boring B-15 in the center of the site.

III GROUNDWATER FLOW

Historically, the site hydrogeologic regime has been interpreted to include a surficial aquifer and the semi-confined Floridan aquifer. As a result, the site monitoring network includes groundwater monitoring well clusters with shallow wells screened within unconsolidated sands and clays and deeper wells screened within the limestone of the upper Floridan aquifer.

Surficial Aquifer

Prior to 2007, contour interpretations of the surficial aquifer varied in both directions and the aerial extent of the water bearing unit itself. Contour maps prepared by Hartman & Associates, Inc. in 2001 through 2005 (Appendix B) show a surficial aquifer of limited extent primarily on the eastern portion of the site. This interpretation is consistent with the limited lateral continuity of the fine sand unit discussed in Section II. Surficial aquifer groundwater monitoring well water elevations for 2009 through 2011 are presented in Table 2. The data was used to create the hydrograph in Figure 2.

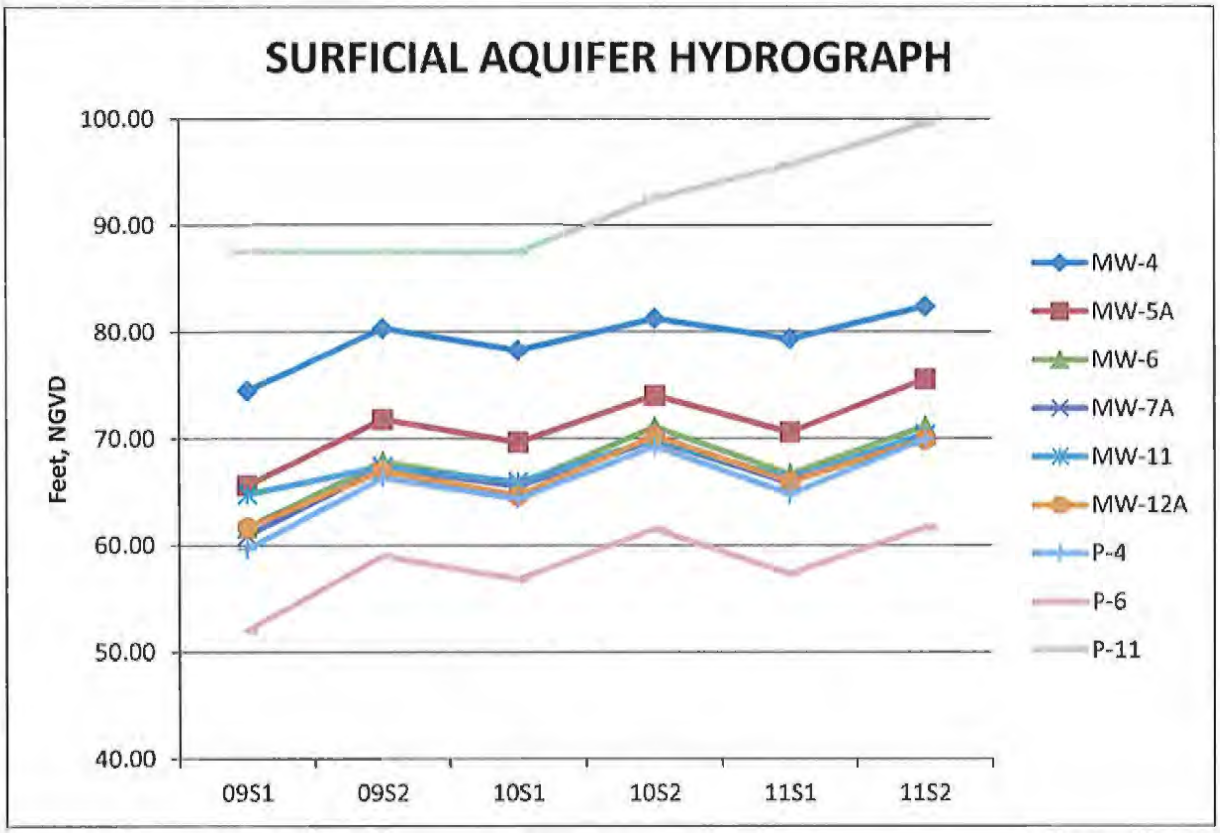
TABLE 2

Groundwater Elevations (Feet, NGVD)						
	09S1	**09S2**	**10S1**	**10S2**	**11S1**	**11S2**
MW-1A	DRY	DRY	DRY	DRY	DRY	DRY
MW-3*	DRY	DRY	DRY	DRY	DRY	DRY
MW-4	74.46	80.30	78.25	81.22	79.30	82.35
MW-5A	65.62	71.80	69.65	74.02	70.58	75.56
MW-6	61.63	67.85	65.64	71.06	66.65	71.12
MW-8*	DRY	DRY	DRY	DRY	DRY	DRY
MW-7A	60.92	67.31	65.53	69.82	65.87	70.26
MW-9*	DRY	DRY	DRY	DRY	DRY	DRY
MW-10*	DRY	DRY	DRY	DRY	DRY	DRY
MW-11	64.77	67.38	65.92	69.84	66.21	70.39
MW-12A	61.69	66.96	64.64	70.24	65.94	69.91
P-4	59.66	66.31	64.34	69.26	64.78	69.91
P-6	52.04	59.00	56.84	61.54	57.33	61.65
P-11	87.51	87.49	87.46	92.48	95.67	99.48

DRY = insufficient water for sample collection

*Water contained within well sump only

FIGURE 2 - Revised



Water levels show a seasonal fluctuation with highs observed during the second semiannual events. Water levels generally increased during the 2009 to 2011 period. As the data in Table 2 shows, surficial aquifer monitoring wells MW-1A, MW-3, MW-8, MW-9 and MW-10 were consistently dry (or contained water within the well sump only) during the entire period. The hydrograph in Figure 2 shows that piezometer P-11 and possibly monitoring well MW-4 are perched. The hydrograph also shows the piezometer P-6 may not be hydraulically connected to the other shallow monitoring wells.

TABLE 3 (Revised)

	Water Column Height in Feet*					
	09S1	**09S2**	**10S1**	**10S2**	**11S1**	**11S2**
MW-1A	0	0	0	0	0	0
MW-3A**	-	0	0.34	0.39	0.39	0.49
MW-4A	0.43	6.27	4.22	7.19	7.19	8.32
MW-5A	8.98	15.16	13.01	17.38	17.38	18.92
MW-6	3.03	9.25	7.04	12.46	12.46	12.52
MW-7A	6	12.39	10.61	14.9	14.9	15.34
MW-8**	0.54	0.56	0.53	0.52	0.52	0.83
MW-9**	0.21	0.26	0.31	0.24	0.24	0.25

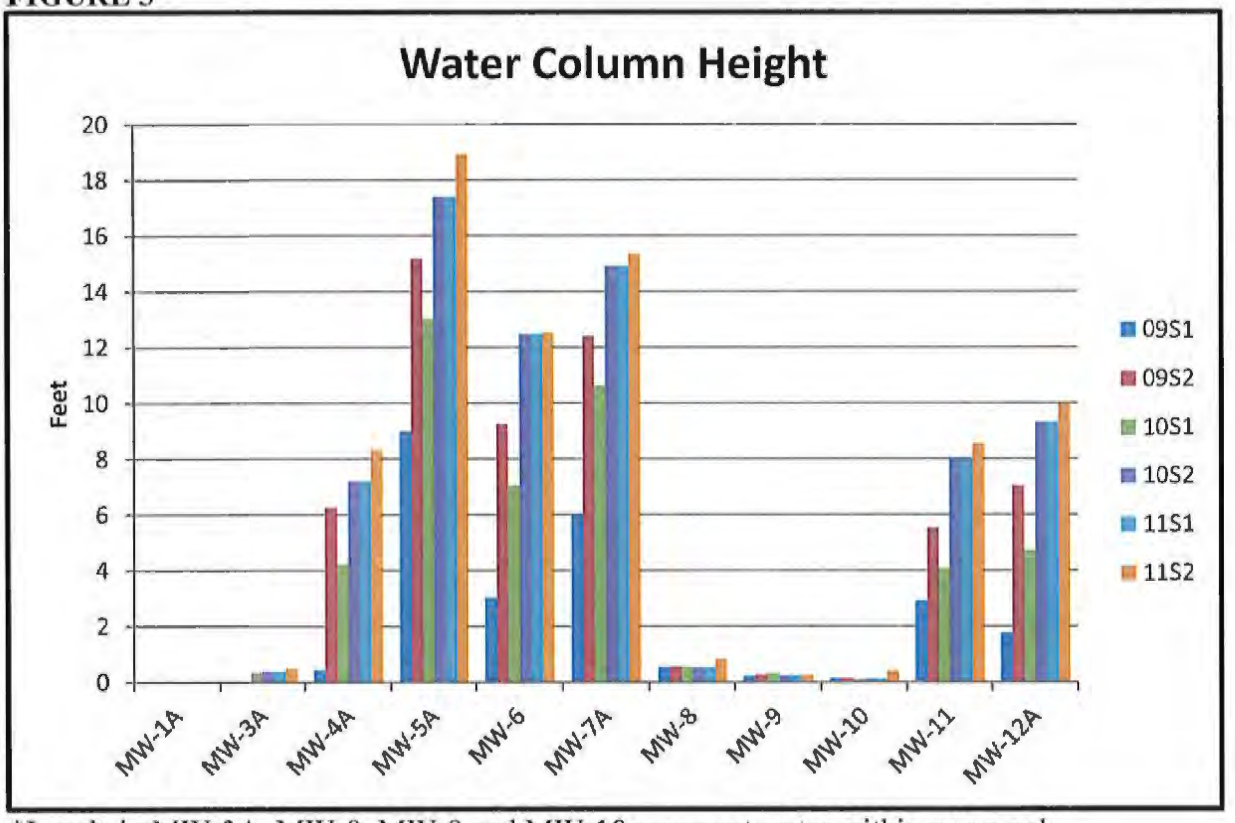
MW-10**	0.13	0.13	0.1	0.11	0.11	0.41
MW-11	2.92	5.53	4.07	7.99	7.99	8.54
MW-12A	1.76	7.03	4.71	9.31	9.31	9.96

*Includes water contained within well sump

**Represents water contained within well sump only

The heights of the water columns in each of the shallow monitoring wells are shown in Table 3 and Figure 3. Initially, it would appear that the monitoring wells with very little water may be screened at higher elevations than those wells which consistently contain ample water. However, when water column heights are compared to well screen elevations as in Table 4 there is no correlation with the exception of monitoring well MW-1A which is obviously screened at a much higher elevation than the remaining wells. The remaining data shows that wells that are screened at comparable elevations (e.g., MW-3A and MW-4A) have very disparate water column heights (less than 1 foot for MW-3A and between 4 and 8 feet for MW-4A). Similarly, the data in Figure 3 does not appear to show a consistent correlation to the monitoring well locations shown in Figure 1. Water is consistently observed in the monitoring wells in the northeastern portion of the site (e.g. MW-4, MW-5, MW-6 and MW-7A). However, wells located in the east-central and southeastern portions of the site (e.g., MW-8, MW-9 and MW-10) consistently lacked water (or contained water within the well sump only). This data appears to contradict the presence of a laterally continuous surficial aquifer even in the eastern portion of the site.

FIGURE 3



*Levels in MW-3A, MW-8, MW-9 and MW-10 represent water within sump only
**Levels in all wells include water contained within the well sump

TABLE 4 (Revised)

Water Column Height Relative to Screen Elevation			
	Top of Screen Elevation (Ft, NGVD)	Bottom of Screen Elevation (Ft, NGVD)	Average Water Column Height (Ft)
MW-1A	129.72	109.72	0
MW-3A	93.92	73.92	0.3*
MW-4A	97.19	77.19	5.6**
MW-5A	79.24	59.24	15.1**
MW-6	81.65	61.65	9.5**
MW-7A	77.87	57.87	12.4**
MW-8	87.20	67.20	0.6*
MW-9	96.25	81.25	0.3*
MW-10	91.96	76.96	0.2*
MW-11	84.95	64.95	6.2**
MW-12A	82.23	62.23	7.0**

*Represents water retained within sump
**Includes water column retained with sump

Despite the presence of a relatively significant water column observed in monitoring well MW-12A, groundwater samples have not been collected from this well during the permit period due to draw down rates. ~~It is recommended that MW-12A be re-developed and sampled or if re-development does not result in collection of viable sample the well should be replaced.~~ However, installation of a replacement well for MW-12A is not recommended at this time since MW-12A and MW-12B will be utilized as "water level only" wells (see Table 1 and Figure 1 of the March 2013 version of the GWMP).

Monitoring well MW-6 is the only surficial aquifer monitoring well on site without a corresponding Floridan aquifer monitoring well installed in cluster. It is recommended that a Floridan aquifer monitoring well (MW-6B) be installed adjacent to MW-6 so that during intervals in which MW-6 contains insufficient water for sampling, a sample can be collected from MW-6B.

Floridan Aquifer

Regional Floridan aquifer potentiometric contour maps prepared by the Southwest Florida Water Management District (SWFWMD) are provided in Appendix D. The regional maps show that the site is located in an area of relatively low hydraulic gradient. The flow direction indicated by the SWFWMD maps is to the north-northwest. Floridan aquifer potentiometric surface contour maps prepared from data collected at the East Pasco Landfill located to the northeast of the site are provided in Appendix E. Interpretations of the Floridan aquifer flow direction at the East Pasco Landfill varied from west to east, though a northerly component was also commonly present. A groundwater divide was also observed in the center of the site in several maps.

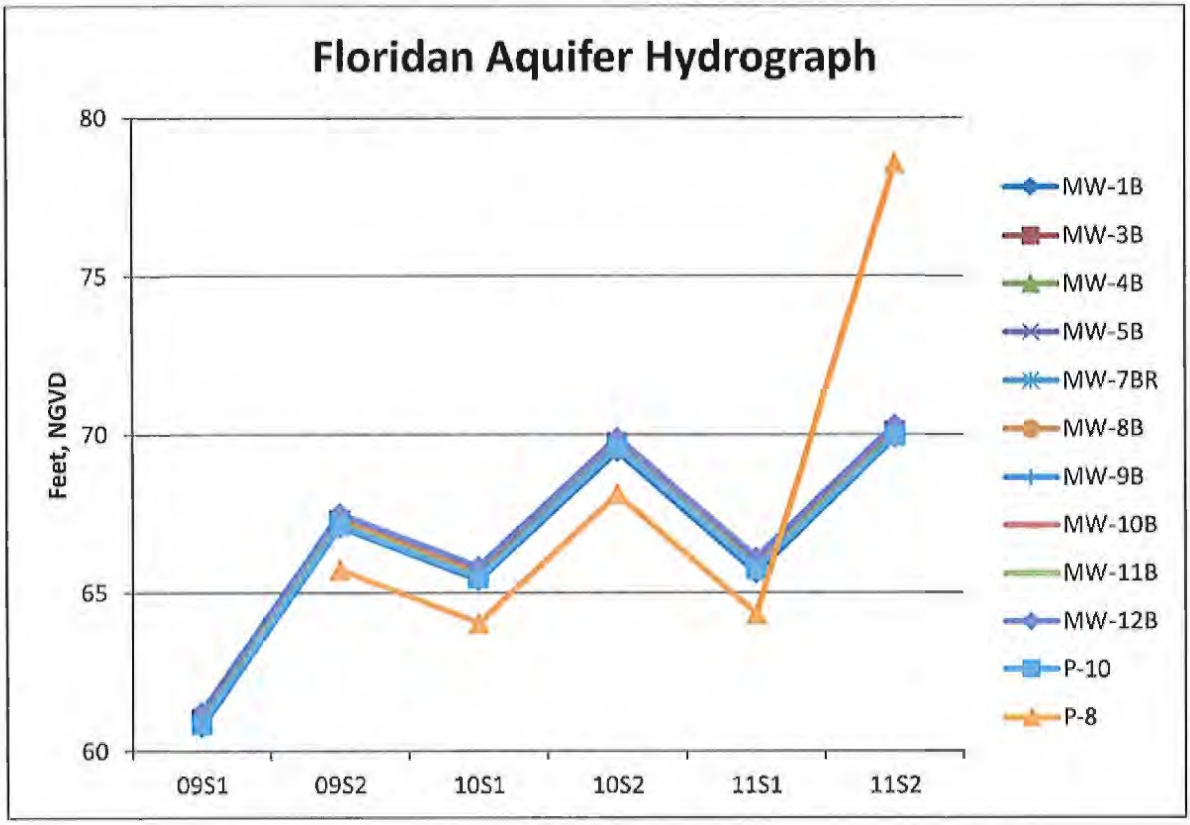
Floridan aquifer groundwater monitoring well water elevations for 2009 through 2011 are presented in Table 5. The data was used to create the hydrograph in Figure 4. Water levels show a seasonal fluctuation with highs observed during the second semiannual events. Water levels generally increased during the 2009 to 2011 period.

Floridan aquifer potentiometric surface contour maps for the site are provided in Appendix F. Floridan aquifer flow beneath the site during this period was consistently to the west-northwest, with the highest elevations located in the southeastern corner of the site. A north-northeasterly flow component was also consistently observed in the northeastern corner of the site. This flow pattern is consistent with the regional interpretation as well as the interpretations from the adjacent East Pasco Landfill. As expected from the regional maps, the hydraulic gradient was very slight during each monitoring event.

TABLE 5 (Revised)

Groundwater Elevations (Feet, NGVD)						
	09S1	**09S2**	**10S1**	**10S2**	**11S1**	**11S2**
MW-1B	60.77	67.08	65.40	69.46	65.62	69.90
MW-3B	61.02	67.30	65.63	69.74	65.91	70.09
MW-4B	61.05	67.33	65.66	69.79	65.94	70.13
MW-5B	60.89	67.17	65.48	69.64	65.79	69.97
MW-7BR	60.97	67.26	65.56	69.69	65.87	70.05
MW-8B	61.05	67.39	65.63	69.77	65.93	70.14
MW-9B	61.24	67.48	65.78	69.91	66.08	70.29
MW-10B	61.20	67.47	65.77	69.92	66.09	70.27
MW-11B	60.93	67.21	65.52	69.61	65.82	70.01
MW-12B	61.24	67.50	65.83	69.89	66.11	70.30
P-10	60.85	67.13	65.46	69.59	65.75	69.94
P-8		65.73	64.05	68.11	64.33	78.54

FIGURE 4 (Revised)



Monitoring well MW-9B contained insufficient water for sample collection during both 2009 semiannual sampling events. Since 2010, MW-9B has contained sufficient water for sample collection. In the event that MW-9B contains insufficient water for sample collection in future monitoring events, the Department will be notified within 7 days and a replacement well will be installed and sampled during the next semiannual monitoring event.

Groundwater Flow Characteristics

Detailed information regarding hydraulic conductivity, hydraulic gradient, effective porosity, groundwater velocity of the surficial and Floridan aquifers as well characteristics of the confining layer are provided in the July 6, 2006 Response to 2nd Request for Additional Information (Jones Edmunds, 2006). Hydraulic conductivity values were determined through slug testing originally performed by Tetra Tech HAI and submitted in the July 2005 Hydrogeological Investigation and Groundwater Monitoring Plan with additional testing performed by Jones Edmunds in 2006. The hydraulic conductivity values and effective porosity ranges provided in Table 5-2A (JEA 2006) are shown below:

Surficial Aquifer

Test Location	Hydraulic Conductivity (ft/day)	Effective Porosity (range)
P-2 (B-3)	2.49	0.25-0.45
~~P-3 (B-5)~~	~~6.18~~	~~0.25-0.45~~
P-5 (B-7)	1.68	0.25-0.45
P-7 (B-9)	2.63	0.25-0.45
P-8 (B-10)	2.61	0.25-0.45

Floridan Aquifer

Test Location	Hydraulic Conductivity (ft/day)	Effective Porosity (range)
~~P-3B~~	~~8.5~~	~~0.3-0.5~~
MW-5B	4.22	0.3-0.5
MW-7B	5.27	0.3-0.5
MW-10B	30.05	0.3-0.5

Using these values and hydraulic gradient values calculated from groundwater elevation data collected in 2003 and 2005, Jones Edmunds calculated the following velocity ranges:

Surficial Aquifer

Test Location	Groundwater Velocity Range (ft/day)	Groundwater Velocity Range (ft/year)
P-2 (B-3)	0.012 – 0.033	4.38 – 12.04
~~P-3 (B-5)~~	~~0.012 – 0.099~~	~~4.38 – 36.13~~

P-5 (B-7)	0.006 – 0.012	2.19 – 4.38
P-7 (B-9)	0.004 – 0.01	1.46 – 3.65
P-8 (B-10)	0.004 – 0.01	1.46 – 3.65

Floridan Aquifer

Test Location	Groundwater Velocity Range (ft/day)	Groundwater Velocity Range (ft/year)
~~P-3B~~	~~0.006 – 0.014~~	~~2.19 – 5.11~~
MW-5B	0.003 – 0.007	1.09 – 2.56
MW-7B	0.005 – 0.017	1.83 – 6.21
MW-10B	0.067 – 0.156	24.46 – 56.94

In order to update the groundwater velocity calculations, hydraulic gradient values were calculated from Floridan aquifer groundwater elevation data collected between the first semiannual monitoring event of 2009 and the second semiannual monitoring event of 2011. Gradient values for the surficial aquifer were not updated due to the lack of groundwater elevation data from dry wells during drought.

Floridan Aquifer Horizontal Hydraulic Gradients 2009 - 2011

	Apr-09	Oct-09	Dec-09	Sep-10	Mar-11	Mar-12	Median
Gradient Near MW-9B	0.00035	0.00032	0.0004	0.00037	0.00013	0.00025	0.00034
Gradient Near MW-5B	0.00032	0.00032	0.00036	0.0003	0.0003	0.0005	0.00032

The hydraulic gradients calculated using the 2009 – 2011 groundwater elevation data were comparable to those calculated by Jones Edmunds using 2003 and 2005 groundwater elevations.

Using the horizontal hydraulic conductivity and effective porosity values presented in Table 5-2A of the July 2006 Jones Edmunds document and the horizontal hydraulic gradient values calculated for the 2009-2011 time period, a range of Floridan aquifer groundwater velocities was calculated using the modified Darcian equation:

$$V_H = K_H i_H / n_e$$

where: V_H = average horizontal groundwater velocity (ft/day);

K_H = average horizontal hydraulic conductivity (ft/day);

i_H = average horizontal gradient (ft/ft); and

n_e = effective porosity (30% - 50% range for sandy soils)

The resultant V_H values for the Floridan aquifer are tabulated below:

Groundwater Velocities	(ft/day)	(ft/year)
Minimum	0.001	0.04
Maximum	0.05	18

A semiannual sampling frequency is adequate to detect potential groundwater quality standard exceedances based upon the calculated flow velocities. Maximum groundwater flow velocities were less than 50 feet per six months within both the surficial and Floridan aquifers.

Confining Unit Characteristics

Vertical hydraulic gradients and groundwater velocities were calculated by Jones Edmunds in the Response to Comment 6.f in the July 5, 2006 Response to 2nd Request for Additional Information and Section 5.2.3 of the revised Hydrogeologic Investigation. The maximum vertical groundwater velocity was calculated to be 1.06 feet per year with a median of 0.007 feet per year (both with positive values indicating a downward flow direction). The median vertical groundwater velocity (0.007 ft/year) was compared to the median horizontal groundwater velocity (3.7 ft/year) which indicated that leakage through the confining unit was unlikely. At the median vertical groundwater velocity it would take any leakage over 700 years to penetrate 5 feet of the confining unit.

Depth to water measurements were made by L&A staff on March 7, 2013. The March 7, 2013 water level data is provided in Table 7. Groundwater contour maps generated from the March 2013 data are provided in Appendix I.

Groundwater elevations for paired surficial and Floridan aquifer wells were reviewed to provide an evaluation of the continuity of the confining layer overlying the Floridan aquifer beneath the site. The data is summarized in Table 8. The differential in water levels between paired wells is much more significant in the MW-4, 5 and 7 well clusters than in the MW-11 and 12 well clusters. The vertical gradient was consistently downward in well clusters MW-4, 5 and 11. The vertical gradient was consistently upward in well cluster MW-7 and variable in well cluster MW-12. The very minor differential in water levels in the MW-11 and 12 well clusters and the fluctuating direction of the vertical gradient in the MW-12 well cluster appears to indicate that the continuity of the confining layer is limited in the southeastern portion of the site. However, the consistent and more substantial differential in well clusters MW-4, 5 and 7 appears to indicate that continuity of the confining layer is consistent in the west-northwestern portion of the site.

TABLE 7

Well	Groundwater Elevations (Ft, NGVD)	Depth to Water (Ft)
MW-1A	0.00	DRY
MW-1B	69.38	104.73
MW-3A*	0.00	DRY
MW-3B	69.60	15.20
MW-4A	78.09	22.50
MW-4B	69.66	31.21
MW-5A	72.26	14.48
MW-5B	69.51	16.19
MW-6	69.83	18.82
MW-7A	66.99	31.42
MW-7BR	69.57	33.70
MW-8*	64.83	35.27
MW-8B	66.55	38.87
MW-9*	78.85	29.15
MW-9B	69.76	39.99
MW-10*	74.44	37.18
MW-10B	69.78	40.22
MW-11	70.00	34.45
MW-11B	69.52	36.59
MW-12A	69.88	51.55
MW-12B	69.79	52.05
MW-15B	69.58	78.29
MW-16B	69.67	68.34
MW-17B	69.70	17.51
P-4	68.89	15.66
P-6	60.77	33.39
P-8	67.99	65.95
P-10	69.41	63.19
P-11	99.38	51.38

*water in sump only

TABLE 8

	13S1		11S2		11S1		10S2		10S1		09S2		09S1	
Well	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction	Differential (feet)	Vertical Gradient Direction
MW-4A MW-4B	8.43	Downward	12.22	Downward	13.36	Downward	11.43	Downward	12.59	Downward	12.97	Downward	13.41	Downward
MW-5A MW-5B	2.75	Downward	5.59	Downward	4.79	Downward	4.38	Downward	4.17	Downward	4.63	Downward	4.73	Downward
MW-7A MW-7BR	-2.58	Upward	-2.1	Upward	-2.31	Upward	-2.18	Upward	-2.34	Upward	-2.26	Upward	-2.36	Upward
MW-8 MW-8B	NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-9 MW-9B	NA*	Downward	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-10 MW-10B	NA*	Downward	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-11 MW-11B	0.48	Downward	0.38	Downward	0.39	Downward	0.23	Downward	0.40	Downward	0.17	Downward	3.84	Downward
MW-12A MW-12B	0.09	Downward	-0.39	Upward	-0.17	Upward	0.35	Downward	-1.19	Upward	-0.54	Upward	0.45	Downward

*Shallow wells contained water within sump only

Well Clusters 8, 9 and 10

Boring logs for wells MW-8/MW-8B, MW-9/MW-9B and MW-10/MW-10B were not located within our files or on the Department's Oculus website. However, lithologic logs for the nearest borings were located including B-8 to the north of the MW-8 well cluster, boring B-16 to the west of well cluster MW-8, boring DCL01-11 to the west of the MW-9 well cluster and boring B-9 near the MW-11 well cluster. The boring logs show highly variable limestone surface elevations (summarized in Figure 7, HAI 2005):

Boring	Limestone Surface Elevation (ft, NGVD)
B-8	50
B-16	5
DCL01-11	76
B-9	40

The geologic cross sections provided in Figures 5 and 6 of the 2005 HAI application also show that the potentiometric surface of the Floridan aquifer exists within both limestone and in some areas, within sands and clayey sands above the limestone. As a result, the placement of the screened intervals of the Floridan aquifer monitoring wells cannot be made solely on the limestone surface elevation.

The screened intervals for the monitoring wells in question are provided below (rounded from values provided in Table 1), again with all elevations in feet, NGVD.

Well	Bottom of Screen Elevation (ft, NGVD)	Top of Screen Elevation (ft, NGVD)
MW-8	67	87
MW-8B	54	69
MW-9	81	96
MW-9B	64	79
MW-10	77	92
MW-10B	51	66

With the exception of the MW-10 well cluster, the screened intervals of the surficial aquifer wells are located just above the screened intervals of the Floridan aquifer wells. This means that the surficial wells cannot be installed any deeper than they currently are. The vertical separation of screened intervals between MW-10 and MW-10B is slightly greater than for the 8 and 9 well clusters. However, the 11 feet of vertical separation is likely insufficient to justify the expense of installing a replacement well for MW-10 which would be screened only a few feet below the current screened interval.

IV GROUNDWATER QUALITY

Groundwater parameters consistently reported above the Laboratory Detection Limit are specifically addressed in the following section. A tabular summary of all analytical data collected during the report period is provided in Appendix G.

The groundwater quality of monitoring wells was compared with background water quality values published by the Southwest Florida Water Management District (SWFWMD). The FDEP (formerly known as the Department of Environmental Regulation) established the background water quality of Florida's major aquifers by sampling approximately 1,600 wells in five water management districts from 1984 through 1988 for various contaminants. The background quality of groundwater was established to meet one of the requirements of the Water Quality Assurance Act passed in 1983 by the Florida Legislature. Approximately 577 wells in the surficial aquifer and 875 wells in the Floridan aquifer were sampled to establish the background water quality of these aquifers. The Florida Geological Survey published the results of this study in 1992 (FGS 1992). Table 6 presents background concentrations as listed in FGS (1992) for the constituents of concern in surficial and Floridan aquifer monitoring wells in SWFWMD.

Table 6 Background Concentrations of Relevant Constituents in Southwest Florida Water Management District Evaluation

	Surficial Aquifer		Floridan Aquifer	
Constituents of Concern	**Number of Samples***	**Concentration Range**	**Number of Samples**	**Concentration Range**
Mercury (µg/L)	67 (3)	<0.1-3.1	154 (0)	<0.1-1.3
TDS (mg/L)	83 (11)	1-1,77,000	161 (47)	55-5,990
Iron (µg/L)	39 (30)	<100-43,900	70 (21)	10-55,700
Nitrate-N (mg/L)	84 (1)	<0.01-52.52	153 (0)	<0.01-4.64
Chloride (mg/L)	86 (3)	0.6-8,520	169 (24)	1.7-20,500
Sodium (mg/L)	85 (2)	0.7-3,730	165 (18)	1.8-1,450
pH (SU)	97 (52)	3.9-8.6	172 (16)	6.0-10.7
Conductivity (µS/cm)	100	30-24,000	194	100-46,000
Temperature (°C)	99	21.0-31.5	191	21.5-30.5

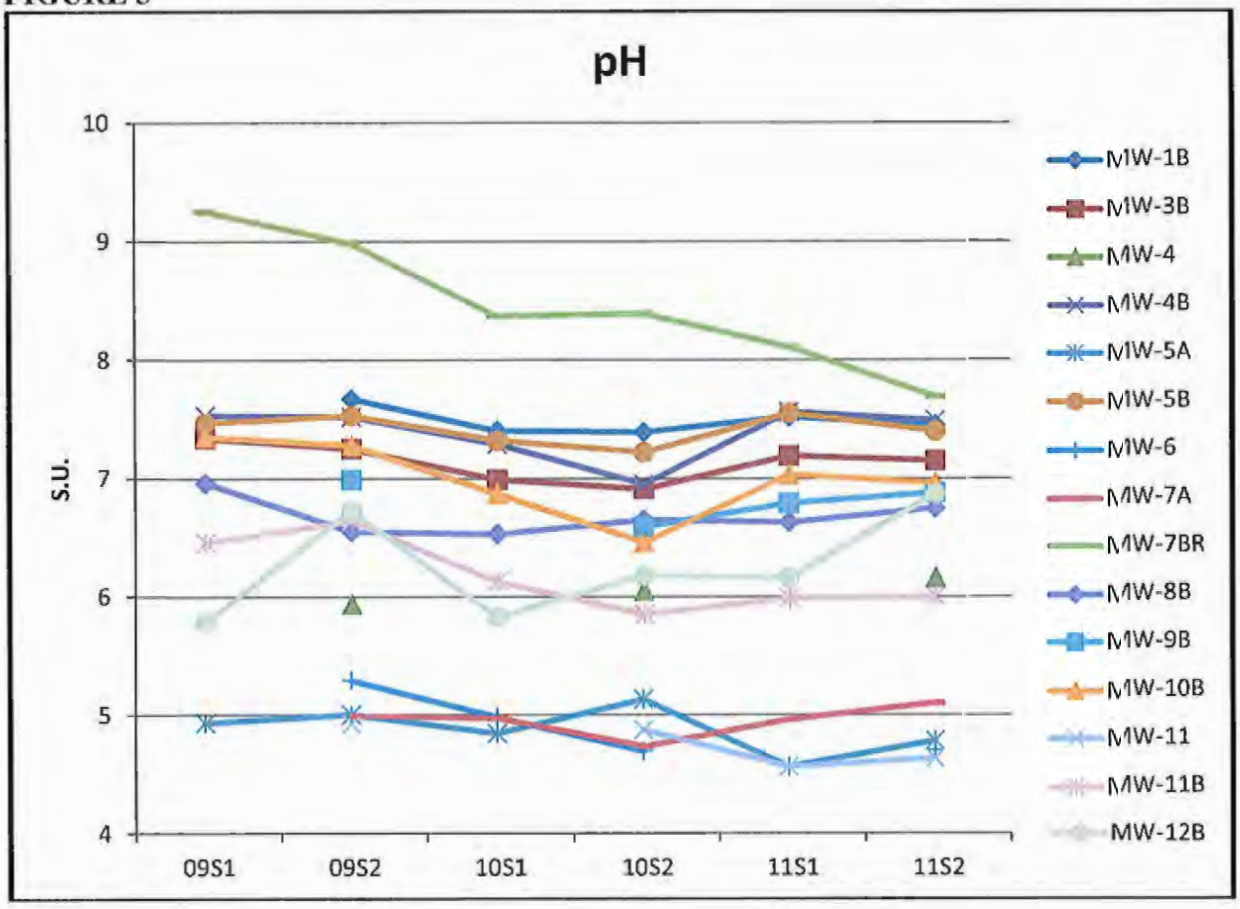
* Values in parenthesis are number of samples that exceeded the current GCTLs

pH

The pH is a measure of strength of acid or base in a solution and its value ranges between 0 to 14. A solution with pH of 7 is neutral solution. Solutions with pH below 7 are considered acidic and the solutions with pH greater than 7 are considered basic. pH reflects the potential for acid-base reactions in water, and is often treated as a variable that determines the reactions in the aquifer system, rather than as the product of those reactions. pH values for all groundwater monitoring well samples are provided in Figure 5. The Secondary Drinking Water Standard (SDWS) for pH is 6.5 to 8.5 S.U. The majority of the data is within the SDWS range and showed no trend over time. Samples collected from monitoring wells MW-5A, MW-7A and MW-11 consistently reported pH values between 4.5 and 5.5 S.U., which is a common range for sandy shallow aquifers in Florida and comparable to the FGS background levels listed in Table 6.

The pH for samples collected from MW-7BR began over 9 S.U. The theory proposed at the time of installation of MW-7BR was grout influence either from the abandoned MW-7B or from MW-7BR itself. Since 2009, pH has shown a consistent downward trend in samples collected from MW-7BR with the last three event values reported within the SDWS range. This trend appears to affirm the original theory regarding grout influence since such influence would be assumed to be temporary.

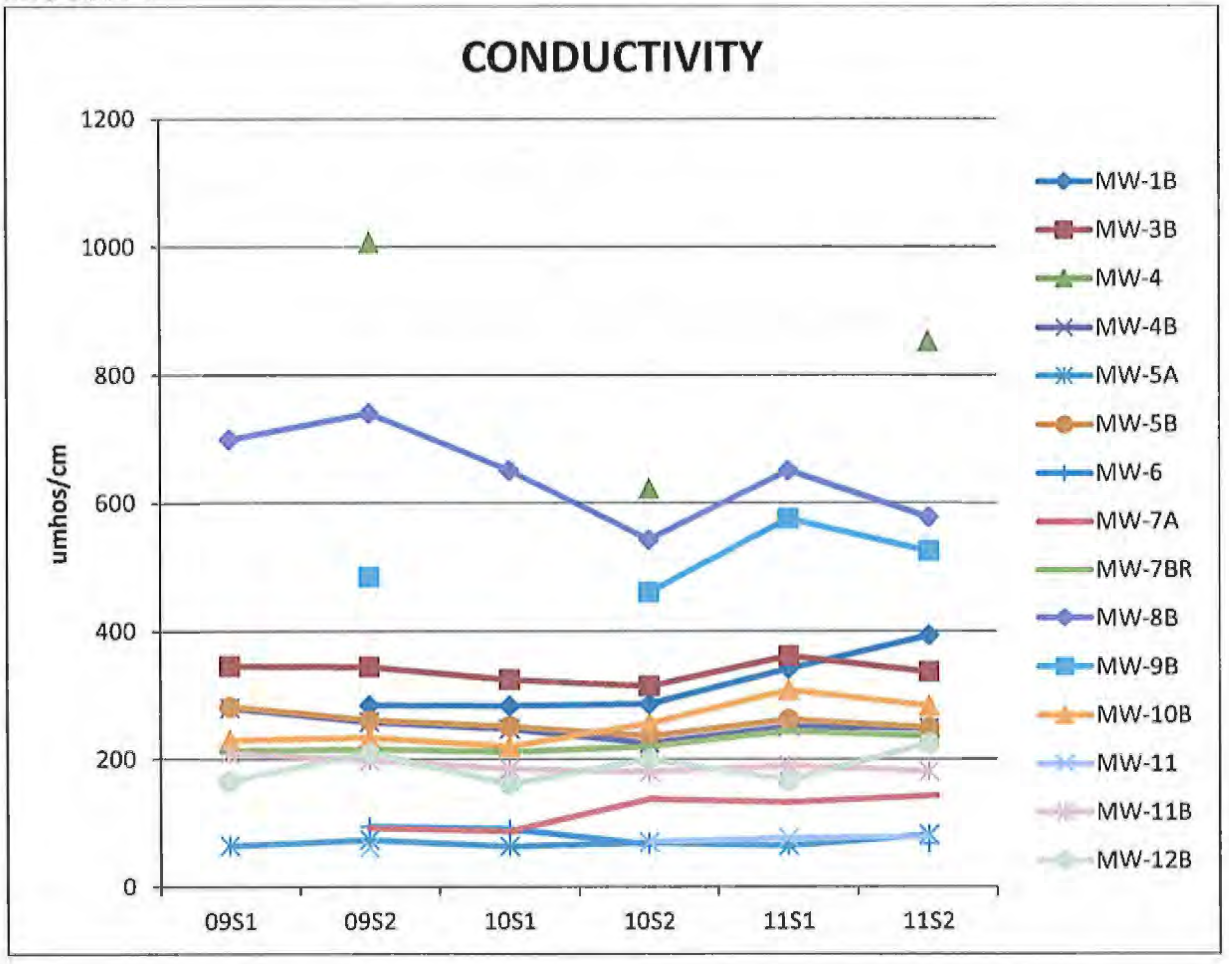
FIGURE 5



CONDUCTIVITY

Conductivity is a measurement of the ability of water to pass electrical current and is affected by the presence of dissolved solids such as anions and cations in the water. Conductivity values are shown in Figure 6. The graph shows a slight seasonal variation with higher values generally observed during the second semiannual events. With the exceptions of MW-1B and MW-3B, conductivity values were generally higher in the Floridan aquifer wells relative to the values reported for the surficial aquifer wells. All values were within the range of FGS background values listed in Table 3.

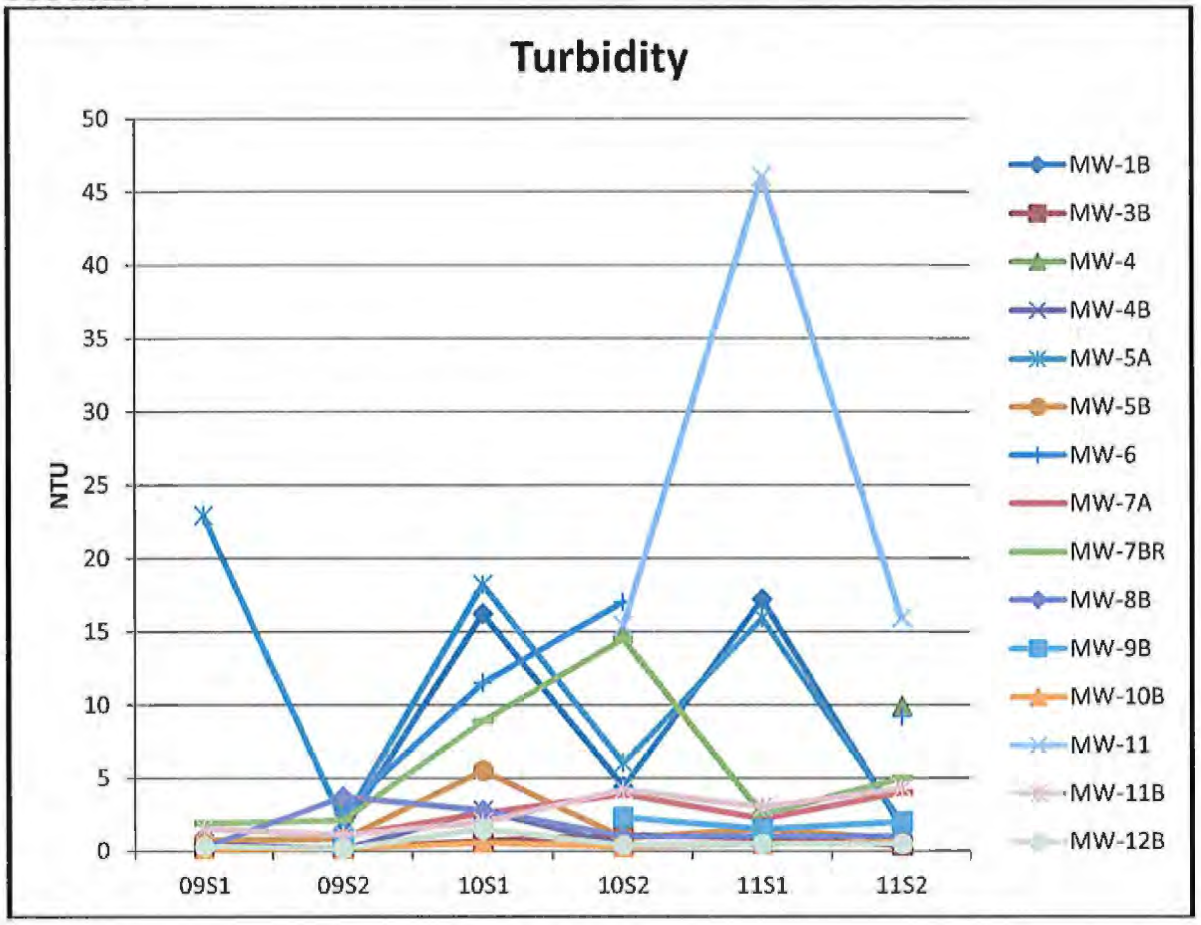
FIGURE 6



TURBIDITY

Turbidity indicates the presence of suspended materials such as soil particles, algae, plankton, microbes, and other substances in the water. Higher turbidity may also be related to higher temperature and the presence of lower levels of dissolved oxygen (DO) in water. Turbidity values are shown in Figure 7. Several events reported Turbidity at significantly elevated levels, most notably in monitoring well MW-11 during the first semiannual 2011 event.

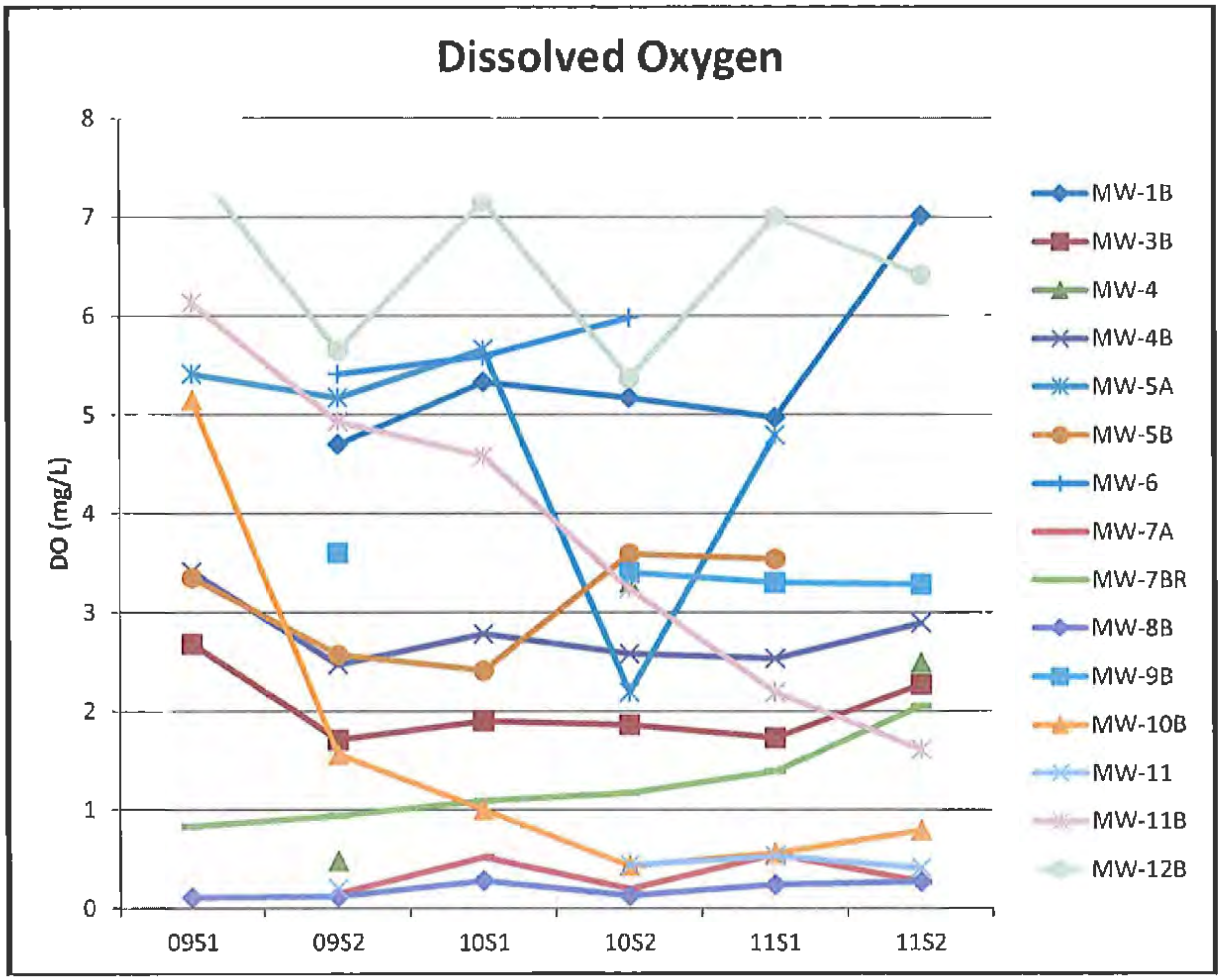
FIGURE 7



DISSOLVED OXYGEN

The trend in measured DO was variable. In several cases, insufficient water in the well precluded measurement of DO. MW-11B showed a generally decreasing trend, while MW-12B showed an obvious seasonal variation.. The variation in DO levels has been previously evaluated (see Appendix H) and could be attributed to a variety of factors, including on-going excavation and cell construction activities at the site.

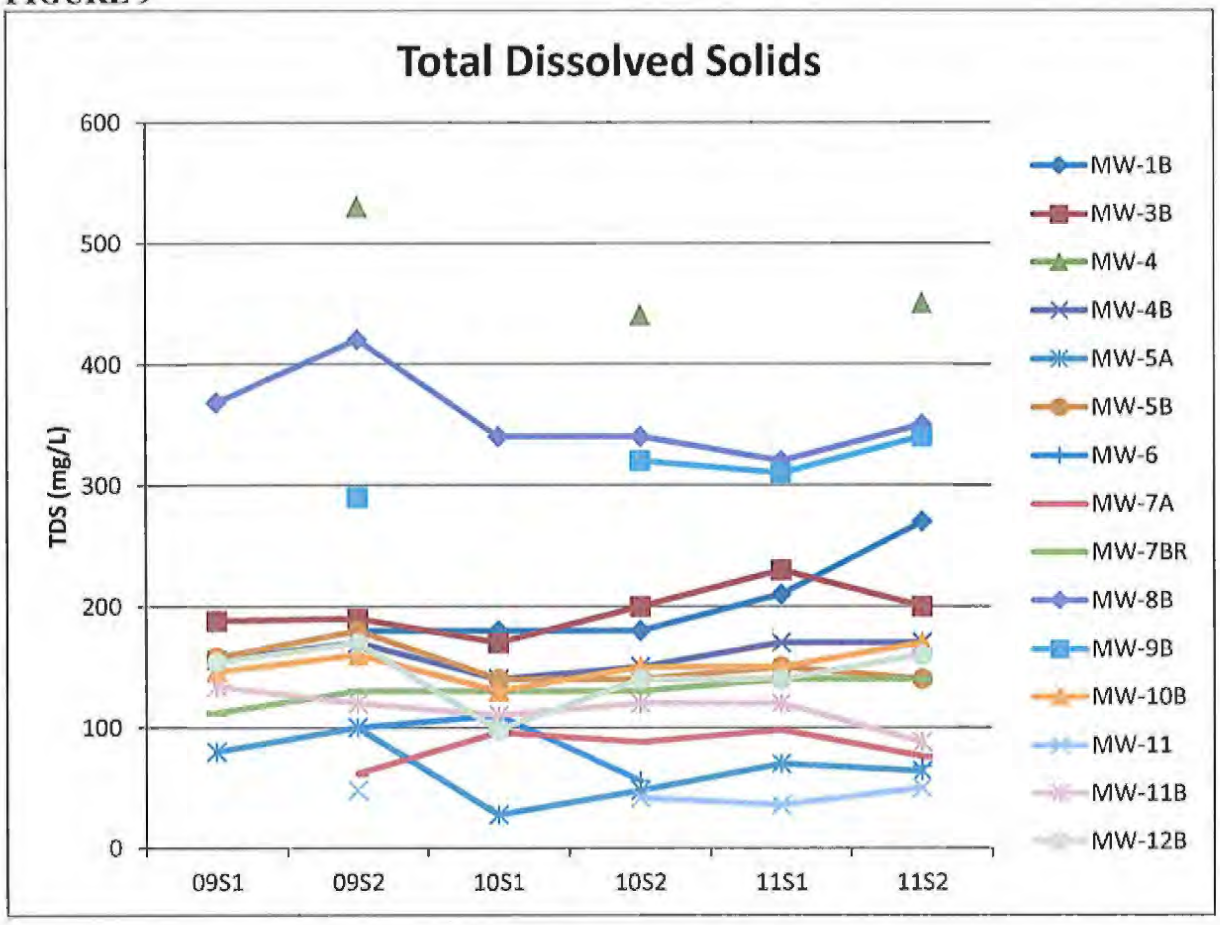
FIGURE 8



TOTAL DISSOLVED SOLIDS

Total Dissolved Solids (TDS) were reported slightly above the SDWS of 500 mg/L in MW-4 at a level of 530 mg/L during the 09S2 event only. This is most likely due to the low water level in this well. There was enough water for sample collection in this well during 09S2, 10S2 and 11S2 events only. MW-4 contained insufficient water for sampling during all other sampling events. In general, TDS values showed no significant trends over time. The comparison of surficial aquifer values to Floridan aquifer values reveals no consistent differentiation – with most TDS values between 100 and 200 mg/L for wells from both aquifers.

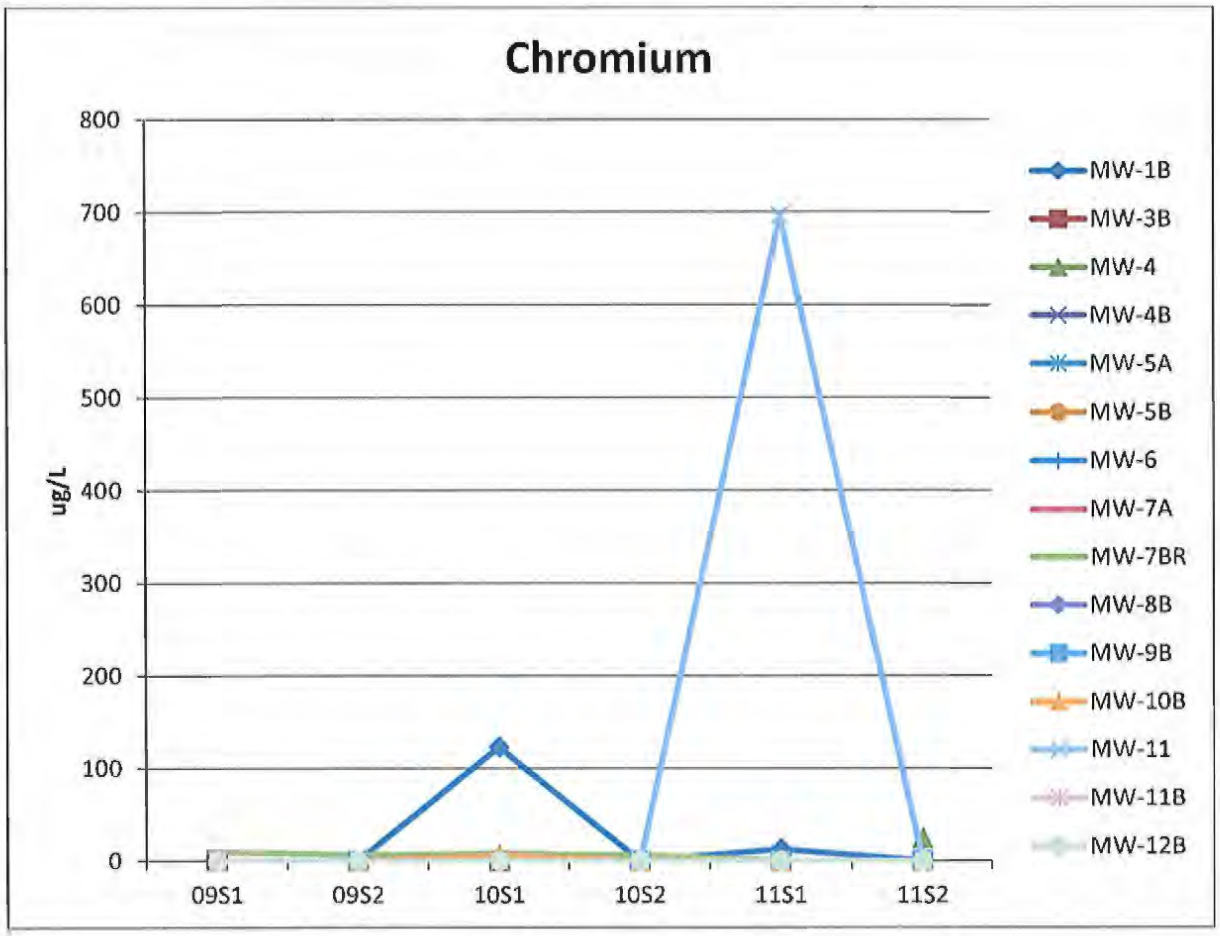
FIGURE 9



CHROMIUM

Chromium was reported above the PDWS of 100 µg/L in MW-1B during 10S1 at a level of 123 µg/L and in MW-11 during 11S1 at a level of 696 µg/L. both Chromium values are directly correlated to high Turbidity values in each well at the time of sampling. The Turbidity value in MW-1B was 16.20 NTU during the 10S1 event. The turbidity value in MW-11 was 46 NTU during the 11S1 event. The Chromium concentrations reported during the remaining events of the report period were less than 13 µg/L in samples collected from MW-1B and less than the laboratory detection limit of 4.5 µg/L in samples collected from MW-11. Based on the Chromium values reported before and after the two elevated values and the direct relationship to elevated Turbidity, the reported Chromium exceedances do not appear to be representative of actual dissolved Chromium concentrations in groundwater.

FIGURE 10



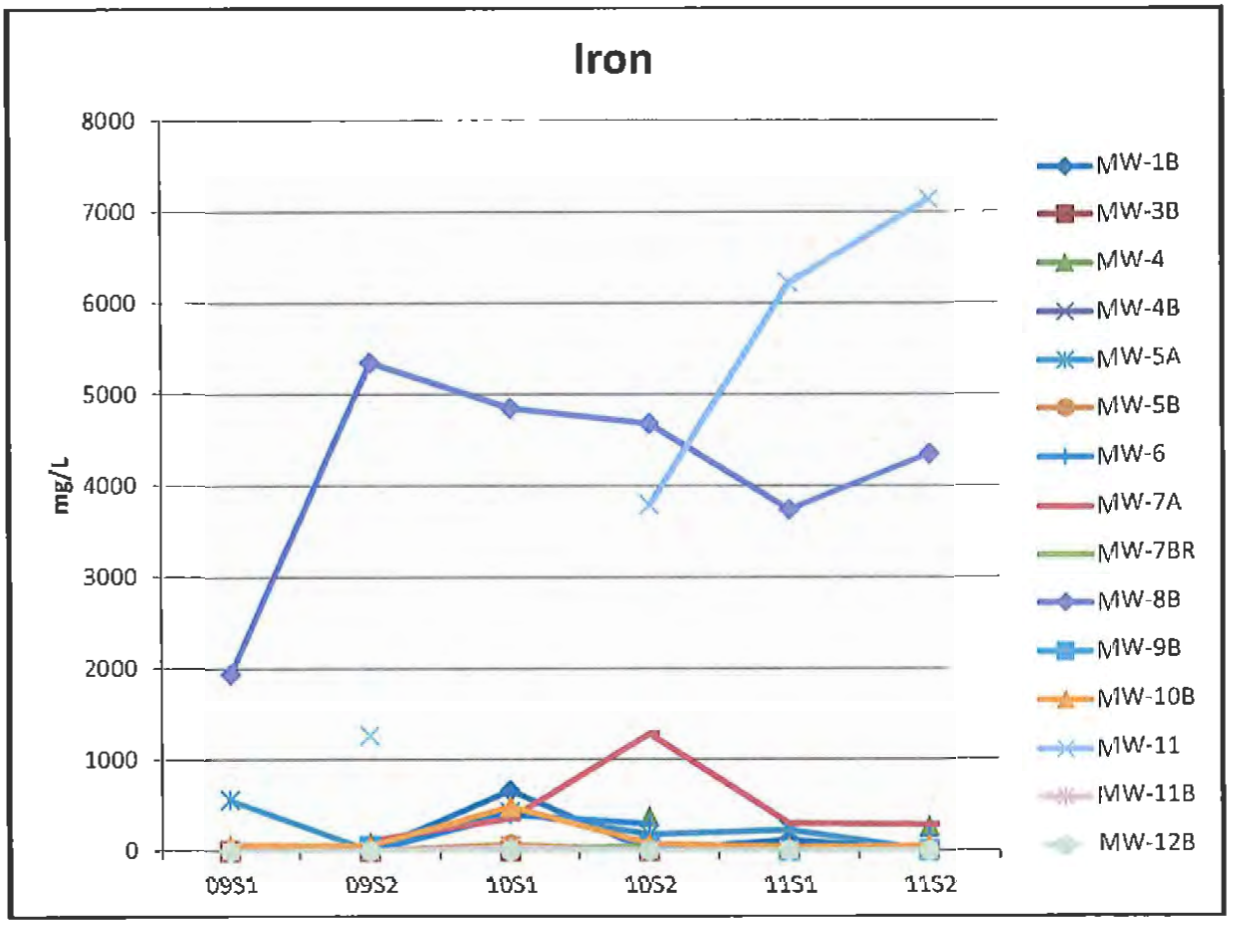
IRON

The concentrations in each well were within the background iron concentration (<100-43,900 µg/L) of the surficial aquifer in the SWFWMD as shown in Table 6 (FGS, 1992). The highest values were reported for samples collected from monitoring wells MW-11 (surficial) and MW-8B (Floridan). The iron concentrations for MW-11 are likely influenced by the high turbidity values in this well.

The presence of iron at the concentrations measured at the site may be attributable simply to normal background concentrations or potentially by an alteration in the redox conditions beneath the landfill in the surficial aquifer as a result of landfill construction activities. The site has implemented a cell construction sequence that includes the placement and compaction of compacted clay prior to waste placement. Iron is a naturally-occurring mineral in most Florida soils and the state of iron is greatly affected by redox conditions within the aquifer. In the presence of oxygen (oxidizing condition), naturally-occurring iron remains in the precipitate form, while the absence of oxygen (reducing conditions) can cause the solid-phase iron to become soluble.

The construction of a landfill (either a lined or an unlined landfill) can disturb the natural redox conditions beneath the landfill footprint by limiting the natural transport of atmospheric oxygen into the surficial aquifer. The limited availability of oxygen that results can cause the aquifer to transition into reducing conditions, thus causing the iron to enter into the dissolved phase – this process is typically referred to as *reductive dissolution*. This phenomenon has been observed at several other landfills (lined and unlined) throughout the US and Florida, including two lined facilities in the FDEP's Southwest District.

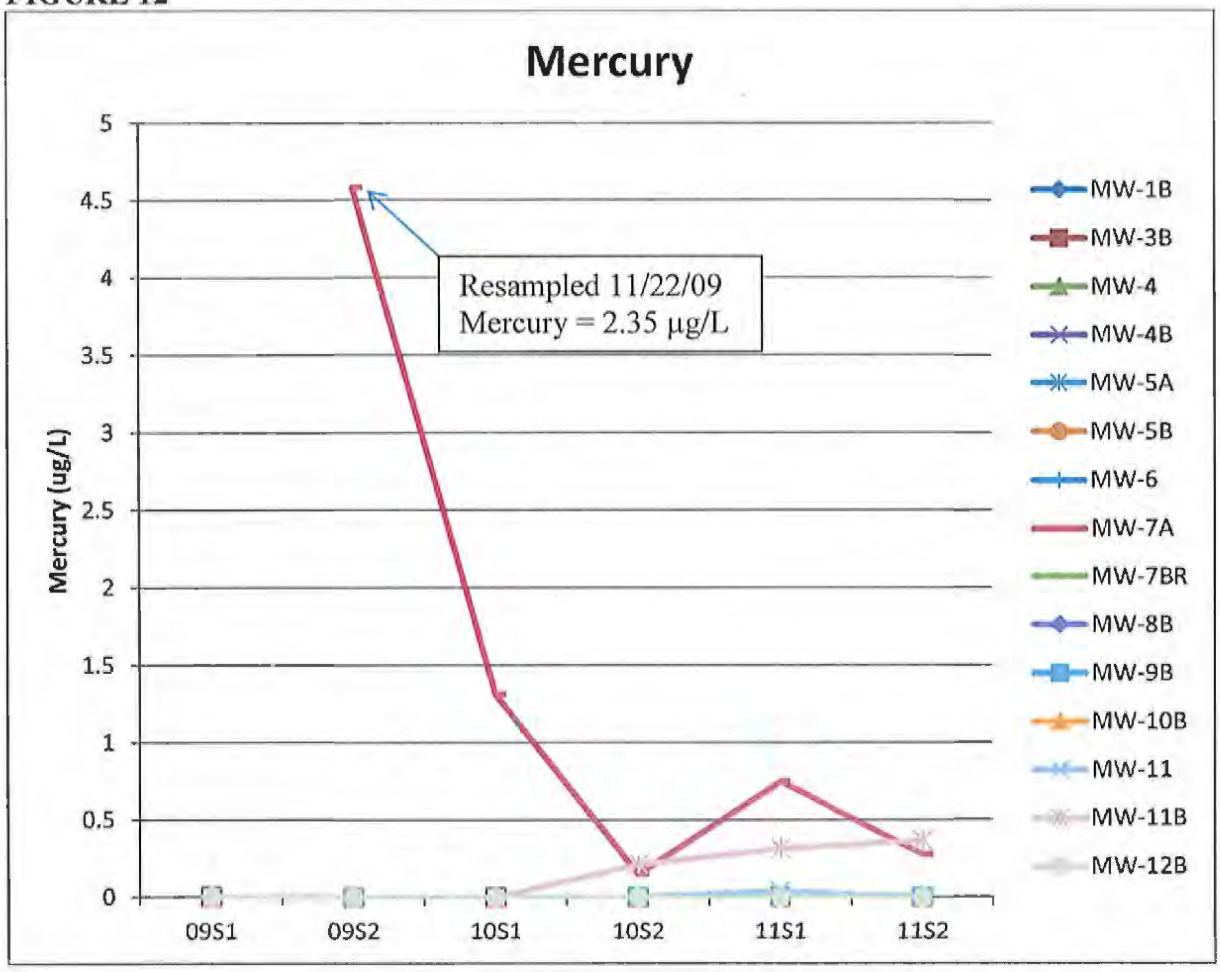
FIGURE 11


Iron
8000
7000
6000
5000
4000
3000
2000
1000
0
mg/L
09S1
09S2
10S1
10S2
11S1
11S2
MW-1B
MW-3B
MW-4
MW-4B
MW-5A
MW-5B
MW-6
MW-7A
MW-7BR
MW-8B
MW-9B
MW-10B
MW-11
MW-11B
MW-12B

MERCURY

Mercury was detected above the PDWS of 2µg/L in one sample collected during 09S2 from monitoring well MW-7A. Four samples collected after the 09S2 event (December 2009, September 2010, March 2011, and September 2011) did not show any exceedance of the GCTL for mercury. Hence, the exceedance of mercury concentration to its GCTL can be considered an isolated event and the data do not support that the landfill is causing exceedances to the FDEP's groundwater standards for mercury at the site.

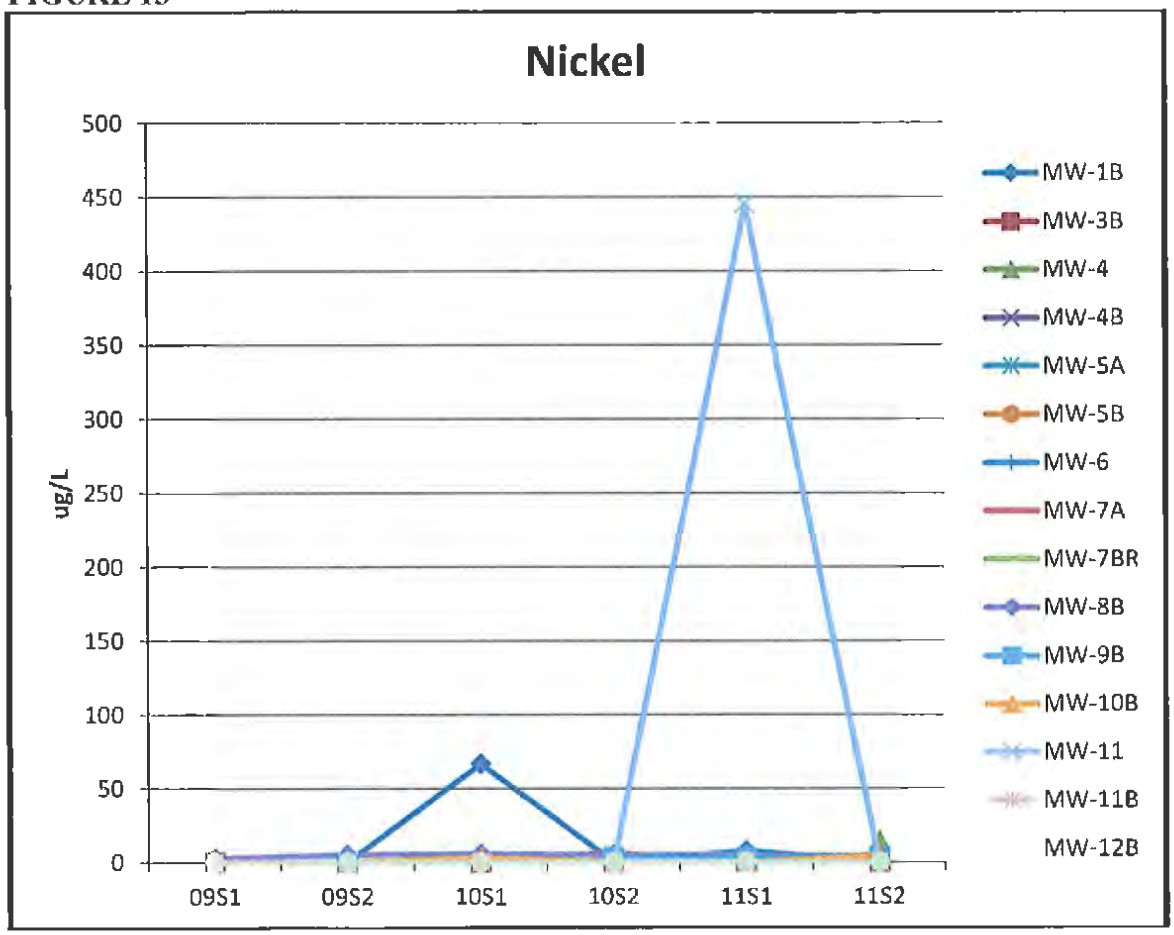
FIGURE 12



NICKEL

Nickel exceeded the PDWS of 100 µg/L in the sample collected from MW-11 during the March 2011 sampling event. The results of the next routine groundwater sampling event in September 2011 showed a nickel concentration below the LDL. Based on field sampling logs, MW-11 contained approximately 4 feet of water at the time of the March 2011 sampling event and the sample collected for MW-11 was taken before the FDEP-specified turbidity levels (per FDEP groundwater sampling standard operating procedures) could be reached. Thus, the higher turbidity level likely contributed to the elevated concentration of nickel in this monitoring event. Given that nickel was detected above the PDWS in one instance over several years of monitoring, and given the circumstances surrounding the March 2011 sampling event, the historical data do not support that the landfill is causing exceedances of the FDEP's groundwater standards for nickel.

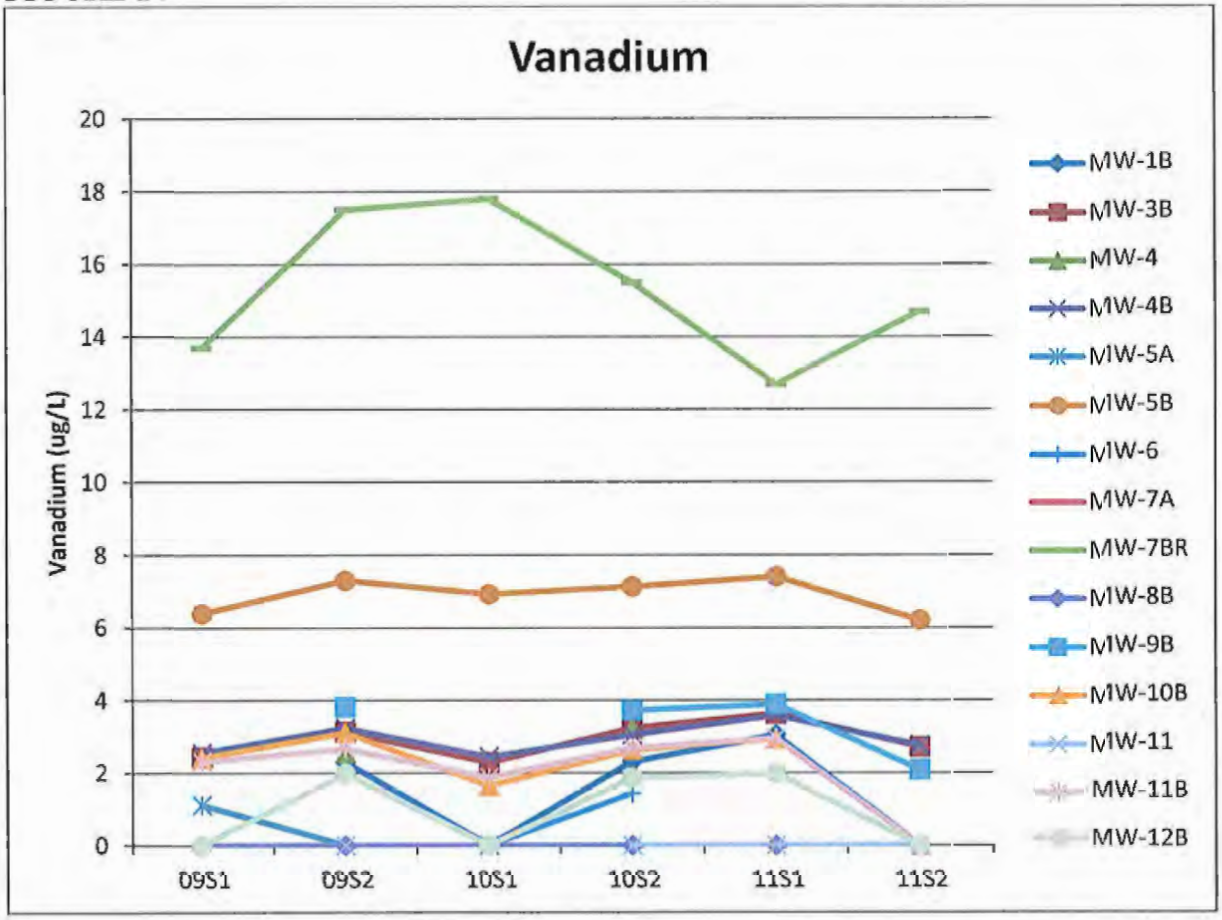
FIGURE 13



VANADIUM

Vanadium was reported below the GCTL of 49 µg/L for all samples during the report period. The highest values were reported for samples from MW-7BR, with slightly lower values reported for samples from MW-5B. Values from the remaining wells were all less than 4 µg/L.

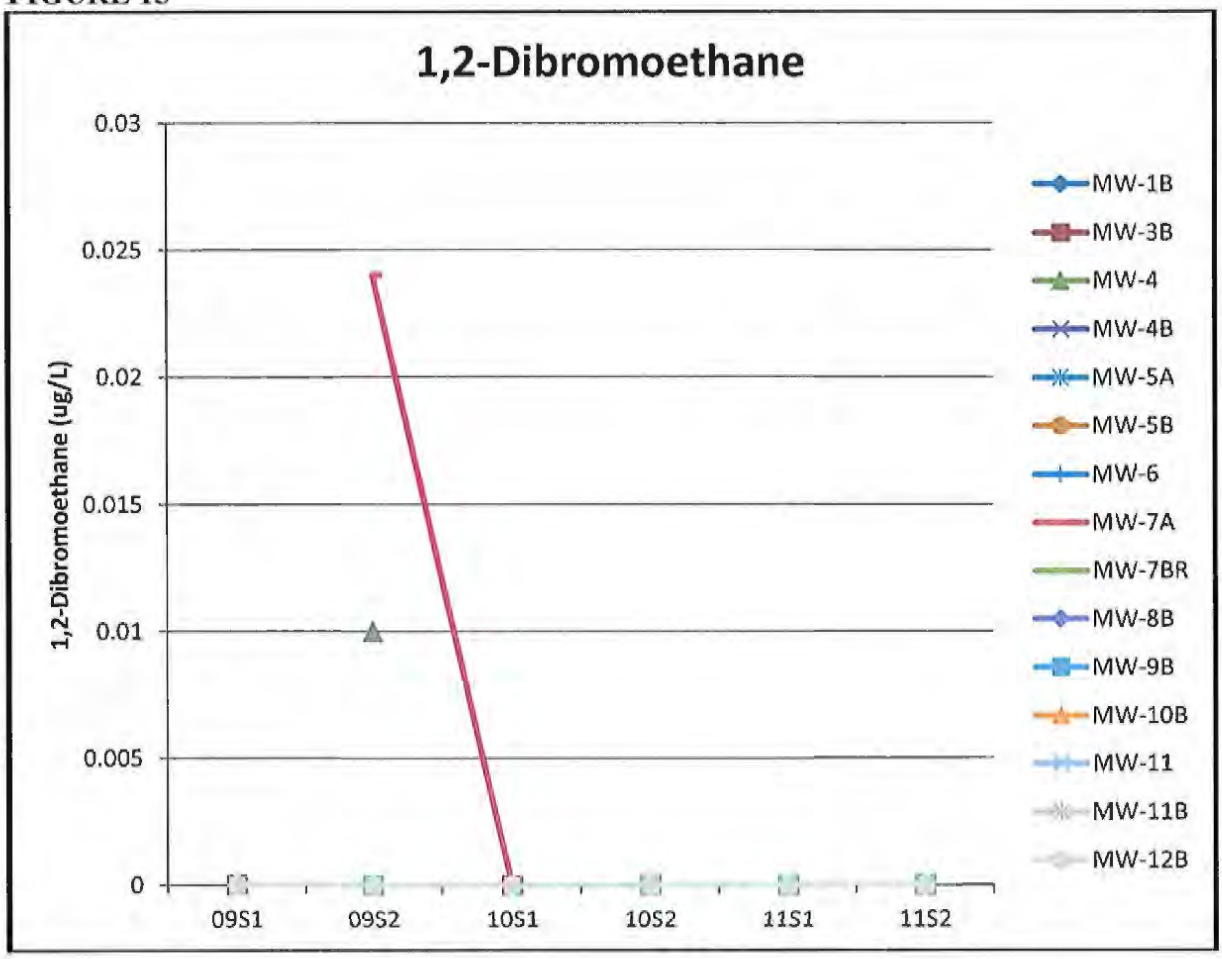
FIGURE 14



1,2-DIBROMOETHANE

The GCTL for 1,2-Dibromoethane is 0.02 µg/L. All samples reported 1,2-Dibromoethane below the LDL during the entire report period with the exception of two isolated values reported in samples collected from MW-4 and MW-7A in the Second Semiannual sampling event of 2009. The concentrations of 1,2-Dibromoethane were found below the LDL in previous and subsequent sampling events. Therefore, the 2009 concentrations of 1,2-Dibromoethane can be considered as an isolated event and not indicative of impacts from the landfill.

FIGURE 15



Other parameters detected below groundwater standards but above the laboratory detection limit in the monitoring wells include the following: Ammonia Nitrogen, Chloride, Nitrate Nitrogen, Antimony, Barium, Beryllium, Cobalt, Copper, Lead, Silver, Sodium, Vanadium, Acetone, Benzene, Carbon Disulfide, Chloroform, Methyl Iodide, Toluene, and Trichlorofluoromethane.

Some of these parameters were isolated occurrences, displayed no trend, or were not confirmed in subsequent sampling events and are discussed below:

Ammonia Nitrogen – Ammonia Nitrogen has been reported above the laboratory detection limit (LDL) in MW-8B consistently during the report period ranging from 0.15 to 2.7 mg/L. Ammonia Nitrogen was also reported above the LDL at least one time during the report period in MW-4, MW-7A, MW-9B, MW-10B, and MW-11 ranging up to 0.036 mg/L.

Chloride – Chloride was reported above the LDL in background well MW-1B ranging from 9.7 to 16 mg/L. Chloride levels in MW-4, MW-7A, and MW-12B were comparable to background, ranging from 7.1 to 17. Chloride levels in the remaining wells were slightly lower than background, ranging from 4.5 to 11 mg/L.

Nitrate Nitrogen – Background levels of Nitrate Nitrogen in MW-1B ranged from 3.3 to 5.9 mg/L. Nitrate Nitrogen levels in MW-12B were higher than background, ranging from 4.1 to 8.3 mg/L. All other wells reported Nitrate Nitrogen lower than background, ranging from below the LDL to 2.8 mg/L.

Antimony – Antimony was reported above the LDL only during Second Semiannual 2010 in MW-4 at a level of 0.72µg/L. All other wells reported Antimony below the LDL for the entire report period.

Barium – Background levels of Barium were below the LDL during the entire report period. All downgradient wells reported Barium below the LDL during the report period with the exception of MW-4, ranging from 18.8 to 26.3 µg/L, and MW-8B, ranging from 100 to 204 µg/L.

Beryllium – Beryllium was reported above the LDL during Second Semiannual 2010 only in MW-3B (0.854 µg/L) and MW-4 (0.751 µg/L). All other wells reported Beryllium below the LDL for the entire report period.

Cobalt – Cobalt was reported below the LDL in all wells during the report period with the exception of MW-8B (3.1 and 3.04 µg/L) and MW-11 (10.6 µg/L).

Copper – Copper was reported above the LDL at least one time during the report period in MW-1B, MW-4, MW-5A, MW-11, and MW-12B, ranging up to 18.9 µg/L.

Lead – Lead was reported above the LDL only during First Semiannual 2010 in MW-5A. All other wells reported Lead below the LDL for the entire report period.

Silver – silver was reported above the LDL in MW-11 during First Semiannual 2011 only. All other wells reported Silver below the LDL for the entire report period.

Sodium – Background levels of Sodium ranged from 5.66 to 6.8 mg/L during the report period. All downgradient wells were comparable to background, ranging from 3.6 to 7.7 mg/L, with the exception of MW-4 which reported sodium levels from 20.7 to 53.8 mg/L.

Zinc – Background well MW-1B reported Zinc below the LDL for the entire report period. Monitoring wells MW-7A, MW-8B, and MW-9B also reported Zinc below the LDL for the report period. The remaining downgradient wells reported Zinc above the LDL at least one time during the report period. The highest Zinc level was reported in MW-4 at a level of 374 µg/L.

Acetone – Acetone was reported above the LDL in MW-4, MW-8B, MW-11, and MW-11B ranging from below the LDL to 59 µg/L.

Benzene – Benzene was reported above the LDL only during First Semiannual 2010 in MW-8B at a level of 0.48 µg/L.

Carbon Disulfide – Carbon Disulfide was reported below the LDL for all wells during the report period with the exception of Second Semiannual 2009 in MW-5A (1.4 µg/L) and MW-11 (4.5 µg/L).

Chloroform – Chloroform was reported in background well MW-1B during 2010 at a level of 0.37 µg/L during both events and during Second Semiannual 2009 in MW-9B at a level of 0.57 µg/L.

Methyl Iodide – Methyl Iodide was reported above the LDL during First Semiannual 2011 in MW-11 at a level of 2.2 µg/L. All other wells reported Methyl Iodide below the LDL for the entire report period.

Toluene – Toluene was reported above the LDL during Second Semiannual 2009 in MW-8B at a level of 1.1 µg/L. All other wells reported Toluene below the LDL for the entire report period.

Trichlorofluoromethane – Trichlorofluoromethane was reported above the LDL at least one time during the report period in MW-9B, MW-10B, MW-11, MW-11B, and MW-12B, ranging from below the LDL to 6.2 µg/L. All other wells reported Trichlorofluoromethane below the LDL for the entire report period.

V SURFACE WATER QUALITY

Surface water was sampled only twice during the report period and, therefore, the data set is insufficient to produce valid time series plots. A tabular summary of parameters reported above the LDL is provided in Appendix G. Iron was the only parameter reported above the GCTL in either surface water sample, with concentrations of 512 and 345 µg/L.

VI REFERENCES

The following documents were relied upon to prepare the current document:

- Section 5 in the document entitled "Enterprise Recycling and Disposal Facility, Class III Landfill Permit Renewal Application," prepared by Tetra Tech HAI, Inc., dated August 2005 and subsequently revised
- Section 5 in the document entitled "Enterprise Recycling and Disposal Facility, Class III Landfill Permit Application,' prepared by Hartman & Associates, Inc., dated November 2000 and subsequently revised
- Response to 2nd Request for Additional Information, Enterprise Recycling and Disposal Class III Landfill Permit Renewal, prepared by Jones Edmunds, Inc., dated July 5, 2006

LEGEND

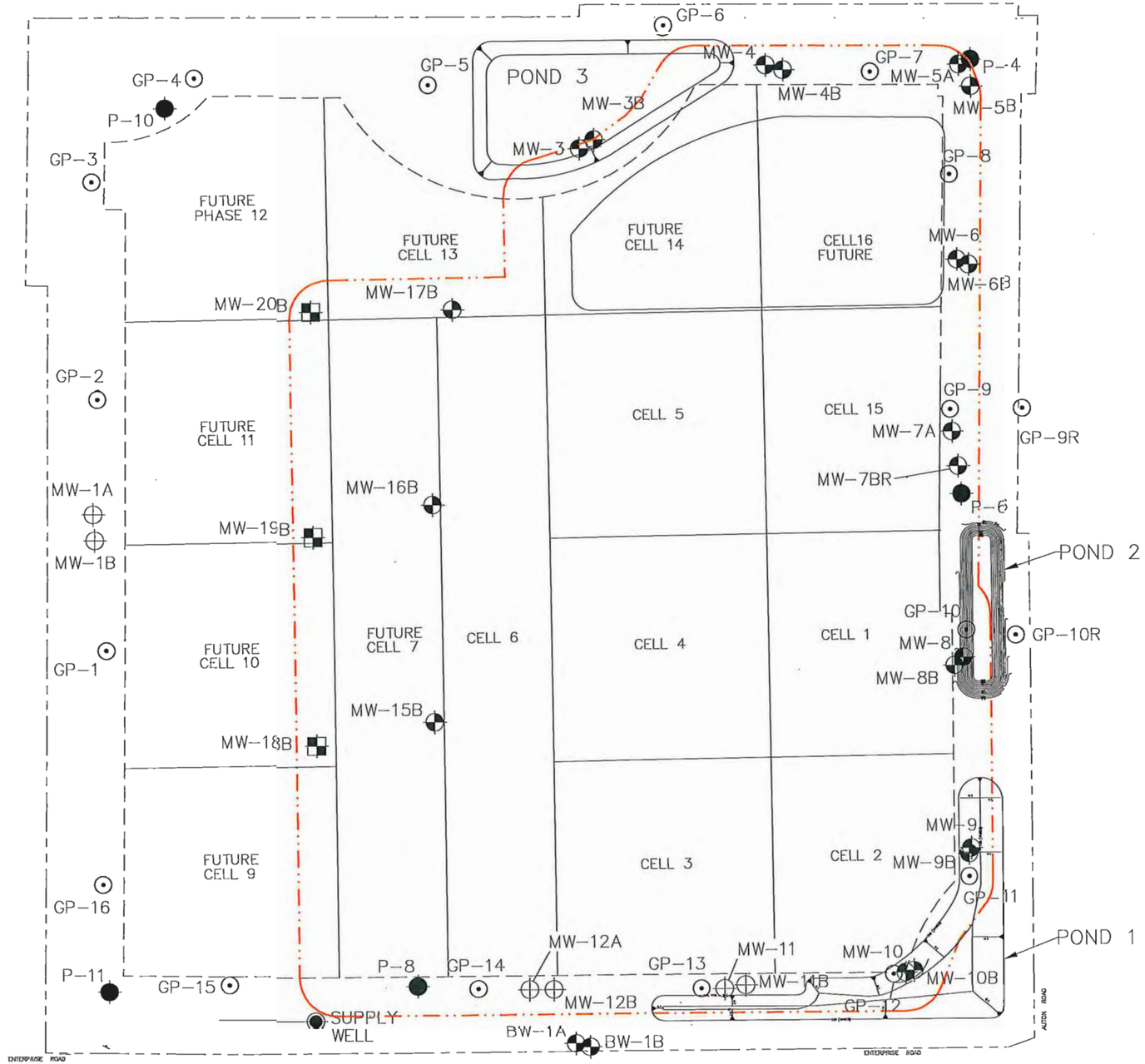
MW–4B	MONITORING WELL LOCATION
GP–1	GAS PROBE LOCATION
	SUPPLY WELL LOCATION
P–11	PIEZOMETER WELL LOCATION
MW–12A	WATER LEVEL ONLY WELL LOCATION
MW–18B	FUTURE MONITOR WELL LOCATION*
	PROPERTY BOUNDARY
	LANDFILL LIMITS
	CELL BOUNDARY
	ZONE OF DISCHARGE

* WELLS TO BE INSTALLED WITH FUTURE CELL 7

N

SCALE IN FEET

200 100 0 200 400



Locklear & Associates
Engineering & Environmental Consulting

PROJECT MANAGER	J. LOCKLEAR
DESIGNED	J. LOCKLEAR
CHECKED BY	
DRAWN BY	S. KARWAN
PROJECT NUMBER	114

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER MONITORING NETWORK

REVISED MARCH 2013

FIGURE 1

FILENAME

SCALE

SHEET

APPENDIX A
GEOLOGIC CROSS SECTIONS

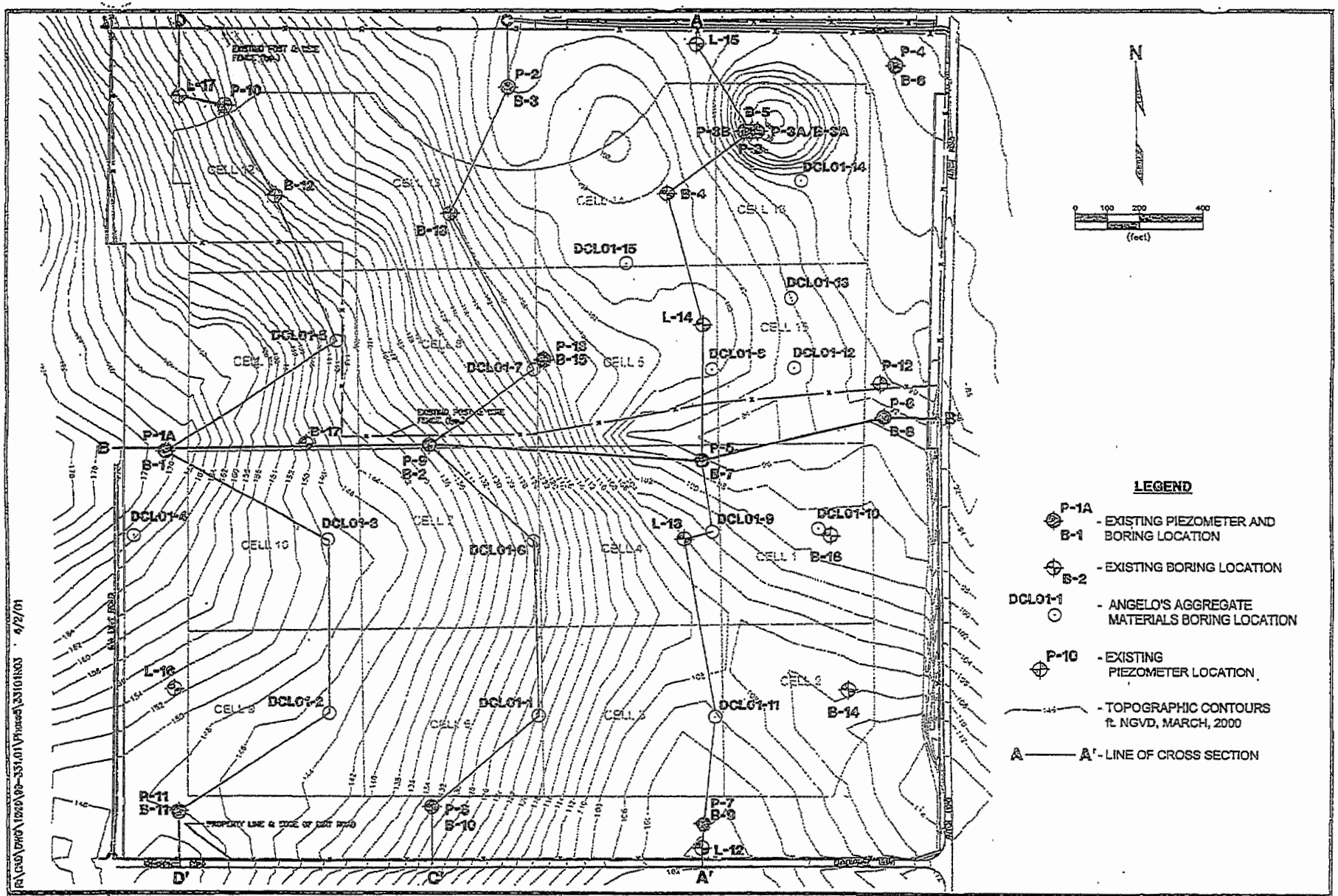
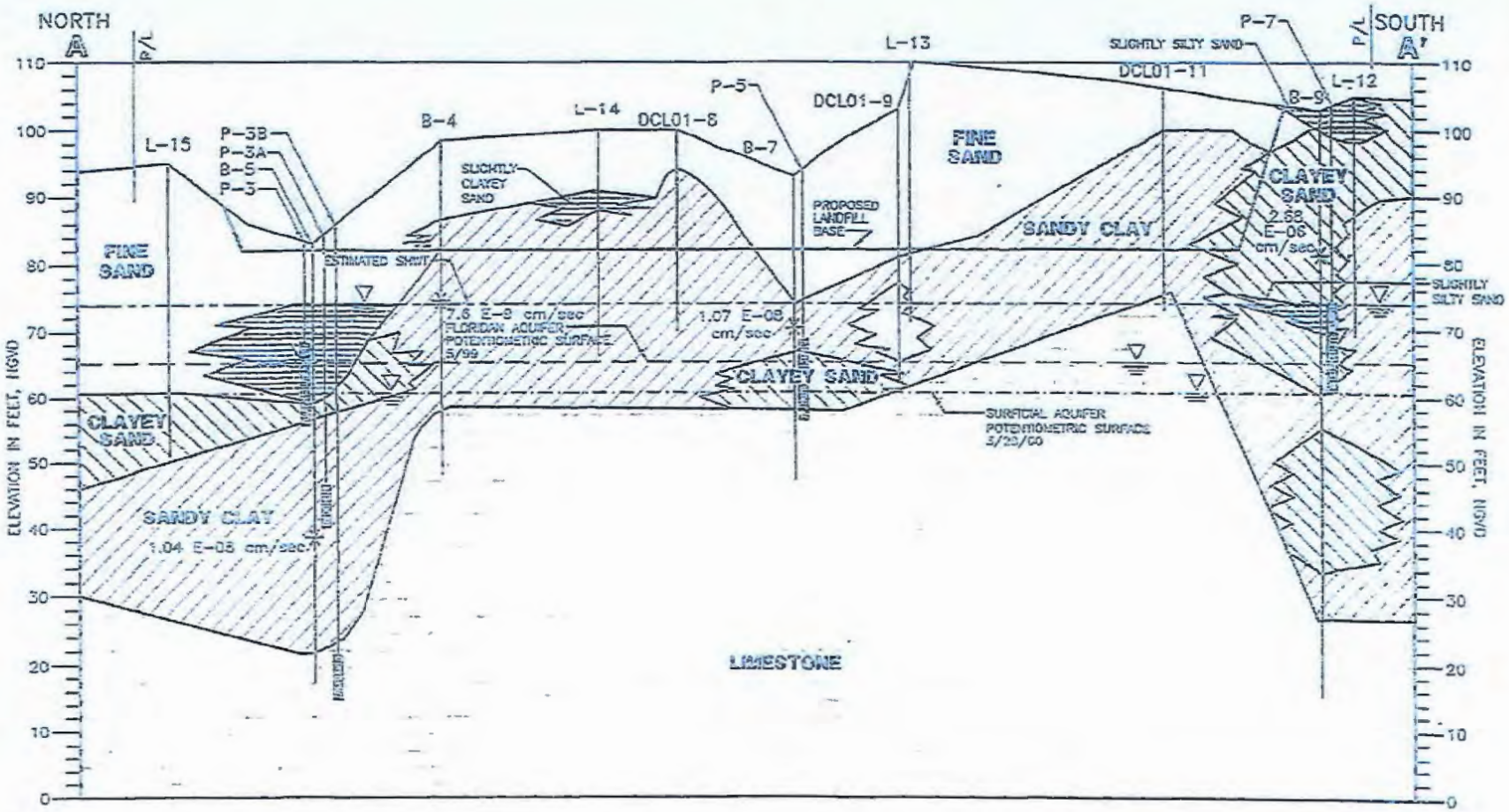


FIGURE 4

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET – SUITE 1000 – ORLANDO, FL 32801
TELEPHONE (407) 839-3355 – FAX (407) 839-3750

PIEZOMETER AND BORING LOCATION MAP
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

R:\CAD\DWG\1999\99-351.01\Visuals\331018K03 · 4/2/01



CLAYEY SAND

SANDY CLAY TO CLAY

LIMESTONE

FINE TO VF SAND

SILTY SAND

B-4 BORING

P-5 PIEZOMETER

*LABORATORY VERTICAL PERMEABILITY VALUES.

FIGURE 6

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
291 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3855 - FAX (407) 839-3780

GEOLOGIC CROSS SECTION A - A'
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

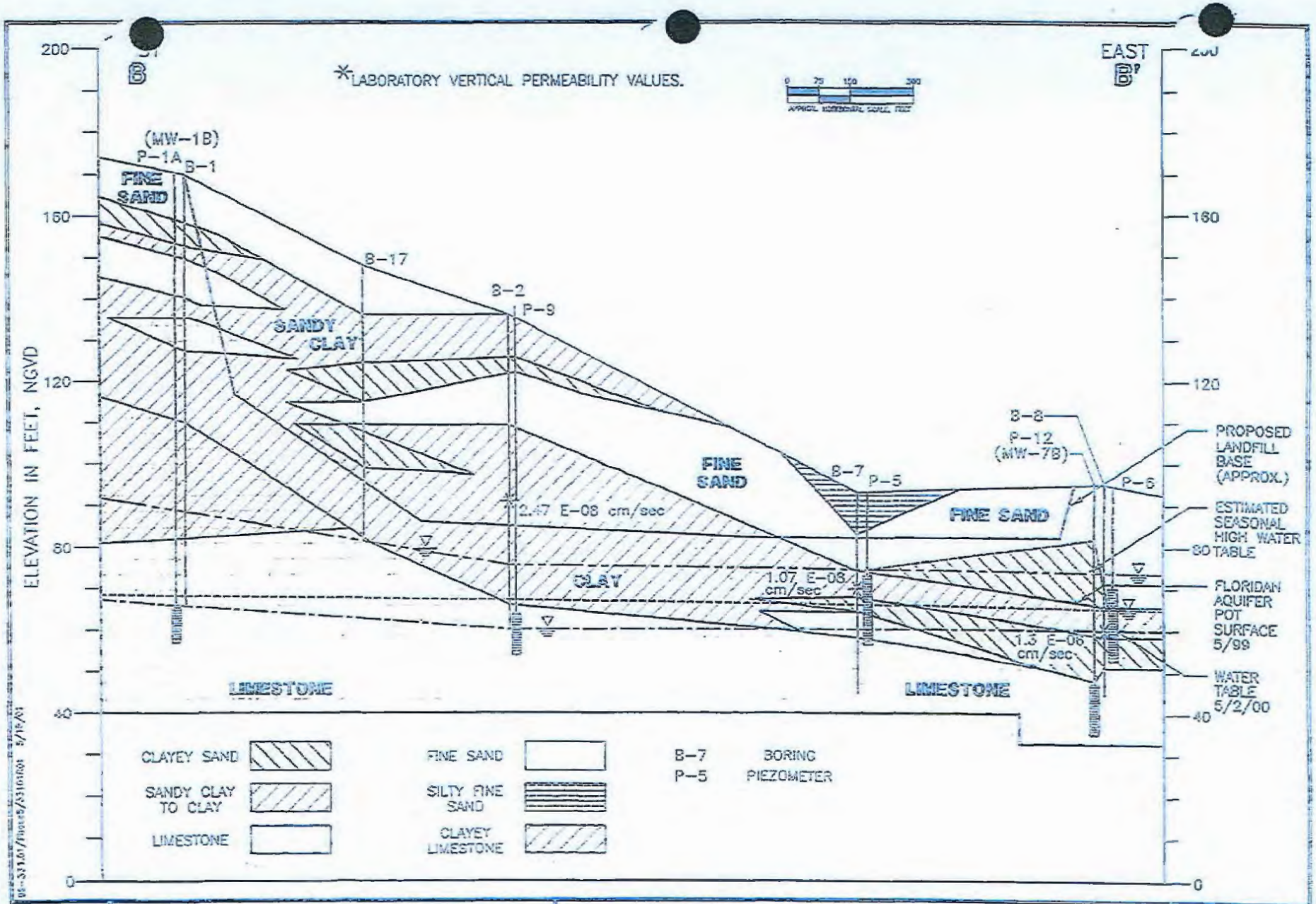
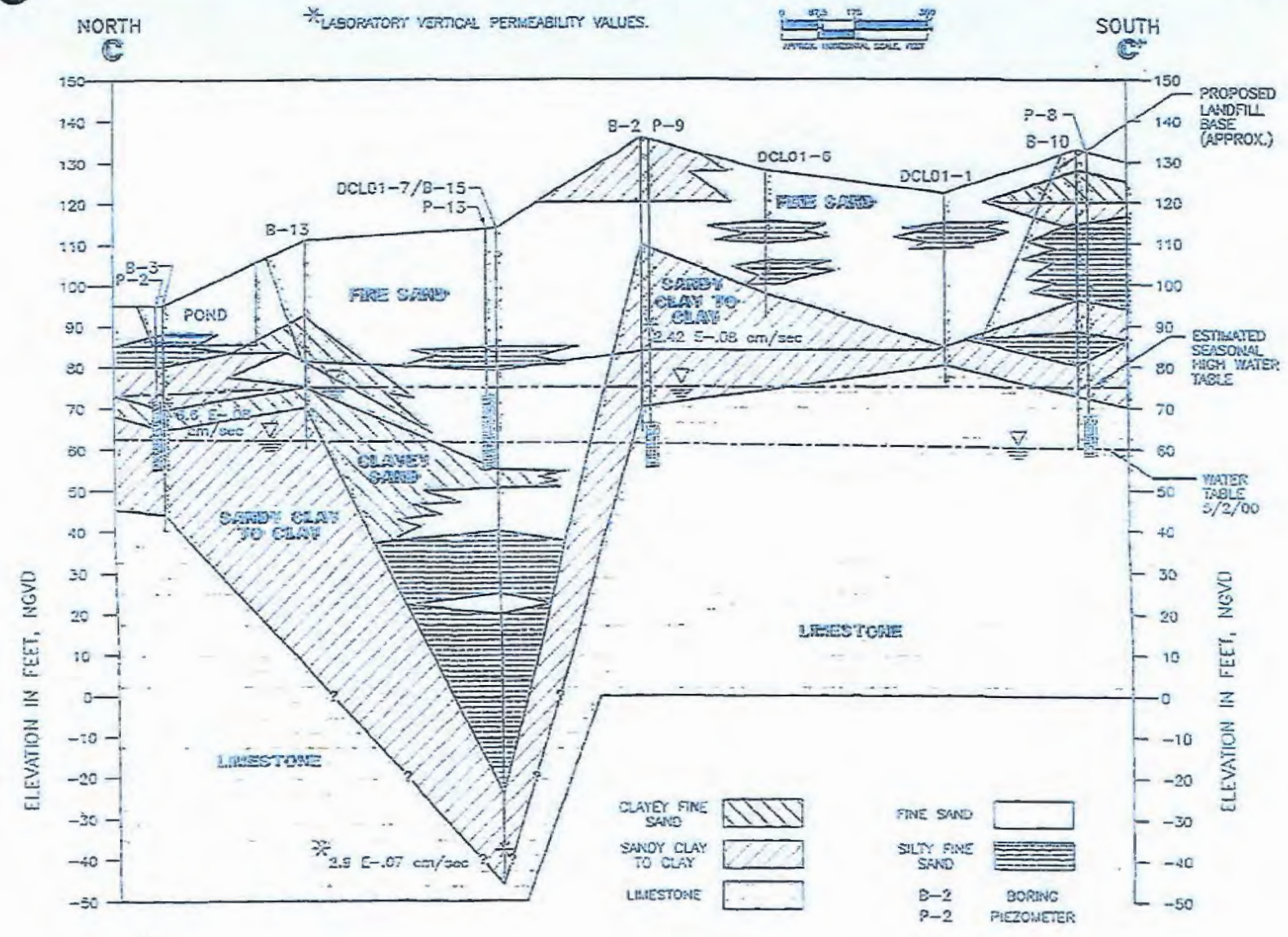


FIGURE 6

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET – SUITE 1000 – ORLANDO, FL 32801
TELEPHONE (407) 839-3363 – FAX (407) 839-3790

GEOLOGIC CROSS SECTION B - B'
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA



99-331.01/Floods/3301002 5/8/01

Figure 6.1

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET - SUITE 1020 - ORLANDO, FL 32801
TELEPHONE (407) 839-3955 - FAX (407) 839-3720

GEOLOGIC CROSS SECTION C - C'
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

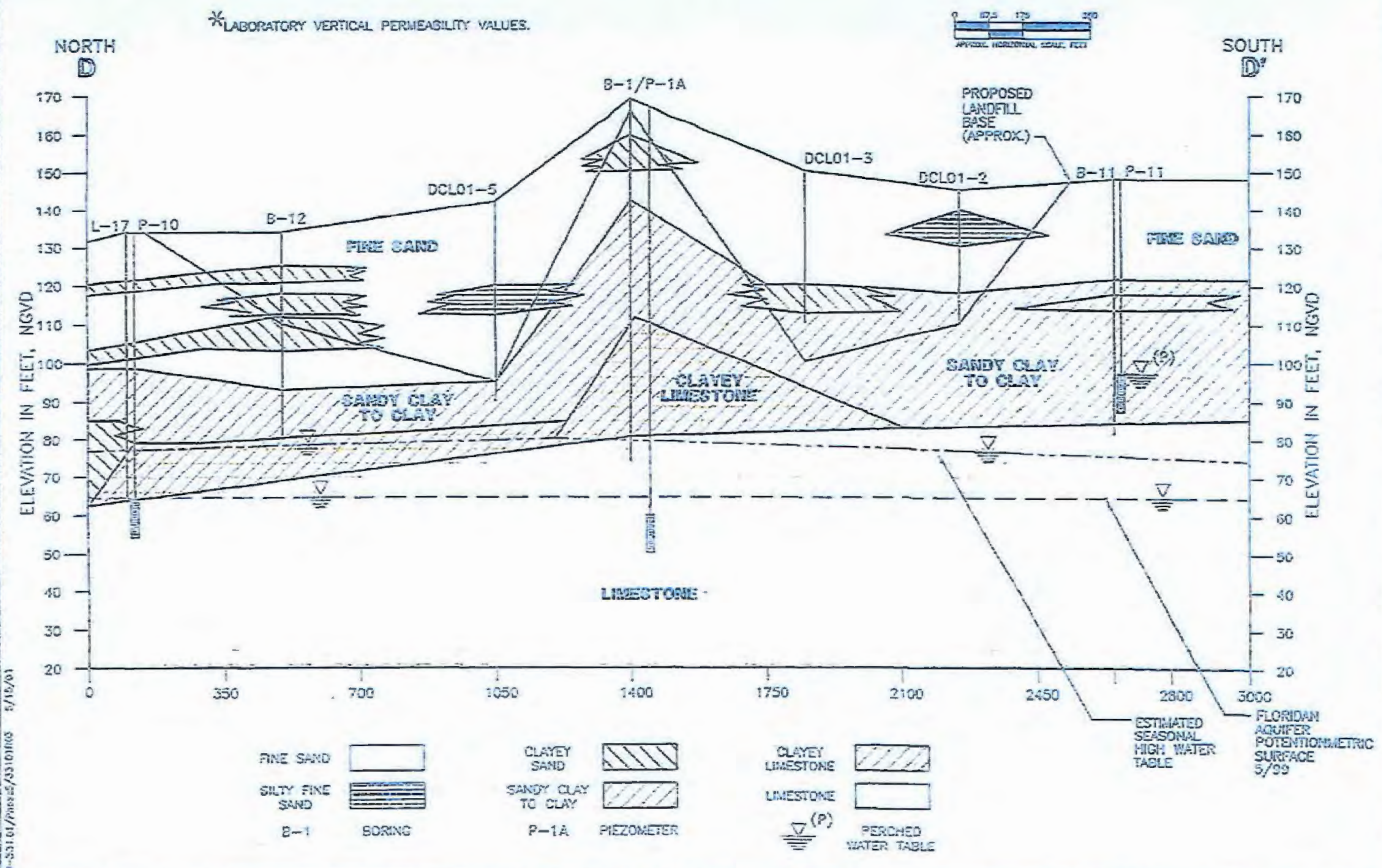


FIGURE 6.2

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET – SUITE 1000 – ORLANDO, FL 32801
TELEPHONE (407) 839-3955 – FAX (407) 839-3790

GEOLOGIC CROSS SECTION D - D'
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

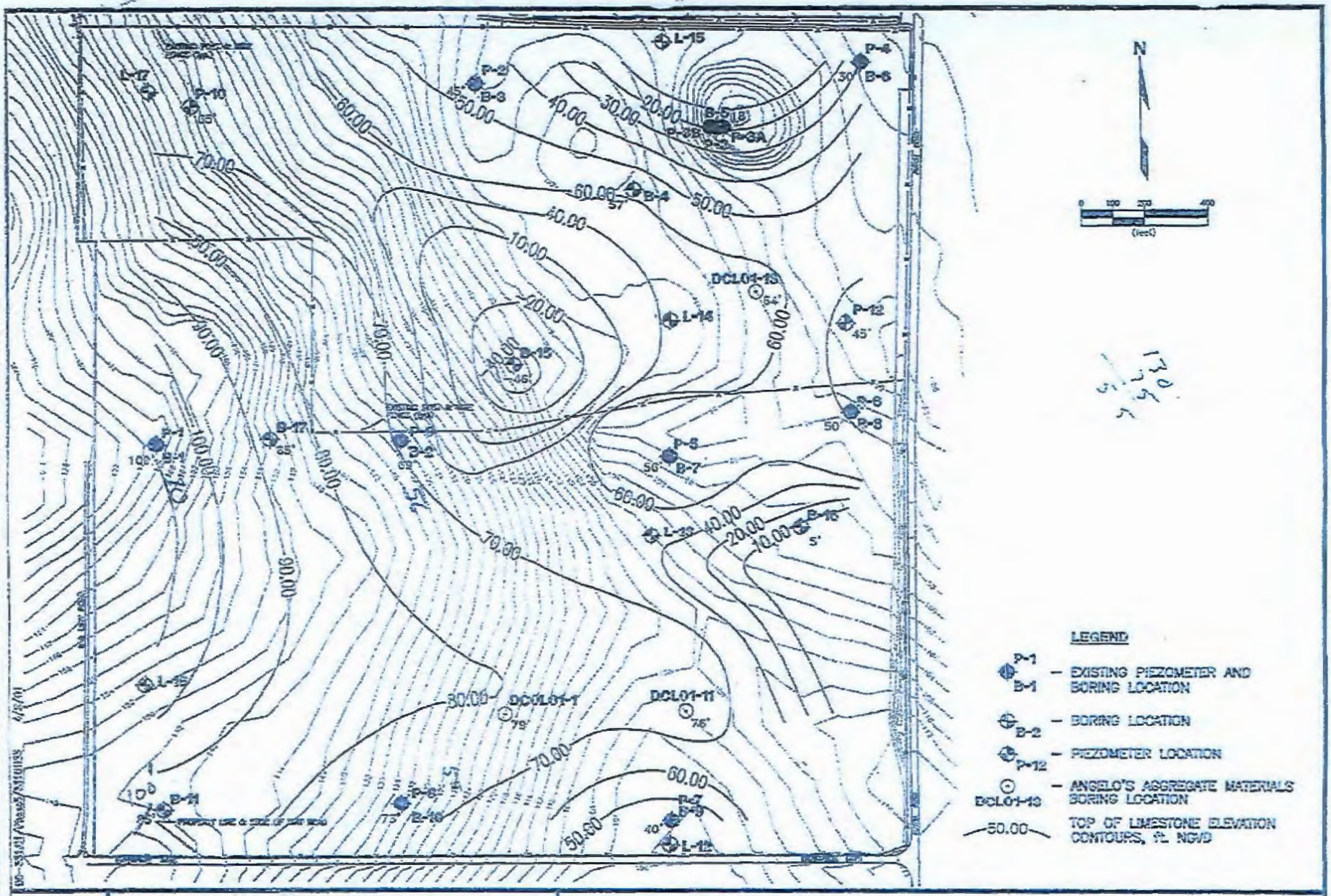
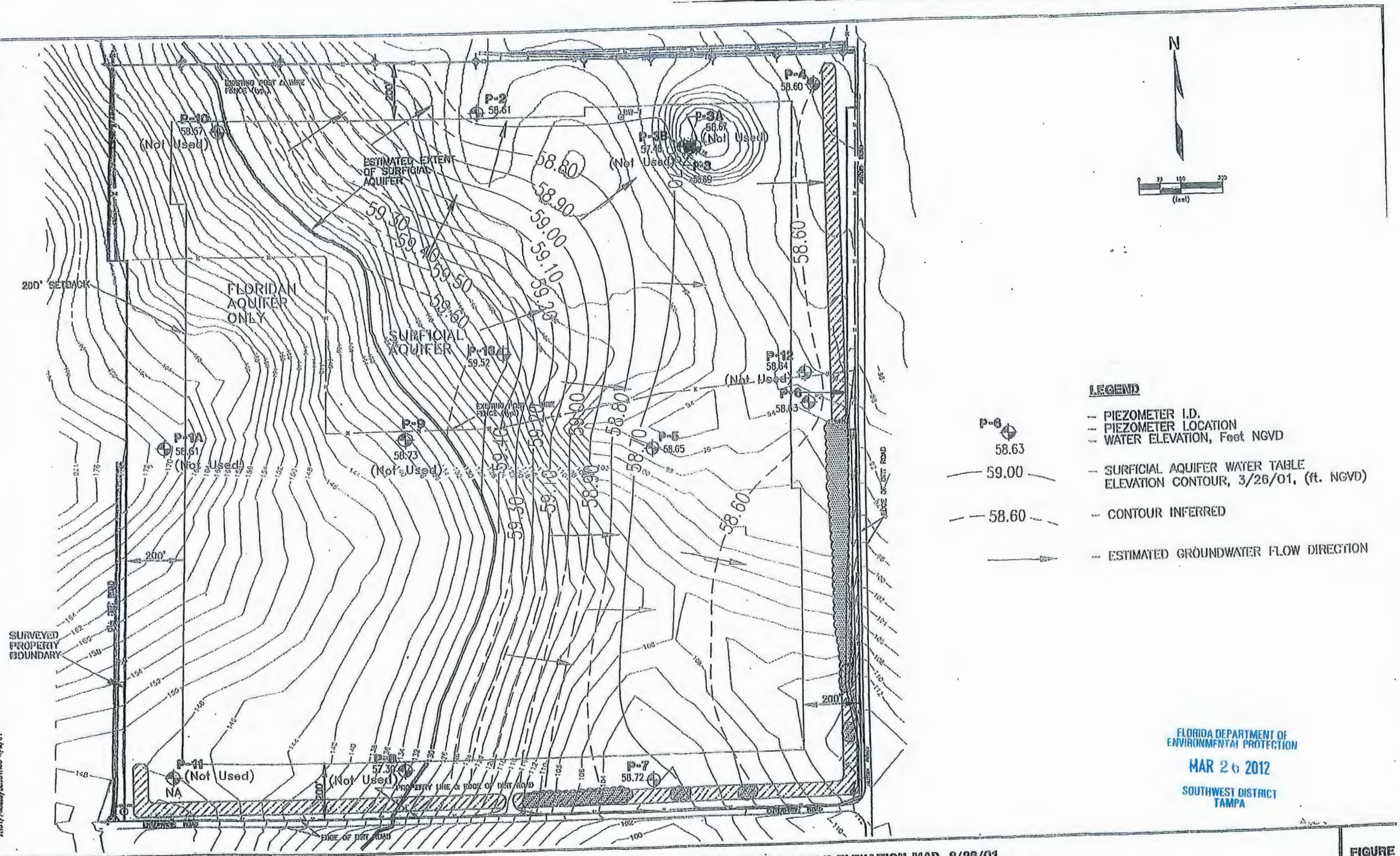


FIGURE 7

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants

TOP OF THE FLORIDAN AQUIFER LIMESTONE
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

APPENDIX B
2001-2005 SITE SURFICIAL AQUIFER GROUNDWATER CONTOUR MAPS

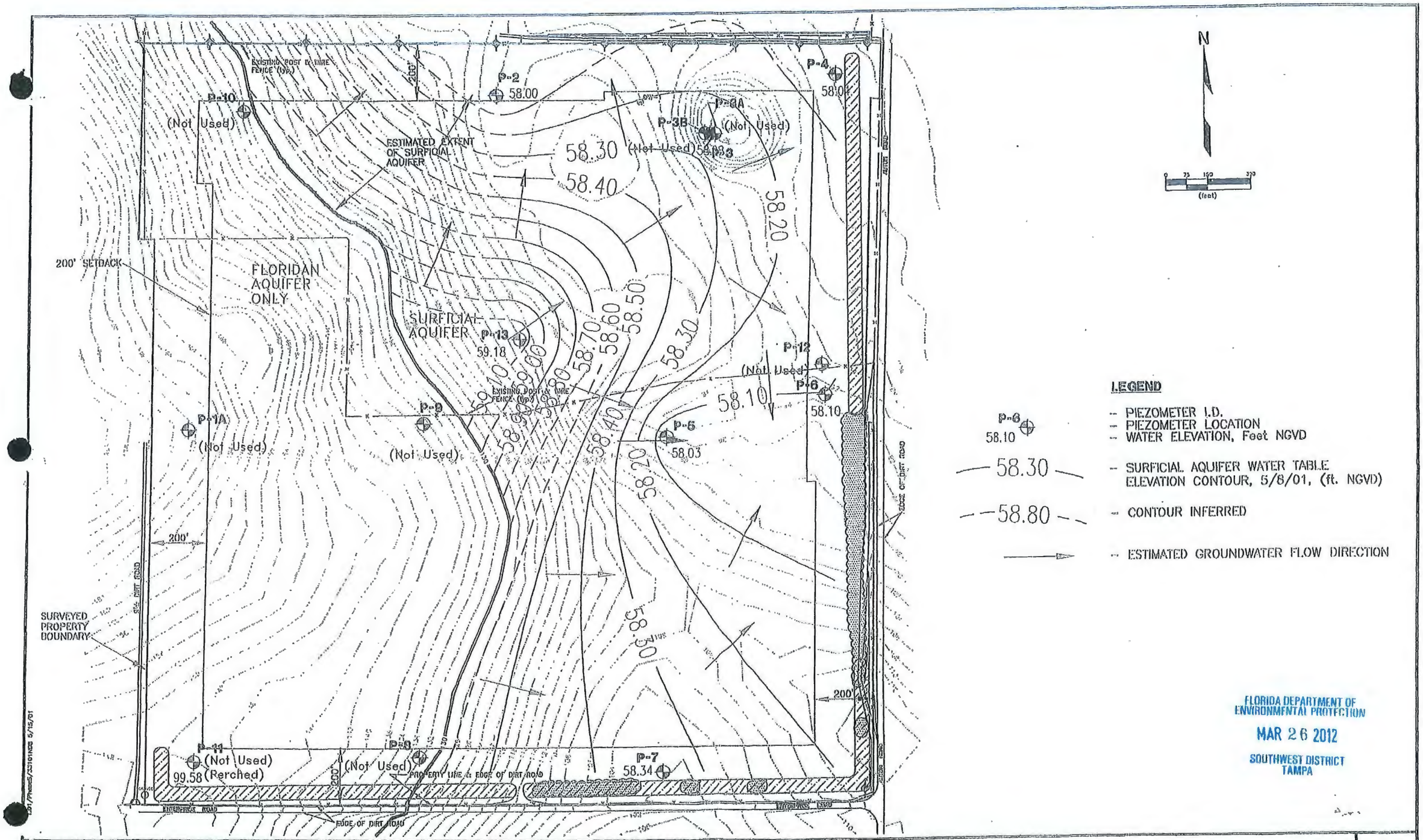


FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MAR 26 2012
SOUTHWEST DISTRICT TAMPA

HARTMAN & ASSOCIATES, INC.
engineers, hydrologists, surveyors & management consultants
200 EAST PINE STREET – SUITE 1000 – ORLANDO, FL. 32801
TELEPHONE (407) 839-3095 – FAX (407) 839-3780

SURFICIAL WATER TABLE ELEVATION MAP, 3/26/01
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

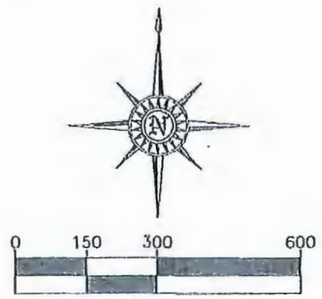
FIGURE 11.1



HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3959 - FAX (407) 839-3780

SURFICIAL WATER TABLE ELEVATION MAP, 5/8/01
PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

FIGURE 11.2



LEGEND

MW-1
⊕ MONITOR WELL LOCATION

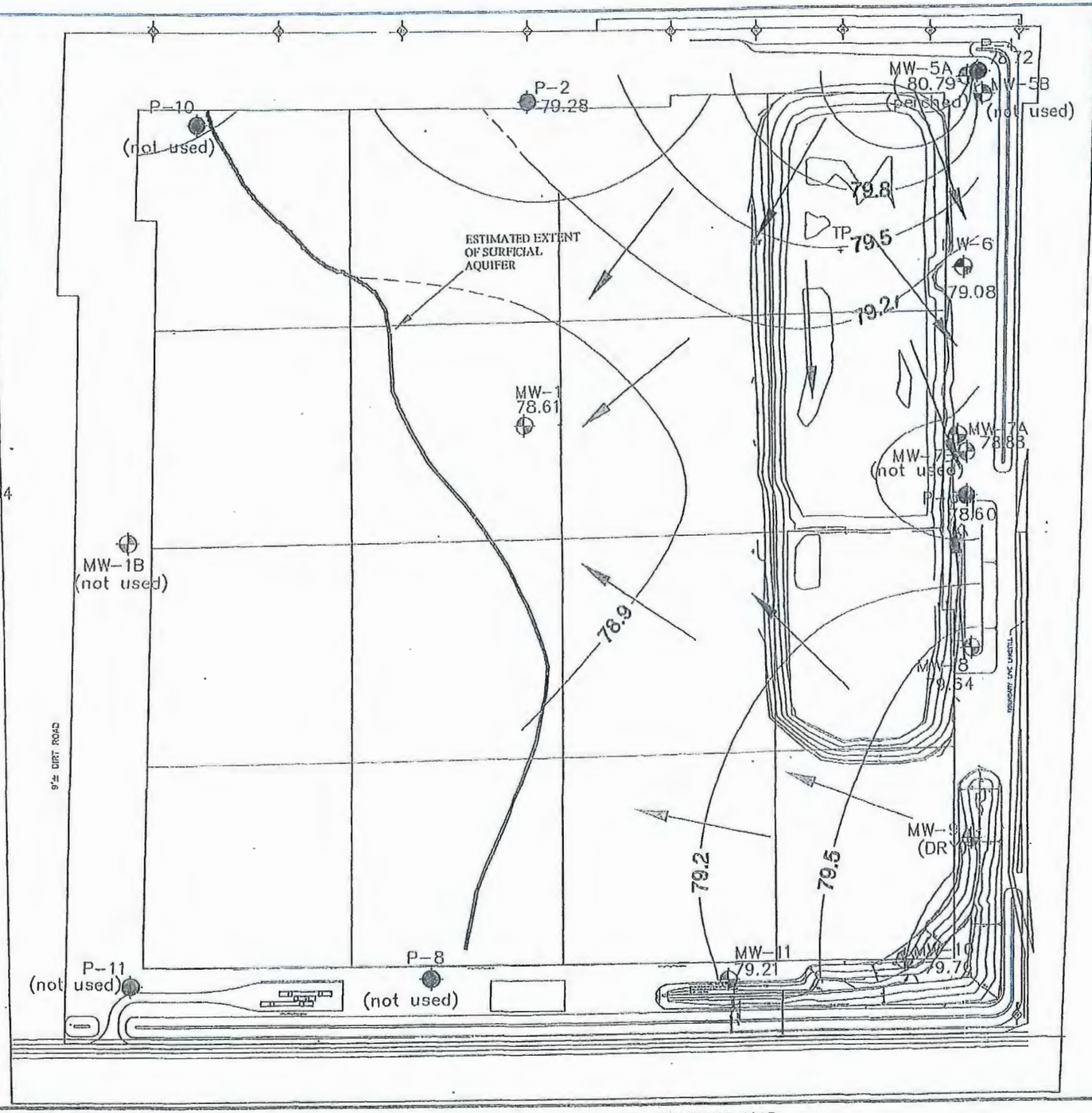
78.61 WATER LEVEL, (ft. NGVD) 10/12/04

—78.9— GROUNDWATER CONTOUR ELEVATION (ft. NGVD) CONTOUR INTERVAL = 0.3 ft.

ESTIMATED GROUNDWATER FLOW DIRECTION

P-5 ⊕ PIEZOMETER LOCATION

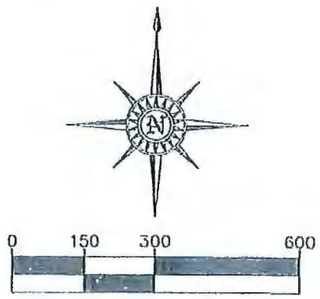
INFERRED GROUNDWATER CONTOUR ELEVATION



HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
231 EAST PINE STREET ~ SUITE 1000 ~ ORLANDO, FL 32801
TELEPHONE (407) 839-3955 ~ FAX (407) 839-3790

GROUNDWATER CONTOUR MAP
SURFICIAL AQUIFER – OCTOBER 12, 2004
ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

FIGURE 9A



LEGEND

MW-1
MONITOR WELL LOCATION

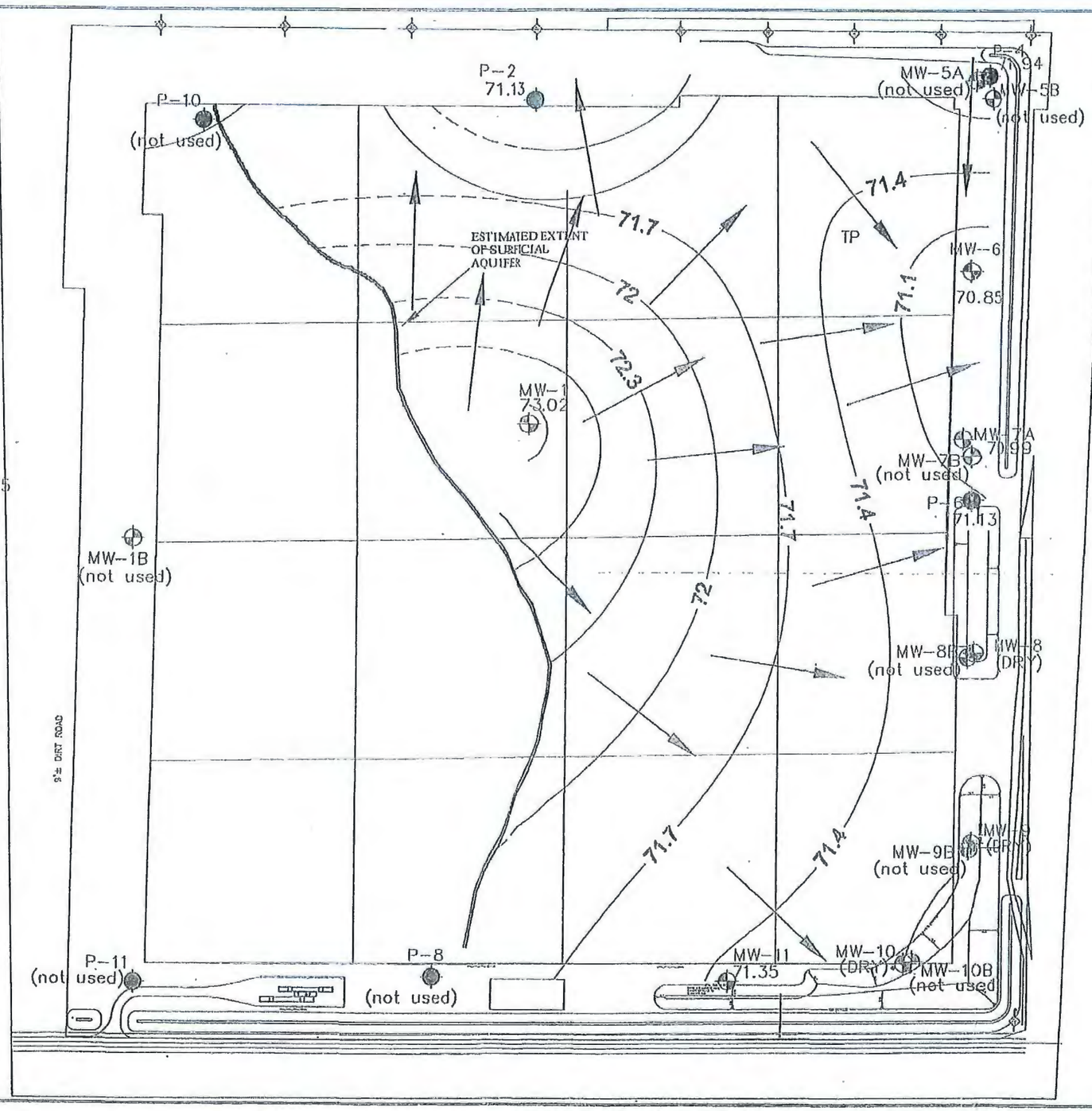
73.02 WATER LEVEL, (ft. NGVD) 4/29/05

—71.7— GROUNDWATER CONTOUR ELEVATION (ft. NGVD) CONTOUR INTERVAL = 0.3 ft.

ESTIMATED GROUNDWATER FLOW DIRECTION

P-5
PIEZOMETER LOCATION

INFERRED GROUNDWATER CONTOUR ELEVATION



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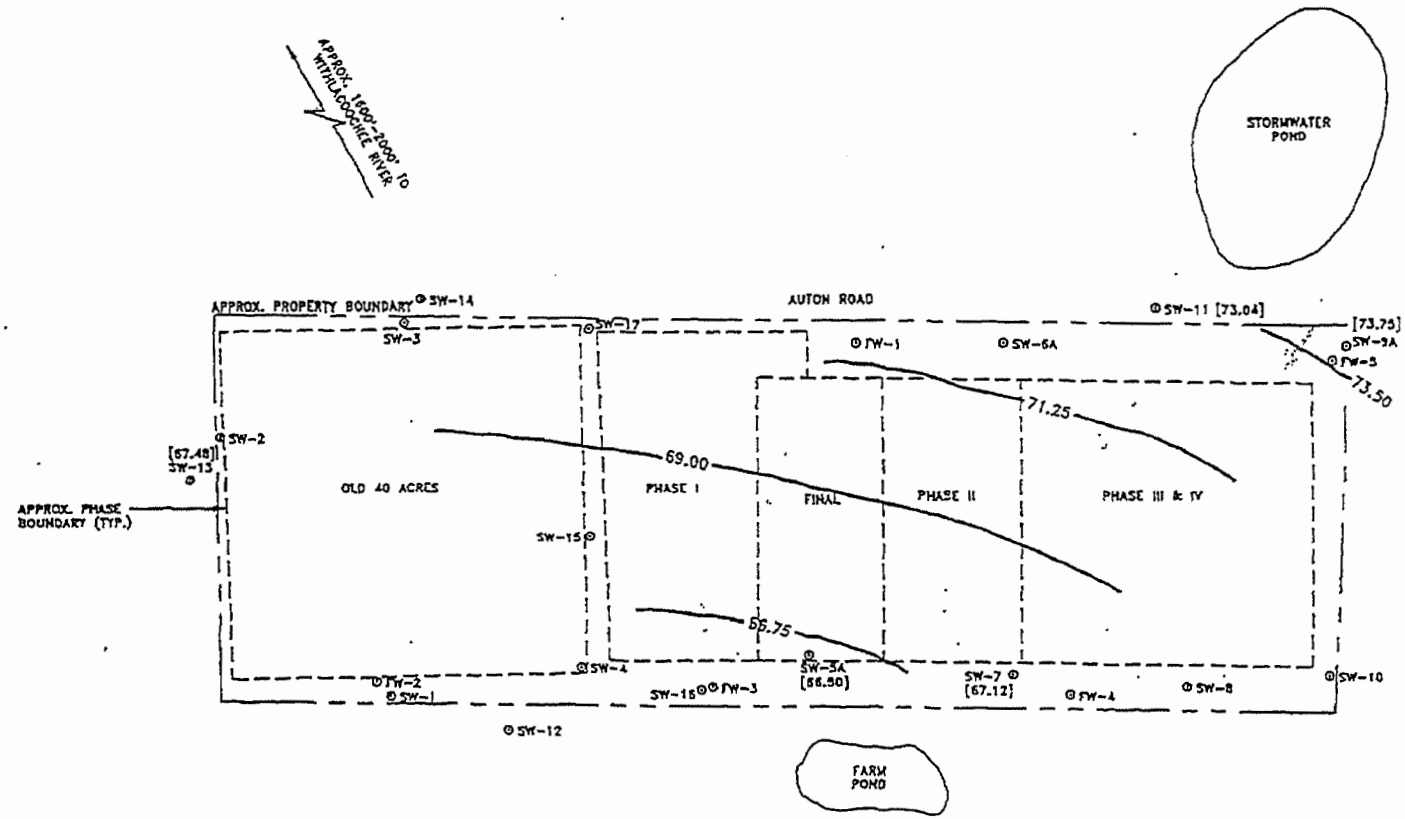
TELEPHONE (407) 839-3955 - FAX (407) 839-3790

GROUNDWATER CONTOUR MAP
SURFICIAL AQUIFER - APRIL 29, 2005
ENTERPRISE RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

FIGURE 10A

APPENDIX C
EAST PASCO LANDFILL SURFICIAL AQUIFER GROUNDWATER CONTOUR MAPS



LEGEND

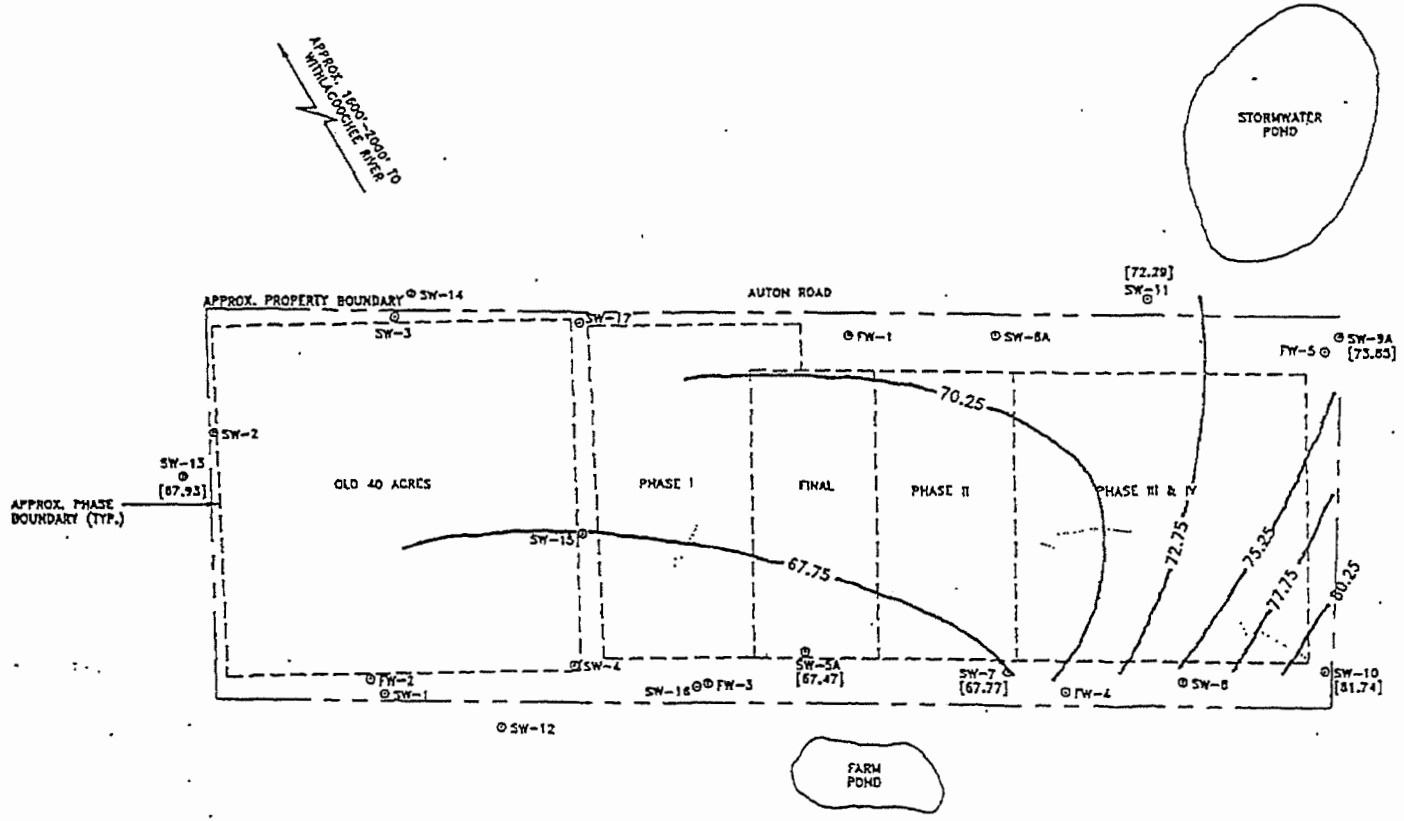
- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —69.00— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [66.50] GROUND-WATER ELEVATION (IN FEET, NGVD)

Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
WATER TABLE, SURFICIAL AQUIFER, JULY 1993
Project 464-83565.03 Figure 6



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —70.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [73.85] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600

APPROXIMATE SCALE IN FEET

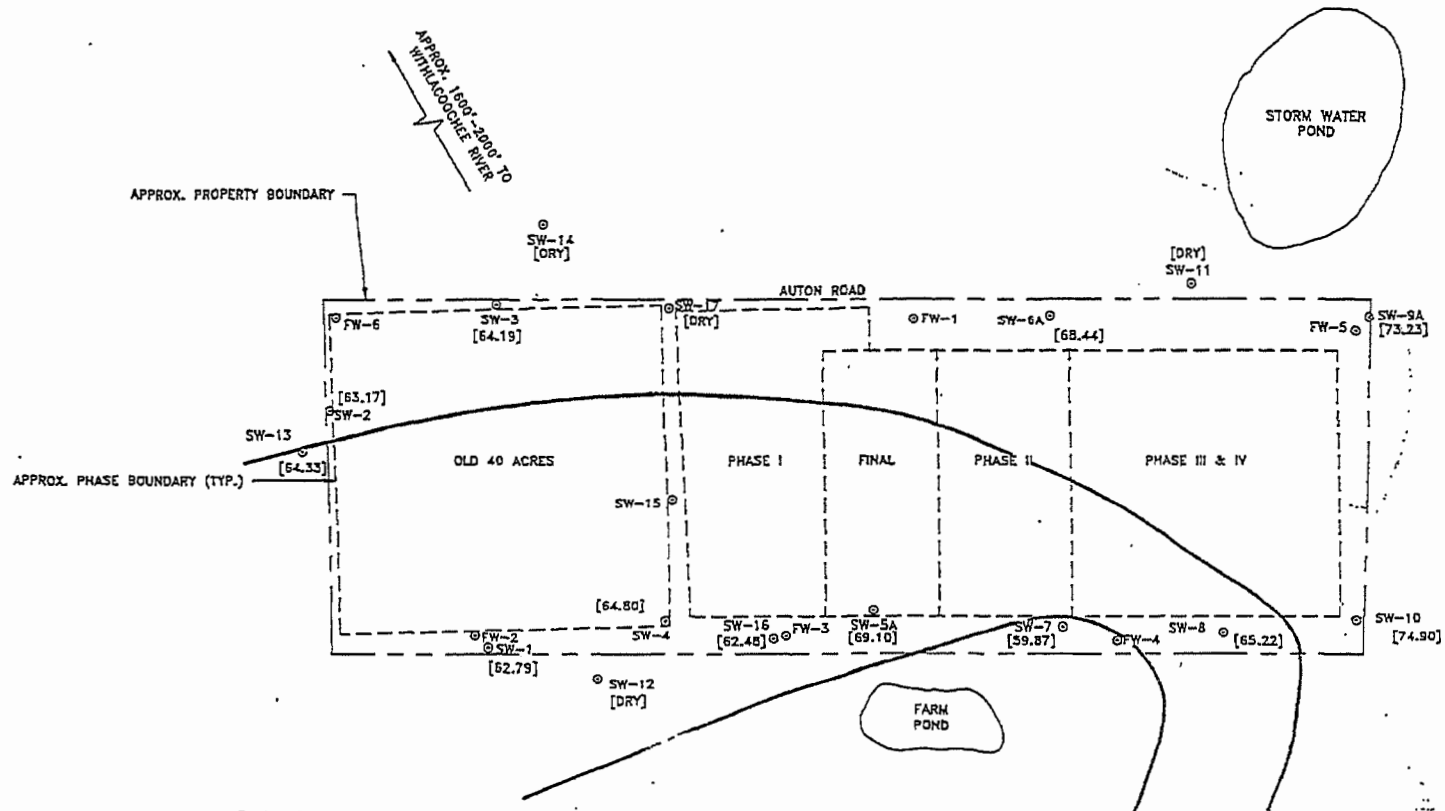
Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
WATER TABLE, SURFICIAL AQUIFER, APRIL 1993

Project 464-83565.03 Figure 4



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —70.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [73.85] GROUND-WATER ELEVATION (IN FEET, NGVD)

* GROUND-WATER AVAILABILITY IN THE WELLS ARE NOT SUFFICIENT ENOUGH TO SAMPLE WATER MEASUREMENTS NOT CONTOURED.

Prepared/Date: DAG 08/30/99
Checked/Date: GWE 08/30/99

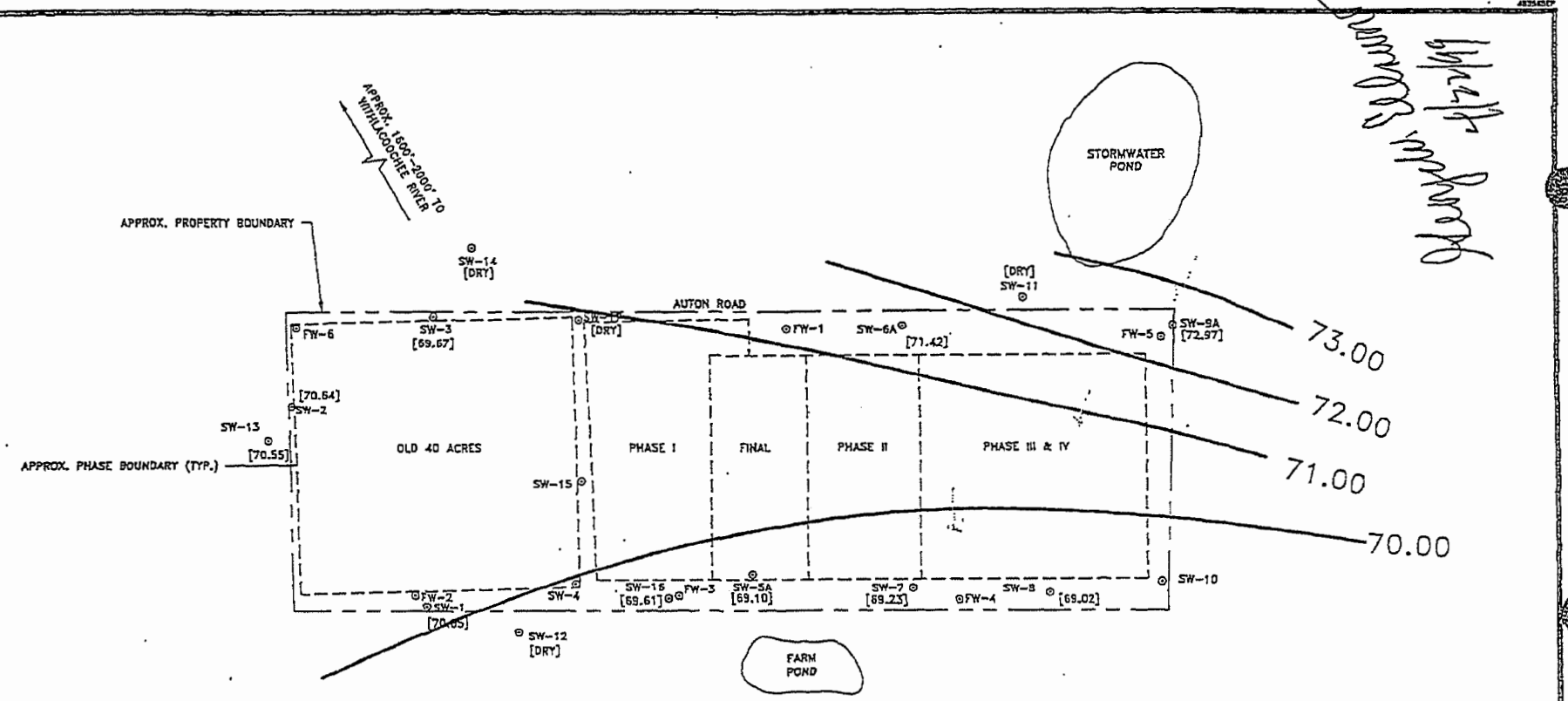
BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
LAWGIBB Group Member

GROUND-WATER MONITORING

WATER TABLE, SURFICIAL AQUIFER, AUGUST 1999

Project 40141-8-0451 Figure 1



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —70.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [73.85] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600
APPROXIMATE SCALE IN FEET

Prepared/Date: DAG 03/25/99
Checked/Date: GWE 03/25/99

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

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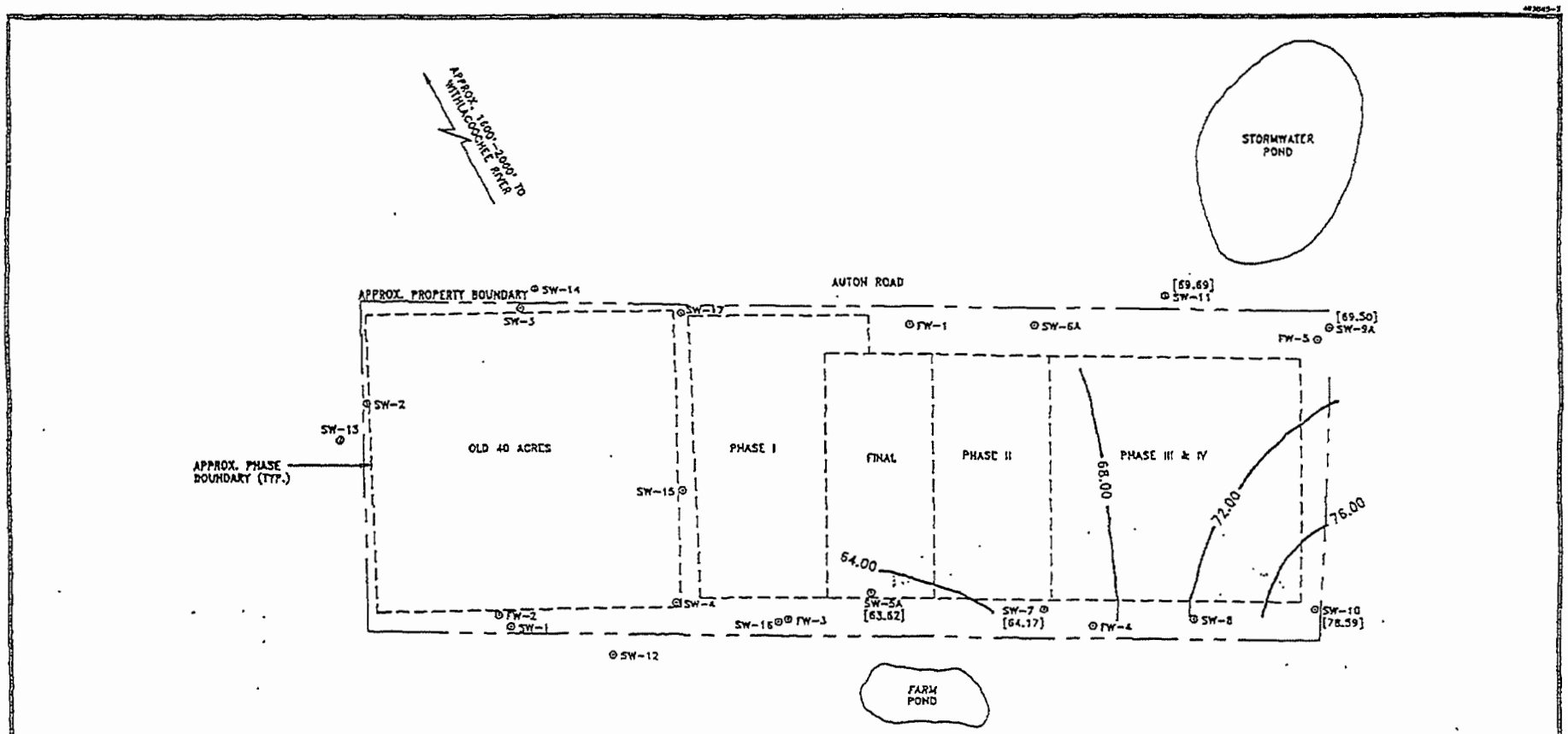
ENGINEERING AND ENVIRONMENTAL SERVICES

GROUND-WATER MONITORING
WATER TABLE, SURFICIAL AQUIFER, FEBRUARY 1999
Project 40141-8-0451 Figure 1



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —68.00— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [69.50] GROUND-WATER ELEVATION (IN FEET, NGVD)

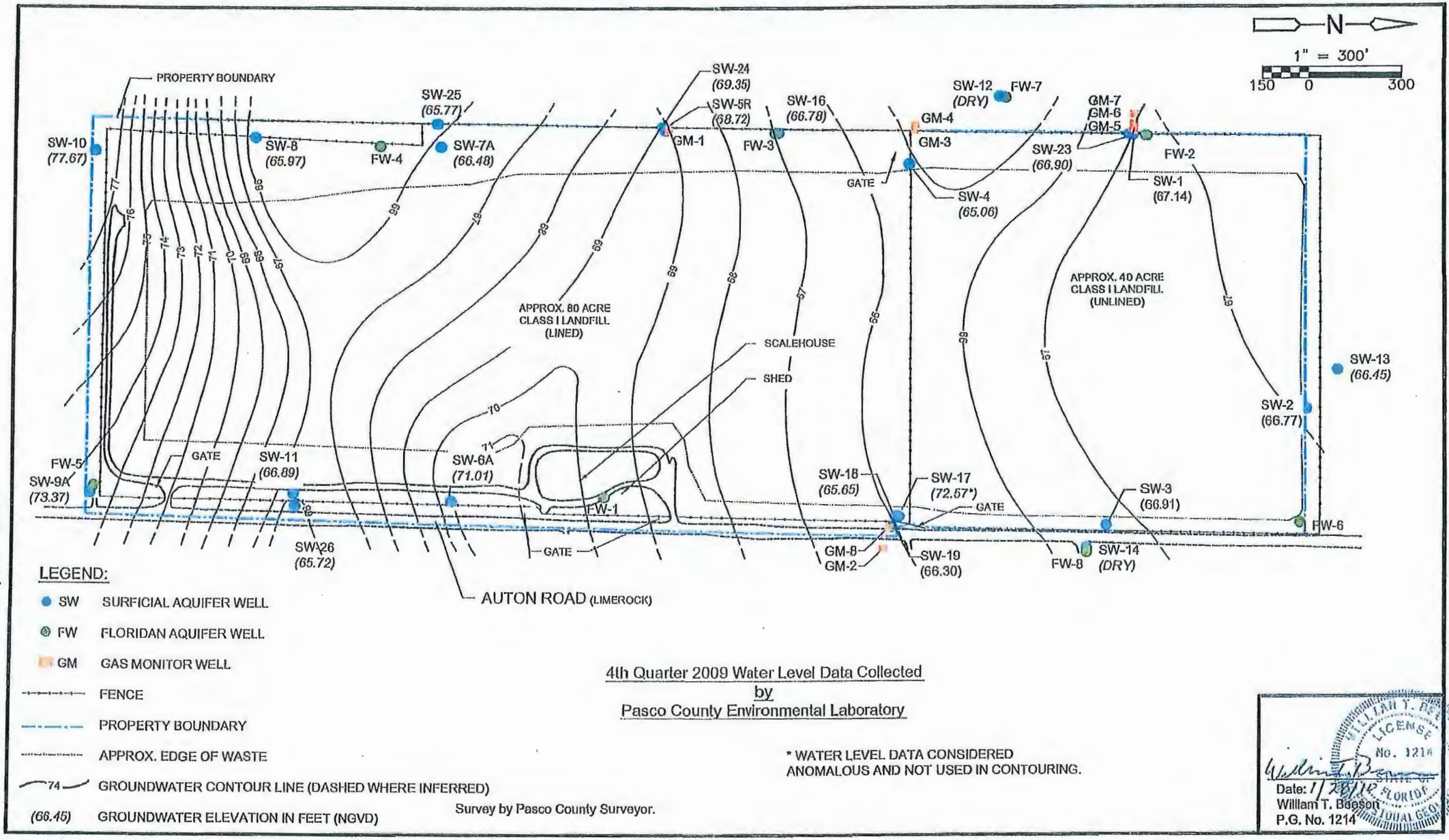
Prepared/Date: JFW 12/27/94
Checked/Date: DTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
WATER TABLE, SURFICIAL AQUIFER, JULY 1994

Project 454-81565.03 Figure 10



LEGEND:

- SW SURFICIAL AQUIFER WELL
- FW FLORIDAN AQUIFER WELL
- GM GAS MONITOR WELL
- FENCE
- PROPERTY BOUNDARY
- APPROX. EDGE OF WASTE
- 74 GROUNDWATER CONTOUR LINE (DASHED WHERE INFERRED)
- (66.45) GROUNDWATER ELEVATION IN FEET (NGVD)

4th Quarter 2009 Water Level Data Collected
by
Pasco County Environmental Laboratory

* WATER LEVEL DATA CONSIDERED ANOMALOUS AND NOT USED IN CONTOURING.

Survey by Pasco County Surveyor.

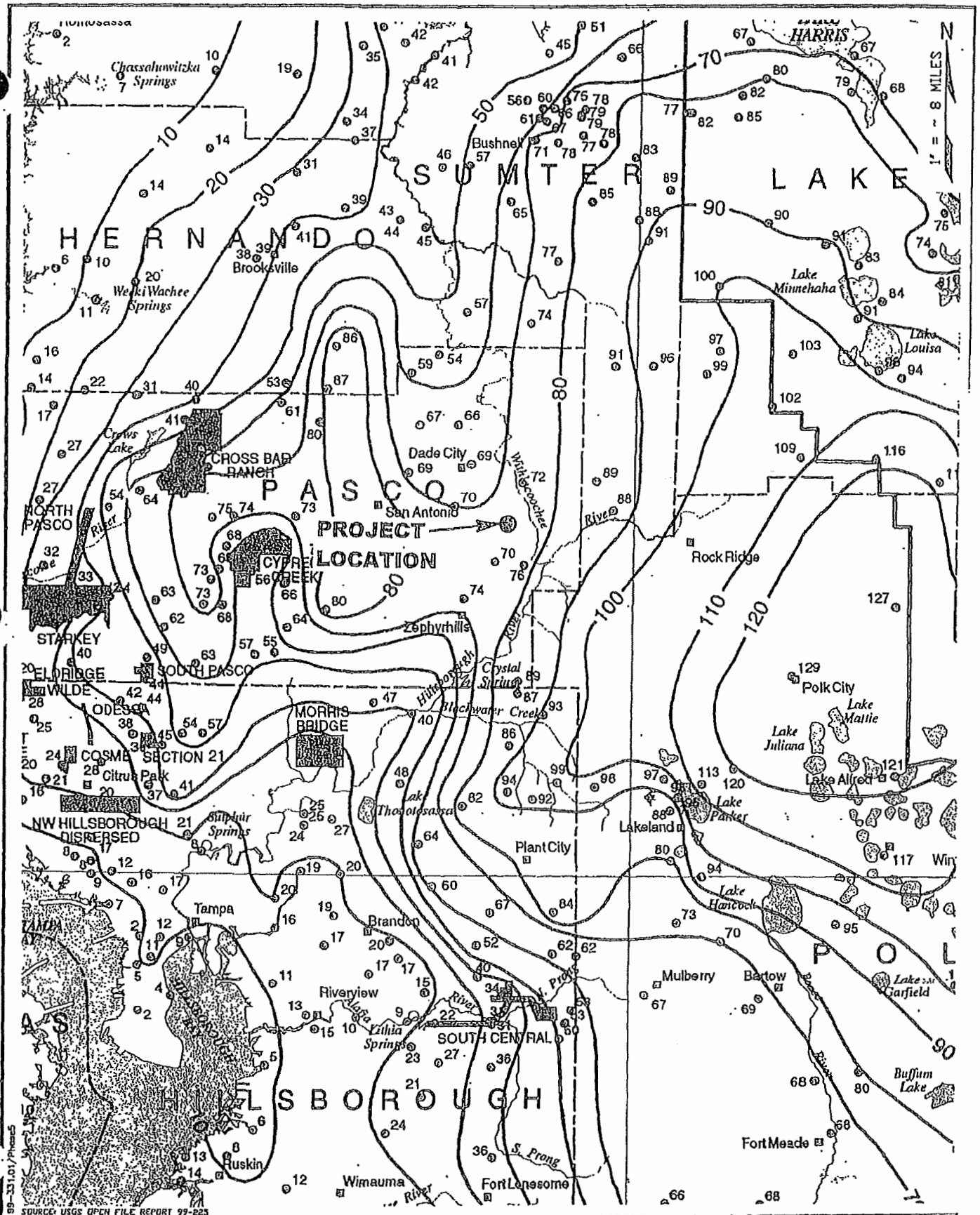
WILLIAM T. BEESON LICENSE No. 1214 STATE OF FLORIDA PROFESSIONAL GEOLOGIST
Date: 1/26/12
William T. Beeson
P.G. No. 1214

DWG: L:\6104\62249\30p\Report\FIG X1_2.dwg USER: austjd
DATE: Jan 26, 2010 3:08pm XREFS: survey base IMAGES:

CDM
consulting • engineering • construction • operations

Potentiometric Surface of Surficial Aquifer on December 14, 2009
East Pasco Class I Landfill
Dade City, Pasco County, Florida

APPENDIX D
SWFWMD FLORIDAN AQUIFER POTENTIOMETRIC SURFACE CONTOUR MAPS



SOURCE: USGS OPEN FILE REPORT 99-225

99-331.01/Phase5

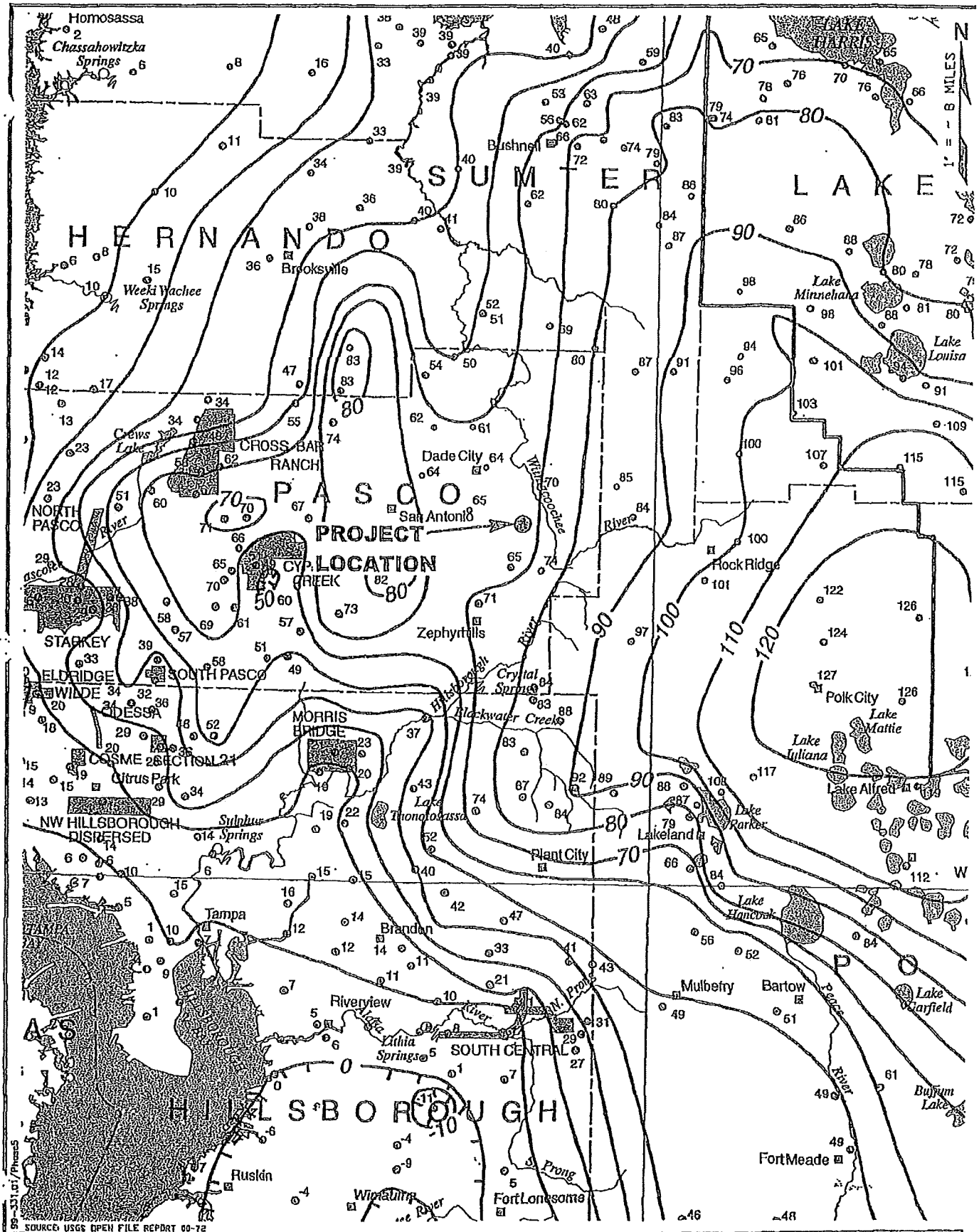
HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

201 EAST PINE STREET – SUITE 1000 – ORLANDO, FL 32801
TELEPHONE (407) 839-3955 – FAX (407) 839-3790

POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER - SEPTEMBER 1998 PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY - DADE CITY, FLORIDA

FIGURE 13



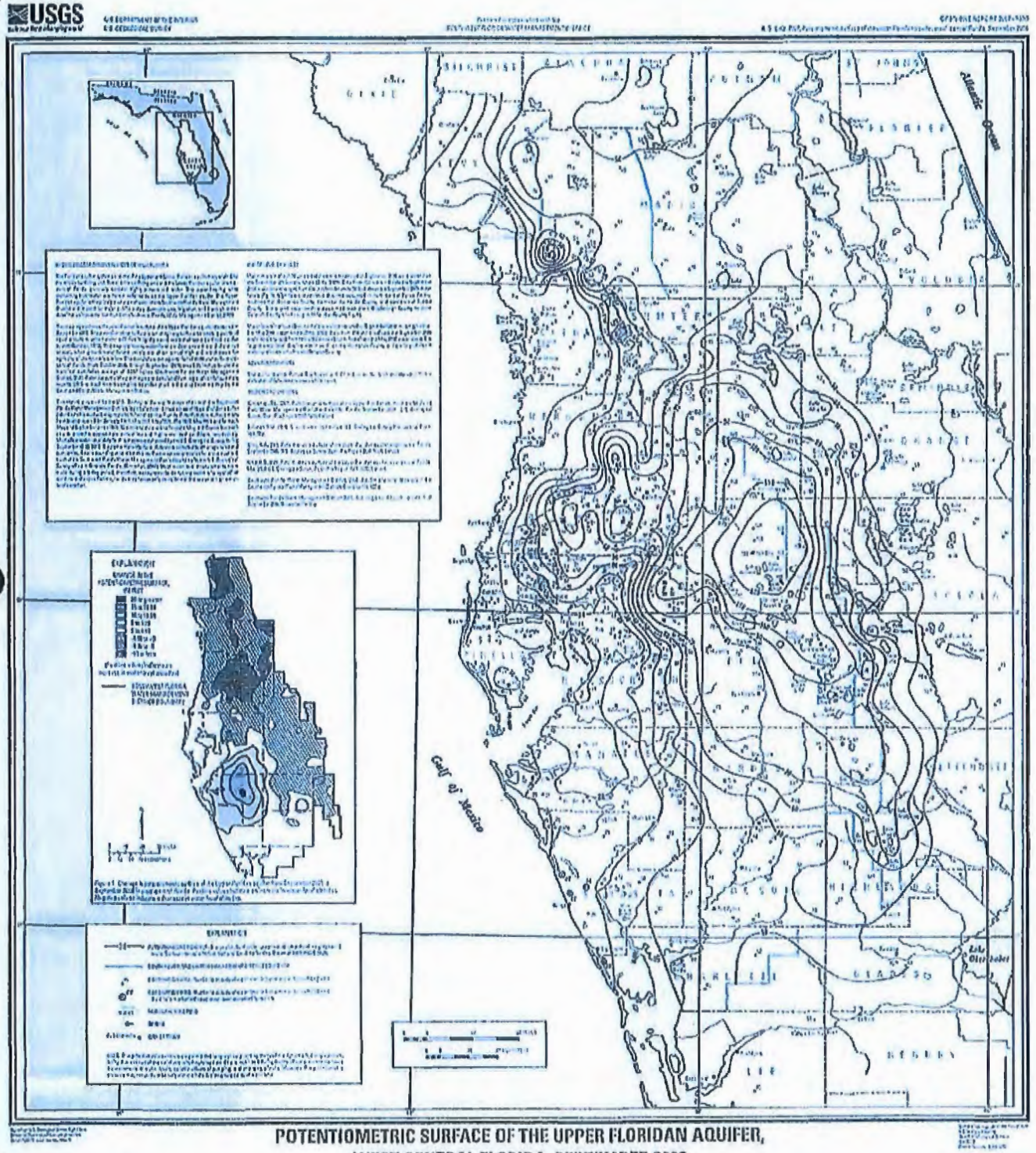
SOURCE: USGS OPEN FILE REPORT 00-72

99-331.01/Phase5

HARTMAN & ASSOCIATES, INC.
engineers, hydrogeologists, surveyors & management consultants
201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801
TELEPHONE (407) 839-3955 - FAX (407) 839-3750

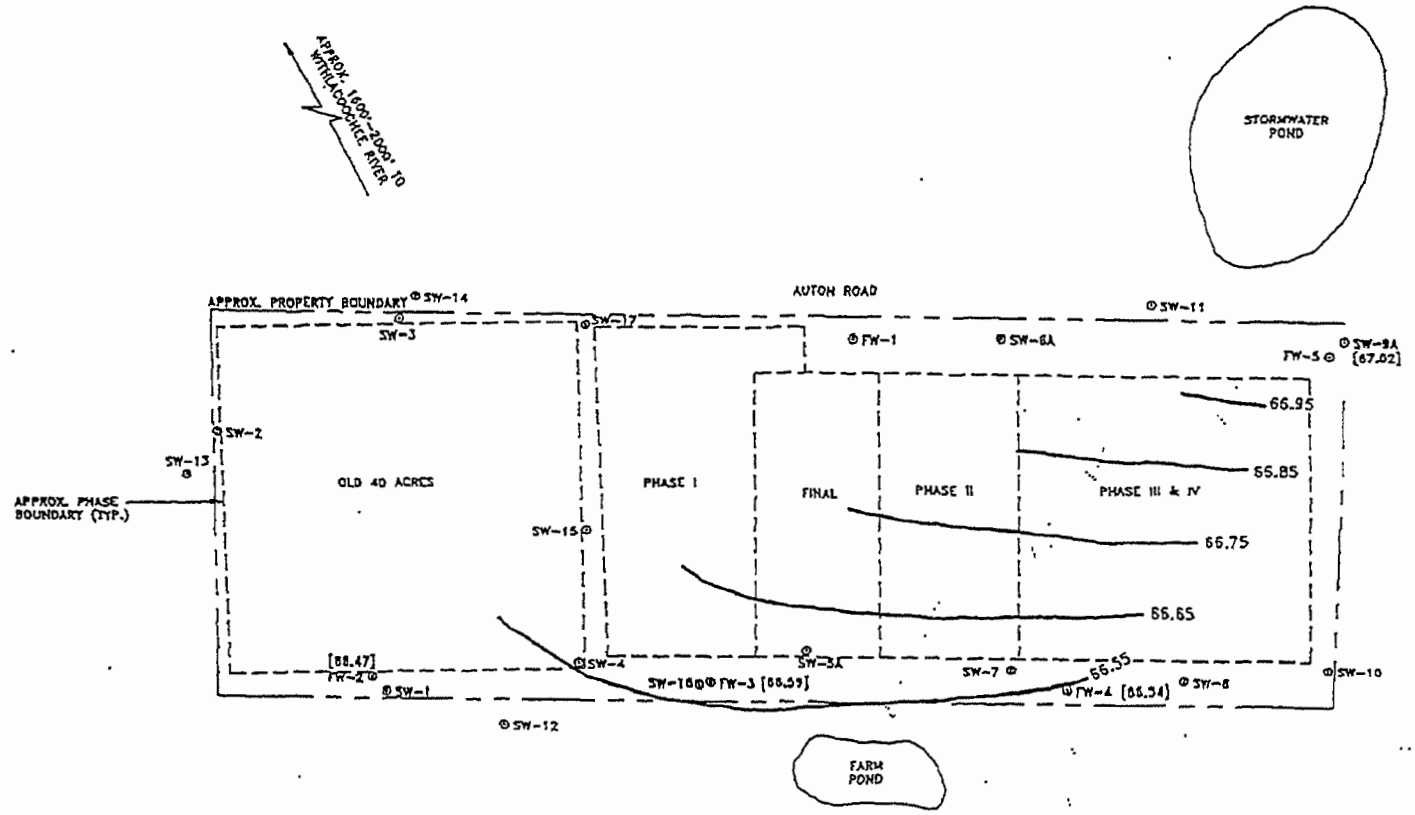
POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER - MAY 1999 PROPOSED ENTERPRISE RECYCLING AND DISPOSAL FACILITY - DADE CITY, FLORIDA

FIGURE 14



POTENTIOMETRIC SURFACE OF THE UPPER FLORIDAN AQUIFER, WEST-CENTRAL FLORIDA, SEPTEMBER 2006

APPENDIX E
EAST PASCO LANDFILL FLORIDAN AQUIFER POTENTIOMETRIC SURFACE CONTOUR MAPS



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —66.75— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [68.54] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600
APPROXIMATE SCALE IN FEET

Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

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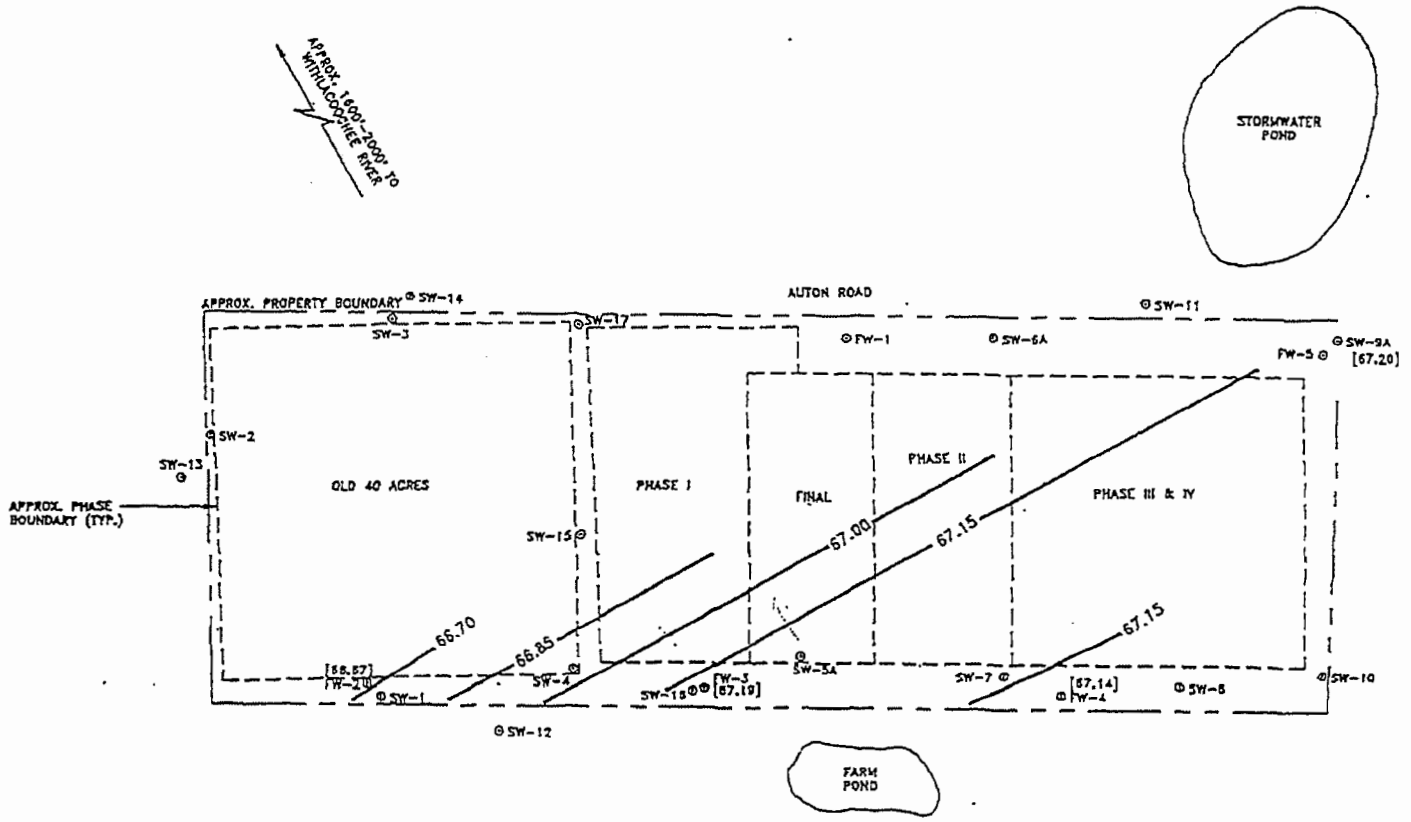
ENGINEERING AND ENVIRONMENTAL SERVICES

BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, JULY 1993
Project 464-83565.03 Figure 7



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —67.00— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [67.20] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600
APPROXIMATE SCALE IN FEET

Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
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PASCO COUNTY, FLORIDA

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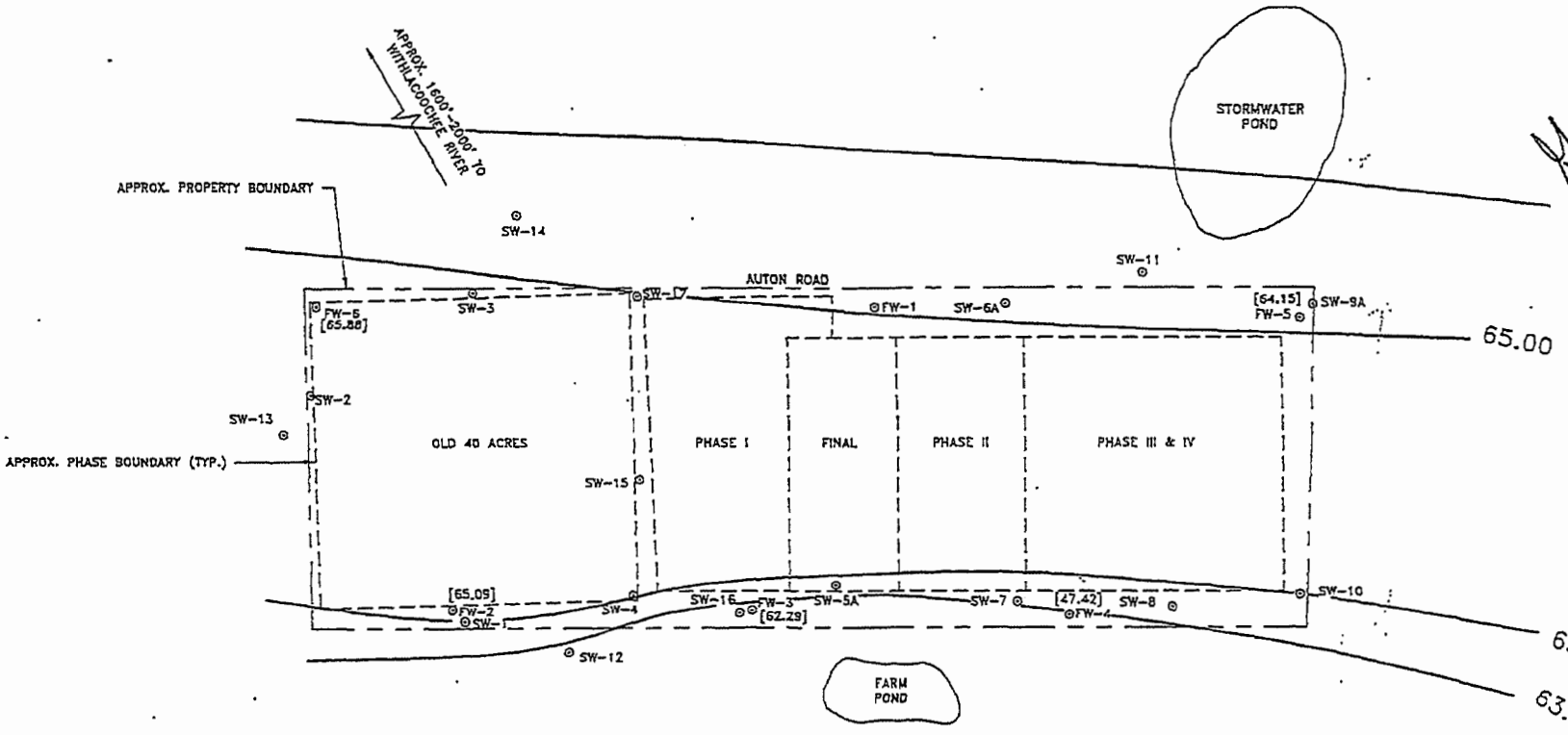
BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, APRIL 1993
Project 464-83565.03 Figure 5



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —70.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [73.85] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600
APPROXIMATE SCALE IN FEET

* FW-4 WATER LEVEL IS ASSUMED TO BE INCORRECT AND NOT CONTOURED.

Prepared/Date: DAG 08/30/99
Checked/Date: GWE 08/30/99

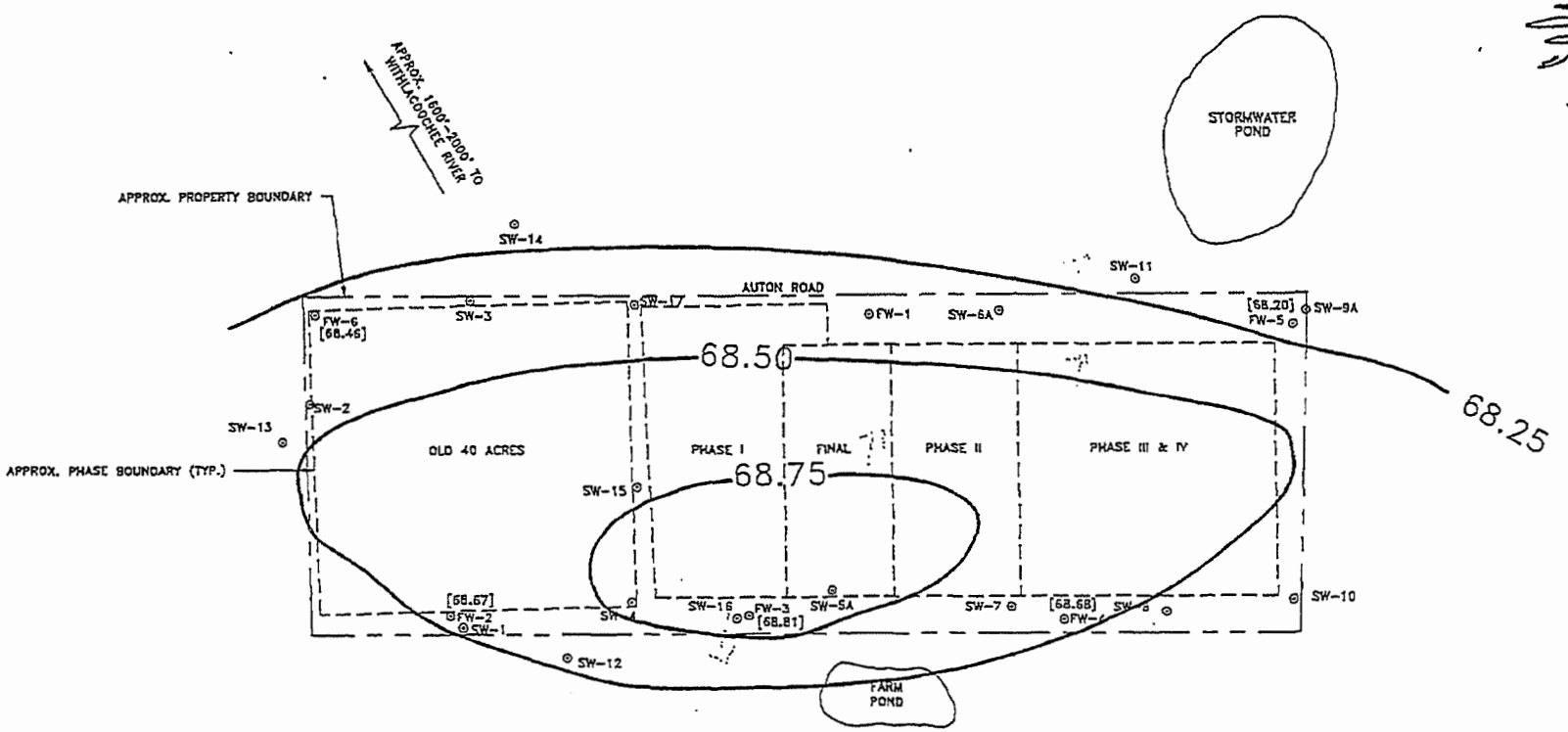
BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
LAWGIBB Group Member

GROUND-WATER MONITORING

POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, AUGUST 1999

Project 40141-8-0451 Figure 2



LEGEND

- SW-1 — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —70.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [73.85] GROUND-WATER ELEVATION (IN FEET, NGVD)

0 200 400 600
APPROXIMATE SCALE IN FEET

Prepared/Date: DAG 03/25/99
Checked/Date: GWE 03/25/99

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

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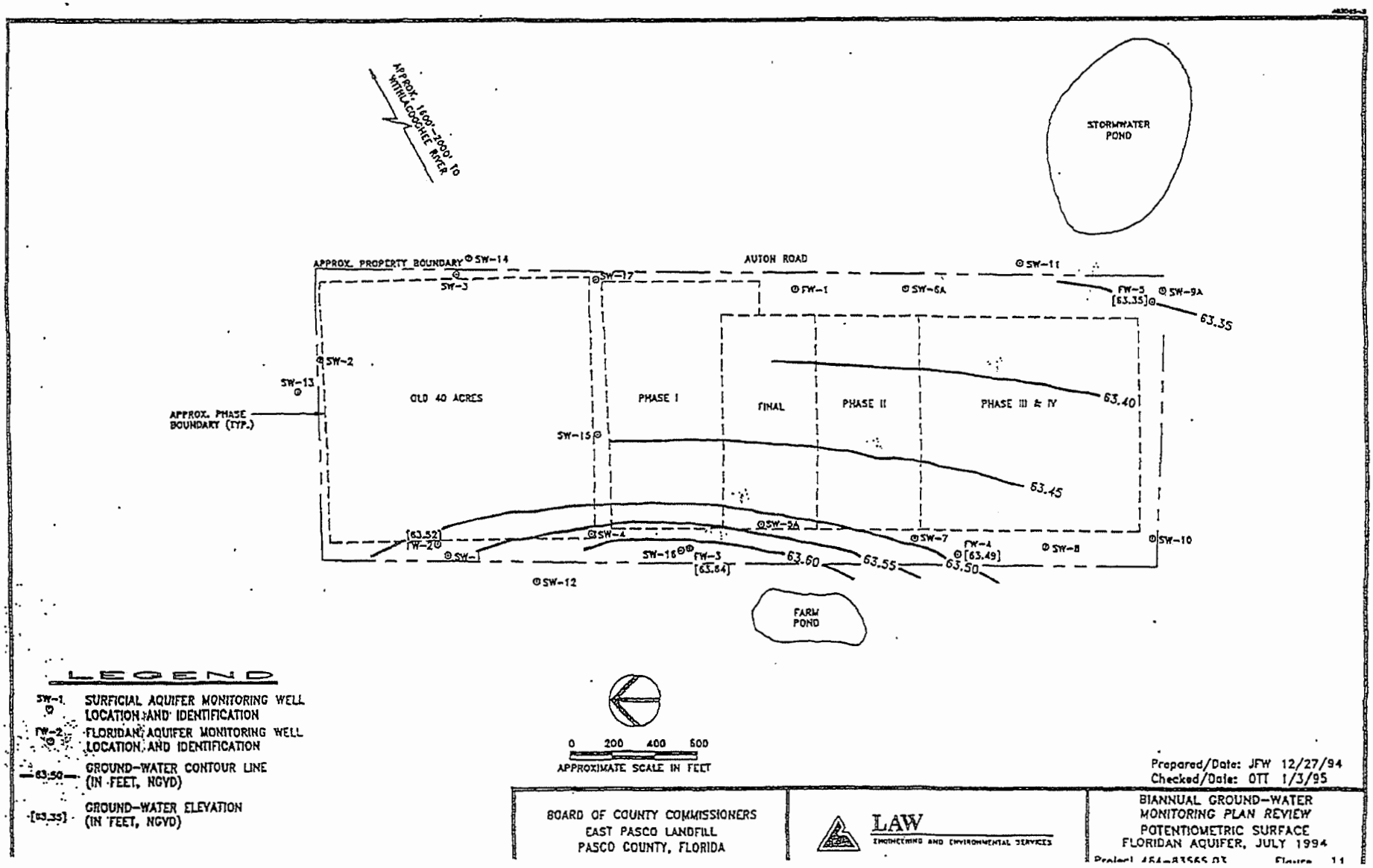
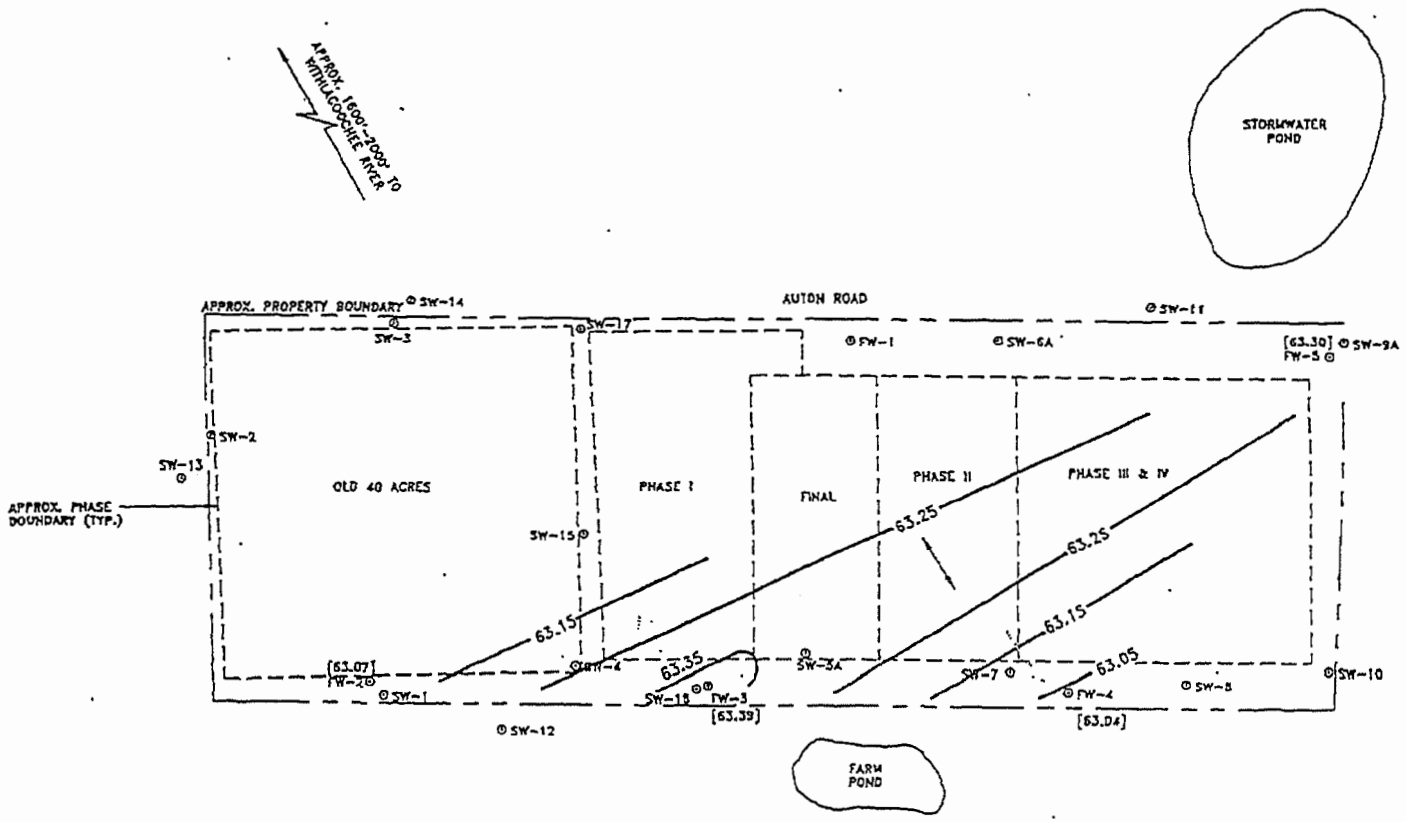
ENGINEERING AND ENVIRONMENTAL SERVICES

GROUND-WATER MONITORING

POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, FEBUARY 1999

Project: 40141-8-0451 Figure 2


APPROX. 1600'-2000' TO WITHLACOOCHEE RIVER
STORMWATER POND
APPROX. PROPERTY BOUNDARY
SW-14
SW-3
SW-17
AUTON ROAD
SW-11
FW-1
SW-6A
FW-5 [63.35]
SW-9A
63.35
SW-2
SW-13
APPROX. PHASE BOUNDARY (TYP.)
OLD 40 ACRES
PHASE I
FINAL
PHASE II
PHASE III & IV
63.40
SW-15
63.45
[63.52]
FW-2
SW-1
SW-4
SW-2A
SW-7
FW-4 [63.49]
SW-8
SW-10
SW-16
FW-3 [63.64]
63.60
63.55
63.50
SW-12
FARM POND
LEGEND
SW-1 SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
FW-2 FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
63.50 GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
[63.35] GROUND-WATER ELEVATION (IN FEET, NGVD)
0 200 400 600
APPROXIMATE SCALE IN FEET
Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95
BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA
LAW
ENGINEERING AND ENVIRONMENTAL SERVICES
BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, JULY 1994



LEGEND

- SW-1 ⊙ — SURFICIAL AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- FW-2 ⊙ — FLORIDAN AQUIFER MONITORING WELL LOCATION AND IDENTIFICATION
- —63.25— GROUND-WATER CONTOUR LINE (IN FEET, NGVD)
- [63.30] GROUND-WATER ELEVATION (IN FEET, NGVD)

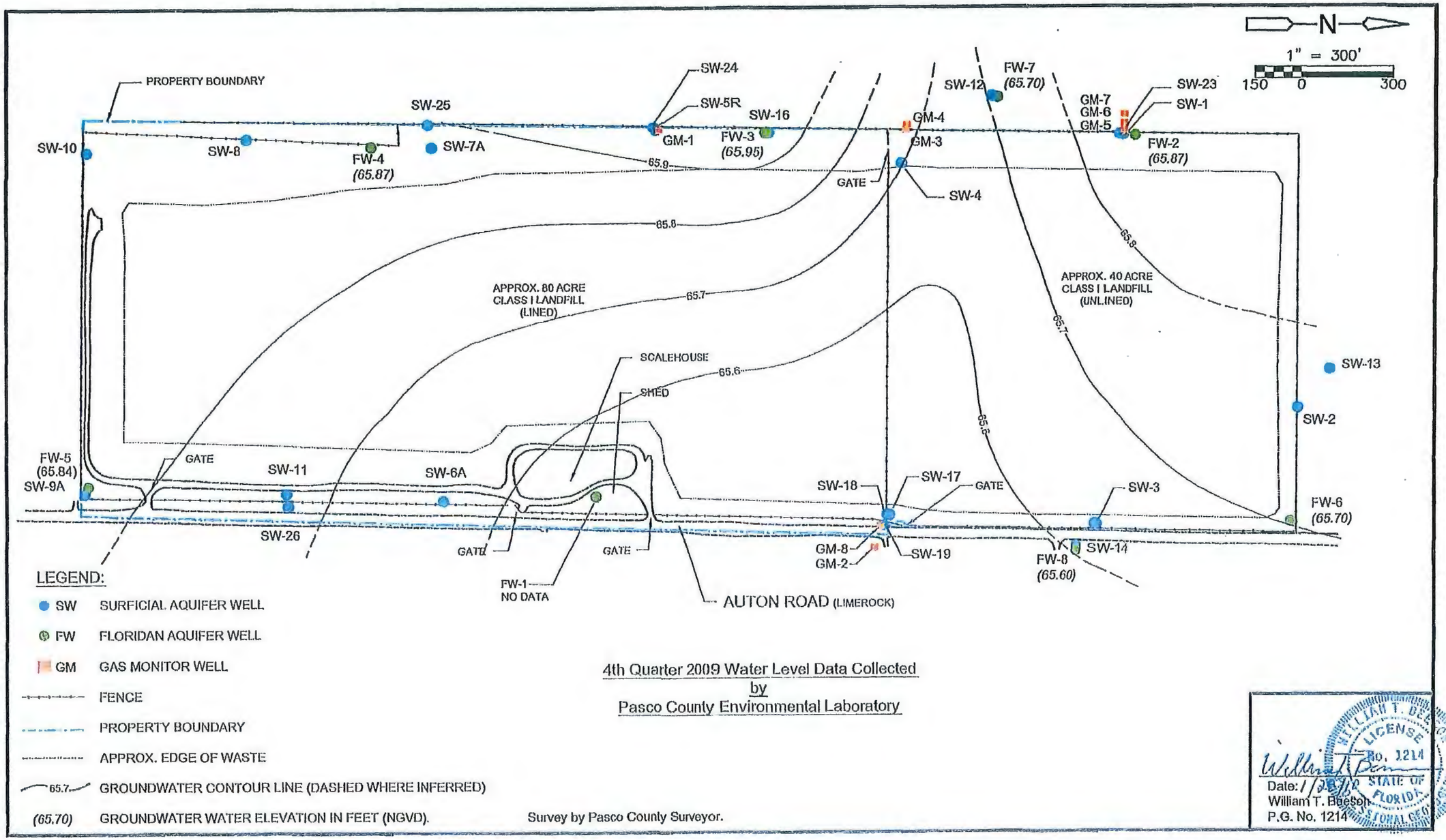
0' 200 400 600
APPROXIMATE SCALE IN FEET

Prepared/Date: JFW 12/27/94
Checked/Date: OTT 1/3/95

BOARD OF COUNTY COMMISSIONERS
EAST PASCO LANDFILL
PASCO COUNTY, FLORIDA

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

BIANNUAL GROUND-WATER MONITORING PLAN REVIEW
POTENTIOMETRIC SURFACE
FLORIDAN AQUIFER, MAY 1994
Project 464-83565.03 Figure 9



4th Quarter 2009 Water Level Data Collected
by
Pasco County Environmental Laboratory

WILLIAM T. BEESON LICENSE No. 1214 STATE OF FLORIDA PROFESSIONAL GEOLOGIST
Date: 1/28/10
William T. Beeson
P.G. No. 1214

DWG: L:\6104\62249\30p\Report\FIG X2_2.dwg USER: austjd
DATE: Jan 26, 2010 3:50pm XREFS: survey base IMAGES:

CDM
consulting • engineering • construction • operations

Potentiometric Surface of Floridan Aquifer on
December 14, 2009
East Pasco Class I Landfill
Dade City, Pasco County, Florida

APPENDIX F
2009-2011 FLORIDAN AQUIFER SITE POTENTIOMETRIC SURFACE CONTOUR MAPS

LEGEND

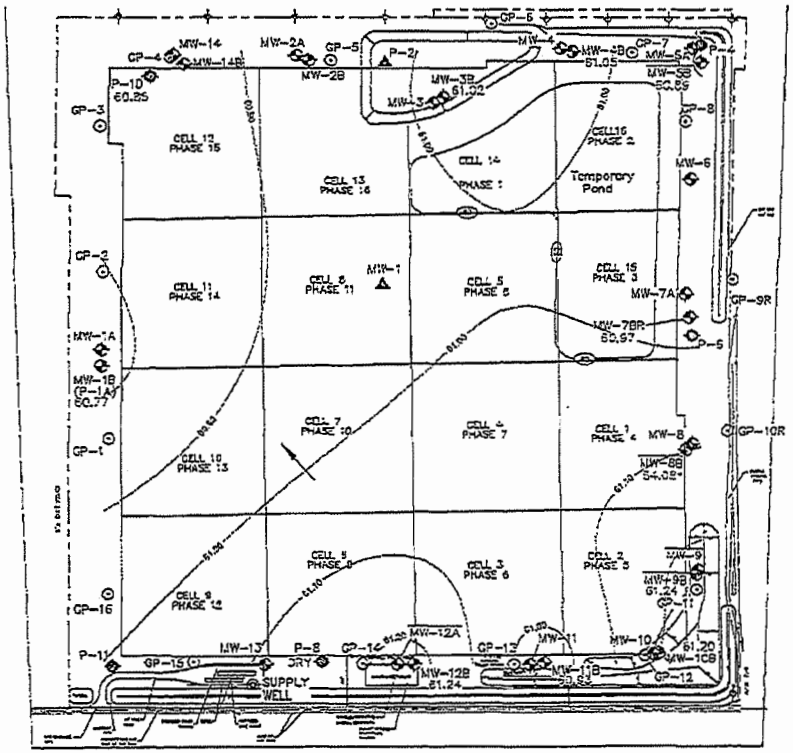
- MW-4S — MONITORING WELL LOCATION
- 51.05 — GROUNDWATER ELEVATION
- GP-1 — GAS PROBE LOCATION
- P-9 — PIEZOMETER WELL LOCATION
- SUPPLY WELL
- MW-1 — ABANDONED WELL
- 61.00 — GROUNDWATER CONTOUR LINE (0.1' INTERVALS)
- GROUNDWATER FLOW DIRECTION

* NOT USED IN CONTOURING

N

SCALE IN FEET

200 100 0 200 400



HDR ENGINEERING, INC.
303 E. FORSYTH ST.
SUITE 500
JACKSONVILLE, FL 32202
(904) 396-0303

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	J. LOCKLEAR, P.E.
DESIGNED	
DESIGNED	
CHECKED BY	
DRAWN BY	M. AUSTIN
DRAWN BY	D. SOSA
PROJECT NUMBER	59355

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER CONTOUR MAP
FLORIDAN AQUIFER
APRIL 15, 2009

FILENAME: FIG-01.dwg
SCALE: 1"=200'
SHEET: FIG-01

LEGEND

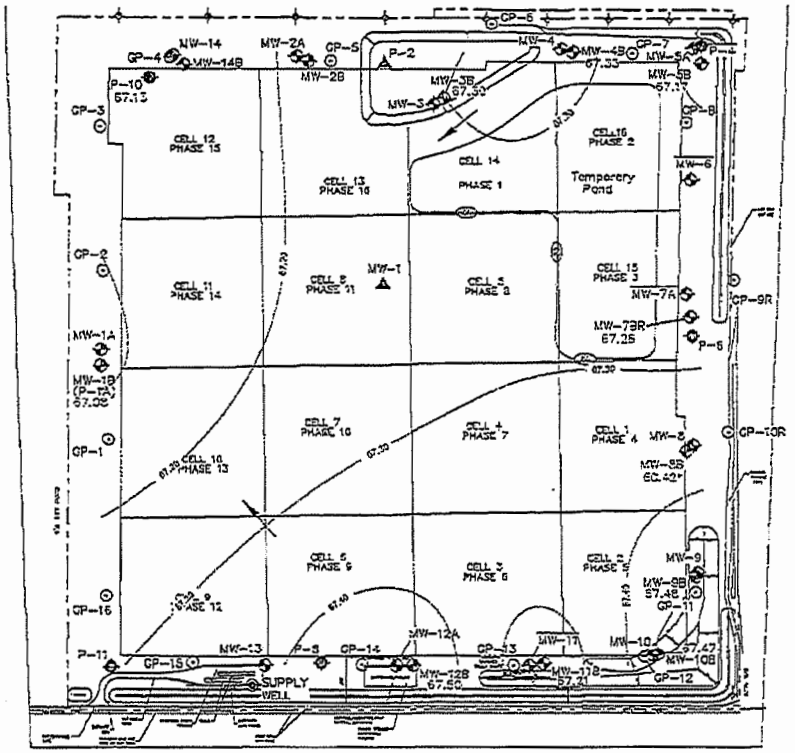
- MW-4B — MONITORING WELL LOCATION
- 67.33 — GROUNDWATER ELEVATION
- GP-1 — GAS PROBE LOCATION
- P-9 — PIEZOMETER WELL LOCATION
- SUPPLY WELL
- MW-1 — ABANDONED WELL
- 67.30 — GROUNDWATER CONTOUR LINE (0.1' INTERVALS)
- GROUNDWATER FLOW DIRECTION

* NOT USED IN CONTOURING

N

SCALE IN FEET

200 100 0 200 400



HDR ENGINEERING, INC.
220 W. FORSYTH ST.
SUITE 500
JACKSONVILLE, FL 32202
(904) 223-8900

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	J. LOCKLEAR, P.G.
DESIGNED	
DRAWN	
CHECKED	
DRAWN BY	M. AUSTIN
CHECK BY	S. SOSA
PROJECT NUMBER	40055

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER CONTOUR MAP
FLORIDAN AQUIFER
OCTOBER 6, 2009

FILENAME: TBC-01.dwg
SCALE: 1"=200'

FIG-01

LEGEND

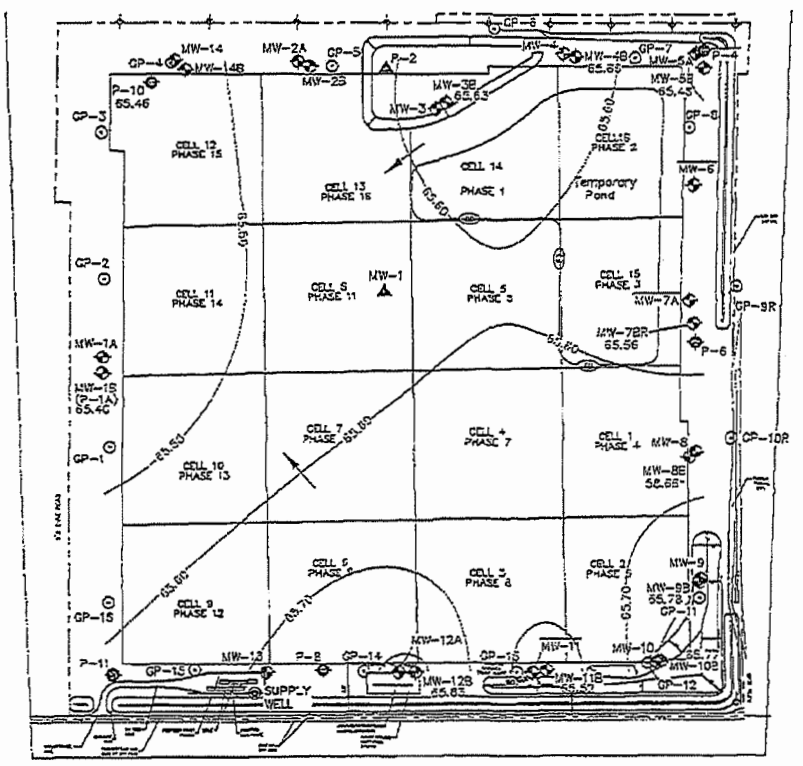
- MW-4B — MONITORING WELL LOCATION
- 65.95 — GROUNDWATER ELEVATION
- GP-1 — GAS PROBE LOCATION
- P-9 — PIEZOMETER WELL LOCATION
- SUPPLY WELL
- MW-1 — ABANDONED WELL
- 65.60 — GROUNDWATER CONTOUR LINE (0.1' INTERVALS)
- GROUNDWATER FLOW DIRECTION

* NOT USED IN CONTOURING

N

SCALE IN FEET

200 100 0 200 400



HDR ENGINEERING, INC.
200 W. FORSYTH ST.
SUITE 600
JACKSONVILLE, FL 32202
(904) 350-8800

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER: J. LOCKLEAR, P.E.
DESIGNED:
DRAWN BY: K. AUSTIN
CHECKED BY:
PROJECT NUMBER: 59033

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER CONTOUR MAP
FLORIDAN AQUIFER
DECEMBER 21, 2009

FILENAME: FIG-01.DWG
SCALE: 1"=200'
SHEET: FIG-01

LEGEND

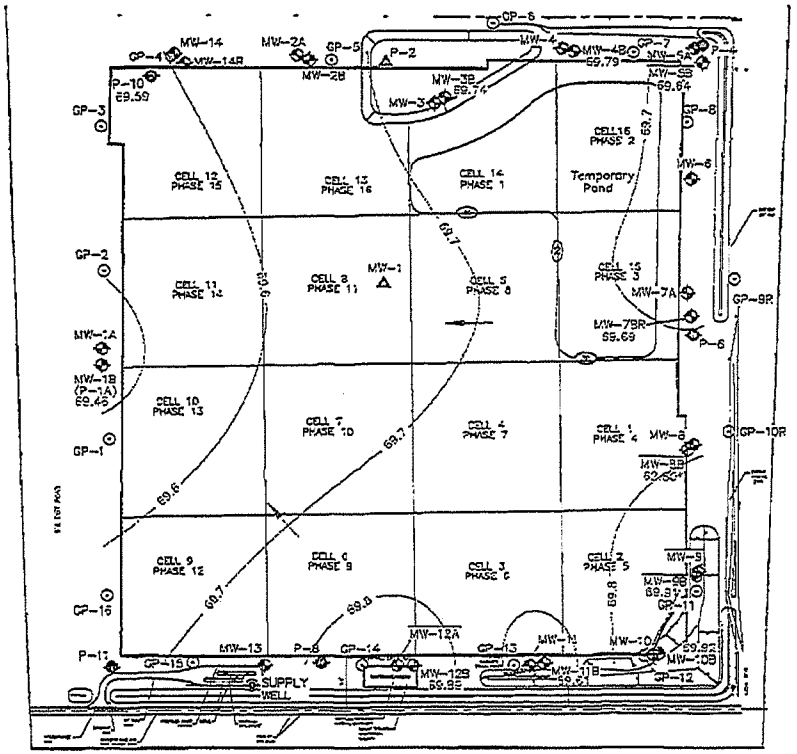
- MW-4B — MONITORING WELL LOCATION
- 69.79 — GROUNDWATER ELEVATION
- GP-1 — GAS PROBE LOCATION
- P-9 — PIEZOMETER WELL LOCATION
- SUPPLY WELL
- MW-1 — ABANDONED WELL
- 69.7 — GROUNDWATER CONTOUR LINE (0.1' INTERVALS)
- GROUNDWATER FLOW DIRECTION.

* NOT USED IN CONTOURING

N

SCALE IN FEET

200 100 0 200 400



HDR
HDR ENGINEERING, INC.
300 W. ADAMS ST.
SUITE 300
JACKSONVILLE, FL 32202
(904) 396-8303

ISSUE	DATE	DESCRIPTION

PROJECT MANAGER M. LOCKLEAR, P.E.
DESIGNED
DESIGNED BY
CHECKED BY
DRAWN BY M. AUSTIN
DRAWN BY C. BREWER
PROJECT NUMBER 97630

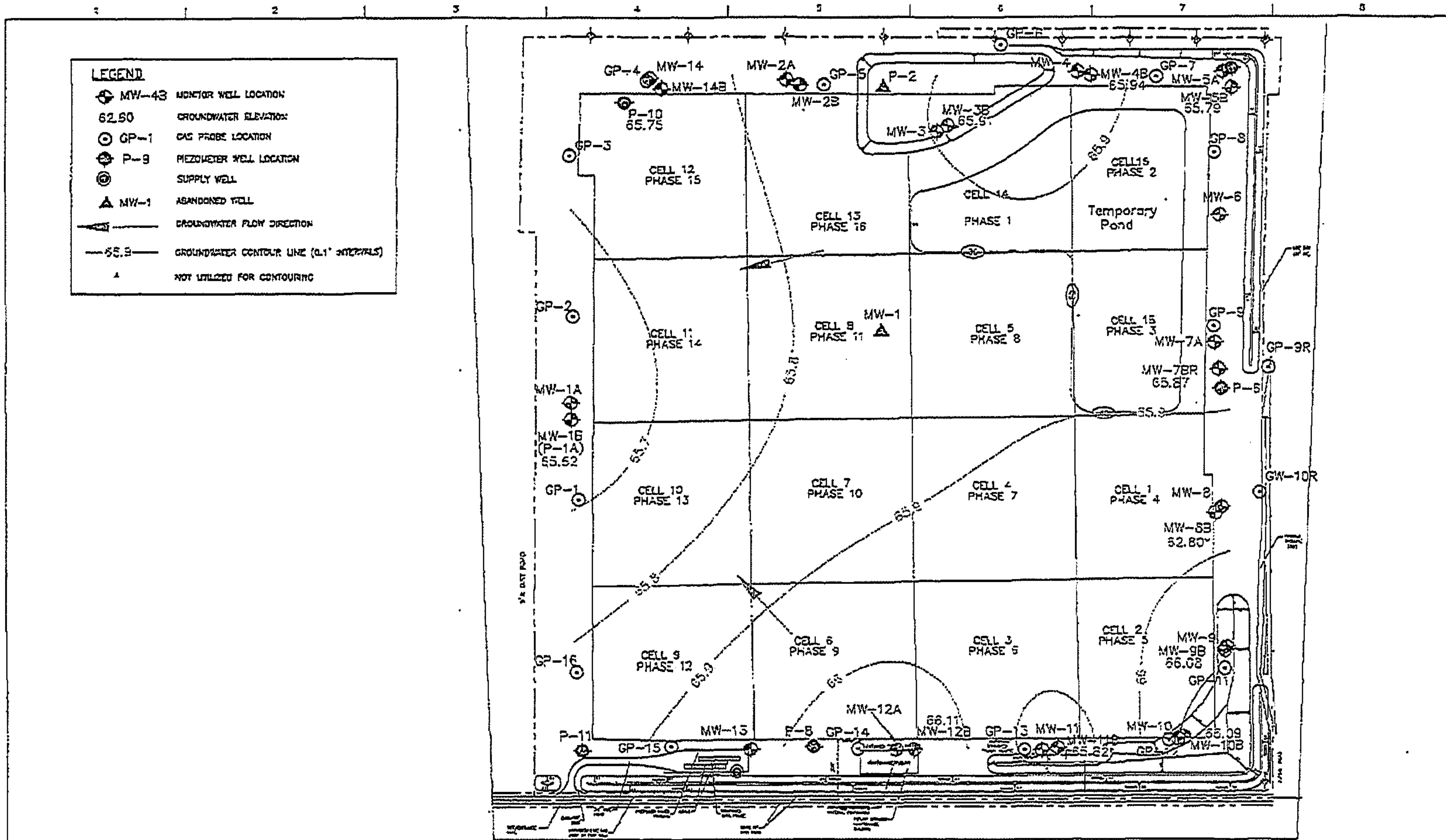
ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER CONTOUR MAP
FLORIDAN AQUIFER
SEPTEMBER 7, 2010

0 1" 2"
IF THIS BAR DOES NOT MEASURE ONE INCH ADJUST SCALE ACCORDINGLY

FILENAME FIG-01.dwg
SCALE 1"=200'

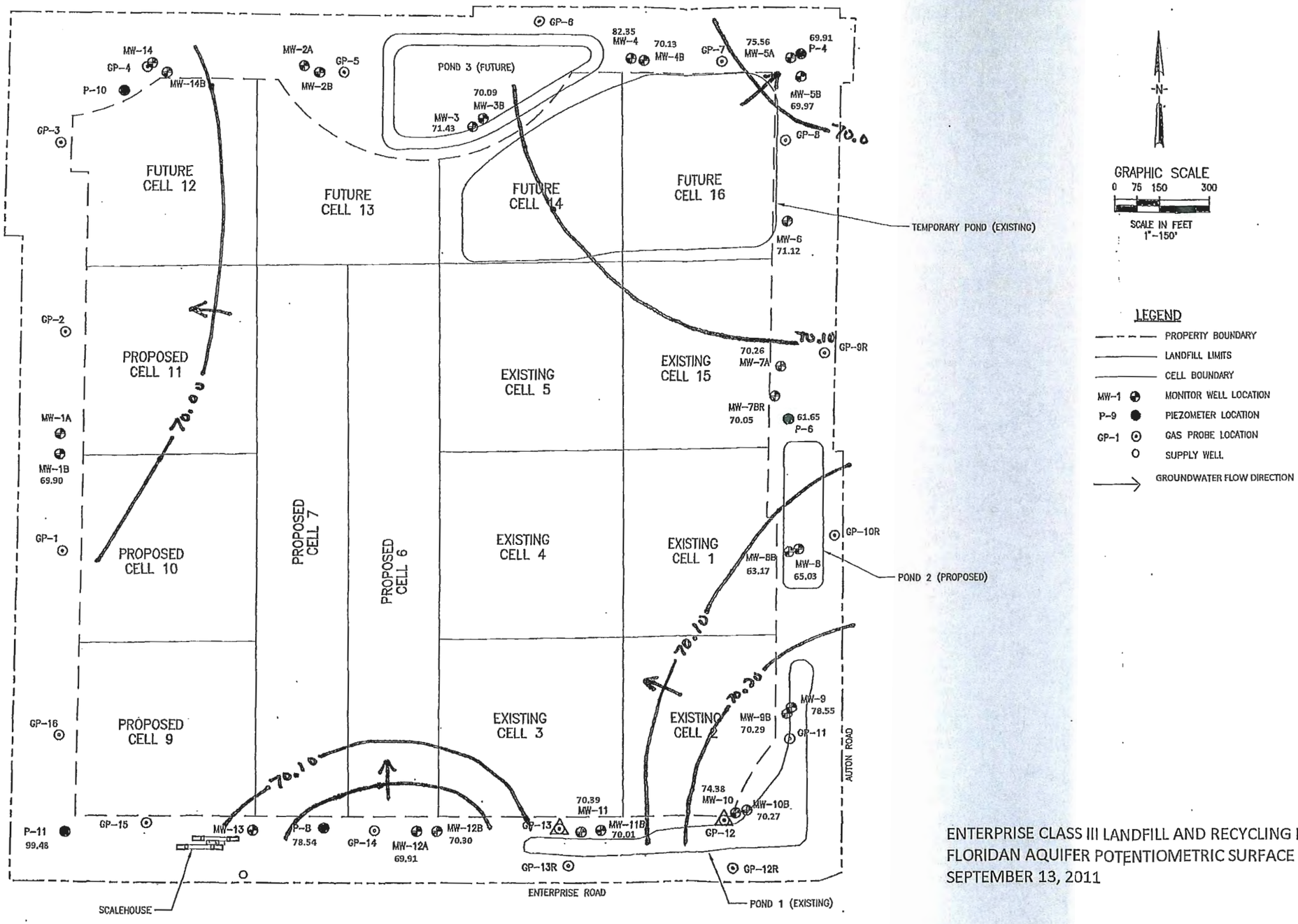
SHEET FIG-01



Floridan Aquifer Potentiometric Contours

March 2011

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA



ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
FLORIDAN AQUIFER POTENTIOMETRIC SURFACE CONTOURS
SEPTEMBER 13, 2011

APPENDIX G
GROUNDWATER ANALYTICAL DATA TABLES

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		CONDUC-TIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	GROUND-WATER ELEVATION	pH (FIELD)	REDOX POTENTIAL	TEMPER-ATURE (FIELD)	TURBIDITY (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	TOTAL DISSOLVED SOLIDS	ANTIMONY	ARSENIC	BARIUM
STANDARD UNITS		(1) µmhos/cm	(1) ppm	(1) NGVD FT	6.5-8.5 S.U.** S.U.	(1) mV	(1) deg C	(1) NTU	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	500 mg/L** mg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L
Background															
MW-1B	10/7/2009	284	4.70	67.08	7.67	74.6	23.96	1.46	<0.010	9.7	3.3	180	<0.700	<4.00	<11.0
MW-1B	12/30/2009	283	5.33	65.40	7.40	68.5	25.03	16.20	<0.010	11	4.3	180	<0.700	<4.00	<11.0
MW-1B	9/7/2010	286	5.17	69.46	7.39	72.4	24.67	4.40	<0.010	14	4.2	180	<0.700	<4.00	<11.0
MW-1B	3/15/2011	341	4.97	65.62	7.52	-34.8	23.57	17.20	<0.0065	16	5.9	210	<0.950	<4.10	<17.0
MW-1B	9/13/2011	393	7.01	69.90	7.45	9.6	22.87	1.60	<0.0073	27	8.4	270	<0.950	<4.10	<17.0
Detection															
MW-3B	4/15/2009	345	2.68	61.02	7.34	93.4	24.30	0.320	<0.010	5.9	0.62	188	<0.700	<4.00	<11.0
MW-3B	10/6/2009	344	1.71	67.30	7.25	112.3	24.53	0.20	<0.010	5.2	0.78 I	190	<0.700	<4.00	<11.0
MW-3B	12/21/2009	324	1.90	65.63	6.99	81.8	24.03	0.70	<0.010	5.0	0.46	170	<0.700	<4.00	<11.0
MW-3B	9/9/2010	314	1.86	69.74	6.91	13.1	24.50	1.10	<0.010	5.3	0.44 I	200	<0.700	<4.00	<11.0
MW-3B	3/15/2011	361	1.73	65.91	7.19	-54.6	23.18	0.90	<0.0065	5.2	0.58 I	230	<0.950	<4.10	<17.0
MW-3B	9/14/2011	336	2.27	70.09	7.15	35.4	23.29	0.40	<0.0073	5.2	0.57 I	200	<0.950	<4.10	<17.0
MW-4	10/7/2009	1007	0.48	80.26	5.94	164.7	26.32	3.52	0.025	13	1.3	530	<0.700	<4.00	26.3 I
MW-4	9/9/2010	622	3.30	81.22	6.05	52.0	27.14	14.90	<0.010	9.5	0.77 I	440	0.720 I	<4.00	18.8 I
MW-4	9/14/2011	853	2.49	82.35	6.16	66.9	25.53	9.90	<0.0073	14	<0.052	450	<0.950	<4.10	<17.0
MW-4B	4/15/2009	280	3.41	61.05	7.53	51.4	24.74	0.500	<0.010	5.6	0.47	156	<0.700	<4.00	<11.0
MW-4B	10/6/2009	258	2.47	67.33	7.52	126.8	24.61	0.13	<0.010	5.7	0.73 I	170	<0.700	<4.00	<11.0
MW-4B	12/21/2009	247	2.78	65.66	7.29	62.1	24.52	2.80	<0.010	5.5	0.44	140	<0.700	<4.00	<11.0
MW-4B	9/8/2010	225	2.58	69.79	6.95	74.1	24.49	0.40	<0.010	5.7	0.36 I	150	<0.700	<4.00	<11.0
MW-4B	3/15/2011	251	2.53	65.94	7.56	-50.1	23.84	0.50	<0.0065	5.7	0.58 I	170	<0.950	<4.10	<17.0
MW-4B	9/14/2011	248	2.89	70.13	7.49	37.7	22.36	0.50	<0.0073	5.9	0.58 I	170	<0.950	<4.10	<17.0
MW-5A	4/16/2009	65	5.41	65.62	4.93	359.3	20.11	22.9	<0.010	5.6	0.58	80	<0.700	<4.00	<11.0
MW-5A	10/7/2009	74	5.17	71.80	5.00	217.3	25.88	1.98	<0.010	6.1	0.92 I	100	<0.700	<4.00	<11.0
MW-5A	12/22/2009	64	5.66	69.65	4.84	298.0	22.75	18.20	<0.010	5.8	0.71 I	28	<0.700	<4.00	<11.0
MW-5A	9/8/2010	70	2.19	74.02	5.13	162.8	25.38	6.00	<0.010	6.4	0.22 I	48	<0.700	<4.00	<11.0
MW-5A	3/16/2011	65	4.79	70.58	4.56	33.1	22.85	15.90	<0.0065	5.9	0.88 I	70	<0.950	<4.10	<17.0
MW-5A	9/14/2011	82	4.90	75.56	4.78	41.2	25.67	1.90	<0.0073	4.6 I	1.2	64	<0.950	<4.10	<17.0
MW-5B	4/15/2009	282	3.35	60.89	7.47	44.3	24.62	0.770	<0.010	4.7 I	1.1	158	<0.700	<4.00	<11.0
MW-5B	10/6/2009	261	2.57	67.17	7.53	132.3	24.60	0.84	<0.010	4.7 I	1.2	180	<0.700	<4.00	<11.0
MW-5B	12/21/2009	251	2.41	65.48	7.32	53.2	24.17	5.50	<0.010	4.5 I	0.98	140	<0.700	<4.00	<11.0
MW-5B	9/8/2010	236	3.59	69.64	7.22	36.8	23.65	0.90	<0.010	4.7 I	0.82 I	140	<0.700	<4.00	<11.0
MW-5B	3/16/2011	262	3.54	65.79	7.55	0.5	22.95	1.50	<0.0065	4.7 I	1.2	150	<0.950	<4.10	<17.0
MW-5B	9/14/2011	249	3.86	69.97	7.40	29.8	22.53	0.80	<0.0073	4.8 I	1.2	140	<0.950	<4.10	<17.0

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		CONDUC-TIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	GROUND-WATER ELEVATION	pH (FIELD)	REDOX POTENTIAL	TEMPER-ATURE (FIELD)	TURBIDITY (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	TOTAL DISSOLVED SOLIDS	ANTIMONY	ARSENIC	BARIUM
STANDARD UNITS		(1) µmhos/cm	(1) ppm	(1) NGVD FT	6.5-8.5 S.U.** S.U.	(1) mV	(1) deg C	(1) NTU	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	500 mg/L** mg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L
MW-6	10/7/2009	95	5.41	67.85	5.29	188.0	26.25	2.78	<0.010	11	2.1	100	<0.700	<4.00	<11.0
MW-6	12/30/2009	91	5.59	65.64	4.98	-	24.03	11.50	<0.010	7.1	1.5	110	<0.700	<4.00	<11.0
MW-6	9/8/2010	67	5.98	71.06	4.69	178.3	25.44	17.00	<0.010	7.0	0.76 I	56	<0.700	<4.00	<11.0
MW-6	9/14/2011	68	5.44	71.12	4.70	37.6	24.59	9.20	<0.0073	7.1	0.79 I	68	<0.950	<4.10	<17.0
MW-7A	10/7/2009	93	0.15	67.31	4.99	150.0	27.19	1.06	0.012 I	7.1	2.1	62	<0.700	<4.00	<11.0
MW-7A R	11/22/2009	92	0.17	65.84	5.04	190.7	24.31	0.64	-	-	-	-	-	-	-
MW-7A	12/30/2009	88	0.52	65.53	4.97	-	24.30	2.60	<0.010	9.3	<0.10	96	<0.700	<4.00	<11.0
MW-7A	9/8/2010	138	0.20	69.82	4.73	147.6	27.17	3.90	0.032	17	0.11 I	88	<0.700	<4.00	<11.0
MW-7A	3/15/2011	133	0.55	65.87	4.96	71.1	23.97	2.20	0.036	17	0.35 I	98	<0.950	<4.10	<17.0
MW-7A	9/13/2011	143	0.27	70.26	5.10	104.0	24.89	4.00	0.014 I	20	<0.052	76	<0.950	<4.10	<17.0
MW-7BR	4/15/2009	213	0.83	60.97	9.25	-56.9	25.77	1.91	<0.010	5.1	0.84	112	<0.700	<4.00	<11.0
MW-7BR	10/6/2009	216	0.94	67.26	8.98	131.4	25.84	2.13	<0.010	5.2	1.0 IQ	130	<0.700	<4.00	<11.0
MW-7BR	12/22/2009	211	1.09	65.56	8.37	49.5	24.57	8.90	<0.010	4.8 I	0.81 I	130	<0.700	<4.00	<11.0
MW-7BR	9/8/2010	220	1.17	69.69	8.39	14.0	24.99	14.50	<0.010	5.4	0.69 I	130	<0.700	<4.00	<11.0
MW-7BR	3/15/2011	244	1.39	65.87	8.11	-75	24.57	2.50	<0.0065	5.4	0.88 I	140	<0.950	<4.10	<17.0
MW-7BR	9/13/2011	236	2.05	70.05	7.69	35.4	23.44	5.00	<0.0073	5.4	0.92 I	140	<0.950	<4.10	<17.0
MW-8B	4/15/2009	698	0.11	54.08	6.96	-89.5	27.90	0.270	0.15	5.4	0.009 I	368	<0.700	<4.00	119
MW-8B	10/6/2009	739	0.12	60.42	6.55	-208.9	27.02	3.73	2.7	5.8	<0.10	420	<0.700	<4.00	186
MW-8B	12/30/2009	650	0.28	58.66	6.53	-	25.84	2.80	2.0	5.5	<0.10	340	<0.700	<4.00	204
MW-8B	9/8/2010	542	0.13	62.80	6.65	-96.3	26.06	1.00	1.6	6.6	<0.10	340	<0.700	<4.00	133
MW-8B	3/14/2011	650	0.24	58.96	6.63	-301	25.35	1.00	0.96	6.1	<0.29	320	<0.950	<4.10	100
MW-8B	9/13/2011	577	0.27	63.17	6.75	-140.5	24.72	1.00	1.3	7.3	<0.052	350	<0.950	<4.10	82.0 I
MW-9B	10/7/2009	484	3.60	67.48	6.99	104.5	28.14	0.52	0.017 I	9.2	0.40 I	290	<0.700	<4.00	<11.0
MW-9B	9/7/2010	460	3.40	69.91	6.59	69.0	26.01	2.30	<0.010	7.5	1.6	320	<0.700	<4.00	<11.0
MW-9B	3/14/2011	575	3.30	66.08	6.79	60.1	24.77	1.50	<0.0065	7.1	1.9	310	<0.950	<4.10	<17.0
MW-9B	9/13/2011	524	3.28	70.29	6.88	74.1	24.80	2.00	<0.0073	7.1	2.0	340	<0.950	<4.10	<17.0
MW-10B	4/15/2009	230	5.15	61.20	7.35	-64.6	26.13	0.160	<0.010	6.7	1.1	146	<0.700	<4.00	<11.0
MW-10B	10/6/2009	234	1.56	67.47	7.28	-64.2	25.88	0.19	<0.010	6.8	1.6	160	<0.700	<4.00	<11.0
MW-10B	12/22/2009	220	1.00	65.77	6.87	112.4	24.58	0.60	0.010 I	6.6	1.2	130	<0.700	<4.00	<11.0
MW-10B	9/7/2010	256	0.43	69.92	6.46	-75.4	25.04	0.30	<0.010	7.4	1.7	150	<0.700	<4.00	<11.0
MW-10B	3/14/2011	308	0.56	66.09	7.03	-150.7	24.25	0.50	<0.0065	7.6	2.7	150	<0.950	<4.10	<17.0
MW-10B	9/13/2011	283	0.79	70.27	6.96	-50.5	24.32	0.60	<0.0073	7.6	2.7	170	<0.950	<4.10	<17.0
MW-11	10/8/2009	62	0.20	67.37	4.92	1.4	24.21	0.85	<0.010	6.4	0.41 I	48	<0.700	<4.00	<11.0
MW-11	9/7/2010	71	0.44	69.84	4.87	135.1	27.69	15.40	0.060	6.9	0.25 I	42	<0.700	<4.00	<11.0
MW-11	3/14/2011	77	0.53	66.21	4.56	-87	24.92	46.00	0.013 I	7.0	<0.29	36	<0.950	<4.10	<17.0
MW-11	9/14/2011	79	0.41	70.39	4.63	11.8	23.99	15.90	0.066	7.1	<0.052	50	<0.950	<4.10	<17.0

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		CONDUC-TIVITY (FIELD)	DISSOLVED OXYGEN (FIELD)	GROUND-WATER ELEVATION	pH (FIELD)	REDOX POTENTIAL	TEMPER-ATURE (FIELD)	TURBIDITY (FIELD)	AMMONIA NITROGEN	CHLORIDE	NITRATE NITROGEN	TOTAL DISSOLVED SOLIDS	ANTIMONY	ARSENIC	BARIUM
STANDARD UNITS		(1) µmhos/cm	(1) ppm	(1) NGVD FT	6.5-8.5 S.U.** S.U.	(1) mV	(1) deg C	(1) NTU	2.8 mg/L*** mg/L	250 mg/L** mg/L	10 mg/L* mg/L	500 mg/L** mg/L	6 µg/L* µg/L	10 µg/L* µg/L	2000 µg/L* µg/L
MW-11B	4/15/2009	209	6.13	60.93	6.46	143.4	24.52	1.54	<0.010	7.2	2.8	134	<0.700	<4.00	<11.0
MW-11B	10/6/2009	198	4.93	67.21	6.64	96.4	24.66	1.12	<0.010	7.1	2.6	120	<0.700	<4.00	<11.0
MW-11B	12/22/2009	185	4.58	65.52	6.13	101.1	24.27	2.00	<0.010	6.7	2.2	110	<0.700	<4.00	<11.0
MW-11B	9/7/2010	180	3.24	69.61	5.85	109.6	24.20	4.20	<0.010	8.1	1.3	120	<0.700	<4.00	<11.0
MW-11B	3/14/2011	190	2.19	65.82	5.99	63.1	23.41	3.00	<0.0065	9.1	2.0	120	<0.950	<4.10	<17.0
MW-11B	9/14/2011	181	1.61	70.01	6.00	63.3	22.63	4.30	<0.0073	11	1.8	88	<0.950	<4.10	<17.0
MW-12B	4/15/2009	166	7.57	61.24	5.79	244.7	25.27	0.340	<0.010	12	8.3	154	<0.700	<4.00	<11.0
MW-12B	10/6/2009	210	5.65	67.50	6.73	91.5	25.40	0.18	<0.010	9.5	4.8	170	<0.700	<4.00	<11.0
MW-12B	12/22/2009	161	7.16	65.83	5.83	180.8	24.50	1.50	<0.010	11	6.9	98	<0.700	<4.00	<11.0
MW-12B	9/7/2010	200	5.37	69.89	6.18	124.7	24.43	0.40	<0.010	10	4.1	140	<0.700	<4.00	<11.0
MW-12B	3/14/2011	167	7.00	66.11	6.16	-9.4	23.48	0.50	<0.0065	12	6.8	140	<0.950	<4.10	<17.0
MW-12B	9/14/2011	225	6.41	70.30	6.87	36.1	22.55	0.50	<0.0073	10	4.8	160	<0.950	<4.10	<17.0
Other, Water Supply															
SUPPLY WELL	4/15/2009	318	4.12	-	7.28	31.1	23.86	0.230	<0.010	7.9	3.1	212	<0.700	<4.00	<11.0
SUPPLY WELL	10/6/2009	311	2.96	-	7.43	83.7	24.35	1.00	<0.010	7.7	2.4	210	<0.700	<4.00	<11.0
SUPPLY WELL	12/21/2009	302	2.92	-	7.21	69.1	22.55	0.60	<0.010	7.9	2.6	160	<0.700	<4.00	<11.0
SUPPLY WELL	9/7/2010	281	2.69	-	7.09	72.0	25.16	0.20	<0.010	8.7	2.2	200	<0.700	<4.00	<11.0
Supply Well	3/14/2011	334	2.46	-	7.33	-78.1	23.12	0.20	<0.0065	8.6	2.6	170	<0.950	<4.10	<17.0
Supply Well	9/13/2011	306	2.59	-	7.41	10.9	23.96	1.00	<0.0073	8.8	2.6	200	<0.950	<4.10	<17.0
Surface Water															
TEMP POND	9/9/2010	295	1.10	-	7.05	-	26.94	2.60	<0.010	12	<0.10	200	0.0904 I	1.43	4.68 I
TEMP POND	9/14/2011	277	3.29	-	6.77	-	27.26	4.00	<0.0073	16	<0.052	160	<0.950	<4.10	<17.0

LEGEND

* =Primary Drinking Water Standard
** =Secondary Drinking Water Standard
*** =Chapter 62-777-Groundwater Cleanup Target Level (GCTL)
(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
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		BERYLLIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MERCURY	NICKEL	SILVER	SODIUM	VANADIUM	ZINC	1,2-DIBROMO-ETHANE (EDB)	1,2-DICHLORO-ETHANE
STANDARD UNITS		4 µg/L* µg/L	100 µg/L* µg/L	140µg/L*** µg/L	1000 µg/L** µg/L	300 µg/L** µg/L	15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	100 µg/L** µg/L	160 mg/L* mg/L	49 µg/L*** µg/L	5000 µg/L** µg/L	0.02 µg/L* µg/L	3 µg/L* µg/L
Background															
MW-1B	10/7/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	5.66	2.30 I	<16.0	<0.009	<0.34
MW-1B	12/30/2009	<0.740	123	<1.20	3.83 I	656	<1.20	<0.0240	66.7	<0.200	5.90	<0.960	<16.0	<0.009	<0.34
MW-1B	9/7/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	6.30	2.31 I	<16.0	<0.009	<0.34
MW-1B	3/15/2011	<0.940	12.6	<2.10	<2.20	114	<1.60	<0.0110	7.49 I	<0.290	6.80	3.04 I	<16.0	<0.003	<0.50
MW-1B	9/13/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	<2.30	<0.290	9.19	<1.70	<16.0	<0.003	<0.50
Detection															
MW-3B	4/15/2009	<0.730	<4.50	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	4.72	2.44 I	19.4 IV	<0.006	<0.34
MW-3B	10/6/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.25	3.13 I	<16.0	<0.009	<0.34
MW-3B	12/21/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.36	2.29 I	49.1 I	<0.009	<0.34
MW-3B	9/9/2010	0.854 I	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.34	3.23 I	<16.0	<0.009	<0.34
MW-3B	3/15/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	4.24	3.63 I	<16.0	<0.003	<0.50
MW-3B	9/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	<2.30	<0.290	4.24	2.71 I	<16.0	<0.003	<0.50
MW-4	10/7/2009	<0.740	<4.50	<1.20	2.93 I	81.2	<1.20	<0.0240	2.83 I	<0.200	53.8	2.55 I	23.4 I	0.010 I	<0.34
MW-4	9/9/2010	0.751 I	<4.50	<1.20	<2.20	367	<1.20	<0.0240	3.10 I	<0.200	20.7	3.25 I	374	<0.009	<0.34
MW-4	9/14/2011	<0.940	24.5	<2.10	<2.20	262	<1.60	<0.0230	14.1	<0.290	18.7	<1.70	<16.0	<0.003	<0.50
MW-4B	4/15/2009	<0.730	<4.50	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	4.93	2.55 I	18.2 IV	<0.006	<0.34
MW-4B	10/6/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.87	3.23 I	<16.0	<0.009	<0.34
MW-4B	12/21/2009	<0.740	<4.50	<1.20	<2.20	48.3 I	<1.20	<0.0240	<2.30	<0.200	5.03	2.44 I	20.9 I	<0.009	<0.34
MW-4B	9/8/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.83	3.05 I	<16.0	<0.009	<0.34
MW-4B	3/15/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	4.58	3.58 I	<16.0	<0.003	<0.50
MW-4B	9/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	<2.30	<0.290	4.63	2.75 I	<16.0	<0.003	<0.50
MW-5A	4/16/2009	<0.730	<4.50	<1.20	<2.20	556	<1.20	<0.015	<2.30	<0.200	4.20	1.11 I	31.7 IV	<0.006	<0.34
MW-5A	10/7/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.08	<0.960	<16.0	<0.009	<0.34
MW-5A	12/22/2009	<0.740	<4.50	<1.20	2.87 I	423	2.00 I	<0.0240	<2.30	<0.200	4.09	<0.960	25.9 I	<0.009	<0.34
MW-5A	9/8/2010	<0.740	<4.50	<1.20	<2.20	178	<1.20	<0.0240	<2.30	<0.200	3.91	<0.960	<16.0	<0.009	<0.34
MW-5A	3/16/2011	<0.940	<4.50	<2.10	<2.20	224	<1.60	<0.0110	<2.30	<0.290	3.86	<1.70	<16.0	<0.003	<0.50
MW-5A	9/14/2011	<0.940	<4.50	<2.10	2.72 I	<38.0	<1.60	<0.0230	<2.30	<0.290	3.56	<1.70	<16.0	<0.003	<0.50
MW-5B	4/15/2009	<0.730	<4.50	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	3.88	6.39 I	24.0 IV	<0.006	<0.34
MW-5B	10/6/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	3.75	7.30 I	<16.0	<0.009	<0.34
MW-5B	12/21/2009	<0.740	<4.50	<1.20	<2.20	65.1	<1.20	<0.0240	<2.30	<0.200	3.82	6.92 I	<16.0	<0.009	<0.34
MW-5B	9/8/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	3.58	7.13 I	<16.0	<0.009	<0.34
MW-5B	3/16/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	3.60	7.40 I	<16.0	<0.003	<0.50
MW-5B	9/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	<2.30	<0.290	3.50	6.20 I	<16.0	<0.003	<0.50

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		BERYLLIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MERCURY	NICKEL	SILVER	SODIUM	VANADIUM	ZINC	1,2-DIBROMO-ETHANE (EDB)	1,2-DICHLORO-ETHANE
STANDARD UNITS		4 µg/L* µg/L	100 µg/L* µg/L	140µg/L*** µg/L	1000 µg/L** µg/L	300 µg/L** µg/L	15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	100 µg/L** µg/L	160 mg/L* mg/L	49 µg/L*** µg/L	5000 µg/L** µg/L	0.02 µg/L* µg/L	3 µg/L* µg/L
MW-6	10/7/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	6.57	<0.960	17.1 I	<0.009	<0.34
MW-6	12/30/2009	<0.740	<4.50	<1.20	<2.20	394	<1.20	<0.0240	<2.30	<0.200	5.08	<0.960	<16.0	<0.009	<0.34
MW-6	9/8/2010	<0.740	<4.50	<1.20	<2.20	292	<1.20	<0.0240	<2.30	<0.200	4.94	1.43 I	<16.0	<0.009	<0.34
MW-6	9/14/2011	<0.940	5.04 I	<2.10	<2.20	153	<1.60	<0.0230	<2.30	<0.290	4.69	<1.70	<16.0	<0.003	<0.50
MW-7A	10/7/2009	<0.740	<4.50	<1.20	<2.20	109	<1.20	4.58	<2.30	<0.200	4.15	<0.960	<16.0	0.024	<0.34
MW-7A R	11/22/2009	-	-	-	-	-	-	2.35	-	-	-	-	-	<0.009	-
MW-7A	12/30/2009	<0.740	<4.50	<1.20	<2.20	354	<1.20	1.31	2.38 I	<0.200	4.21	<0.960	<16.0	<0.009	<0.34
MW-7A	9/8/2010	<0.740	5.30 I	<1.20	<2.20	1280	<1.20	0.150 I	6.32 I	<0.200	5.60	<0.960	<16.0	<0.009	<0.34
MW-7A	3/15/2011	<0.940	<4.50	<2.10	<2.20	296	<1.60	0.748	<2.30	<0.290	5.20	<1.70	<16.0	<0.003	<0.50
MW-7A	9/13/2011	<0.940	<4.50	<2.10	<2.20	285	<1.60	0.276	4.90 I	0.352 I	5.75	<1.70	<16.0	<0.003	<0.50
MW-7BR	4/15/2009	<0.730	9.69 I	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	5.85	13.7	18.9 IV	<0.006	<0.34
MW-7BR	10/6/2009	<0.740	6.50 I	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	5.19	17.5	<16.0	<0.009	<0.34
MW-7BR	12/22/2009	<0.740	7.58 I	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	5.17	17.8	<16.0	<0.009	<0.34
MW-7BR	9/8/2010	<0.740	6.16 I	<1.20	<2.20	53.2	<1.20	<0.0240	<2.30	<0.200	4.98	15.5	<16.0	<0.009	<0.34
MW-7BR	3/15/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	4.43	12.7	<16.0	<0.003	<0.50
MW-7BR	9/13/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	<2.30	<0.290	4.51	14.7	<16.0	<0.003	<0.50
MW-8B	4/15/2009	<0.730	<4.50	<1.20	<2.20	1940	<1.20	<0.015	2.61 I	<0.200	4.38	<0.960	<16.0	<0.006	<0.34
MW-8B	10/6/2009	<0.740	<4.50	3.10 I	<2.20	5350	<1.20	<0.0240	5.28 I	<0.200	4.84	<0.960	<16.0	<0.009	<0.34
MW-8B	12/30/2009	<0.740	<4.50	3.04 I	<2.20	4850	<1.20	<0.0240	5.57 I	<0.200	4.49	<0.960	<16.0	<0.009	<0.34
MW-8B	9/8/2010	<0.740	<4.50	<1.20	<2.20	4680	<1.20	<0.0240	4.99 I	<0.200	5.34	<0.960	<16.0	<0.009	<0.34
MW-8B	3/14/2011	<0.940	<4.50	<2.10	<2.20	3740	<1.60	<0.0110	4.87 I	<0.290	4.78	<1.70	<16.0	<0.003	<0.50
MW-8B	9/13/2011	<0.940	<4.50	<2.10	<2.20	4350	<1.60	<0.0230	3.65 I	0.305 I	6.28	<1.70	<16.0	<0.003	<0.50
MW-9B	10/7/2009	<0.740	<4.50	<1.20	<2.20	53.2	<1.20	<0.0240	<2.30	<0.200	5.00	3.82 I	<16.0	<0.009	<0.34
MW-9B	9/7/2010	<0.740	<4.50	<1.20	<2.20	48.3 I	<1.20	<0.0240	3.06 I	<0.200	5.40	3.72 I	<16.0	<0.009	<0.34
MW-9B	3/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	2.88 I	<0.290	5.39	3.89 I	<16.0	<0.003	<0.50
MW-9B	9/13/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0230	3.46 I	<0.290	5.47	2.08 I	<16.0	<0.003	<0.50
MW-10B	4/15/2009	<0.730	<4.50	<1.20	<2.20	59.9	<1.20	<0.015	<2.30	<0.200	4.90	2.42 I	<16.0	<0.006	<0.34
MW-10B	10/6/2009	<0.740	<4.50	<1.20	<2.20	58.0	<1.20	<0.0240	<2.30	<0.200	4.73	3.11 I	<16.0	<0.009	<0.34
MW-10B	12/22/2009	<0.740	6.44 I	<1.20	<2.20	480	<1.20	<0.0240	3.18 I	<0.200	5.03	1.64 I	16.9 I	<0.009	<0.34
MW-10B	9/7/2010	<0.740	<4.50	<1.20	<2.20	74.1	<1.20	<0.0240	<2.30	<0.200	4.83	2.63 I	17.6 I	<0.009	<0.34
MW-10B	3/14/2011	<0.940	<4.50	<2.10	<2.20	38.5 I	<1.60	<0.0110	<2.30	<0.290	4.91	2.94 I	<16.0	<0.003	<0.50
MW-10B	9/13/2011	<0.940	<4.50	<2.10	<2.20	50.5	<1.60	<0.0230	4.30 I	<0.290	5.10	<1.70	<16.0	<0.003	<0.50
MW-11	10/8/2009	<0.740	<4.50	<1.20	<2.20	1260	<1.20	<0.0240	<2.30	<0.200	5.52	<0.960	<16.0	<0.009	<0.34
MW-11	9/7/2010	<0.740	<4.50	<1.20	<2.20	3790	<1.20	<0.0240	<2.30	<0.200	5.49	<0.960	<16.0	<0.009	<0.34
MW-11	3/14/2011	<0.940	696	10.6	18.9	6220	<1.60	0.0373 I	445	0.349 I	5.82	<1.70	16.6 I	<0.003	<0.50
MW-11	9/14/2011	<0.940	<4.50	<2.10	2.32 I	7140	<1.60	<0.0230	<2.30	<0.290	5.51	<1.70	<16.0	<0.003	<0.50

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		BERYLLIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD	MERCURY	NICKEL	SILVER	SODIUM	VANADIUM	ZINC	1,2-DIBROMO-ETHANE (EDB)	1,2-DICHLORO-ETHANE
STANDARD UNITS		4 µg/L* µg/L	100 µg/L* µg/L	140µg/L*** µg/L	1000 µg/L** µg/L	300 µg/L** µg/L	15 µg/L* µg/L	2 µg/L* µg/L	100 µg/L* µg/L	100 µg/L** µg/L	160 mg/L* mg/L	49 µg/L*** µg/L	5000 µg/L** µg/L	0.02 µg/L* µg/L	3 µg/L* µg/L
MW-11B	4/15/2009	<0.730	<4.50	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	4.84	2.31 I	18.0 IV	<0.006	<0.34
MW-11B	10/6/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.65	2.66 I	<16.0	<0.009	<0.34
MW-11B	12/22/2009	<0.740	<4.50	<1.20	<2.20	38.6 I	<1.20	<0.0240	<2.30	<0.200	5.39	1.87 I	19.0 I	<0.009	<0.34
MW-11B	9/7/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	0.212	<2.30	<0.200	5.22	2.68 I	26.9 I	<0.009	<0.34
MW-11B	3/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	0.314	<2.30	<0.290	5.77	2.95 I	<16.0	<0.003	<0.50
MW-11B	9/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	0.367	<2.30	<0.290	6.75	<1.70	<16.0	<0.003	<0.50
MW-12B	4/15/2009	<0.730	<4.50	<1.20	4.78 I	<38.0	<1.20	<0.015	<2.30	<0.200	7.70	<0.960	18.8 IV	<0.006	<0.34
MW-12B	10/6/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	5.95	1.98 I	<16.0	<0.009	<0.34
MW-12B	12/22/2009	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	7.61	<0.960	38.9 I	<0.009	<0.34
MW-12B	9/7/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	6.31	1.86 I	<16.0	<0.009	<0.34
MW-12B	3/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	7.13	1.98 I	<16.0	<0.003	<0.50
MW-12B	9/14/2011	<0.940	<4.50	<2.10	2.82 I	<38.0	<1.60	<0.0230	<2.30	<0.290	6.53	<1.70	<16.0	<0.003	<0.50
Other, Water Supply															
SUPPLY WELL	4/15/2009	<0.730	<4.50	<1.20	<2.20	<38.0	<1.20	<0.015	<2.30	<0.200	5.11	3.04 I	156 V	<0.006	<0.34
SUPPLY WELL	10/6/2009	<0.740	<4.50	<1.20	<2.20	92.5	<1.20	<0.0240	<2.30	<0.200	4.85	3.62 I	157	<0.009	0.37 I
SUPPLY WELL	12/21/2009	<0.740	<4.50	<1.20	<2.20	40.5 I	<1.20	<0.0240	<2.30	<0.200	4.95	2.58 I	142	<0.009	<0.34
SUPPLY WELL	9/7/2010	<0.740	<4.50	<1.20	<2.20	<38.0	<1.20	<0.0240	<2.30	<0.200	4.92	3.54 I	111	<0.009	<0.34
Supply Well	3/14/2011	<0.940	<4.50	<2.10	<2.20	<38.0	<1.60	<0.0110	<2.30	<0.290	5.13	4.28 I	<16.0	<0.003	<0.50
Supply Well	9/13/2011	<0.940	<4.50	<2.10	<2.20	97.0	<1.60	<0.0230	<2.30	<0.290	5.35	1.75 I	176	<0.003	<0.50
Surface Water															
TEMP POND	9/9/2010	0.100	<0.450	0.161 I	<0.220	512	<0.120	<0.0240	0.984 I	<0.0200	9.03	0.170 I	<1.60	<0.009	<0.34
TEMP POND	9/14/2011	<0.940	<4.50	<2.10	<2.20	345	<1.60	<0.0230	<2.30	<0.290	14.4	<1.70	<16.0	<0.003	<0.50

LEGEND

*	=Primary Drinking Water Standard	I	= Value is between the Method Detection Level (MDL) and the Reporting Detection Level (RDL)
**	=Secondary Drinking Water Standard	J	= Estimated value
***	=Chapter 62-777-Groundwater Cleanup Target Level (GCTL)	V	= Analyte found in associated method blank
(1)	=No Standard	Q	= Estimated value; analyte analyzed after acceptable holding time
-	=Not Analyzed		

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		ACETONE	BENZENE	CARBON DISULFIDE	CHLORO-FORM	METHYL-IODIDE	TOLUENE	TRICHLORO-FLUORO-METHANE	TOTAL VOCS
STANDARD UNITS		6300 µg/L*** µg/L	1 µg/L* µg/L	700 µg/L*** µg/L	70 µg/L*** µg/L	(1) µg/L	40 µg/L** µg/L	2100 µg/L*** µg/L	(1) µg/L
Background									
MW-1B	10/7/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-1B	12/30/2009	<1.0	<0.35	<0.48	0.37 I	<0.64	<0.43	<0.57	0.37
MW-1B	9/7/2010	<1.0	<0.35	<0.48	0.37 I	<0.64	<0.43	<0.57	0.37
MW-1B	3/15/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-1B	9/13/2011	8.3	<0.58	<1.9	0.94 I	<0.51	<0.58	<0.68	9.24
Detection									
MW-3B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-3B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-3B	12/21/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-3B	9/9/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-3B	3/15/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-3B	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-4	10/7/2009	59	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	59.01
MW-4	9/9/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-4	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-4B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-4B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-4B	12/21/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-4B	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-4B	3/15/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-4B	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-5A	4/16/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5A	10/7/2009	<1.0	<0.35	1.4 I	<0.37	<0.64	<0.43	<0.57	1.4
MW-5A	12/22/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5A	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5A	3/16/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-5A	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-5B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5B	12/21/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5B	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-5B	3/16/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-5B	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		ACETONE	BENZENE	CARBON DISULFIDE	CHLORO-FORM	METHYL-IODIDE	TOLUENE	TRICHLORO-FLUORO-METHANE	TOTAL VOCS
STANDARD UNITS		6300 µg/L*** µg/L	1 µg/L* µg/L	700 µg/L*** µg/L	70 µg/L*** µg/L	(1) µg/L	40 µg/L** µg/L	2100 µg/L*** µg/L	(1) µg/L
MW-6	10/7/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-6	12/30/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-6	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-6	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-7A	10/7/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	0.024
MW-7A R	11/22/2009	-	-	-	-	-	-	-	-
MW-7A	12/30/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7A	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7A	3/15/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-7A	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-7BR	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7BR	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7BR	12/22/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7BR	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-7BR	3/15/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-7BR	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-8B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-8B	10/6/2009	6.3	<0.35	<0.48	<0.37	<0.64	1.1	<0.57	7.4
MW-8B	12/30/2009	4.8 I	0.48 I	<0.48	<0.37	<0.64	<0.43	<0.57	5.28
MW-8B	9/8/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-8B	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-8B	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-9B	10/7/2009	<1.0	<0.35	<0.48	0.57 I	<0.64	<0.43	1.7	2.27
MW-9B	9/7/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	1.6	1.6
MW-9B	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	0.76 I	0.76
MW-9B	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	0.75 I	0.75
MW-10B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.93 I	0.93
MW-10B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.64 I	0.64
MW-10B	12/22/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	1.1	1.1
MW-10B	9/7/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.72 I	0.72
MW-10B	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-10B	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-11	10/8/2009	8.3	<0.35	4.5 I	<0.37	<0.64	<0.43	6.2	19
MW-11	9/7/2010	31	<0.35	<0.48	<0.37	<0.64	<0.43	5.1	36.1
MW-11	3/14/2011	7.4	<0.58	<1.9	<0.54	2.2	<0.58	<0.68	9.6
MW-11	9/14/2011	56	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	56

PARAMETERS AT OR ABOVE THE LABORATORY DETECTION LIMIT
ENTERPRISE CLASS III LANDFILL AND RECYCLING FACILITY
APRIL 2009 THROUGH SEPTEMBER 2011

PARAMETER		ACETONE	BENZENE	CARBON DISULFIDE	CHLORO-FORM	METHYL-IODIDE	TOLUENE	TRICHLORO-FLUORO-METHANE	TOTAL VOCS
STANDARD		6300 µg/L***	1 µg/L*	700 µg/L***	70 µg/L***	(1)	40 µg/L**	2100 µg/L***	(1)
UNITS		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MW-11B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	1.2	1.2
MW-11B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.70 I	0.7
MW-11B	12/22/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	2.0	2
MW-11B	9/7/2010	2.8 I	<0.35	<0.48	<0.37	<0.64	<0.43	2.0	4.8
MW-11B	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	1.2	1.2
MW-11B	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	1.4	1.4
MW-12B	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
MW-12B	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.74 I	0.74
MW-12B	12/22/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	0.81 I	0.81
MW-12B	9/7/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	1.1	1.1
MW-12B	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
MW-12B	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
Other, Water Supply									
SUPPLY WELL	4/15/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
SUPPLY WELL	10/6/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	0.37
SUPPLY WELL	12/21/2009	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
SUPPLY WELL	9/7/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
Supply Well	3/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
Supply Well	9/13/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-
Surface Water									
TEMP POND	9/9/2010	<1.0	<0.35	<0.48	<0.37	<0.64	<0.43	<0.57	-
TEMP POND	9/14/2011	<1.8	<0.58	<1.9	<0.54	<0.51	<0.58	<0.68	-

LEGEND

* =Primary Drinking Water Standard
** =Secondary Drinking Water Standard
*** =Chapter 62-777-Groundwater Cleanup Target Level (GCTL)
(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

APPENDIX H
DISSOLVED OXYGEN EVALUATION RESULTS

Enterprise Landfill Response to RAI 3:
Demonstration on the Levels of Natural Dissolved Oxygen in the Groundwater
10/24/2006

Introduction

The criteria for dissolved oxygen during purging, as detailed in the Department of Environmental Protection's Standard Operating Procedure 2212 3.1 cannot be met for the Enterprise Class III groundwater monitoring program. In this instance, DEP SOP 2212 3.2 next requires the documentation of several related limits in order that the sample be deemed representative of groundwater conditions.

In this case, the Enterprise site groundwater monitoring system has exhibited elevated dissolved oxygen readings in most of the wells, and under various conditions. The location and depth of the wells relative to the landfill seems to have no bearing on the anomalous DO readings.

As requested by Mr. John Morris (P.G., DEP), Jones Edmunds has conducted a field study to determine whether the elevated DO readings could be a natural phenomenon, or due to sampler inconsistencies.

The planned field study consisted of:

- Purge and sample (per DEP SOPs) dissolved oxygen measurements from wells MW-8B, MW-9B, and MW-10B: These were performed the day before the downhole tests to allow the wells time to equilibrate.
- Down-hole measurement of dissolved oxygen at approximately regular intervals of the entire water column from wells MW-1, MW-1B, MW-5A, MW-5B, MW-6, MW-7A, MW-7B, MW-8, MW-8B, MW-9, MW-9B, MW-10, and MW-10B.
- A follow-up purge and sample (per DEP SOPs) dissolved oxygen measurements from wells MW-5A, and MW-5B.

The purge and sample measurements were designed to be used as control, in the event the downhole measurements resulted in typical groundwater dissolved oxygen concentrations. The field study was carried out by Mr. Chuck Spitzner and Mr. Ed Swaney on October 17 and 18, 2006.

Sampling Methodology: *In Situ* Measurement of Field Parameters

Jones Edmunds used a multi-probe instrument made by Hydrolab (Minisonde 4A) to measure *in situ* field parameters in selected monitoring wells at the Angelo's Recycling facility on Enterprise Road near Dade City, Florida. The wells selected for investigation were those for which elevated Dissolved Oxygen readings have been recorded during periodic monitoring events. Although Dissolved Oxygen was the parameter of interest, the multi-probe instrument made it possible for the other field parameters to be measured during the *in situ* investigation.

The luminescent dissolved oxygen optical sensor was used for this study. The optical technology was primarily used to minimize agitation (membrane technology requires sample flow across the membrane). Calibration verification procedures and criteria in DEP SOPs FT 1000 and FT 1500 were strictly followed.

The Minisonde instrument was calibrated at the start of the field day, and again at the end. The field parameters measured were Dissolved Oxygen, Temperature, pH, Specific Conductivity, and Turbidity. The Turbidity probe was not calibrated on site but used the calibration received from Hydrolab. Turbidity results were considered and qualified as estimates.

At each well, the depth to water was measured with an electronic water level indicator. The measurement was made prior to inserting the Minisonde instrument into the well and was used to calculate the approximate height of the water column. The Minisonde was lowered to gently enter the water column and initial field parameter readings were made at the top of the water column. When readings for the field parameters stabilized (excluding Turbidity), they were recorded on field data sheets. The Turbidity measurement was read without waiting for stability as the other readings were recorded.

After recording the field parameter measurements at the initial depth in the water column, the Minisonde was lowered, at the rate of approximately two cm/second, to the next measurement depth. The field measurements were read and recorded in the same manner, and then the Minisonde was lowered again. The process was repeated until the bottom of the well was encountered. The Minisonde was retrieved from the well and a total depth sounding was done.

Sampling Methodology: Purge Measurement of Field Parameters

Several wells were chosen for which the field parameters, especially Dissolved Oxygen, were measured in a flow cell as water was purged following the procedures for a typical monitoring event. The wells selected were MW-5A, MW-5B, MW-8B, MW-9B, and MW-10B.

The instrument used for field parameter measurement during this portion of the investigation was a multi-probe YSI Model 556 with fitted flow-through cell, typically used by Jones Edmunds for groundwater monitoring. The instrument was appropriately checked for calibration before and following field parameter measurements for Dissolved Oxygen, Temperature, pH, Specific Conductivity, and ORP.

The appropriate calculation for the volume of water in the well casing (well volume) was made using a measurement of the depth to water and the pre-determined total well depth. Following the calculation, an appropriate pump system was placed in operation and the purge process begun. For all wells except MW-5B, the volume purged prior to taking each set of field parameter readings was a complete well volume. At well MW-5B, time constraints and the relatively large well volume encountered resulted in a complete well volume purged prior to the initial field parameter readings, followed by one-third well volumes prior to subsequent measurements. In all cases, the volume purged prior to taking field parameter measurements met or exceeded the requirements of the DEP field SOPs (DEP-SOP-001-01, February 2004). A Grundfos electric submersible pump was used to purge wells MW-8B, MW-9B, and MW-10B. A peristaltic pump with disposable tubing was used to purge wells MW-5A and MW-5B.

Results

The full results of the field measurements are tabulated in *Table 1: Control Sampling results*, and *Table 2: Downhole results*.

Observations

Wells MW-8, MW-9, and MW-10 were dry, as has been their historical trend. The two-foot long sensor encountered an unknown blockage about 7 feet below ground surface into Well-7A, as has been previously reported.

Wells MW-1, MW-1B, MW-5A, MW-6, and MW-9B intercepted the water table within their screened intervals. Of these wells, the downhole dissolved oxygen concentration in MW-1B was elevated at 4.56 mg/L, MW-5A was elevated at 2.99 mg/L, and MW-6 was moderately elevated at 1.85 mg/L. Wells MW-1 and MW-9B were within typical groundwater ranges.

The screened intervals of wells MW-5B, MW-7B, MW-8B, and MW-10B were completely submerged. Of these wells, MW-5B was elevated at 3.05 mg/L. Wells MW-7B, MW-8B, and MW-10B were within typical groundwater ranges.

The control sampling detected elevated dissolved oxygen concentrations in MW-9B, MW-5A, and MW-5B. Dissolved oxygen was moderately elevated in MW-10B. The concentrations in MW-5B are similar to those detected in the downhole measurements from the same well. The dissolved oxygen concentrations in MW-5A are higher than the concentrations detected downhole from the same well, but they were elevated significantly above typical groundwater concentrations in both cases. The control sampling of MW-9B exhibited concentrations that were significantly elevated in comparison to the concentrations in the downhole sampling.

Conclusions

The downhole probe found significant variability in the dissolved oxygen content of ambient groundwater. While not all elevated levels corresponded directly with previously detected elevated levels, or even with the control sampling in this study, the results are still consistent with the sporadic nature of the previous elevated detections. The unavoidable conclusion is that natural dissolved oxygen concentration in the groundwater in the vicinity of the landfill can be high. There does not seem to any reason to doubt that previous sampling events could have resulted in erroneous measurements of ambient dissolved oxygen, or that sampling techniques used in the past could have produced undue agitation of the samples resulting in erroneous results of sensitive constituents.

Angelo's Recycliing Dissolved Oxygen Investigation
Table 1: Control Sampling Results

Chuck Spitzner/Ed Swaney

October 17/18, 2006

Date	Well	Total Well Depth (ft)	Depth to Water (ft)	Pump Intake Depth (ft)	Water Column Height (ft)	Well Volume (gal)	Purge Rate (gal/min)	Cumulative Purge Volume (gal)	Temperature (deg C)	Dissolved Oxygen (mg/L)	pH (SU)	Specific Conductivity (umhos/cm)	ORP (millivolts)
October 17, 2006	MW-8B	57.04	41.81	45	15.2	2.4	0.25	2.5	25.54	0.15	7.69	366	29.2
							0.25	5	25.91	0.16	7.53	387	0.6
							0.25	7.5	25.92	0.18	7.49	387	-8.8
	MW-9B	49.1	42.86	45	6.2	1.0	0.25	1	25.15	5.71	8.81	284	103.2
							0.25	2	25.24	5.84	8.61	281	103.1
							0.25	3	25.55	5.77	8.34	280	116.5
							0.25	4	25.33	5.87	8.23	270	148.1
							0.25	5	25.47	5.92	8.18	269	130.0
	MW-10B	62.04	43.09	55	19.0	3.0	0.50	3	25.48	0.78	7.52	191	-106.2
							0.50	6	25.51	1.37	7.63	196	-109.6
							0.50	9	25.52	1.56	7.58	197	-111.4
							0.50	12	25.52	1.69	7.53	197	-112.2
							0.50	15	25.52	1.82	7.55	197	-116.2
October 18, 2006	MW-5A	30.2	16.83	18	13.4	2.1	0.07	1	26.46	5.18	5.09	103	188.5
							0.04	2	26.54	5.06	5.03	97	160.5
							0.04	3	26.69	5.30	5.01	95	157.3
	MW-5B	47.58	19.33	21	28.3	4.5	0.50	4.5	24.92	3.25	6.98	257	33.9
							0.50	6	24.84	3.35	7.13	258	31.6
							0.50	7.5	24.88	3.29	7.13	258	33.1

Notes:

Field measurements taken with YSI 556 multi-probe instrument with flow-through cell.
Turbidity not measured. Field turbidity instrument malfunctioned.
Purging done with Grundfos electric submersible pump for wells MW-8B, MW-9B, and MW-10B.
Purging done with peristaltic pump for wells MW-5A and MW-5B.
Well MW-5A drew down at 0.07 gal/min purge rate.

Angelo's Recycling Dissolved Oxygen Investigation
Table 2: Downhole Sampling Results

Chuck Spitzner/Ed Swaney October 17/18 2006

Date	Well	Total Well Depth (ft)	Depth to Water (ft)	Water Column Height (ft)	Field Reading Depth (ft)	Temperature (deg C)	Dissolved Oxygen (mg/L)	pH (SU)	Specific Conductivity (umhos/cm)	Turbidity (NTU)
October 18, 2006	MW-1	37.3	30.57	6.7	32	26.44	4.95	5.31	142.4	5.9 J
					36	24.28	0.45	6.24	187.1	13.6 J
					37	24.16	0.14	6.78	230.4	2754 J
	MW-1B	117.0	107.41	9.6	108	25.40	4.90	7.53	275.0	24.1 J
					110	23.90	4.77	7.54	272.3	7.1 J
					112	23.81	4.75	7.56	271.4	2.1 J
					114	23.60	4.56	7.55	271.9	28 J
					115	23.66	1.81	7.38	289.3	2764 J
	MW-5A	30.2	16.83	13.3	18	27.10	6.10	5.17	99.8	122.2 J
					21	24.90	5.82	5.08	95.5	540 J
					24	24.40	3.91	5.01	101.0	294.9 J
					27	24.22	2.99	5.14	122.1	135.5 J
					30	23.92	2.67	5.20	129.7	78.4 J
	MW-5B	47.6	19.33	28.3	20	25.05	4.55	7.43	264.4	685 J
					25	24.16	3.15	7.39	264.2	66 J
					30	23.91	3.02	7.40	264.6	9.2 J
					35	23.88	3.08	7.40	265.2	17.3 J
					40	23.90	3.07	7.40	265.1	37.3 J
					45	23.92	3.05	7.41	265.0	50.9 J
	MW-6	30.0	22.10	7.9	23	25.60	6.14	4.94	93.6	0 J
					27	24.11	4.25	4.90	94.1	0 J
					30	23.93	1.85	4.92	95.6	2771 J
	MW-7A	41.6	34.29	7.3	Obstruction @ about 7' prevented Minisonde from advancing to water.					

Angelo's Recycling Dissolved Oxygen Investigation
Table 2: Downhole Sampling Results

Chuck Spitzner/Ed Swaney October 17/18 2006

Date	Well	Total Well Depth (ft)	Depth to Water (ft)	Water Column Height (ft)	Field Reading Depth (ft)	Temperature (deg C)	Dissolved Oxygen (mg/L)	pH (SU)	Specific Conductivity (umhos/cm)	Turbidity (NTU)
	MW-7B	72.2	35.16	37.1	36	25.20	1.44	6.80	128.4	136.8 J
					41	24.02	1.10	6.84	121.3	0 J
					46	23.89	0.47	7.87	125.2	0 J
					51	23.86	0.42	7.90	125.6	0 J
					56	23.86	0.39	7.99	125.9	0 J
					61	23.89	0.38	8.03	125.4	0 J
					66	23.88	0.36	8.41	126.0	21.6 J
					71	23.85	0.13	11.22	1081	3.7 J
	MW-8	35.9	dry	-------						
	MW-8B	57.0	41.86	15.2	43	25.27	0.29	7.13	380.0	0 J
					45	24.92	0.28	7.10	380.0	0 J
					47	24.77	0.26	7.08	379.1	0 J
					49	24.76	0.17	7.08	378.8	0 J
					51	24.69	0.13	7.08	378.6	0 J
					54	24.66	0.15	7.08	377.7	0 J
					57	24.51	0.14	7.07	384.1	2.3 J
	MW-9	29.8	dry	-------						
	MW-9B	49.1	42.89	6.2	44	24.47	0.27	7.45	274.0	16 J
					45	24.20	0.26	7.44	273.7	18.1 J
					46	24.07	0.26	7.44	272.3	29.5 J
					47	23.97	0.26	7.45	273.0	13.7 J
					48	23.92	0.26	7.44	272.6	15.1 J
					49	23.93	0.26	7.43	273.0	230 J
	MW-10	38.0	dry	------						

Angelo's Recycling Dissolved Oxygen Investigation
Table 2: Downhole Sampling Results

Chuck Spitzner/Ed Swaney October 17/18 2006

Date	Well	Total Well Depth (ft)	Depth to Water (ft)	Water Column Height (ft)	Field Reading Depth (ft)	Temperature (deg C)	Dissolved Oxygen (mg/L)	pH (SU)	Specific Conductivity (umhos/cm)	Turbidity (NTU)
	MW-10B	62.0	41.12	20.9	44	24.49	1.16	6.10	87.1	0 J
					49	24.21	0.39	6.11	88.2	NR
					54	24.15	0.24	6.39	119.5	NR
					59	24.13	0.62	6.88	184.2	NR
					62	24.10	0.25	7.06	289.0	NR

Notes:

Total Depth and Water Column Height rounded to nearest tenth of a foot.
Total Depth not measured at MW-1B -- accepted previous measurement
Depth of Measurement was estimated from five-foot markings on instrument cable
Depth of Measurement readings for MW-8B were recorded as three-foot increments. Most were adjusted to two-foot increments for this table as that fits the Water Column Height figure. Apparently the lowering of the instrument each time was under-estimated. The last two increments were measured as three feet.
In situ measurements were taken using a rented Hydrolab Minisonde 4A multi-probe instrument with direct readout
Turbidity measurements should be regarded as estimations (J Qualifier). The Turbidity probe could not be calibrated and the readings were based on the instrument calibration as received from the rental company.
Turbidity measurements for MW-10B were not recorded below 44 feet.
The obstruction in 7A appeared to be a bend in the casing that would not allow the instrument to pass. The instrument measured more than 24 inches long.

APPENDIX I
MARCH 2013 GROUNDWATER CONTOUR MAPS

LEGEND

MW-4	MONITORING WELL LOCATION
78.09	GROUNDWATER ELEVEATION
GP-1	GAS PROBE LOCATION
	SUPPLY WELL LOCATION
P-11	PIEZOMETER WELL LOCATION
MW-12A	WATER LEVEL ONLY WELL LOCATION
MW-18B	FUTURE MONITOR WELL LOCATION**
	PROPERTY BOUNDARY
	LANDFILL LIMITS
	CELL BOUNDARY

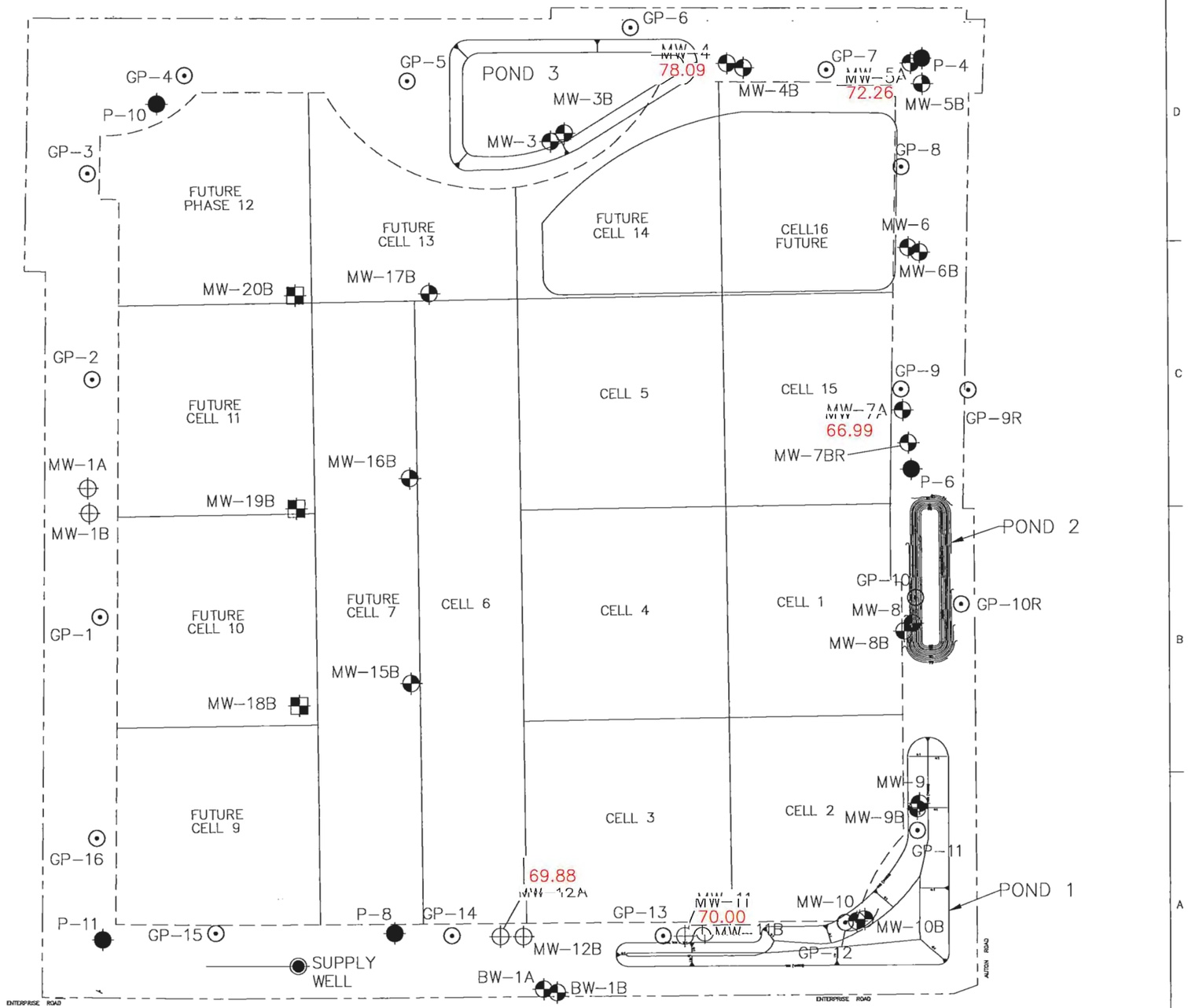
** WELLS TO BE INSTALLED WITH FUTURE CELL 7

N

SCALE IN FEET

200 100 0 200 400

NOTE:
ELEVATIONS NOT CONTOURED DUE TO LIKELY PERCHED CONDITIONS



PROJECT MANAGER	J. LOCKLEAR	
DESIGNED	J. LOCKLEAR	
CHECKED BY		
DRAWN BY	S. KARWAN	
PROJECT NUMBER	114	

Locklear & Associates
Engineering & Environmental Consulting

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

SURFICIAL AQUIFER
GROUNDWATER CONTOUR MAP

MARCH 7, 2013

FILENAME

SCALE

SHEET

LEGEND

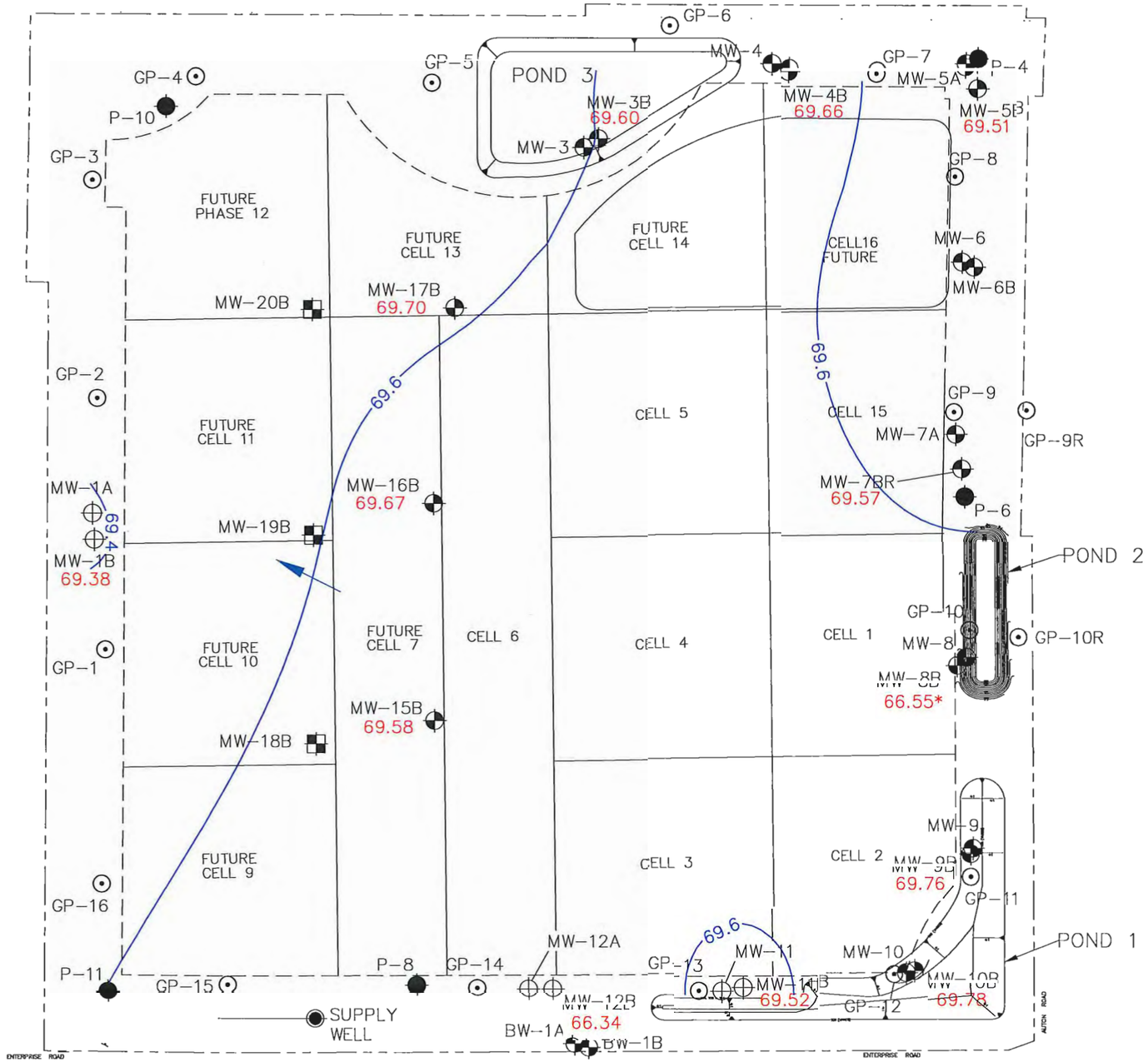
MW–4B	MONITORING WELL LOCATION
69.66	GROUNDWATER ELEVEATION
GP–1	GAS PROBE LOCATION
	SUPPLY WELL LOCATION
P–11	PIEZOMETER WELL LOCATION
MW–12A	WATER LEVEL ONLY WELL LOCATION
MW–18B	FUTURE MONITOR WELL LOCATION**
	PROPERTY BOUNDARY
	LANDFILL LIMITS
	CELL BOUNDARY
74.7	GROUNDWATER CONTOUR LINE (0.2' INTERVALS)
	GROUNDWATER FLOW DIRECTION
*	NOT UTILIZED FOR CONTOURING

** WELLS TO BE INSTALLED WITH FUTURE CELL 7

N

SCALE IN FEET

200 100 0 200 400



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DADE CITY, FLORIDA

FLORIDAN AQUIFER
GROUNDWATER CONTOUR MAP

MARCH 7, 2013

FILENAME

SCALE

SHEET

ATTACHMENT 3
REVISED GROUNDWATER MONITORING PLAN

Enterprise Class III Landfill
Groundwater Monitoring Plan

~~Revised December 2012~~
March 2013

Prepared for:
Angelo's Aggregate Materials, Inc.
41111 Enterprise Road
Dade City, Florida 33525

Prepared by:
Locklear & Associates, Inc.
4140 NW 37th Place, Suite A
Gainesville, FL 32606

This Groundwater Monitoring Plan (GWMP) has been prepared in accordance with the provisions of Rule 62-701.510, F.A.C., and any non-conflicting provisions of Chapter 62-520, F.A.C. The GWMP was developed based upon an extensive evaluation of site data provided in the March 2012 ~~(Revised November 2012)~~ (Revised March 2013) Water Quality Monitoring Plan Evaluation Report prepared by Locklear & Associates, Inc. The Water Quality Monitoring Plan Evaluation Report is provided in Section 6 of the March 2012 Operations Permit Renewal Application.

1. Water Quality Monitoring Plan

The groundwater monitoring network is shown in Table 1 and in Figure 1.

a. All groundwater monitoring well installations and abandonments shall be performed in accordance with ASTM D 5092-04.

b. Sign and Seal

The reports shall be signed and sealed in accordance with Chapter 471, Florida Statutes and Chapter 61G15, FAC for engineers or with Chapter 492 for professional geologists.

c. Sampling and Analysis

All sampling and analysis shall be performed in accordance with Chapter 62-160, FAC; 62-701.510(2)(b), FAC; the DEP Standard Operating Procedures for Field Activities (DEP-SOP-001/01); and the DEP Standard Operating Procedures for Laboratory Activities (DEP-SOP-002/01).

d. Groundwater Monitoring Requirements

The groundwater monitoring network consists of detection monitoring wells located downgradient from and within 50 feet of disposal units. The detection wells are located no more than 500 feet apart. The network also includes proposed background monitoring wells BW-1A and BW-1B screened within the surficial and Floridan aquifers, respectively. Downgradient compliance monitoring wells will be installed if warranted based on the results of detection monitoring results and Evaluation Monitoring as discussed in Section 1.h. Compliance wells will be located at or immediately adjacent to the compliance line of the zone of discharge.

Monitoring wells shall be constructed to provide representative groundwater samples from the surficial aquifer, where present, and the Floridan aquifer system. Well screen placement will be determined from lithologic information collected at the time of well installation and historic water level elevations as discussed in Section III of the March 2012 Water Quality Monitoring Plan Evaluation Report. Wells shall be constructed in accordance with the details provided in Figures 2 and 3. Documentation of well construction shall be submitted within 30 days of installation using Department Form #62-701.900(30).

Wells scheduled to be abandoned in conjunction with new cell construction, and wells which become damaged, shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C. and the rules of the Southwest Florida Water Management District. Documentation of abandonment shall be submitted to the Department within 30 days of abandonment.

The location(s) of all new or replacement monitoring wells, in degrees, minutes and seconds of latitude and longitude, and the elevation of the top of the well casing to the nearest 0.01 foot, using a consistent, nationally recognized datum, shall be determined by a Florida Licensed Professional Surveyor and Mapper. Wells will be marked with their identification label in the field.

e. Surface Water Monitoring Requirements

~~Surface water samples will be collected semiannually from Ponds 1 and 2 in conjunction with the semiannual groundwater sampling events. The location of the surface water sampling points, SW-1 and SW-2, are shown in Figure 1. Surface water samples will be analyzed for the parameters listed in Table 4.~~ Ponds 1, 2 and 3 do not have off-site discharge associated with the 100-year flood event. Ponds 1 and 2 are designed to overflow into Pond 3. Therefore, surface water sampling is not required. In the event that routine groundwater sampling shows impacts to groundwater quality, a surface water sample will be collected from Pond 3.

f. Leachate Monitoring Requirements

(1) Leachate monitoring is not applicable to this facility.

g. Sampling Frequency and Requirements

(1) Water samples from all newly installed monitoring wells (if required in the future) will be collected to determine background groundwater quality. Groundwater samples from the initial sampling of any new wells will be analyzed for parameters listed in Rule 62-701.510(7)(a) and (7)(c), F.A.C. ~~62-701.510(8)(a) and (d), F.A.C.~~ (Table 2).

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

(2) Groundwater samples from all monitoring wells (background and detection) and the on-site supply well shall be sampled and analyzed semiannually for the parameters listed in Table 3. A semiannual sampling frequency is adequate to detect potential groundwater quality standard exceedances based upon the flow velocities provided in Section III of the 2012 WQMPE. Maximum groundwater flow velocities were less than 50 feet per six months within both the surficial and Floridan aquifers. The first semiannual sampling event shall be performed between January 1 and June 30. The second semiannual sampling event shall be performed between July 1 and December 31.

Table 3 Routine Groundwater Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Level	Total Ammonia – N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
	Nitrate

Turbidity Temperature Colors, Sheens	Sodium Total Dissolved Solids (TDS) Those Parameters listed in 40 CFR Part 258, Appendix I

(3) Surface water sampling shall be conducted at Pond 3 only in the event that routine groundwater monitoring shows impacts to groundwater quality. ~~semiannually in conjunction with the semiannual groundwater sampling events.~~ If surface water samples are collected from Pond 3, they ~~Surface water samples~~ will be analyzed for the parameters listed in Table 4.

Table 4
Surface Water Sampling Parameters

Field Parameters	Laboratory Parameters
Specific Conductivity pH Dissolved Oxygen Turbidity Temperature Colors, Sheens	Unionized Ammonia – N Total Hardness [as mg/L $CaCo_3$] Biochemical Oxygen Demand (BOD5) Copper Iron Mercury Nitrate Zinc Total Dissolved Solids (TDS) Total Organic Carbon (TOC) Fecal Coliform Total ~~Phosphates~~Phosphorus [as mg/L P] Chlorophyll-A Total Nitrogen Chemical Oxygen Demand (COD) Total Suspended Solids (TSS) Those Parameters listed in 40 CFR 258 Appendix I

(4) Leachate sampling is not applicable to this facility.

h. Evaluation Monitoring, Prevention Measures, and Corrective Action

If parameters are detected in detection wells at concentrations that are significantly above background water quality, or that are at concentrations above the FDEP'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 FDEP will be notified in writing within 14 days of detection. Evaluation monitoring shall be initiated as follows:

- Routine monitoring of all monitoring wells and surface water sampling locations will continue according to the GWMP.

- 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.

- 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. Compliance wells and affected detection wells shall be sampled quarterly for analysis of the parameters listed in Rule 62-701.510(8)(a), F.A.C. and any other parameters detected in the affected detection and downgradient wells sampled in accordance with Rule 62-701.510(7)(a)2, F.A.C. Compliance wells and affected detection wells shall be sampled annually for analysis of the parameters listed in Rule 62-701.510(8)(d), F.A.C.

- Within 180 days of initiating evaluation monitoring, a contamination evaluation plan will be submitted to the FDEP. The contamination evaluation plan will be designed to delineate the extent and cause contamination and to predict the probability that FDEP water quality standards are not violated outside the zone of discharge and to evaluate methods to prevent any violations. Upon agreement with the FDEP that the plan is so designed, the plan shall be implemented and a contamination evaluation report will be submitted to the FDEP. All reasonable efforts will be made to prevent further degradation of water quality from the landfill activities.

- If the contamination evaluation report indicates that water quality standards or criteria are likely to be violated outside the zone of discharge, a prevention measures plan shall be submitted to the

Department. Upon approval, the prevention measures shall be initiated.

- Evaluation monitoring shall not be discontinued until authorization to return to routine monitoring only is received from the Department.

i. Water Quality Monitoring Report Requirements

(1) All representative water quality monitoring results shall be reported to the Department within 60 days from completion of laboratory analyses. In accordance with subsections 62-160.240(3) and 62-160.340(4), F.A.C., water quality data contained in the report shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases.

At a minimum the semiannual report shall include the following:

- The facility name and identification number, sample collection dates, and analysis dates;
- All analytical results, including all peaks even if below maximum contaminant levels;
- Identification number and designation 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 prior to evaluating wells or sample collection. Elevation reference shall include the top of well casing and the land surface at each well site at a precision of plus or minus 0.01 foot, National Geodetic Vertical Datum (NGVD);
- Department Form 62-701.900(31);
- An updated groundwater table contour map signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, with contours at no greater than one-foot intervals unless site-specific conditions dictate otherwise, which indicates groundwater elevations and flow directions; and
- A summary of any water quality standards or criteria that are exceeded.

(2) A technical report will be submitted every two and one-half years summarizing and interpreting the water quality monitoring results and

water level measurements collected during that period. The report will be signed and sealed by Florida licensed Professional Geologist or Professional Engineer. The report shall contain, at a minimum, the following:

- Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitoring wells;
- Trend analyses of any monitoring parameters consistently detected;
- Comparison among shallow, middle, 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;
- Discussion of erratic and/or poorly correlated data;
- An interpretation of the groundwater contour maps, including an evaluation of groundwater flow rates; and
- An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.

TABLE 1

Well ID	Well Type	Aquifer	Existing or Future	Notes
BW-1A	Background	Surficial	Future	To be installed within 60 days of permit issuance
BW-1B	Background	Floridan	Future	To be installed within 60 days of permit issuance
MW-10	Detection	Surficial	Existing	
MW-10B	Detection	Floridan	Existing	
MW-1A	Water Level	Surficial	Existing	
MW-1B	Water Level	Floridan	Existing	
MW-3	Detection	Surficial	Existing	
MW-3B	Detection	Floridan	Existing	
MW-4	Detection	Surficial	Existing	
MW-4B	Detection	Floridan	Existing	
MW-5A	Detection	Surficial	Existing	
MW-5B	Detection	Floridan	Existing	
MW-6	Detection	Surficial	Existing	
MW-6B	Detection	Floridan	Future	To be installed within 60 days of permit issuance
MW-7A	Detection	Surficial	Existing	
MW-7BR	Detection	Floridan	Existing	
MW-8	Detection	Surficial	Existing	
MW-8B	Detection	Floridan	Existing	
MW-9	Detection	Surficial	Existing	
MW-9B	Detection	Floridan	Existing	
MW-11	Water Level	Surficial	Existing	
MW-11B	Water Level	Floridan	Existing	
MW-12A	Water Level	Surficial	Existing	
MW-12B	Water Level	Floridan	Existing	
MW-15B	Detection	Floridan	Existing	To be abandoned in conjunction with Cell 7 construction
MW-16B	Detection	Floridan	Existing	To be abandoned in conjunction with Cell 7 construction
MW-17B	Detection	Floridan	Existing	
Water Suppy	Supply	Floridan	Existing	
MW-18A*	Detection	Surficial	Future	To be installed in conjunction with Cell 7 construction
MW-18B	Detection	Floridan	Future	To be installed in conjunction with Cell 7 construction
MW-19A*	Detection	Surficial	Future	To be installed in conjunction with Cell 7 construction

TABLE 1

Well ID	Well Type	Aquifer	Existing or Future	Notes
MW-19B	Detection	Floridan	Future	To be installed in conjunction with Cell 7 construction
MW-20A*	Detection	Surficial	Future	To be installed in conjunction with Cell 7 construction
MW-20B	Detection	Floridan	Future	To be installed in conjunction with Cell 7 construction
P-4	Piezometer	Surficial	Existing	
P-6	Piezometer	Surficial	Existing	
P-8	Piezometer	Floridan	Existing	
P-10	Piezometer	Floridan	Existing	
P-11	Piezometer	Surficial	Existing	

* To be installed only if water bearing sediments are encountered above the clay units confining the Floridan aquifer system.

LEGEND

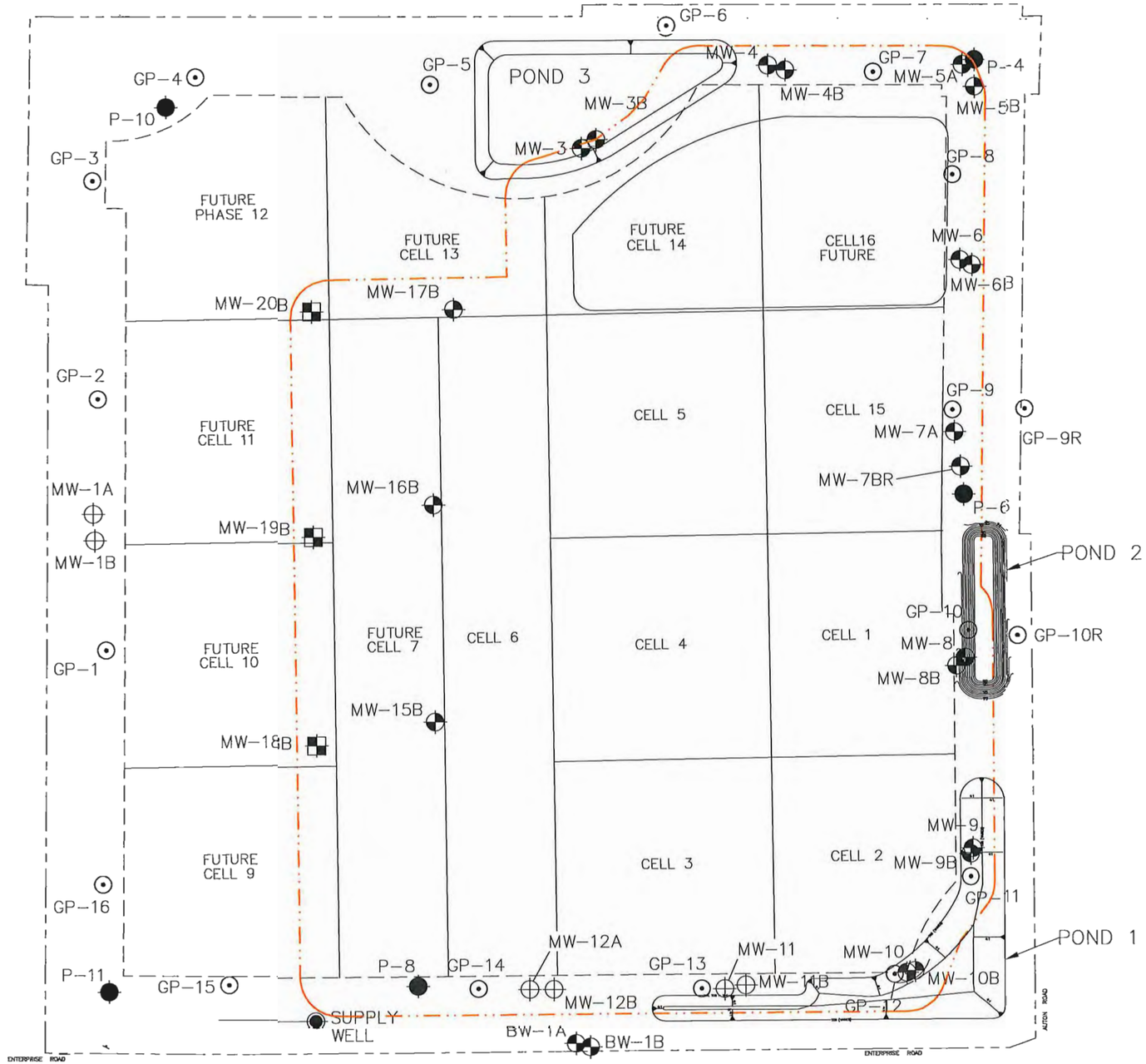
MW–4B	MONITORING WELL LOCATION
GP–1	GAS PROBE LOCATION
	SUPPLY WELL LOCATION
P–11	PIEZOMETER WELL LOCATION
MW–12A	WATER LEVEL ONLY WELL LOCATION
MW–18B	FUTURE MONITOR WELL LOCATION*
	PROPERTY BOUNDARY
	LANDFILL LIMITS
	CELL BOUNDARY
	ZONE OF DISCHARGE

* WELLS TO BE INSTALLED WITH FUTURE CELL 7

N

SCALE IN FEET

200 100 0 200 400



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Locklear & Associates
Engineering & Environmental Consulting

ENTERPRISE ROAD
RECYCLING AND DISPOSAL FACILITY
DADE CITY, FLORIDA

GROUNDWATER MONITORING NETWORK

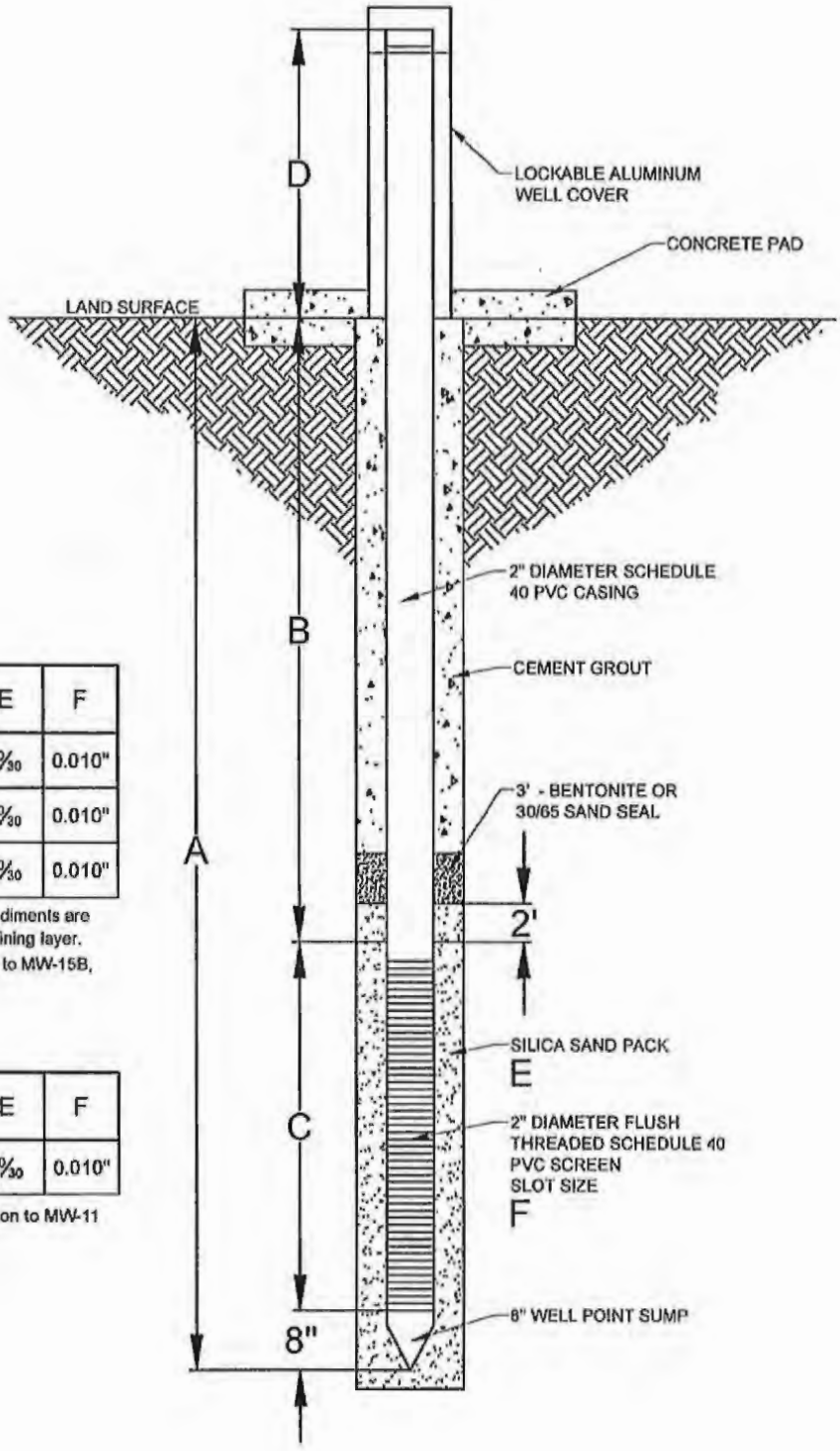
REVISED MARCH 2013

FIGURE 1

FILENAME

SCALE

SHEET



WELL	A**	B**	C	D	E	F
MW-18A*	30'	10'	20'	3'	20/30	0.010"
MW-19A*	70'	50'	20'	3'	20/30	0.010"
MW-20A*	50'	30'	20'	3'	20/30	0.010"

* Wells to be installed only if water bearing sediments are encountered above the Floridan aquifer confining layer.

** Assuming similar ground surface elevations to MW-15B, MW-16B, and MW-17B, respectively.

WELL	A***	B***	C	D	E	F
BW-1A*	45'	25'	20'	3'	20/30	0.010"

*** Assuming similar ground surface elevation to MW-11

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FIGURE NOT TO SCALE

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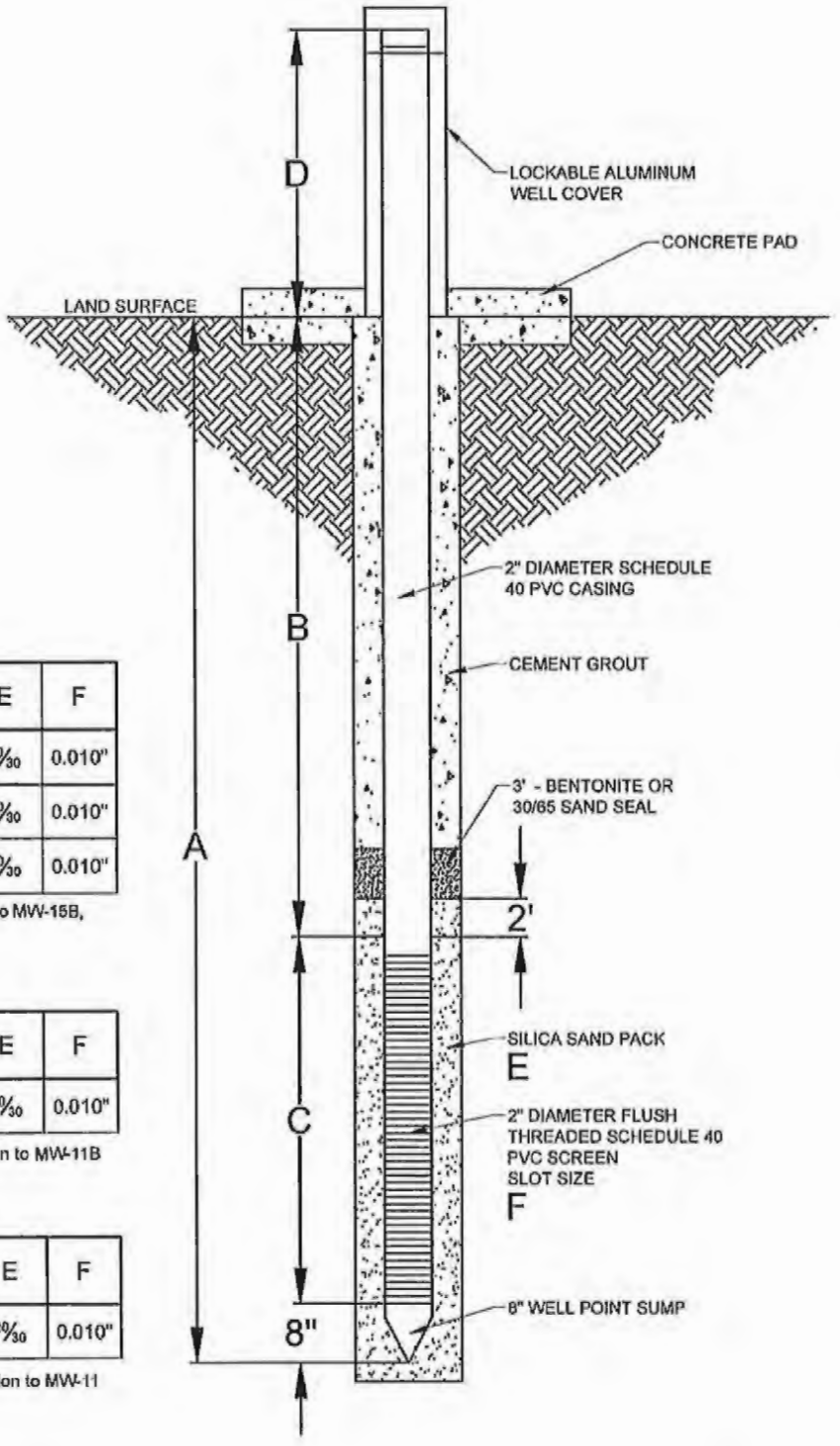
DADE CITY, FLORIDA

PROPOSED
SURFICIAL AQUIFER
MONITOR WELL DETAIL

FIGURE 2



WELL	A*	B*	C	D	E	F
MW-18B	100'	80'	20'	3'	20/30	0.010"
MW-19B	100'	80'	20'	3'	20/30	0.010"
MW-20B	80'	60'	20'	3'	20/30	0.010"

* Assuming similar ground surface elevations to MW-15B, MW-16B, and MW-17B, respectively.

WELL	A**	B**	C	D	E	F
BW-1B	85'	65'	20'	3'	20/30	0.010"

** Assuming similar ground surface elevation to MW-11B

WELL	A***	B***	C	D	E	F
BW-6B	50'	30'	20'	3'	20/30	0.010"

*** Assuming similar ground surface elevation to MW-11

REVISED MARCH 2013

FIGURE NOT TO SCALE

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PROPOSED FLORIDAN AQUIFER MONITOR WELL DETAIL

FIGURE 3