

DATA SUMMARY REPORT

Former Pines and Sabals Golf Courses
Palm Aire Country Club
Northeast Corner of Intersection of Atlantic Boulevard and
The Florida's Turnpike
Pompano Beach, Broward County, Florida

February 26, 2013

Bureau Veritas Project Number 02014-000131.00

Prepared for:

**City of Pompano Beach
Engineering Division
1201 NE 5th Avenue
Pompano Beach, Florida 33060**



Move Forward with Confidence

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February 26, 2014

Ms. Alessandra Delfico, P.E.
City Engineer
City of Pompano Beach
Engineering Division
1201 NE 5th Avenue
Pompano Beach, FL 33060

Re: Data Summary Report
Former Pines and Sabals Golf Courses
Northeast Corner of Intersection of Atlantic Boulevard and The Florida's Turnpike
Pompano Beach, Broward County, Florida
Bureau Veritas Project No. 02014-000131.00

Dear Ms. Delfico:

Bureau Veritas North America, Inc. (BVNA) respectfully submits the accompanying Data Summary Report for the above-referenced site. If you have any questions or comments, please do not hesitate to the undersigned at 305.436.1221.

Respectfully Submitted
Bureau Veritas North America, Inc.

Janet M. Peterson, P.G.
Senior Project Manager



1.0 INTRODUCTION AND BACKGROUND

The purpose of this report is to provide a summary of soil and groundwater data collected from the former Pines and Sabals golf courses which were part of the Palm Aire Country Club and were located north of West Atlantic Boulevard and east of the Florida's Turnpike in Pompano Beach, Florida ("subject property"). The report provides a brief overview of the soil and groundwater data collected in conjunction with assessment and remediation activities conducted on the subject property.

1.1 SUMMARY OF ASSESSMENT AND REMEDIATION ACTIVITIES

The Broward County Environmental Protection Department (EPD, currently Broward EPGMD) conducted an inspection of the subject property in 2003 and concluded that the subject property was located within Broward County Wellfield Protection Zones 1, 2, and 3. A September 26, 2003 letter from the Broward County EPD to Palm Aire Country Club (Palm Aire) reported low concentrations of arsenic in samples of raw water collected from the City of Pompano Beach West Wellfield. The potential source of contamination was identified as the use of Target 6.6, an arsenic-based herbicide. Palm Aire was advised to immediately discontinue use of this product and to apply for a Hazardous Material Wellfield License. As part of the terms of the license, Palm Aire was required to install permanent monitoring wells adjacent to two of the municipal water supply wells. Samples collected from these wells in 2004 and again from replacement monitoring wells in 2006 contained arsenic in concentrations greater than the Groundwater Cleanup Target Level (GCTL, Chapter 62-777 Florida Administrative Code (F.A.C.)) for arsenic. Based upon the results of groundwater sampling, Palm Aire was required to obtain Environmental Assessment and Remediation (EAR) License Number 0825 from the Broward County EPD and to complete site assessment and remediation activities. Site assessment and remediation activities were conducted in accordance with the provisions of Broward County Code Chapter 27 and Chapter 62-780 FAC.

1.1.1 Site Assessment

The target analyte for assessment of both soil and groundwater on the subject property was arsenic. Assessment of the extent of arsenic in both soil and groundwater was completed in 2009. Site assessment data is included in the data summary tables and figures contained in this report.

The distribution of arsenic in both soil and groundwater reflects a non-point source origin of arsenic as a result of the application of the arsenical herbicide. The highest average soil arsenic concentrations were found in surficial (surface to 0.5 feet below land surface) soils. Otherwise, the distribution of arsenic in soil, both horizontally and vertically, does not follow any predictable trend or exhibit any definable gradients. Based upon the results of site assessment, source removal (soils) and monitoring for natural attenuation of



arsenic in groundwater was conducted. Remedial actions were based upon continued open space land use and utilized a Florida Department of Environmental Protection (FDEP)-approved alternative soil cleanup target level (SCTL) for open space of 5.5 milligrams per kilogram (mg/Kg).

The results of site assessment were presented to the BCEPGMD in the following reports (available for review at the BCEPGMD/Pollution Prevention, Remediation and Air Quality Division (PPRAQD) offices located at One North University Drive, Plantation, Florida).

- Site Assessment Report, dated November 1, 2006, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum, dated February 14, 2007, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum II, dated September 2007, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum III, dated February 4, 2008, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum IV, dated June 2008, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum V and Natural Attenuation with Monitoring Plan, dated November 2008, prepared by REP Associates, Inc.;
- Site Assessment Report Addendum VI, dated June 30, 2009, prepared by REP Associates, Inc.; and
- Site Assessment Report Addendum VII, dated October 8, 2010, prepared by Bureau Veritas North America, Inc.

1.1.2 Interim Source Removal

Source removal was conducted in 12 locations throughout the subject property to remove soil with arsenic concentrations in exceedance of the arsenic open space alternative SCTL. The results of sampling conducted to verify completion of source removal were summarized in a July 2010 Interim Source Removal Report (ISRR) and a September 2010 ISRR Addendum. Specific report citations are:

- Interim Source Removal Report, North Parcel, Palm Aire Country Club, dated July 7, 2010, prepared by Bureau Veritas North America, Inc.; and
- Second Interim Source Removal Report Addendum, North Parcel, Palm Aire Country Club, dated September 27, 2010, prepared by Bureau Veritas North America, Inc.

1.1.3 Monitoring for Natural Attenuation

One year (four quarters) of Natural Attenuation with Monitoring (NAM) was conducted between December 2009 and October 2010. The results of NAM were summarized in the following reports:

- Natural Attenuation Monitoring Report, Annual Report, Year 1, Quarter 1, dated February 24, 2010, prepared by Bureau Veritas North America, Inc.;



- Natural Attenuation Monitoring Report, Annual Report, Year 1, Quarter 2, dated April 21, 2010, prepared by Bureau Veritas North America, Inc.;
- Natural Attenuation Monitoring Report, Annual Report, Year 1, Quarter 3, dated July 23, 2010, prepared by Bureau Veritas North America, Inc.; and
- Natural Attenuation Monitoring Report, Annual Report, Year 1, Quarter 4, dated October 20, 2010, prepared by Bureau Veritas North America, Inc.

As previously stated, copies of the reports cited here are available for review at the BCEPGMD/PPRAQD offices located at One North University Drive, Plantation, Florida.

2.0 SOIL DATA

Soil quality data are presented in **Tables 1** (non-source removal areas) and **2** (source removal area verification sampling) in **Appendix B**. Soil data at the completion of Site Assessment is summarized in **Figure 3**, based upon data as presented in the June 2009 Site Assessment Report Addendum (SARA) VI. Verification sample data from the 12 areas of source removal is presented in **Figure 4 (A through F)** in **Appendix A**.

3.0 GROUNDWATER DATA

3.1 GROUNDWATER FLOW

Groundwater flow maps from several of the Site Assessment Reports as well as from the NAM reports are reproduced and included as **Appendix C**. Groundwater flow direction is likely influenced by pumpage from the water supply wells. As a result, there is no consistent groundwater flow direction across the subject property from the data evaluated.

3.2 GROUNDWATER QUALITY

Groundwater quality data is summarized in **Table 3** in **Appendix B**. Groundwater data at the completion of monitoring for natural attenuation is presented in **Figure 5** in **Appendix A**.

4.0 CLOSURE

A Declaration of Restrictive Covenant (DRC) was executed on April 12, 2013 and recorded on April 24, 2013. Provisions of the DRC include land use as open space or for recreation (park) and a restriction upon the use of groundwater on the subject property.



APPENDIX A

FIGURES



Site Sabals & Pines Golf Course at Palm Aire Country Club
 Address: Northeast Corner of intersection of Atlantic Boulevard and the Florida Turnpike
 Pompano Beach, Florida, 33069

Title:

Property Location Map



Scale:

Not to Scale

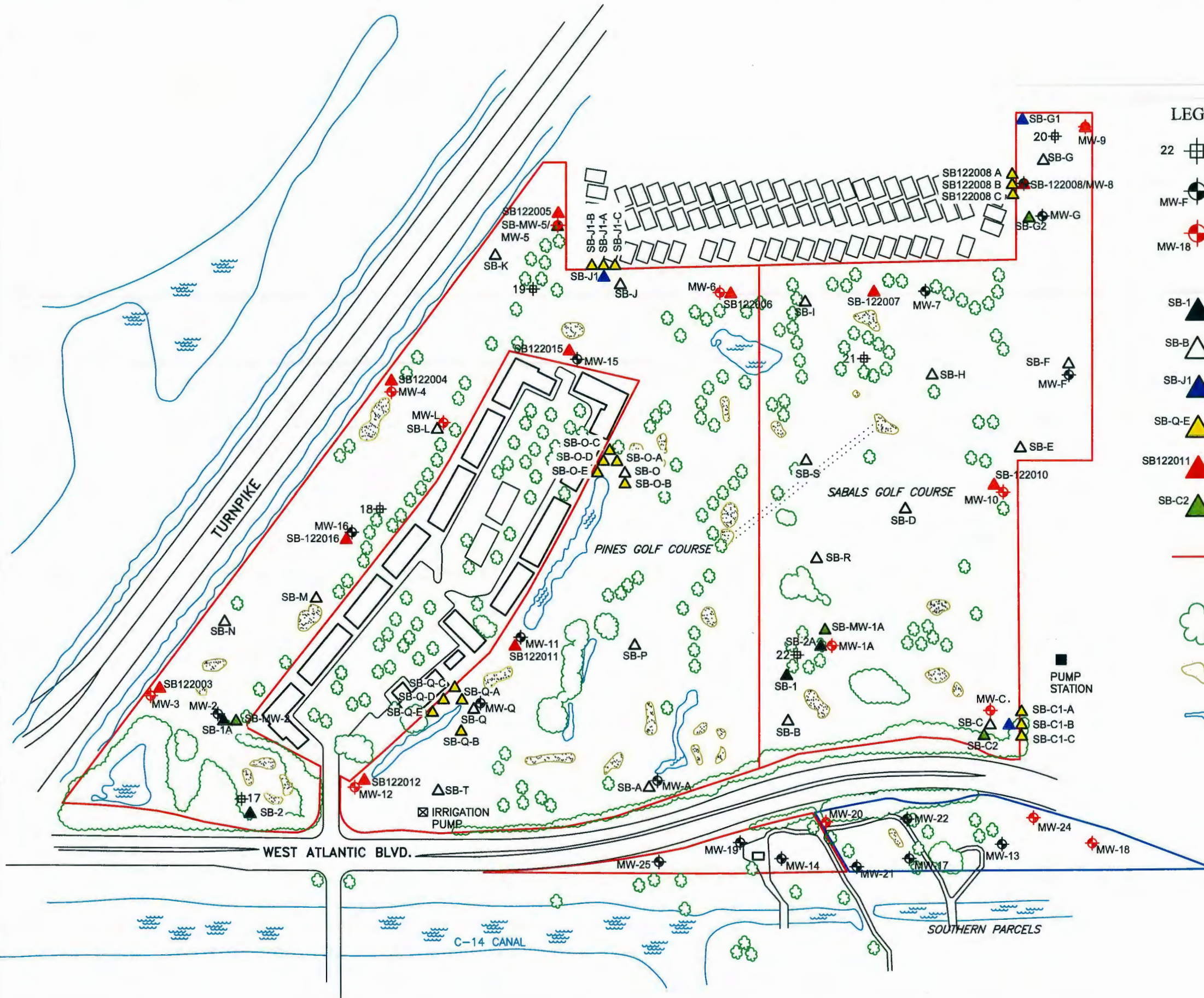
Project Number:
 26009-145200.00

Figure 1



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Site Map of Palm Aire Country Club, Palm Aire Golf Course, and Southern Parcels, Pompano Beach, Florida. Model: 2/25/2014 11:22:07 AM. Adobe PDF



LEGEND

- 22 PRODUCTION WELL
- MW-F MONITORING WELL
- MW-18 MONITORING WELL, NATURAL ATTENUATION MONITORING
- SB-1 SOIL BORINGS 2006
- SB-B SOIL BORINGS JULY 2007
- SB-J1 SOIL BORINGS MAY 2008
- SB-Q-E SOIL BORINGS SEPTEMBER 2008
- SB122011 SOIL BORINGS DECEMBER 2008
- SB-C2 SOIL BORINGS APRIL 2009
- PALM AIRE COUNTRY CLUB PROPERTY BOUNDARY
- TREES
- BUNKER
- WATER BODY



FIGURE

2

APPROX SCALE



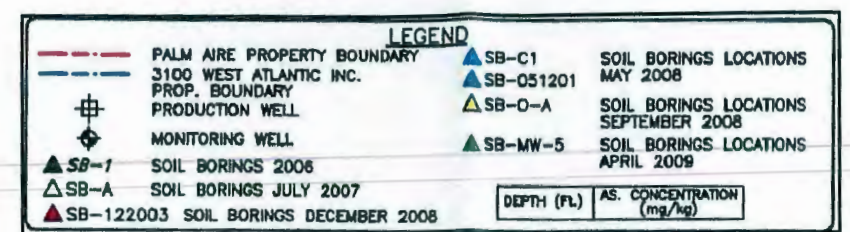
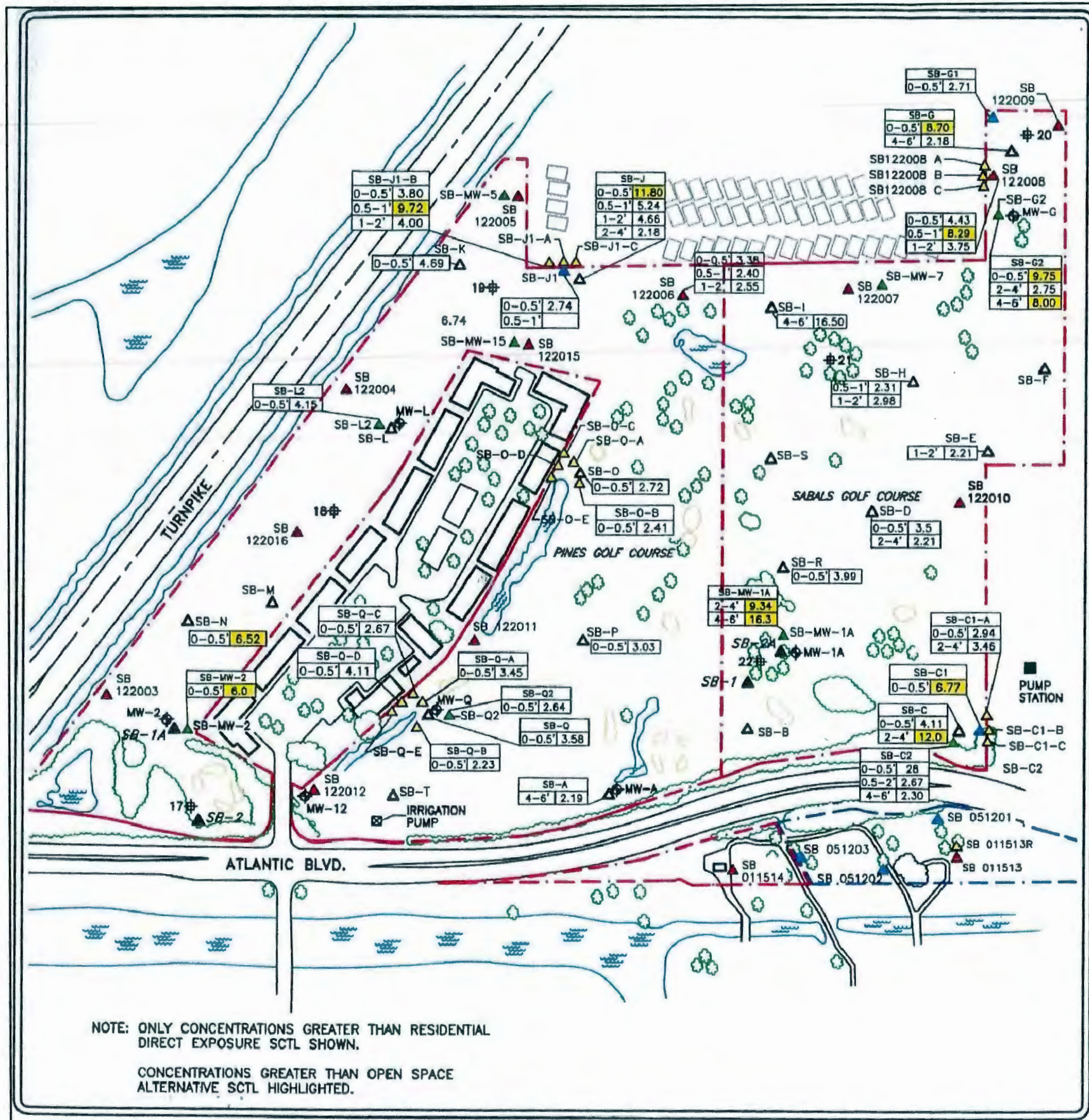
SITE MAP WITH SAMPLING LOCATIONS
SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
POMPAÑO BEACH, FLORIDA

FEBRUARY 2014

BV PROJECT NO. 02014-000131.00



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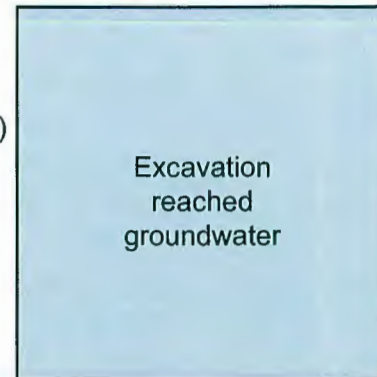
* ORIGINAL, FIGURE 5, REP SITE ASSESSMENT REPORT ADDENDUM VI



SB-MW-1A

Depth	[As] (mg/kg)
0-2	1.3
2-4	<0.46 U
4-6	1.2

Depth	[As] (mg/kg)
0-2	1.8
2-4	<0.46 U
4-6	<0.48 U



Depth	[As] (mg/kg)
0-2	4.6
2-4	<0.46 U
4-6	<0.47 U

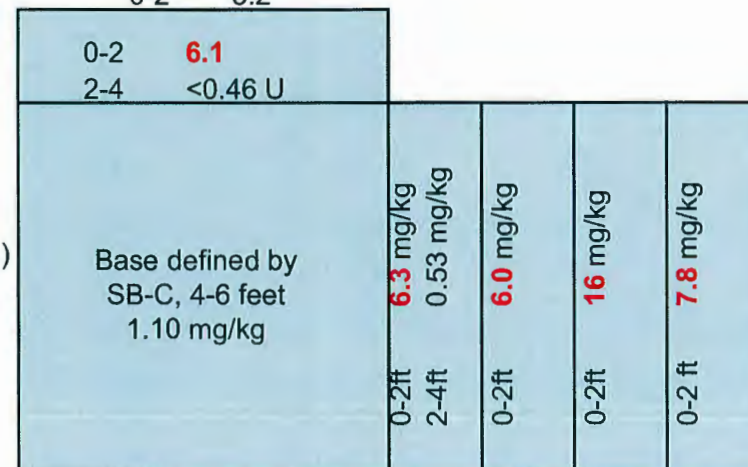
Depth	[As] (mg/kg)
0-2	2.2
2-4	<0.48 U
4-6	2.1

SB-C

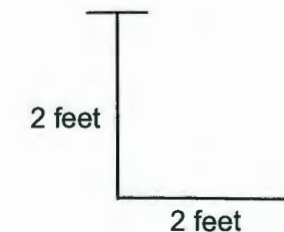
Depth	[As] (mg/kg)
0-2	3.2

0-2	6.1
2-4	<0.46 U

Depth	[As] (mg/kg)
0-2	<0.49 U
2-4	<0.46 U



Depth	[As] (mg/kg)
0-2	4.1
2-4	< 0.46 U



Note: Distances between excavations not to scale.

Figure 4A – Source Removal Excavation Details

Site:

Palm Aire Sabals and Pines Golf Courses

Address:

Florida's Turnpike and W. Atlantic Boulevard, Pompano Beach, FL

Project Number

43110-000014.04

Scale

Not to Scale



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Figure 4B – Source Removal Excavation Details

Site:
Palm Aire Sabals and Pines Golf Courses

Address:
Florida's Turnpike and W. Atlantic Boulevard, Pompano Beach, FL

Project Number

43110-000014.04

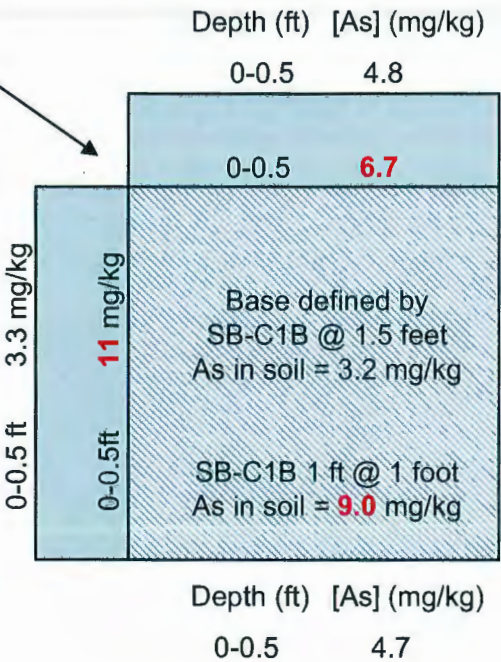
Scale

As Shown



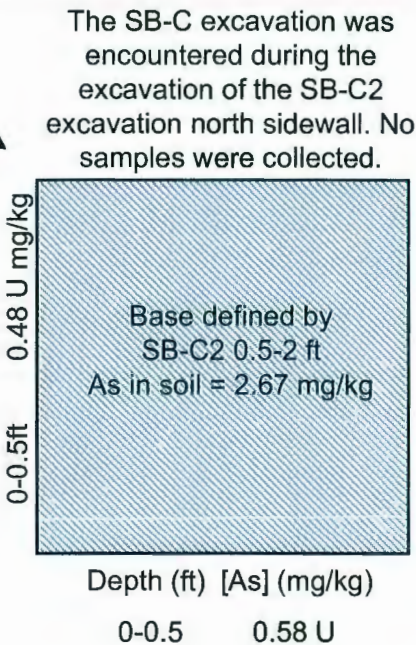
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SB-C1

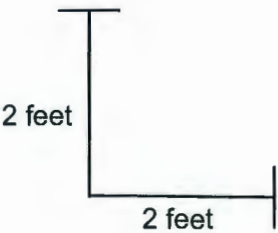


Depth (ft) [As] (mg/kg)
0-0.5 1.68

SB-C2



Depth (ft) [As] (mg/kg)
0-0.5 4.4



Note: Distances between excavations not to scale.

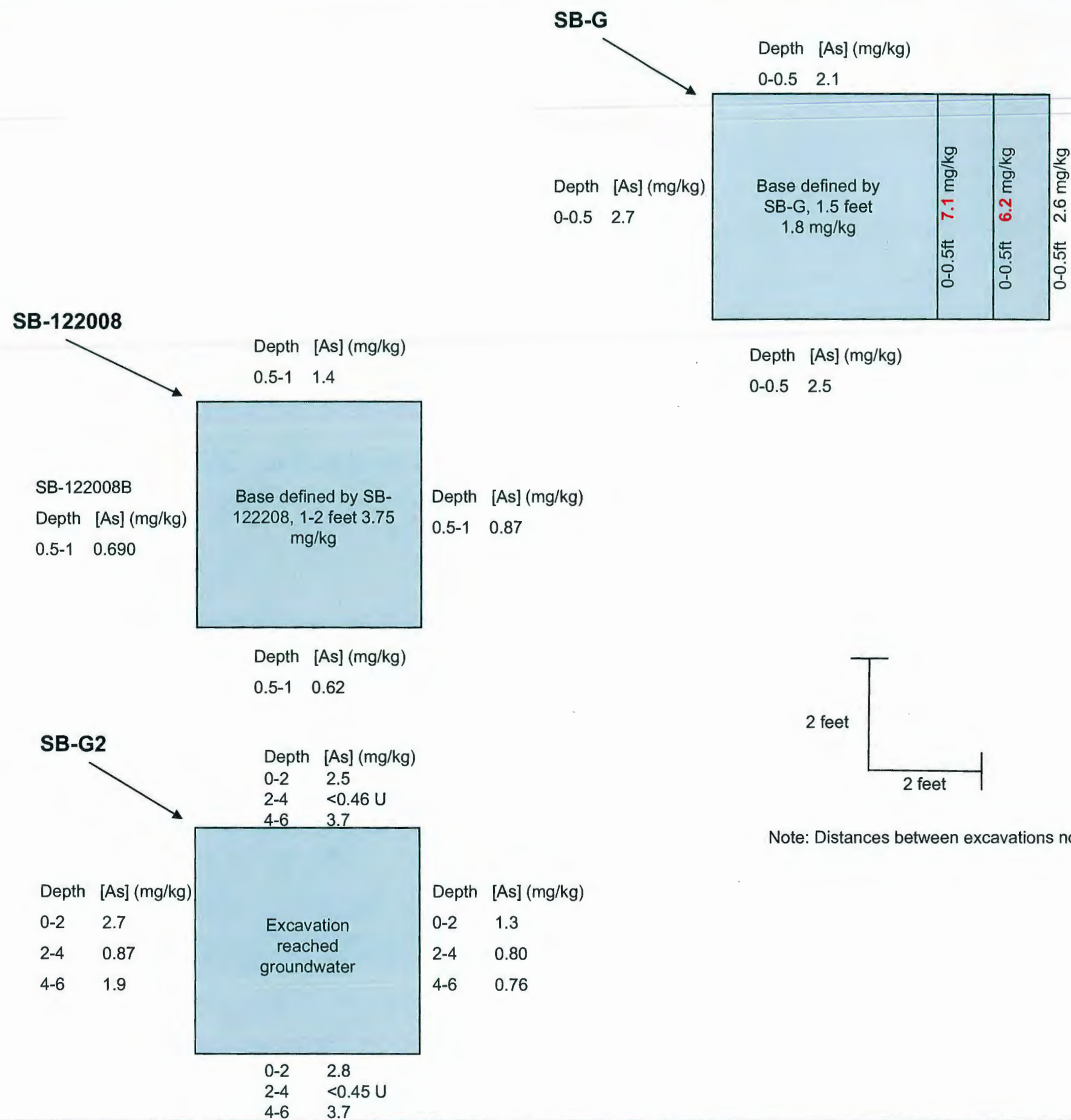


Figure 4C – Source Removal Excavation Details

Site:
Palm Aire Sabals and Pines Golf Courses

Address:
Florida's Turnpike and W. Atlantic Boulevard, Pompano Beach, FL a

Project Number

43110-000014.04

Scale

Not to Scale



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Figure 4D – Source Removal Excavation Details

Site:
Palm Aire Sabals and Pines Golf Courses

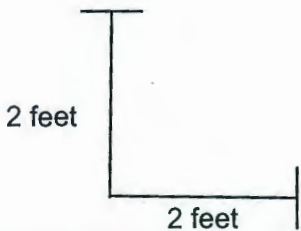
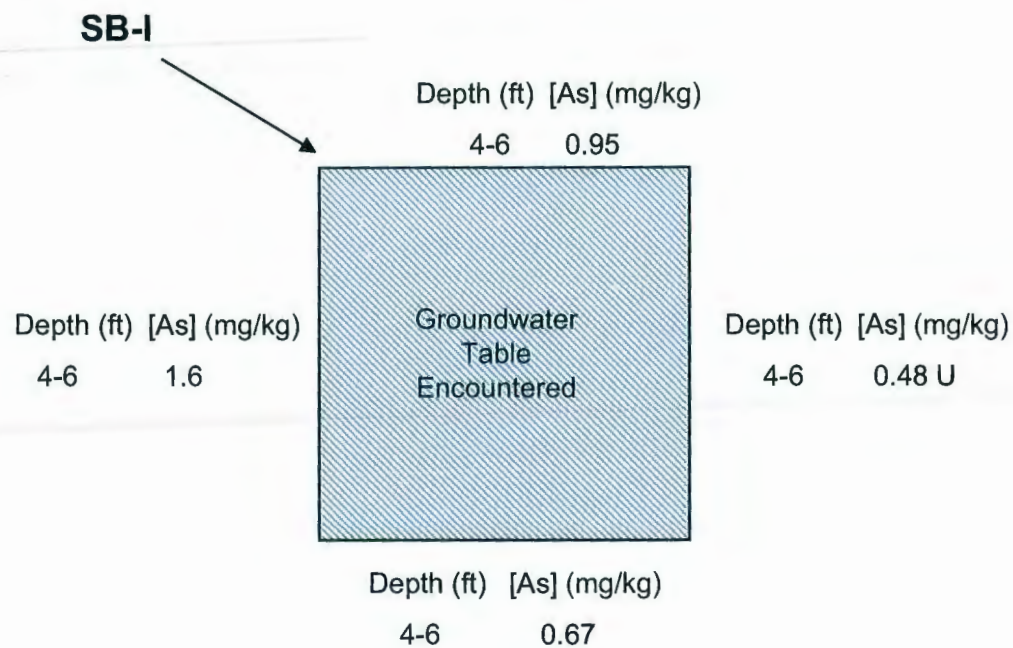
Address:
Florida's Turnpike and W. Atlantic Boulevard, Pompano Beach, F

Project Number
43110-000014.04

Scale
As Shown



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Note: Distances between excavations not to scale.

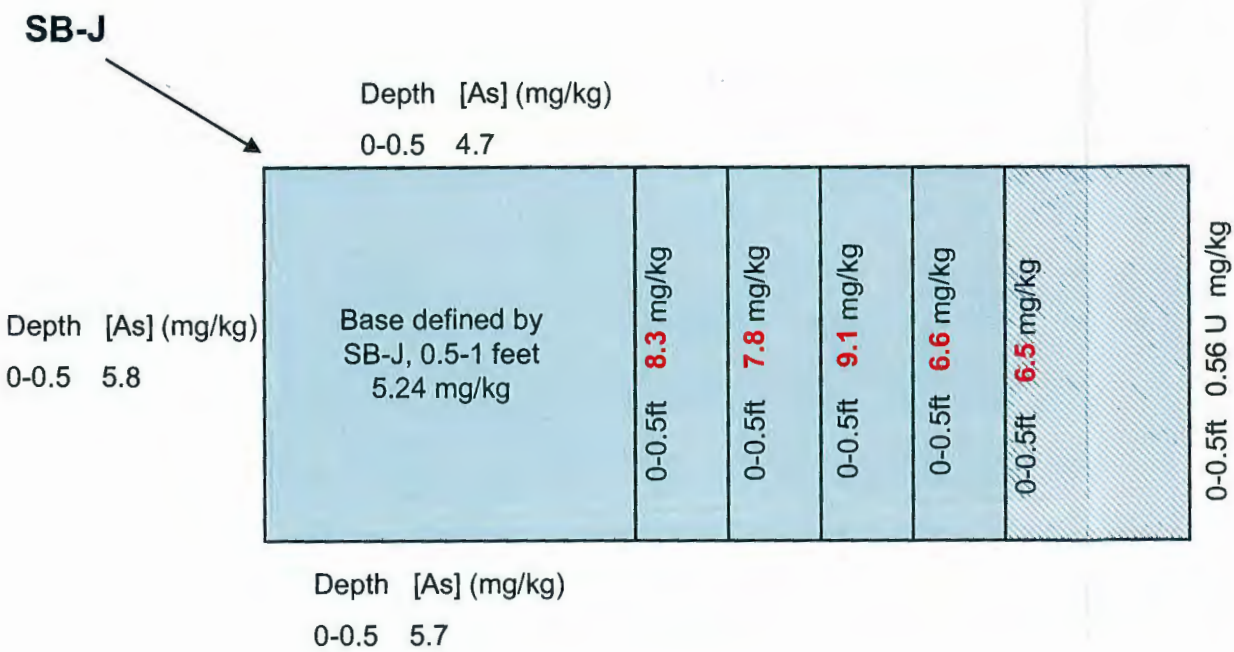


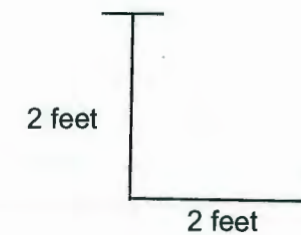
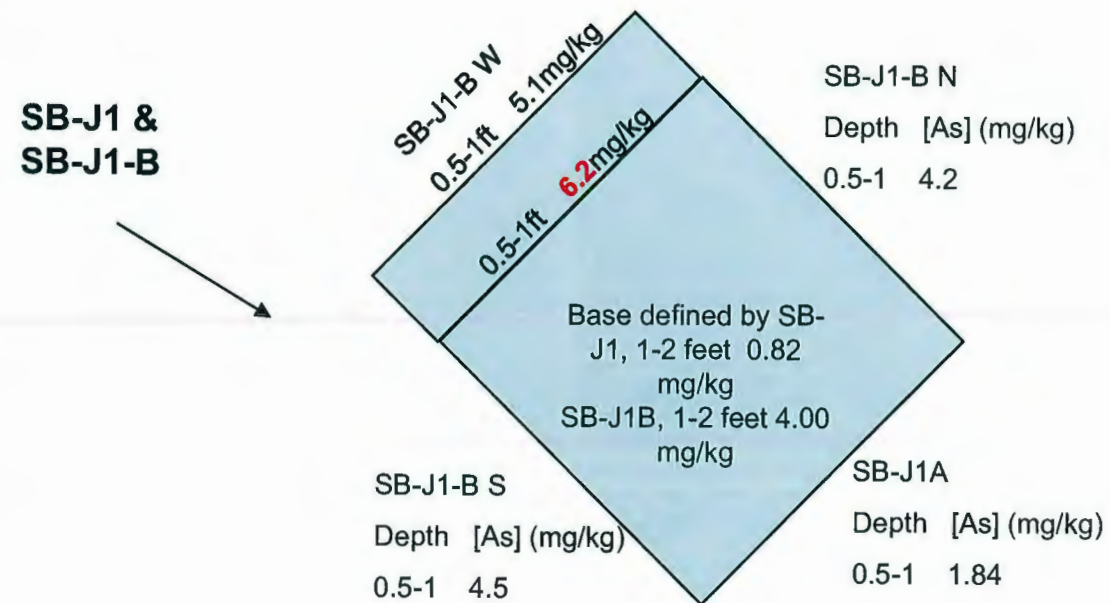
Figure 4E – Source Removal Excavation Details

Site:
Palm Aire Sabals and Pines Golf Courses

Address:
Florida's Turnpike and W. Atlantic Boulevard,
Pompano Beach, FL

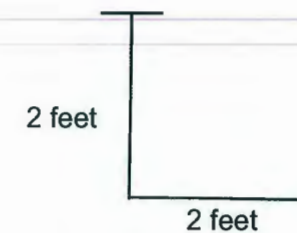
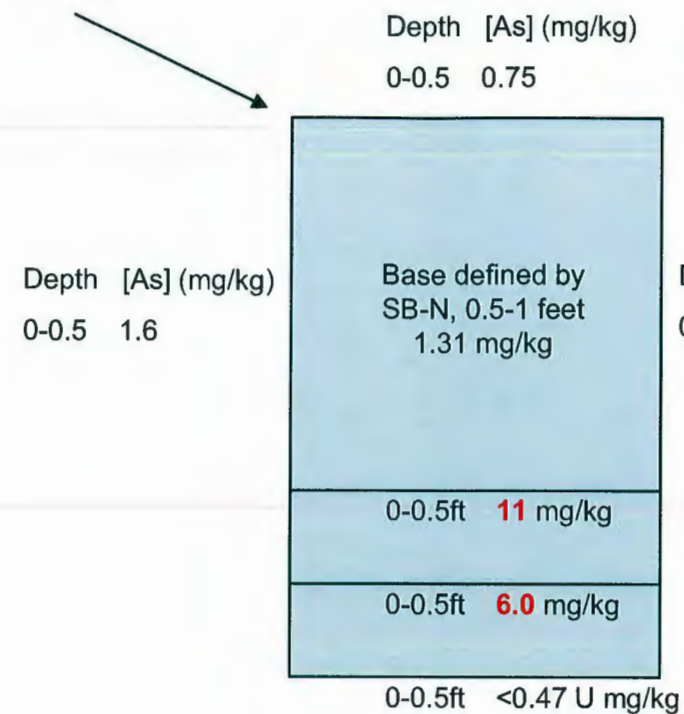
Project Number
43110-000014.04

Scale
Not to Scale



Note: Distances between excavations not to scale.

SB-N



Note: Distances between excavations not to scale.

SB-MW-2

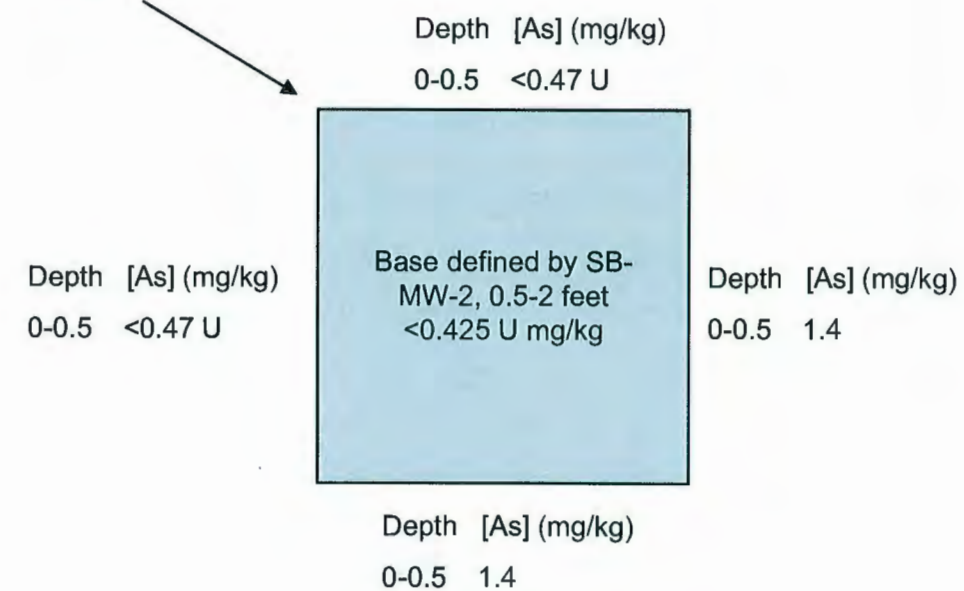


Figure 4F – Source Removal Excavation Details

Site:

Palm Aire Sabals and
Pines Golf Courses

Address:

Florida's Turnpike and
W. Atlantic Boulevard,
Pompano Beach, FL

Project Number

43110-000014.04

Scale

Not to Scale



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SYSTEM PROJECT/City of Pompano Beach/Palm Aire Data Summary Report/Figure 5.dwg, Model: 2/26/2014 3:26:15 PM, A:\cbe\101

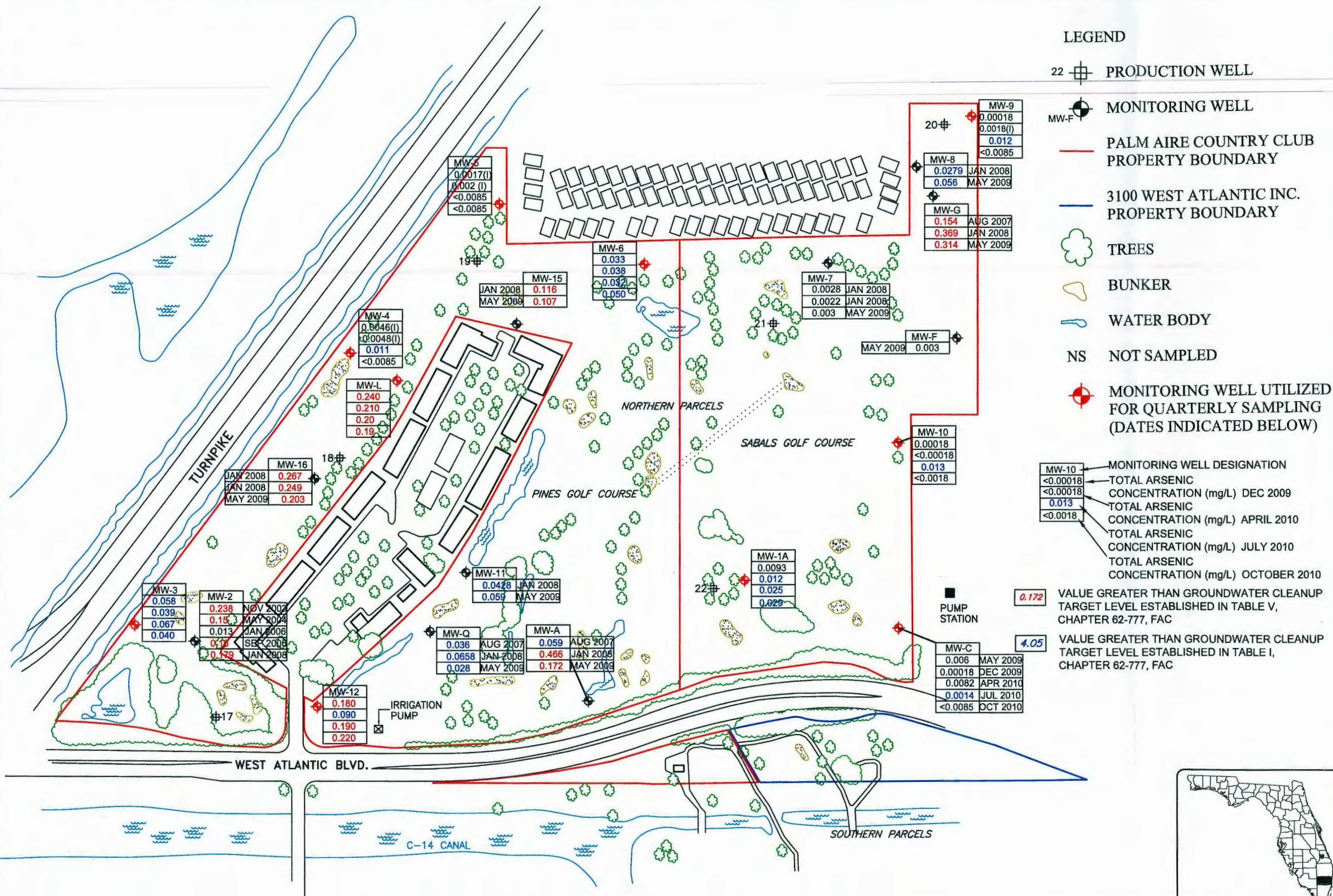


FIGURE 5

APPROX SCALE
0 200
FEET



GROUNDWATER DATA
SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
POMPAÑO BEACH, FLORIDA

FEBRUARY 2014

BV PROJECT NO. 02014-000131.00





APPENDIX B

TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
PALM AIRE COUNTRY CLUB
POMPANO BEACH, FLORIDA
DECEMBER 2010

Sample Designation	Date Sampled	Soil Arsenic Concentration						
		Sampling Interval (feet below land surface)						
		0 - 0.5	0.5 - 1	1 - 2	2 to 4	4 to 6	6 to 8	
		(mg/kg)						
SB-1	9/20/2006	1.15	0.680	0.480	0.56	<0.04U	NS	
SB-2	9/20/2006	<0.04U	<0.04U	<0.04U	<0.04U	<0.04U	NS	
SB-1A	12/21/2006	1.3	0.73	1.1	<0.67U	1.6	<0.77U	
SB-2A	12/21/2006	1.3	1.0	0.71	<0.67U	<0.68U	0.72	
SB-A	7/11/2007	1.10	0.572	0.260	0.482	2.19	NS	
SB-B	7/11/2007	2.08	0.719	1.05	1.05	0.917	NS	
SB-C		SEE TABLE 2						
SB-C1		SEE TABLE 2						
SB-C1-A	9/22/2008	2.94	NS	NS	3.46	NS	NS	
SPLP (mg/L)	9/22/2008				0.049			
SB-C1-B	9/22/2008	1.68	NS	NS	1.91	NS	NS	
SB-C1-C	9/22/2008	2.00	NS	NS	1.40	NS	NS	
SB-C2	4/30/2009	SEE TABLE 2						
SPLP (mg/L)	4/30/2009	NS	0.019		1.05	2.30	NS	
SB-D	7/11/2007	3.50	1.61	1.48	2.21	0.190	NS	
SB-E	7/11/2007	0.839	0.350	2.21	1.35	1.27	NS	
SB-F	7/11/2007	1.63	0.562	0.590	0.663	1.42	NS	
SB-G	7/11/2007	SEE TABLE 2						
SB-G1	5/1/2008	2.71	NS	NS	0.950	2.18	NS	
SB-G2	4/30/2009	SEE TABLE 2						
SPLP (mg/L)	4/30/2009	0.012	0.008		0.040	0.189	NS	
SB-H	7/11/2007	1.35	2.31	2.98	1.54	0.883	NS	
SB-I	7/11/2007	1.96	1.40	0.711	0.481	SEE TABLE 2		
SB-J	7/11/2007	SEE TABLE 2						
SB-J1	5/1/2008	SEE TABLE 2						
SB-J1-A	9/22/2008	1.01	1.84	0.137	NS	NS	NS	
SB-J1-B	9/22/2008	SEE TABLE 2						
SB-J1-C	9/22/2008	2.14	0.467	0.227	NS	NS	NS	
SB-K	7/11/2007	4.69	1.82	1.62	1.35	0.78	NS	
SB-L	7/11/2007	0.64	1.69	0.561	0.561	1.83	NS	
SB-L2	4/30/2009	4.15	<0.441U	1.11	1.14	NS	NS	
SPLP (mg/L)	4/30/2009	0.007	<0.004U		0.021	0.035	NS	
SB-M	7/11/2007	1.04	0.890	1.15	0.191	0.262	NS	
SB-N	7/11/2007	SEE TABLE 2						
SB-O	7/11/2007	2.72	1.45	0.371	0.447	1.85	NS	
SB-O-A	9/22/2008	2.04	NS	NS	NS	NS	NS	
SB-O-B	9/22/2008	2.41	NS	NS	NS	NS	NS	
SB-O-C	9/22/2008	0.593	NS	NS	NS	NS	NS	
SB-O-D	9/22/2008	0.517	NS	NS	NS	NS	NS	
SB-O-E	9/22/2008	0.584	NS	NS	NS	NS	NS	
SB-P	7/11/2007	3.03	0.895	0.895	0.895	0.895	NS	
SB-Q	7/11/2007	3.58	0.301	0.301	0.301	1.47	NS	
SB-Q-A	9/22/2008	3.45	NS	NS	NS	NS	NS	
SB-Q-B	9/22/2008	2.23	NS	NS	NS	NS	NS	
SB-Q-C	9/22/2008	2.67	NS	NS	NS	NS	NS	
SB-Q-D	9/22/2008	4.11	NS	NS	NS	NS	NS	
SPLP (mg/L)	9/22/2008	0.01						
SB-Q-E	9/22/2008	0.370	NS	NS	NS	NS	NS	
SB-Q2	4/30/2009	2.64	<0.450U		<0.417U	<0.402U	NS	
SPLP (mg/L)	4/30/2009	<0.004U	<0.004U		<0.004U	<0.004U	NS	
SB-R	7/11/2007	3.99	1.29	0.567	0.567	0.567	NS	
SB-S	7/11/2007	0.930	0.930	0.930	0.930	0.930	NS	
SB-T	7/11/2007	0.821	0.821	0.821	0.821	1.17	NS	
SB-122003	12/20/2007	1.84	0.249	<0.113U	NS	NS	NS	
SB-122004	12/20/2007	1.31	1.14	0.800	NS	NS	NS	
SB-122005	12/20/2007	0.123	0.165	0.219	NS	NS	NS	
SB-122006	12/20/2007	3.38	2.40	2.55	NS	NS	NS	
SB-122007	12/20/2007	0.457	0.497	0.102	NS	NS	NS	
SB-122008	12/20/2007	SEE TABLE 2						
SB-122008-A	9/22/2008	1.32	0.78	3.75	NS	NS	NS	
SB-122008-B	9/22/2008	1.72	0.690	0.407	NS	NS	NS	
SB-122008-C	9/22/2008	1.05	0.555	<0.397U	NS	NS	NS	
SB-122009	12/20/2007	0.234	<0.091U	<0.092U	NS	NS	NS	
SB-122010	12/20/2007	0.898	0.478	1.54	NS	NS	NS	
SB-122011	12/20/2007	0.881	0.295	<0.115U	NS	NS	NS	
SB-122012	12/20/2007	0.295	0.567	0.092	NS	NS	NS	
SB-122015	12/20/2007	1.12	1.05	0.314	NS	NS	NS	
SB-122016	12/20/2007	1.82	0.559	<0.513U	NS	NS	NS	
SB-MW1A	4/30/2009	SEE TABLE 2						
SB-MW2	4/30/2009	SEE TABLE 2						
SPLP (mg/L)	4/30/2009	0.017	<0.425U		<0.395U	0.556	NS	
SB-MW5	4/30/2009	0.431	<0.460U		<0.004U	0.013	NS	
SPLP (mg/L)	4/30/2009	<0.004U	0.007	0.004	0.728	0.856	NS	
SB-MW7	4/30/2009	0.781	<0.430U	1.09	<0.004U	1.32	NS	
SPLP (mg/L)	4/30/2009	<0.004U	<0.004U	0.019	0.019	0.011	NS	
SB-MW15	4/30/2009	1.56	<0.425U	1.09	1.09	1.01	NS	
SPLP (mg/L)	4/30/2009	<0.004U	<0.004U	0.014	0.014	0.019	NS	

Units for soil are milligrams per kilogram or mg/kg

Units for SPLP are milligrams per liter or mg/L

Soil Cleanup Target Levels are:

Residential direct exposure is 2.1 mg/kg

Commercial/Industrial direct exposure is 12 mg/kg

Alternate open space direct exposure is 5.5 mg/kg

Groundwater Cleanup Target Level for SPLP is 0.010 mg/L

NS is not sampled

NA is not analyzed

Concentrations indicated in **BLUE** are greater than the residential direct exposure soil cleanup target level

Data Qualifiers:

U Not detected at Method Detection Level (MDL)

I Reported value between the laboratory MDL and the laboratory Practical Quantification Limit (PQL)

TABLE 2
PALM AIRE COUNTRY CLUB
NORTH PARCEL INTERIM SOURCE REMOVAL
SUMMARY OF SOIL DATA FOLLOWING INTERIM SOURCE REMOVAL
APRIL TO JULY 2010

AREA	SAMPLING DATE	SAMPLE	DEPTH (FEET)	LOCATION	TOTAL ARSENIC CONCENTRATION (MG/KG)	QUALIFIER
SB-C	4/26/2010	SB-C W	0-2	west wall	0.49	U
	5/17/2010	SB-C W	2-4	west wall	0.46	U
	4/26/2010	SB-C S	0-2	south wall	4.1	
	5/17/2010	SB-C S	2-4	south wall	0.46	U
	6/18/2010	SB-C E	0-2	east wall resample	4.8	
	5/17/2010	SB-C E	2-4	east wall	0.53	
	5/17/2010	SB-C N	0-2	north wall resample	3.2	
	5/17/2010	SB-C N	2-4	north wall	0.46	U
	4/26/2010	SB-C Bottom	2	base of excavation	2.7	
SB C-1	4/26/2010	SB-C1 S	0-0.5	south wall	4.7	
	5/17/2010	SB-C1 W	0-0.5	west wall resample	3.3	
	5/17/2010	SB-C1 N	0-0.5	north wall resample	4.8	
	8/3/2010	SB-C1 B	1.5	base of excavation	3.2	
SB C-2	7/26/2010	SB-C2S	0-0.5	south wall	0.58	U
	7/26/2010	SB-C2E	0-0.5	east wall	4.4	
	7/26/2010	SB-C2W	0-0.5	west wall	0.48	U
SB-G	4/26/2010	SB-G N	0-0.5	north wall	2.1	
	4/26/2010	SB-G W	0-0.5	west wall	2.7	
	4/26/2010	SB-G S	0-0.5	south wall	2.5	
	5/28/2010	SB-G E	0-0.5	east wall resample	2.6	
	4/26/2010	SB-G Bottom	1.5	base of excavation	1.8	
SB 122008	4/26/2010	SB 122008 E	0.5-1	east wall	0.87	
	4/26/2010	SB 122008 N	0.5-1	north wall	1.4	
	4/26/2010	SB 122008 S	0.5-1	south wall	0.62	
SB-G2	4/26/2010	SB-G2 Bottom	2	base of excavation	2.1	
	4/26/2010	SB-G2 W	0-2	west wall	2.7	
	5/17/2010	SB-G2 W	2-4	west wall	0.87	
	5/17/2010	SB-G2 W	4-6	west wall	1.9	
	4/26/2010	SB-G2 S	0-2	south wall	2.8	
	5/17/2010	SB-G2 S	2-4	south wall	0.45	U
	5/17/2010	SB-G2 S	4-6	south wall	3.7	
	4/26/2010	SB-G2 E	0-2	east wall	1.3	
	5/17/2010	SB-G2 E	2-4	east wall	0.80	
	5/17/2010	SB-G2 E	4-6	east wall	0.76	
	4/26/2010	SB-G2 N	0-2	north wall	2.5	
	5/17/2010	SB-G2 N	2-4	north wall	0.46	U
	5/17/2010	SB-G2 N	4-6	north wall	3.7	
SB-I	7/26/2010	SB-I W	4-6	west wall	1.6	
	7/26/2010	SB-I E	4-6	east wall	0.48	U
	7/26/2010	SB-I N	4-6	north wall	0.95	
	7/26/2010	SB-I S	4-6	south wall	0.67	
SB-J	4/26/2010	SB-J S	0-0.5	south wall	5.7	
	4/26/2010	SB-J W	0-0.5	west wall	5.8	
	4/26/2010	SB-J N	0-0.5	north wall	4.7	
	7/26/2010	SB-J E	0-0.5	east wall resample	0.56	U
SB J1-B	4/26/2010	SB-J1-B N	0.5-1	north wall	4.2	
	5/17/2010	SB-J1-B W	0.5-1	west wall resample	5.1	
	4/26/2010	SB-J1-B S	0.5-1	south wall	4.5	
SB-N	5/28/2010	SB-N S	0-0.5	south wall resample	0.47	U
	4/26/2010	SB-N W	0-0.5	west wall	1.6	
	4/26/2010	SB-N N	0-0.5	north wall	0.75	
	4/26/2010	SB-N E	0-0.5	east wall resample	2.3	
SB-MW-2	4/26/2010	SB-MW-2 N	0-0.5	north wall	0.47	U
	4/26/2010	SB-MW-2 W	0-0.5	west wall	0.47	U
	4/26/2010	SB-MW-2 S	0-0.5	south wall	1.4	
	4/26/2010	SB-MW-2 E	0-0.5	east wall	1.4	
SB-MW-1A	4/26/2010	SB-MW-1A N	0-2	north wall	1.3	
	5/17/2010	SB-MW-1A N	2-4	north wall	0.46	U
	5/17/2010	SB-MW-1A N	4-6	north wall	1.2	
	4/26/2010	SB-MW-1A W	0-2	west wall	1.8	
	5/17/2010	SB-MW-1A W	2-4	west wall	0.46	U
	5/17/2010	SB-MW-1A W	4-6	west wall	0.48	U
	4/26/2010	SB-MW-1A S	0-2	south wall	2.2	
	5/17/2010	SB-MW-1A S	2-4	south wall	0.48	U
	5/17/2010	SB-MW-1A S	4-6	south wall	2.1	
	4/26/2010	SB-MW-1A E	0-2	east wall	4.6	
	5/17/2010	SB-MW-1A E	2-4	east wall	0.46	U
	5/17/2010	SB-MW-1A E	4-6	east wall	0.47	U
	4/26/2010	SB-MW-1A Bottom	0-2	base of excavation	0.6	

Note:
Alternate open space direct exposure is 5.5 mg/kg
Concentrations indicated in BLUE are greater than the residential direct exposure soil cleanup target level of 2.1 mg/kg
Data qualifier U = Compound was analyzed but not detected at the Method Detection Limit concentration

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PALM AIRE COUNTRY CLUB
POMPANO BEACH, FLORIDA
OCTOBER 2010

Monitoring Well Designation	Sampling Date	Arsenic Concentration (mg/L)	
		Total	Dissolved
		0.010	N/A
NADC		0.100	N/A
MW-A	8/15/2007	0.059	0.062
	1/10/2008	0.466	0.394
	5/5/2009	0.172	0.155
MW-C	5/4/2009	0.006	0.004
	12/9/2009	0.0018	NS
	4/6/2010	0.0082	NS
	7/7/2010	0.014	NS
	10/8/2010	<0.0085	NS
MW-F	5/4/2009	0.003	0.002
MW-G	8/15/2007	0.154	0.152
	1/10/2008	0.389	0.333
	5/4/2009	0.314	0.250
MW-L	8/15/2007	0.234	0.231
	1/2/2008	0.587	0.51
	5/5/2009	0.382	0.367
	12/9/2009	0.240	NS
	4/6/2010	0.210	NS
	7/7/2010	0.20	NS
	10/8/2010	0.19	NS
MW-Q	8/15/2007	0.036	0.036
	1/10/2008	0.0658	0.0674
	5/5/2009	0.028	0.026
MW-1	11/18/2003	0.071	0.071
	5/27/2004	0.092	0.092
	2/1/2006	0.052	0.036
(Dedictd MW-1A)	9/20/2006	0.05	0.04
	1/10/2008	0.0468	0.0338
	5/5/2009	0.022	0.012
	12/10/2009	0.0093	NS
	4/6/2010	0.012	NS
	7/7/2010	0.025	NS
	10/8/2010	0.029	NS
MW-2	11/18/2003	0.238	0.221
	5/27/2004	0.15	0.15
	1/19/2006	0.013	0.012
	9/1/2006	0.16	0.14
	1/2/2008	0.179	0.163
MW-3	1/2/2008	0.0274	0.0217
	5/5/2009	0.008	0.009
	12/9/2009	0.058	NS
	4/6/2010	0.039	NS
	7/7/2010	0.067	NS
	10/8/2010	0.040	NS
MW-4	1/2/2008	0.0209	0.0186
	12/9/2009	0.0048	NS
	4/6/2010	0.0048()	NS
	7/7/2010	0.011	NS
	10/8/2010	<0.0085	NS
MW-5	1/2/2008	0.0379	0.0346
	5/5/2009	0.002	0.002
	12/10/2009	0.0017	NS
	12/10/2009	0.0017()	NS
	7/7/2010	<0.0085	NS
	10/8/2010	<0.0085	NS
MW-6	1/2/2008	0.0351	0.0272
	5/5/2009	0.012	0.007
	12/9/2009	0.033	NS
	4/6/2010	0.038	NS
	7/7/2010	0.032	NS
	10/8/2010	0.050	NS
MW-7	1/10/2008	0.0028	0.0017
	Duplicate 1/10/2008	0.0022	0.0022
	5/4/2009	0.003	0.002
MW-8	1/10/2008	0.0279	0.0246
	5/4/2009	0.056	0.030
MW-9	1/10/2008	0.0134	0.0113
	5/4/2009	0.006	0.004
	12/9/2009	0.0018	NS
	4/6/2010	0.0018()	NS
	7/7/2010	0.012	NS
	10/8/2010	<0.0085	NS
MW-10	1/10/2008	0.0012	0.0012
	5/4/2009	0.001	<0.001
	12/9/2009	0.00018	NS
	4/6/2010	<0.00018	NS
	7/7/2010	0.013	NS
	10/8/2010	<0.0085	NS
MW-11	1/10/2008	0.0428	0.0435
	5/5/2009	0.059	0.059
MW-12	1/10/2008	0.244	0.257
	5/5/2009	0.139	0.140
	12/9/2009	0.180	NS
	4/6/2010	0.090	NS
	7/7/2010	0.19	NS
	10/8/2010	0.22	NS
MW-15	1/2/2008	0.116	0.102
	5/5/2009	0.107	0.104
MW-16	1/2/2008	0.267	0.239
	Duplicate 1/2/2008	0.249	0.267
	5/5/2009	0.203	0.195

Units for groundwater are milligrams per liter or mg/L
GCTL - Groundwater Cleanup Target Level established in Chapter 62-777 FAC
NADC - Natural Attenuation Default Concentrations established in Chapter 62-777 FAC
NA - Not Analyzed; NS - Not Sampled; N/A - Not Applicable

0.011 Value greater than GCTL
0.203 Value greater than NADC

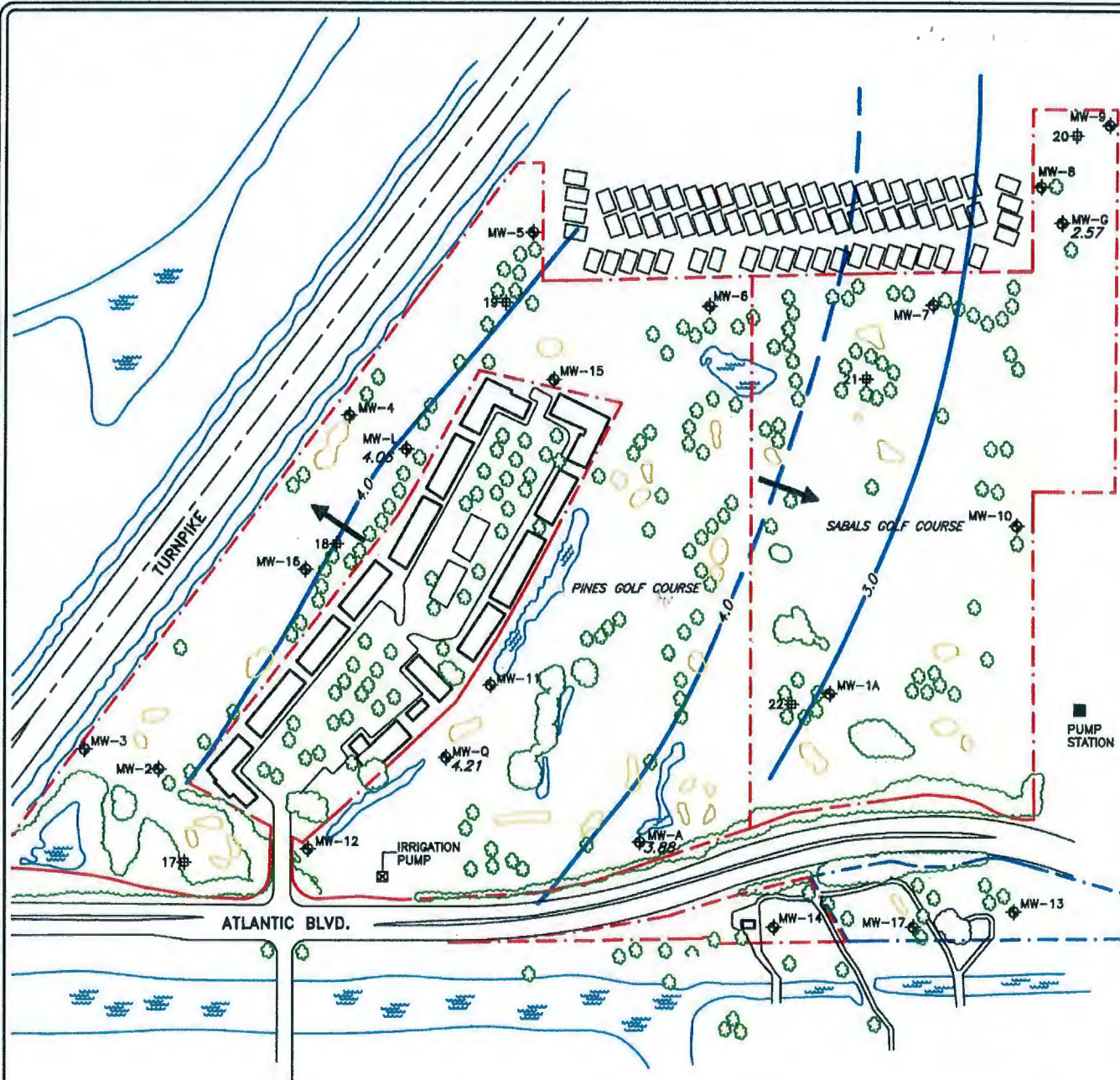


APPENDIX C

GROUNDWATER FLOW MAPS



- LEGEND**
- PRODUCTION WELL
 - MONITORING WELL
 - WATER TABLE ELEVATION
 - WATER TABLE ELEVATION CONTOUR
 - INFERRED GROUNDWATER FLOW DIRECTION



DRAWING TITLE:

WATER TABLE ELEVATION MAP, AUGUST 15, 2007

DRAWN BY: TSW
DATE: 06-17-2008
DWG: 2374.01.07-2

SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
NORTHEAST CORNER OF ATLANTIC BOULEVARD AND FLORIDA'S TURNPIKE
POMPANO BEACH, FLORIDA
REP PROJECT NO. 2374.01.07

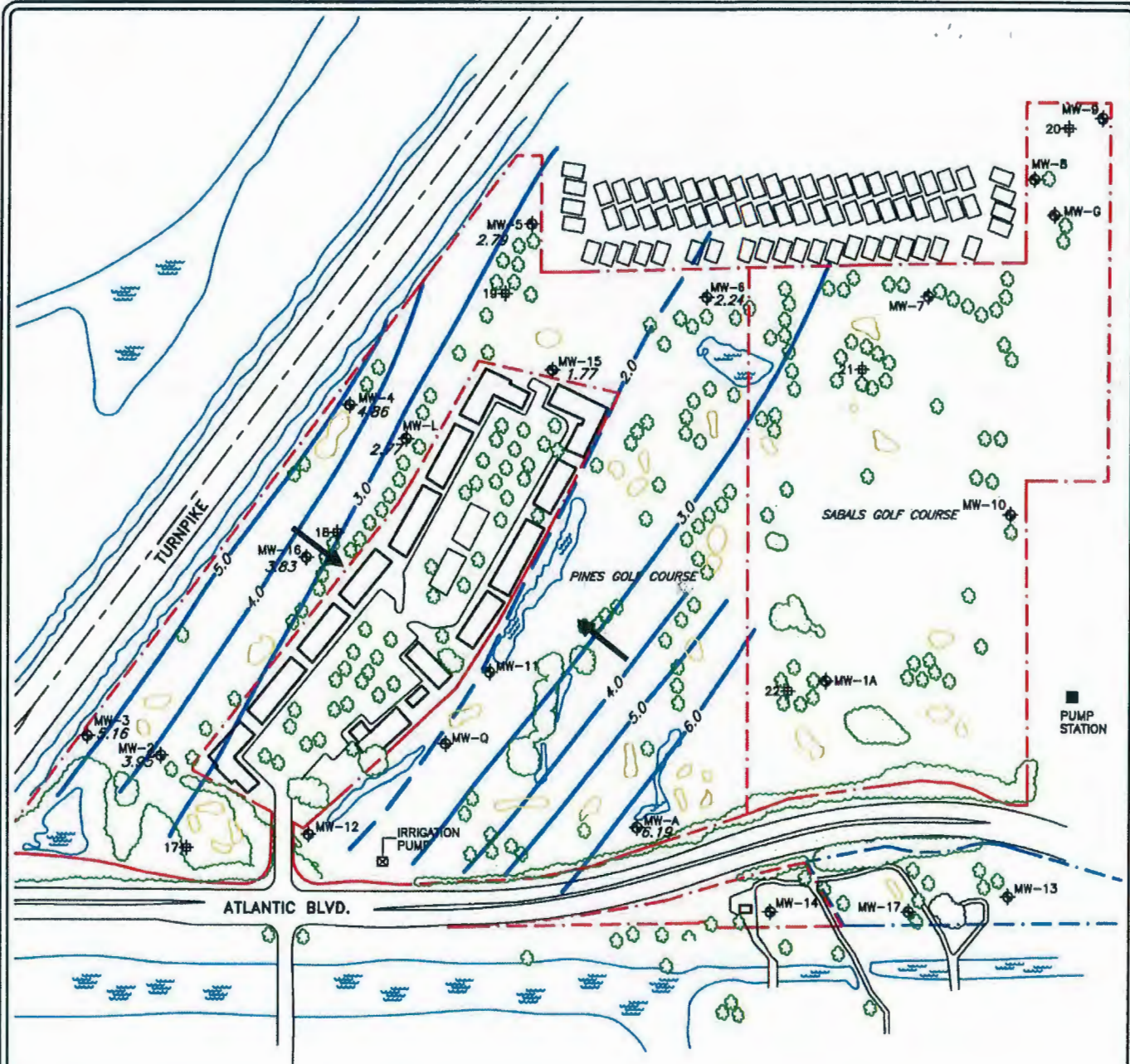
0 APPROX SCALE 400'
FEET

FIGURE:

2



- LEGEND**
- PRODUCTION WELL
 - MONITORING WELL
 - WATER TABLE ELEVATION
 - WATER TABLE ELEVATION CONTOUR
 - INFERRED GROUNDWATER FLOW DIRECTION



DRAWING TITLE:

WATER TABLE ELEVATION MAP, JANUARY 2, 2008

DRAWN BY: TSW
DATE: 06-17-2008
DWG: 2374.01.07-3

SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
NORTHEAST CORNER OF ATLANTIC BOULEVARD AND FLORIDA'S TURNPIKE
POMPAÑO BEACH, FLORIDA
REP PROJECT NO. 2374.01.07

0 APPROX SCALE 400'
FEET

FIGURE: 3



NORTH



PRODUCTION WELL



MONITORING WELL

0.11

WATER TABLE ELEVATION

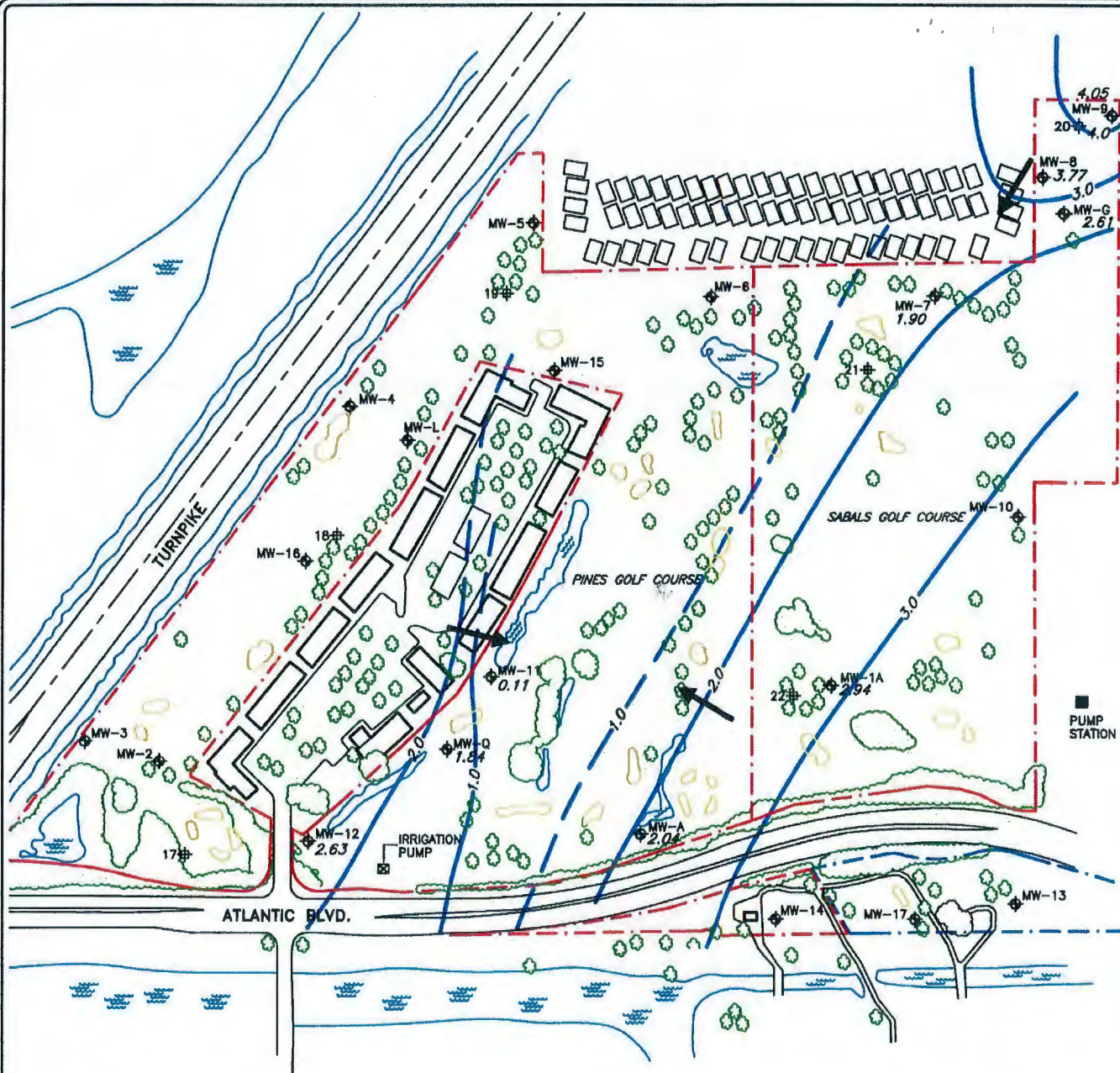


WATER TABLE ELEVATION CONTOUR



INFERRED GROUNDWATER FLOW DIRECTION

LEGEND



DRAWING TITLE:

WATER TABLE ELEVATION MAP, JANUARY 10, 2008

DRAWN BY: TSW
DATE: 06-17-2008
DWG: 2374.01.07-4

SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
NORTHEAST CORNER OF ATLANTIC BOULEVARD AND FLORIDA'S TURNPIKE
POMPANO BEACH, FLORIDA
REP PROJECT NO. 2374.01.07

0 APPROX SCALE 400'
FEET

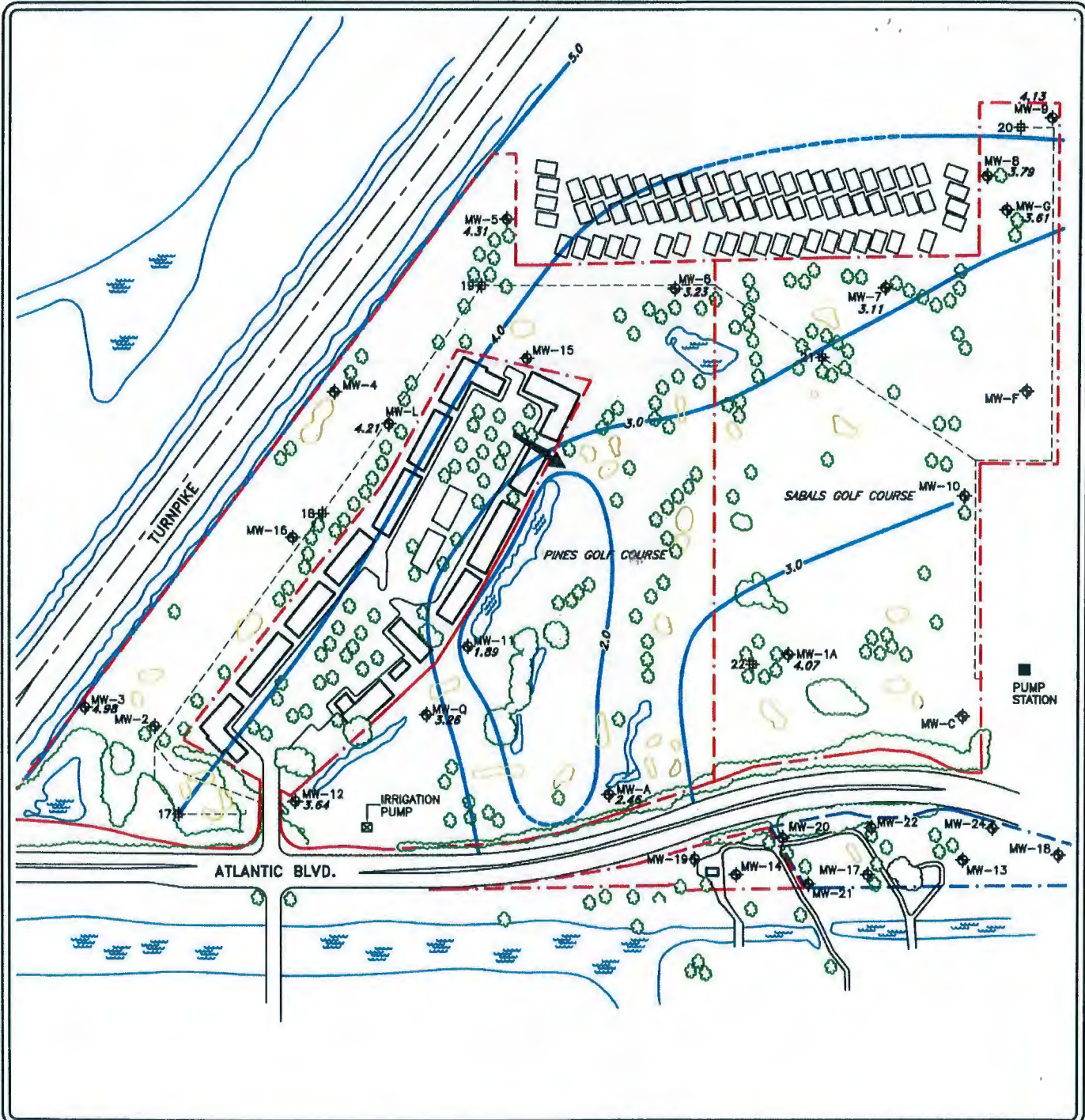
FIGURE:

4



LEGEND

- PALM AIRE PROPERTY BOUNDARY
- 3100 WEST ATLANTIC INC. PROP. BOUNDARY
- ⊕ PRODUCTION WELL
- ⊕ MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR
- 4.98 GROUNDWATER ELEVATION (FEET)
- GROUNDWATER FLOW DIRECTION



DRAWING TITLE:

WATER TABLE ELEVATION MAP, MAY 4 AND 5, 2009

DRAWN BY: TSW
DATE: 06-08-2009
DWG: 2374.01.10-3

SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
NORTHEAST CORNER OF ATLANTIC BOULEVARD AND FLORIDA'S TURNPIKE
POMPANO BEACH, FLORIDA
REP PROJECT NO. 2374.01.09

0 APPROX SCALE 400'
FEET

FIGURE:

3



BV PROJECT NO. 26009-145200.02

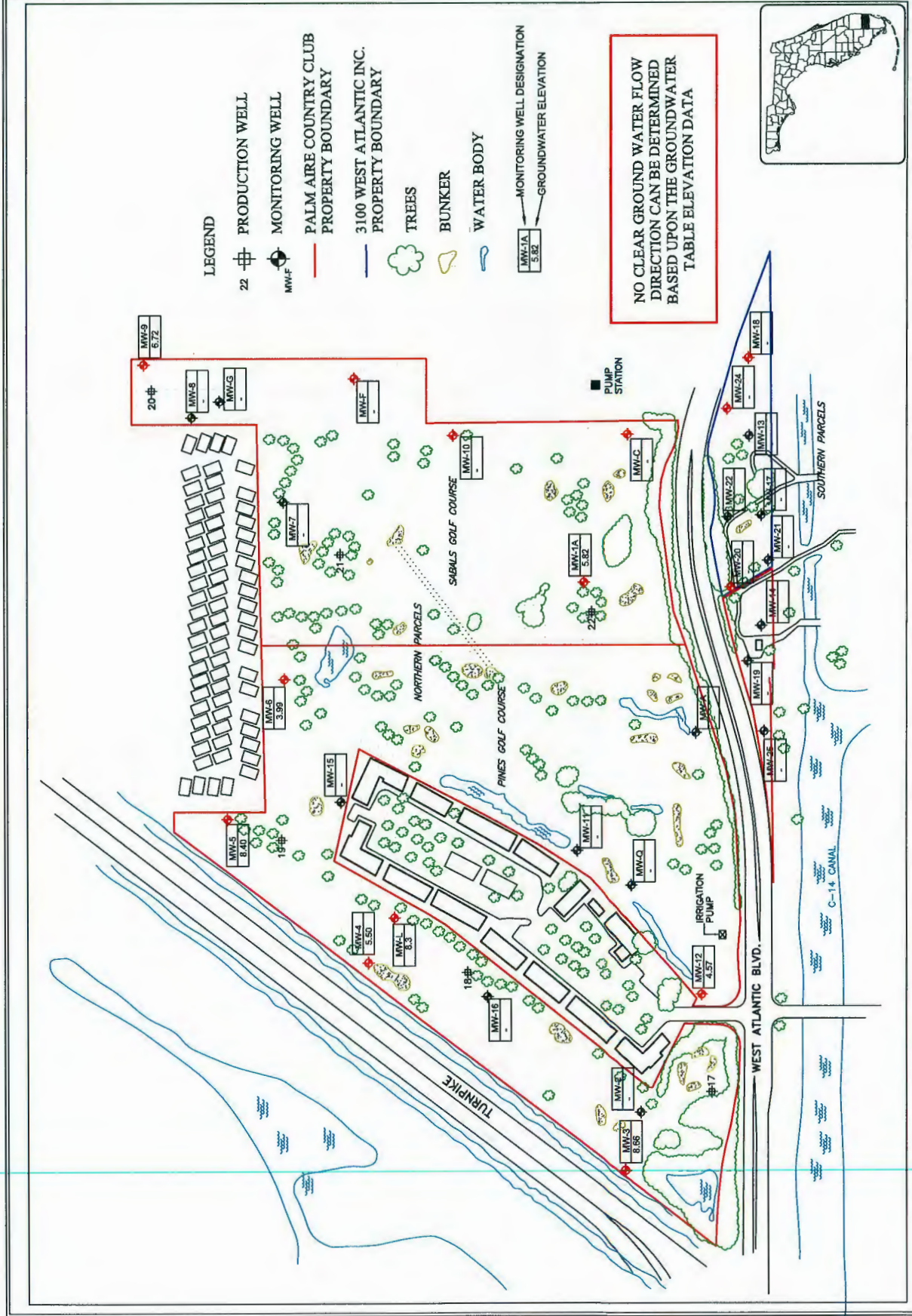
FEBRUARY 2010

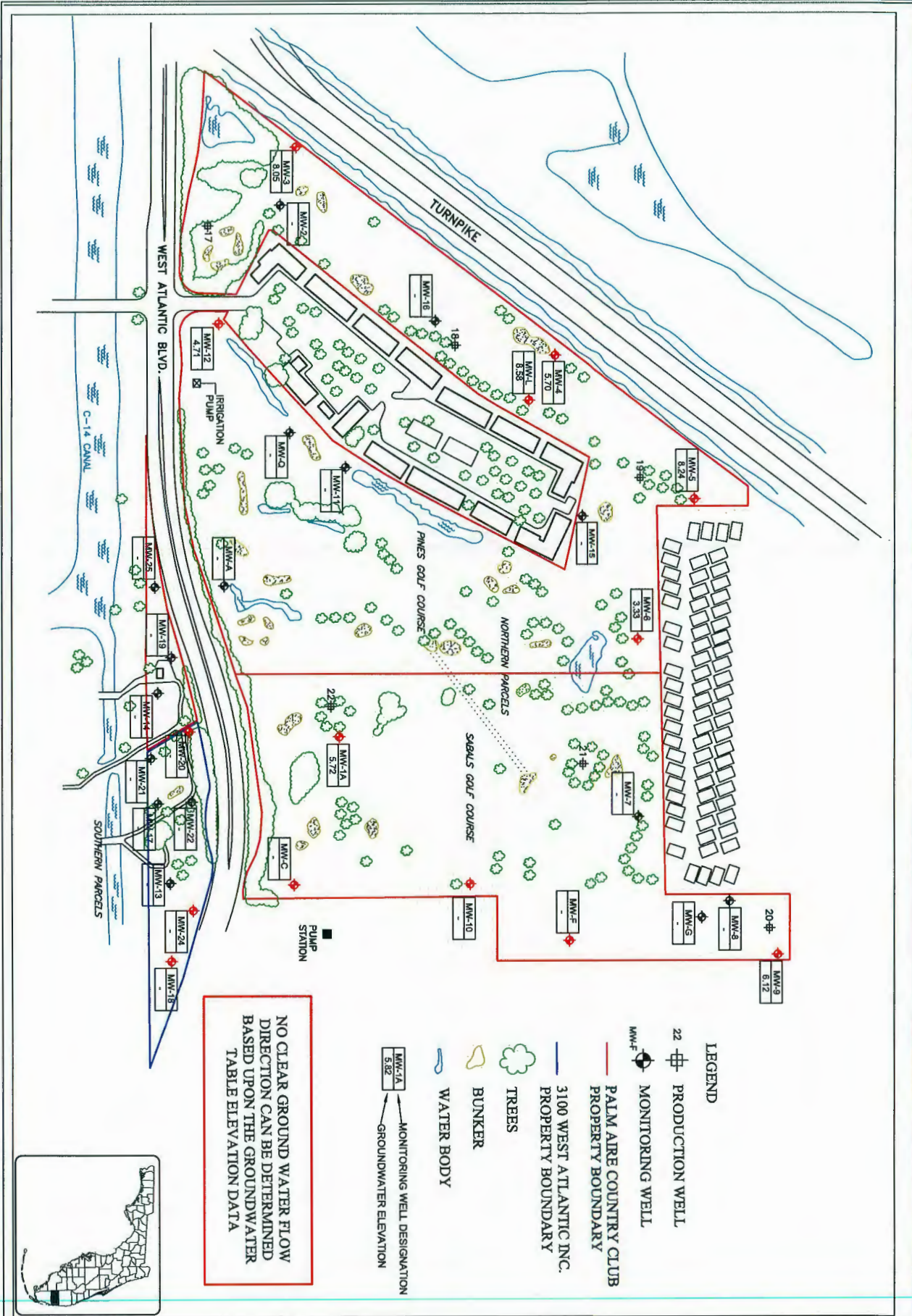
GROUNDWATER ELEVATION CONTOUR MAP
NATURAL ATTENUATION MONITORING
SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
POMPANO BEACH, FLORIDA



APPROX SCALE
0 200
FEET

FIGURE
2





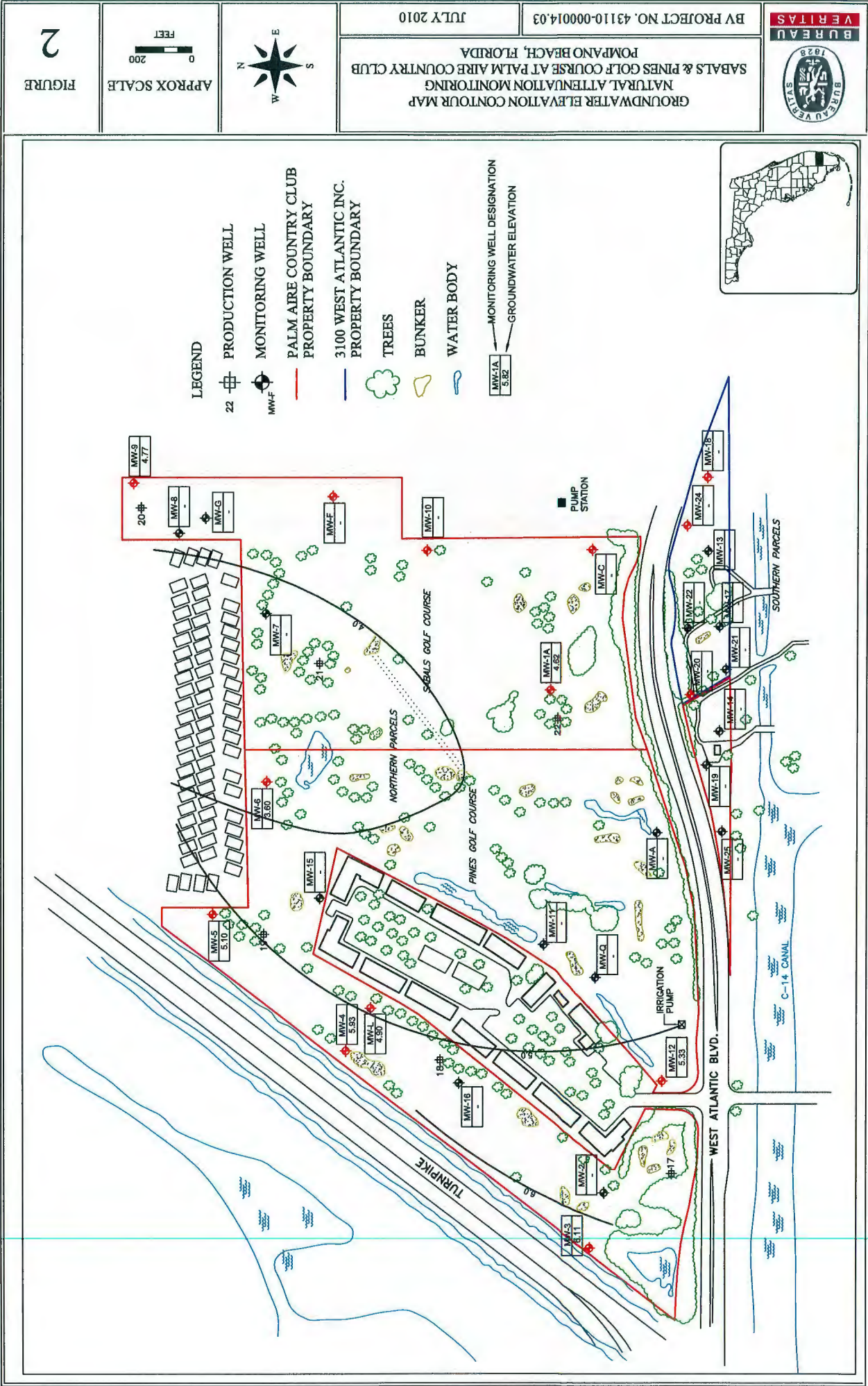


FIGURE 2



BV PROJECT NO. 43110-000014.07

GROUNDWATER ELEVATION CONTOUR MAP
NATURAL ATTENUATION MONITORING
SABALS & PINES GOLF COURSE AT PALM AIRE COUNTRY CLUB
POMPANO BEACH, FLORIDA

OCTOBER 2010



APPROX SCALE
0 200
FEET

FIGURE
2

