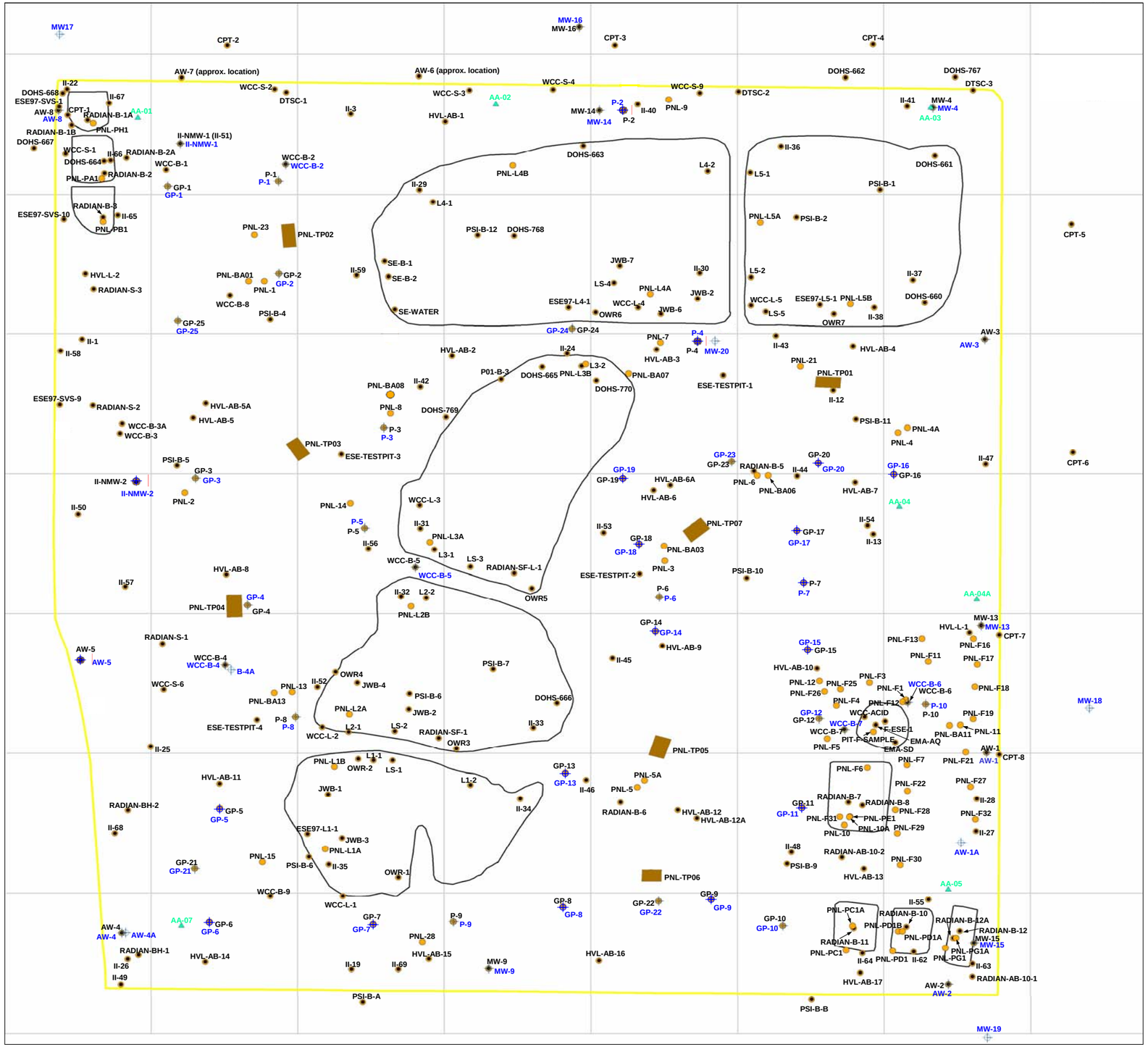


LEGEND

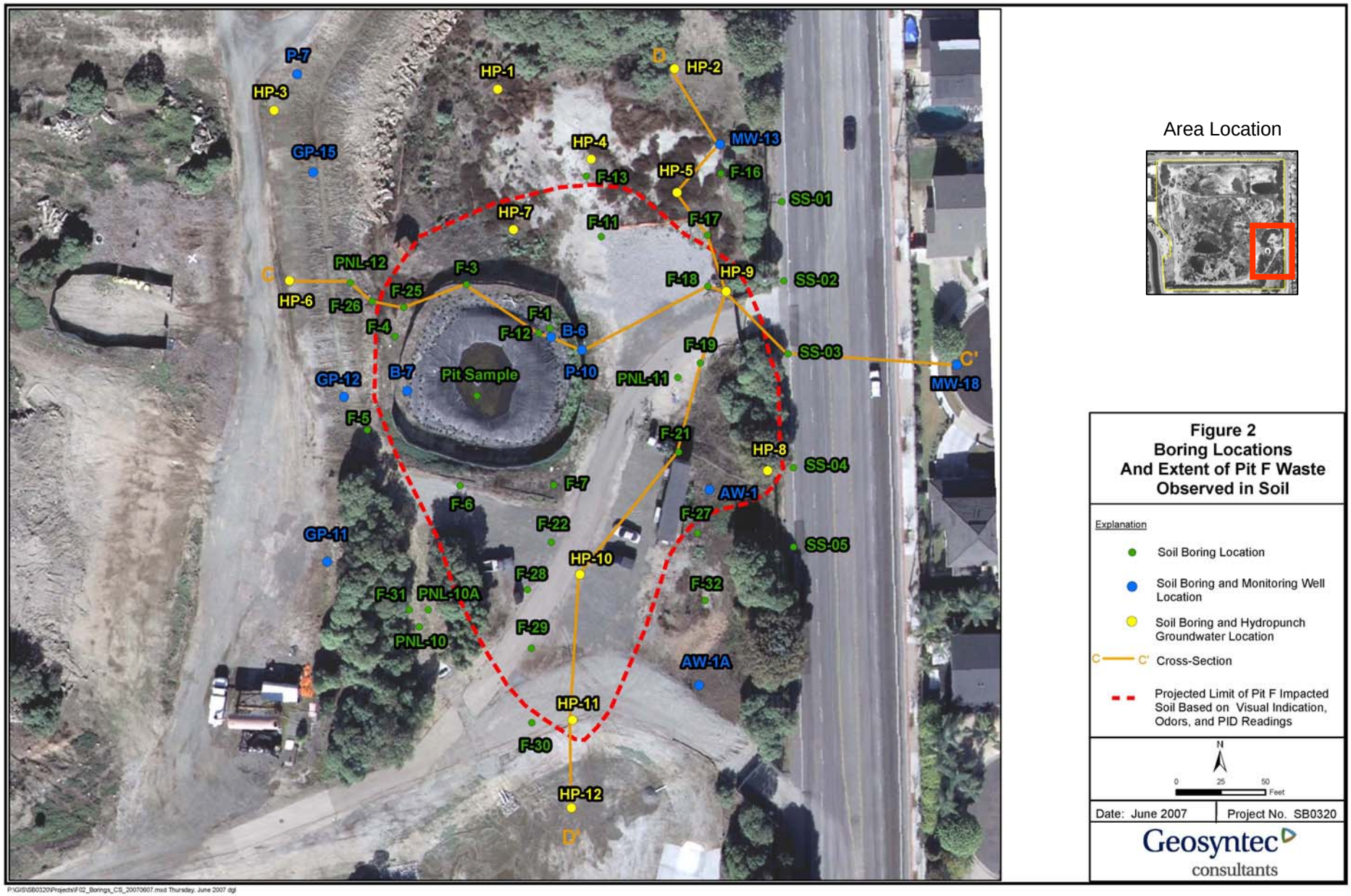
- Air Monitoring Location
- Groundwater Monitoring Location
- Pilot Study No. 3 Sampling Location
- TM1 Sampling Location
- 1997 RI Sampling Location
- Pilot Study No. 3 Trench Location
- Pit and Lagoon Boundary
- Site Boundary
- 200 Foot Grid

Groundwater monitoring points are labeled with additional blue text.

NORTH

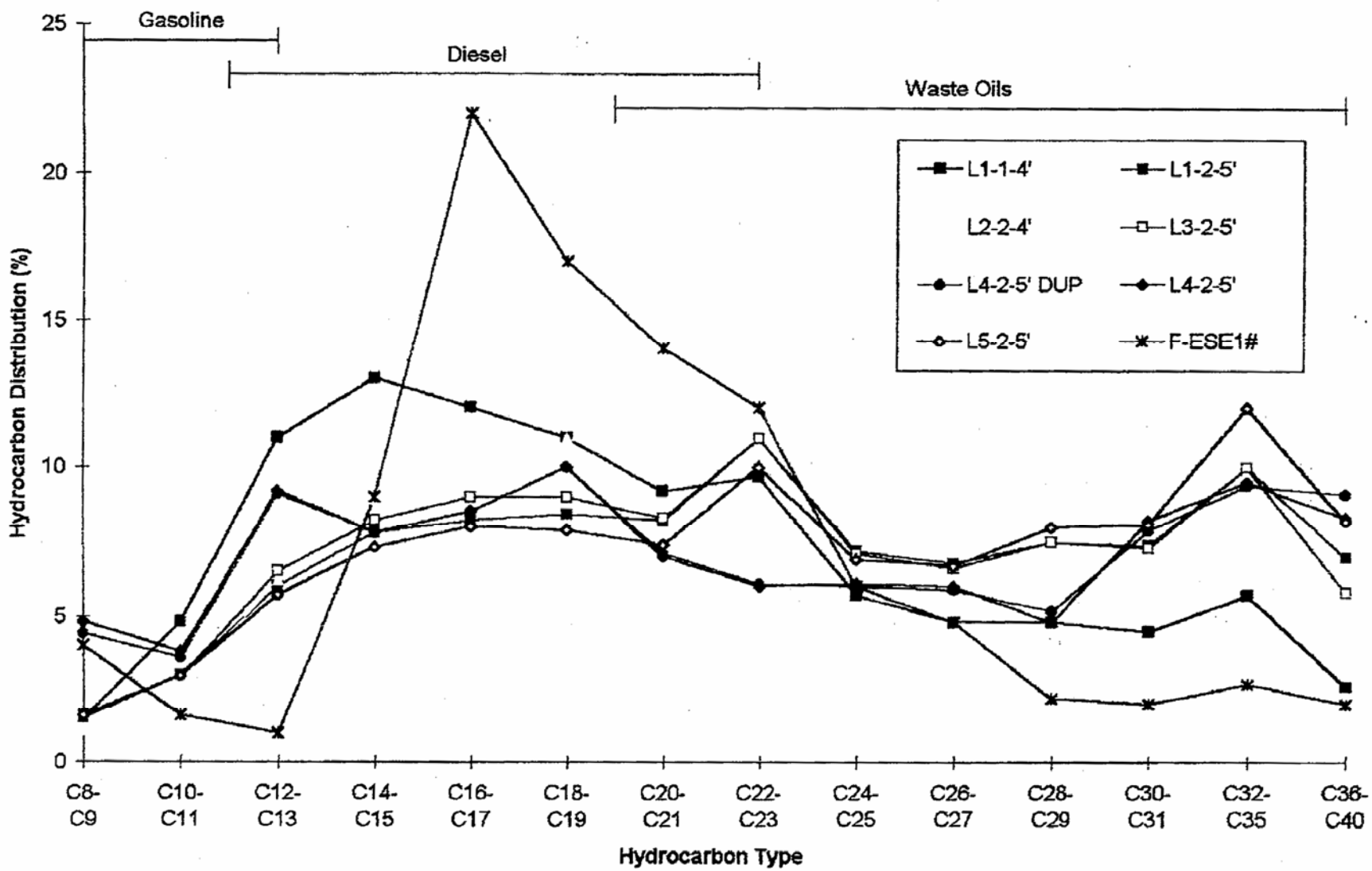
0 100 200 400 600 800 Feet

Sample Location Map		Figure 3.1-1
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	August 2007	Project Navigator, Ltd.



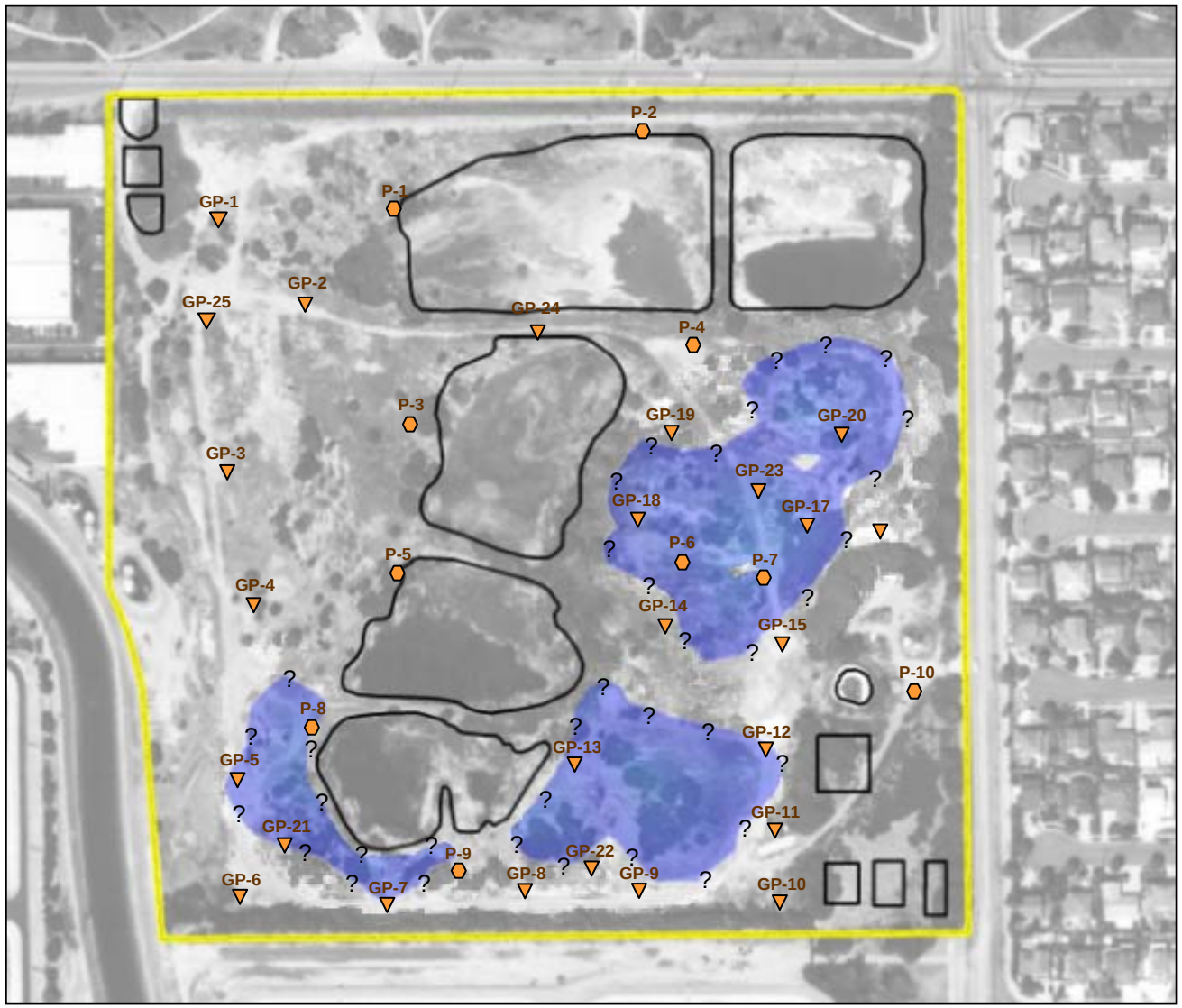
Taken from Supplementary Groundwater Investigation in the Pit F Area, Revision 1.0, Ascon Landfill Site, Figure 2, June 14, 2007, by Geosyntec. Cross sections are not included in RFS.

Estimated Extent of Pit F Impacts in Soils		**Figure 3.2-1**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.



Source: Feasibility Study Report, Figure 3-1, Environ, 2000, after ESE, 1997

Hydrocarbon Distribution of Lagoon Samples (Pre-Pilot Study No. 3)		Figure 3.2-2
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.



LEGEND

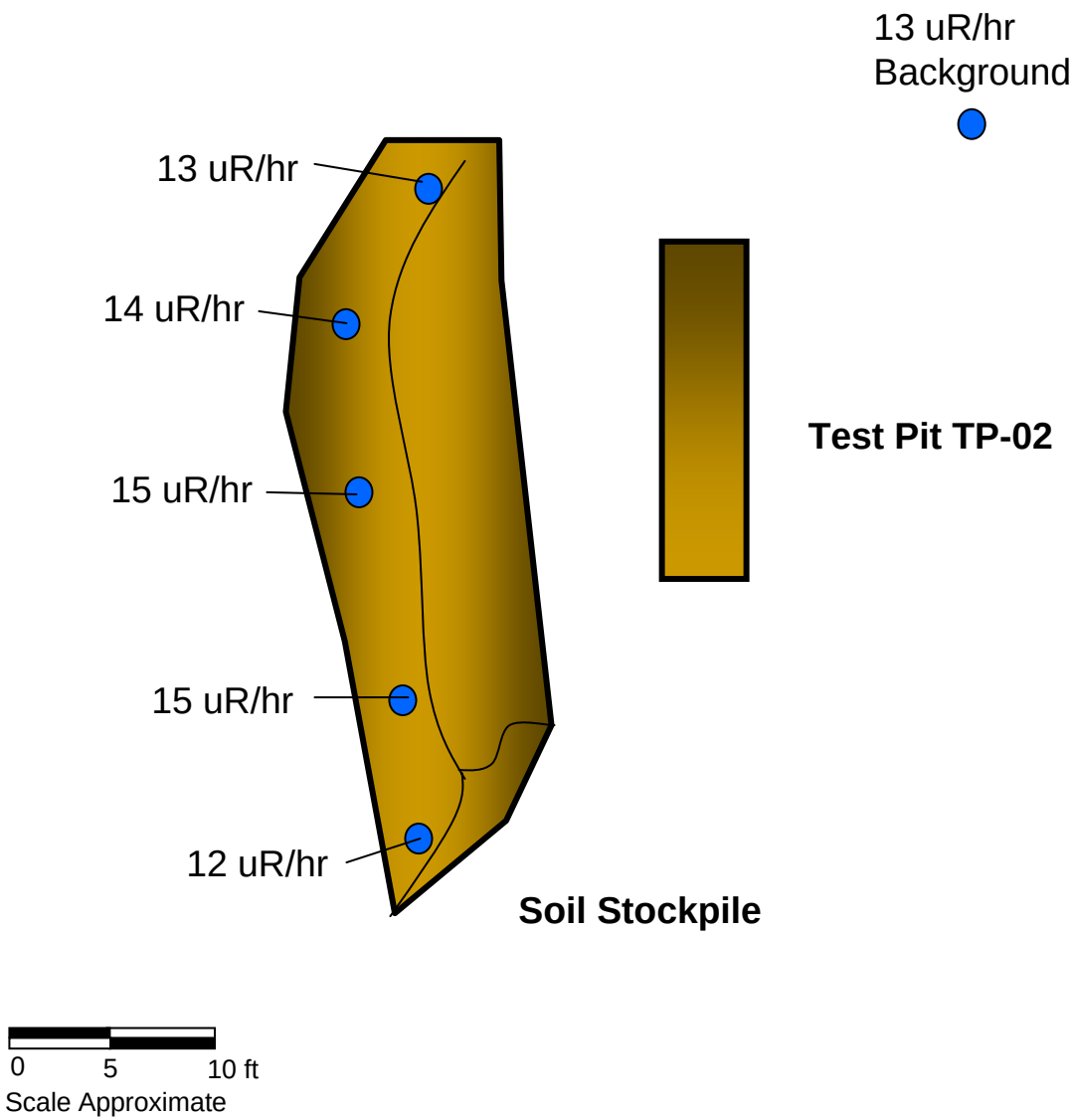
- Perched Liquid Area
  ? – Estimated Extent
- Geoprobe Monitoring Well Locations
- Piezometer Well Locations
- Ascon Site Boundary
- Pits and Lagoons Boundaries

NORTH

Source: Project Navigator, Ltd., 2003, TM1ROF

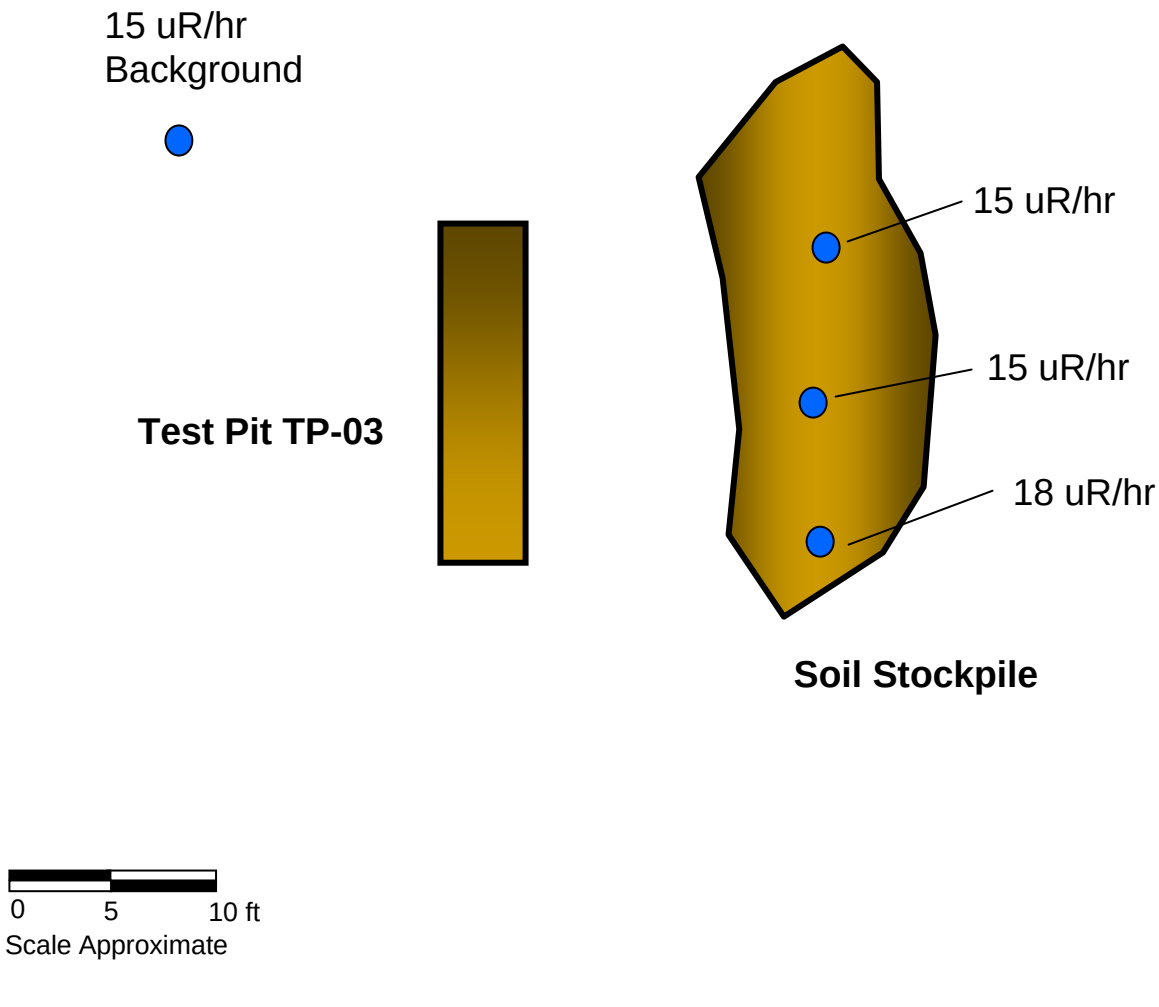
0 200 400 600 800 ft

Perched Liquid Area Map, October 2002		Figure 3.2-3
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.



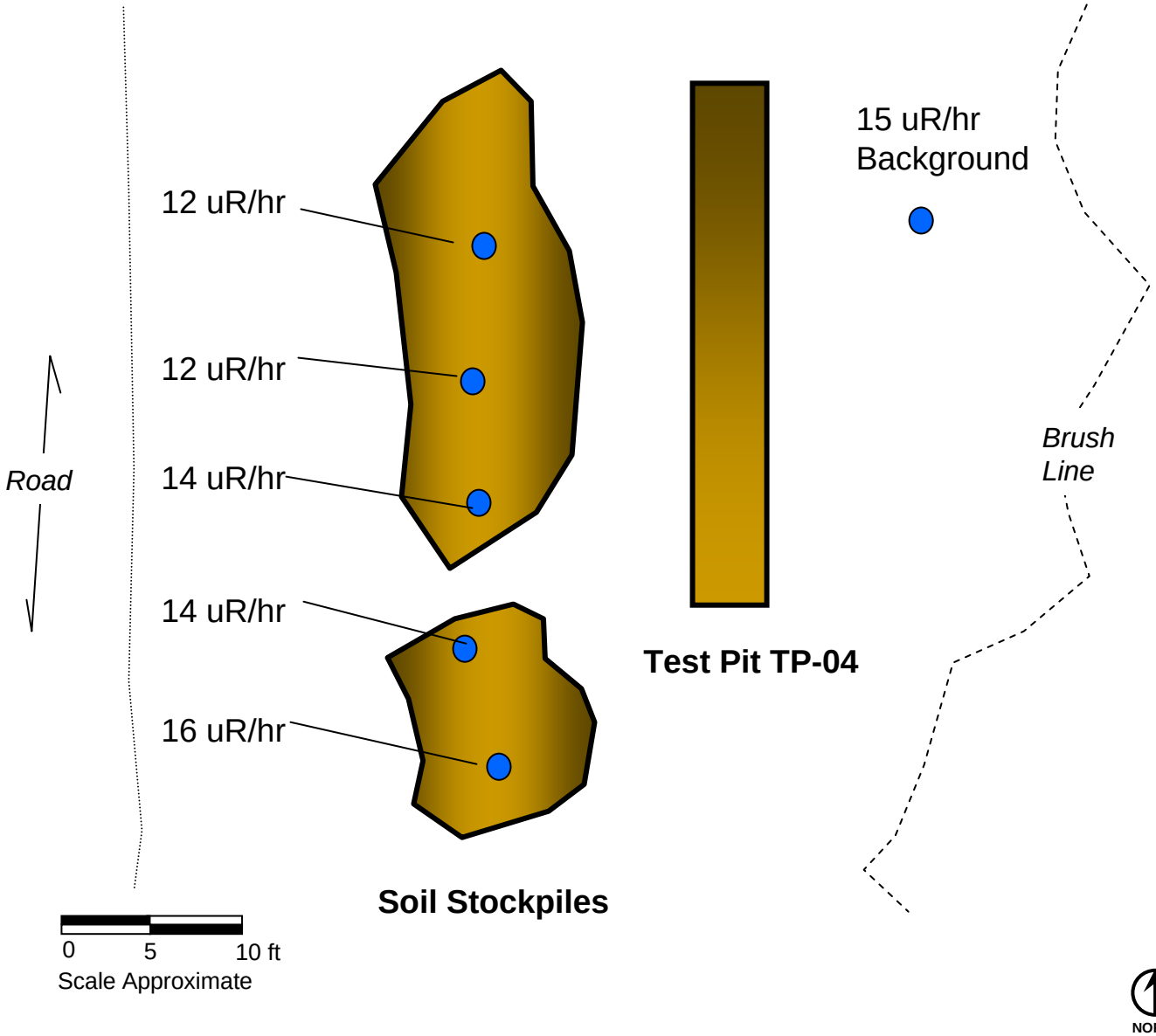
Survey Information	
Survey date:	5-19-04
Performed by:	M. Landress
Instrument: Probe:	Ludlum Model 3 SN: 104480 Ludlum Model 44-2 SN: 104098
Cal Date:	6-13-04
All readings in microRoentgen per hour. Readings include background.	

Radiological Survey - Test Pit TP-02		Figure 3.2-4a
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



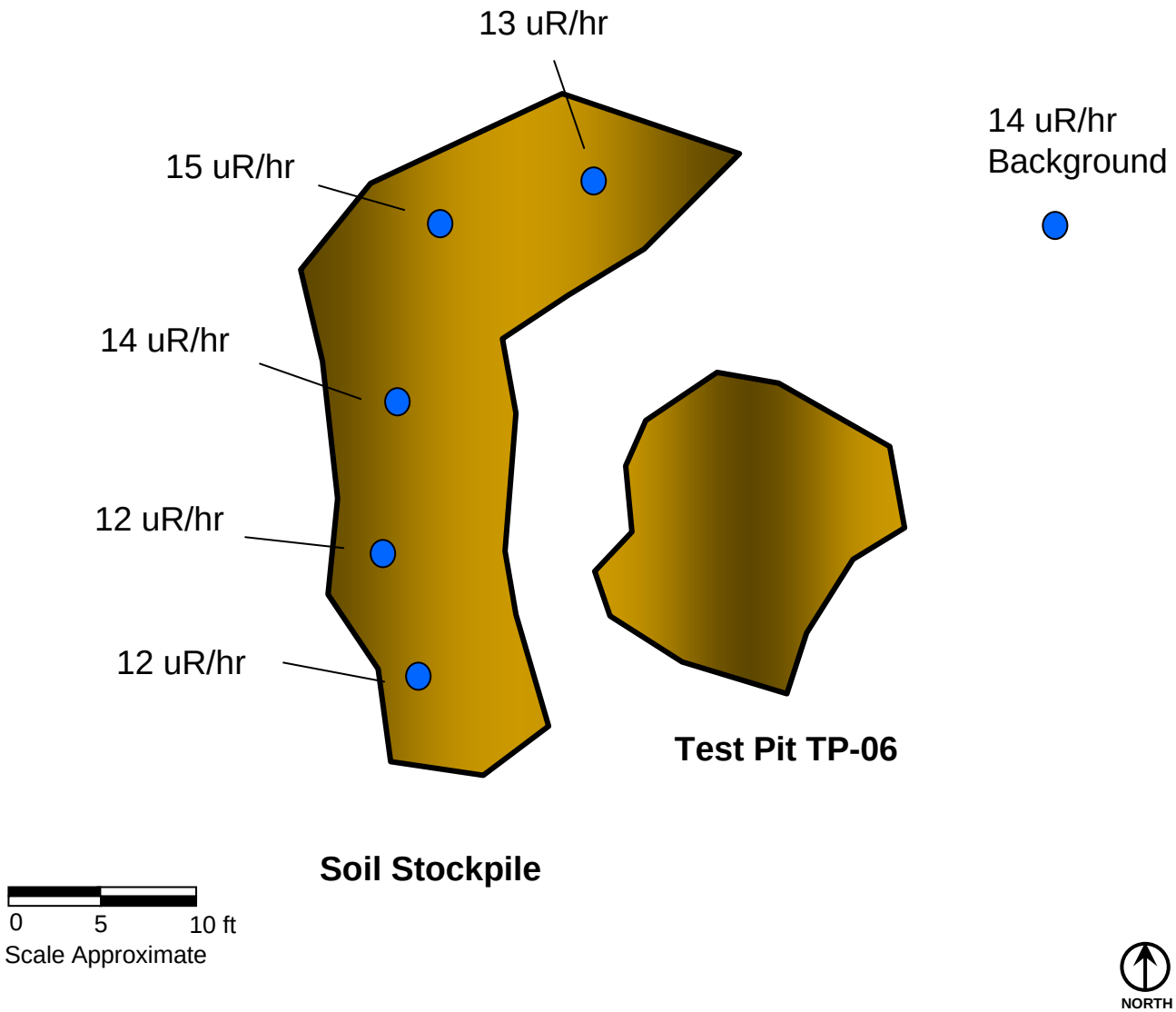
Survey Information	
Survey date:	5-20-04
Performed by:	M. Landress
Instrument: Probe:	Ludlum Model 3 SN: 104480 Ludlum Model 44-2 SN: 104098
Cal Date:	6-13-04
All readings in microRoentgen per hour. Readings include background.	

Radiological Survey - Test Pit TP-03		**Figure 3.2-4b**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



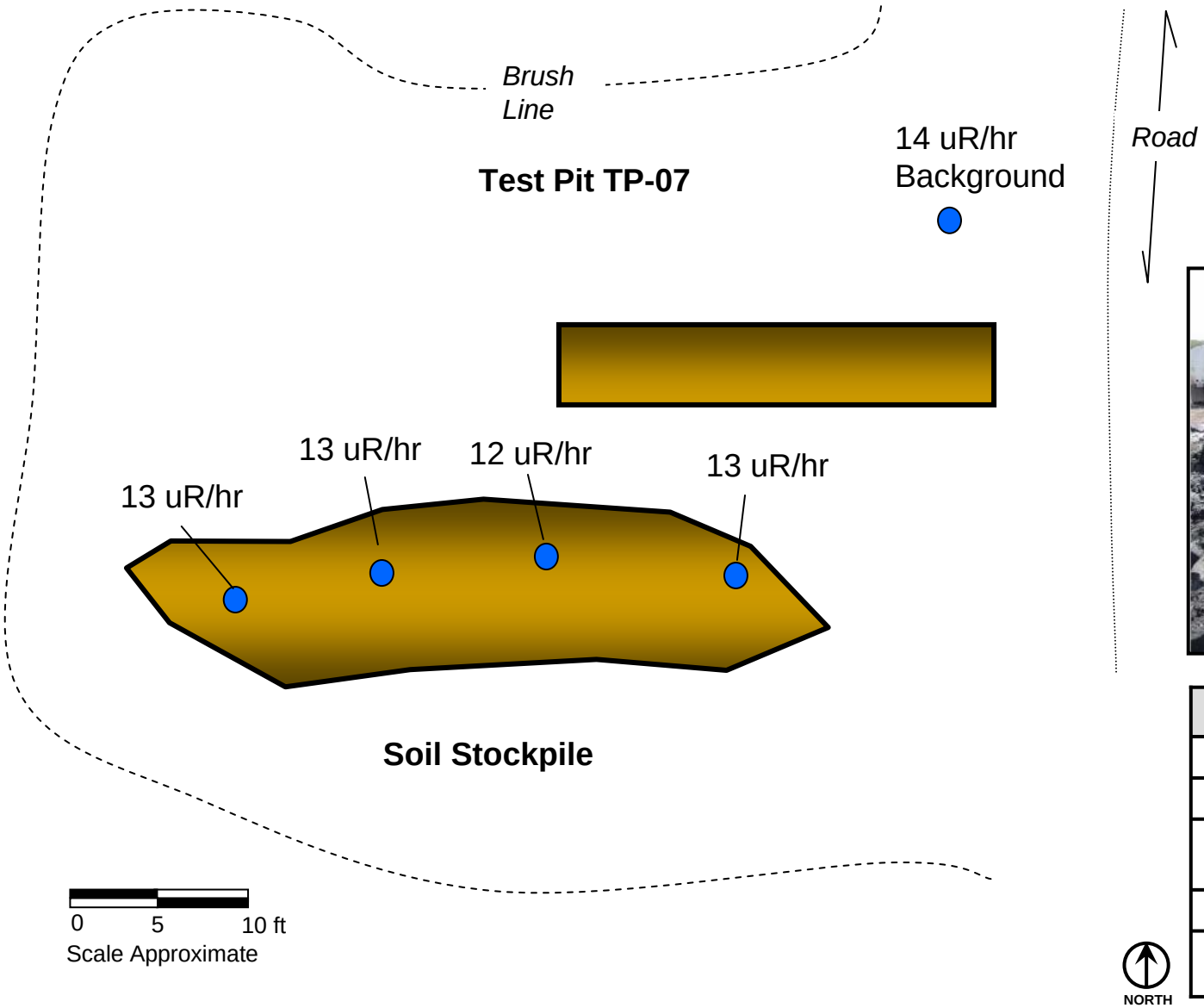
Survey Information	
Survey date:	5-19-04
Performed by:	M. Landress
Instrument: Probe:	Ludlum Model 3 SN: 104480 Ludlum Model 44-2 SN: 104098
Cal Date:	6-13-04
All readings in microRoentgen per hour. Readings include background.	

Radiological Survey - Test Pit TP-04		Figure 3.2-4c
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



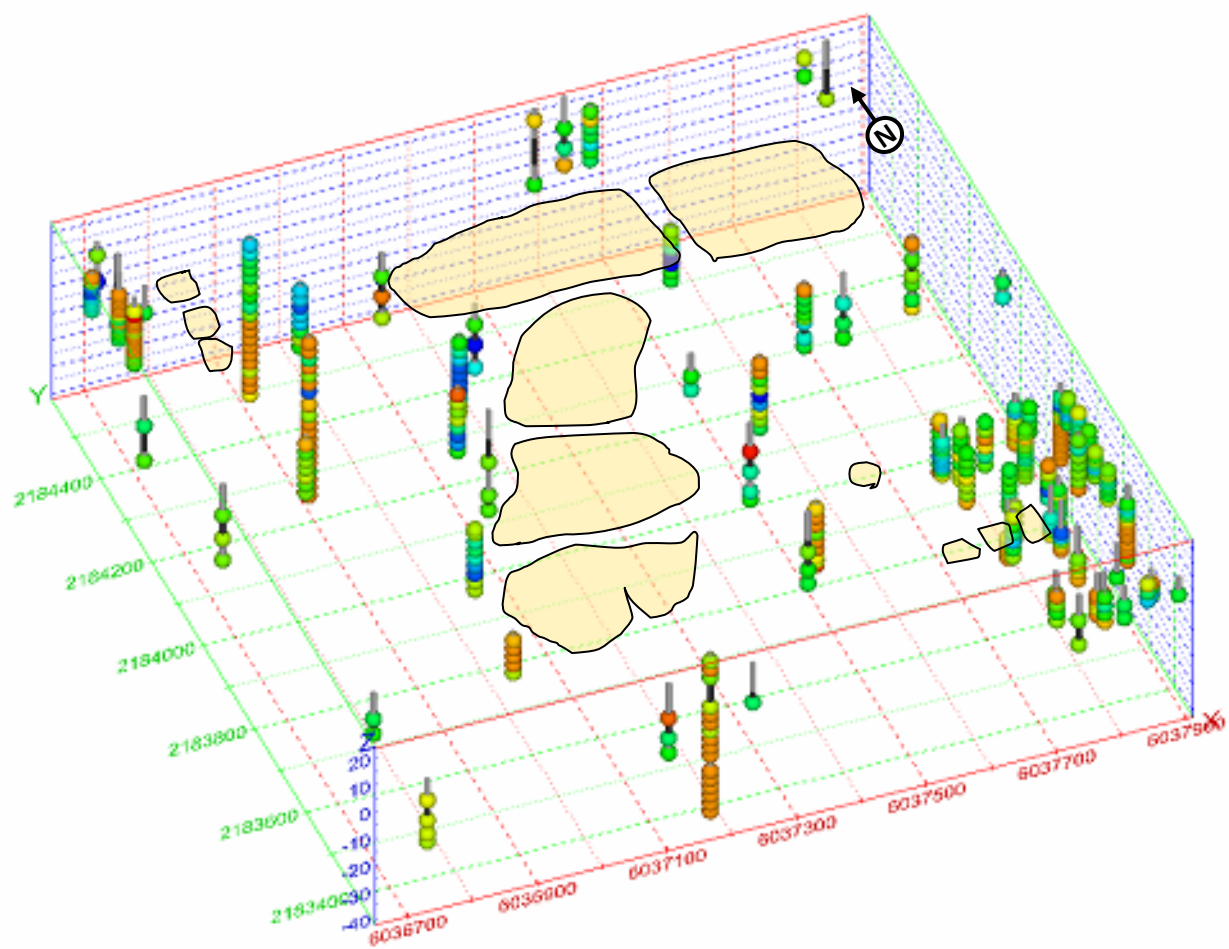
Survey Information	
Survey date:	5-18-04
Performed by:	M. Landress
Instrument: Probe:	Ludlum Model 3 SN: 104480 Ludlum Model 44-2 SN: 104098
Cal Date:	6-13-04
All readings in microRoentgen per hour. Readings include background.	

Radiological Survey - Test Pit TP-06		Figure 3.2-4d
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



Survey Information	
Survey date:	5-20-04
Performed by:	M. Landress
Instrument: Probe:	Ludlum Model 3 SN: 104480 Ludlum Model 44-2 SN: 104098
Cal Date:	6-13-04
All readings in microRoentgen per hour. Readings include background.	

Radiological Survey - Test Pit TP-07		Figure 3.2-4e
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	Project Navigator, Ltd.



LEGEND

Sampling Location

Site Boundary

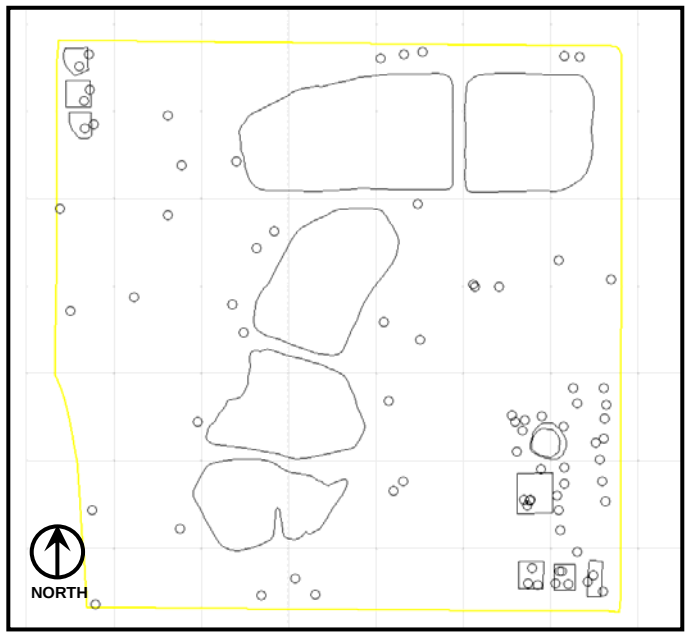
Pit and Lagoon Boundary

200 ft Grids

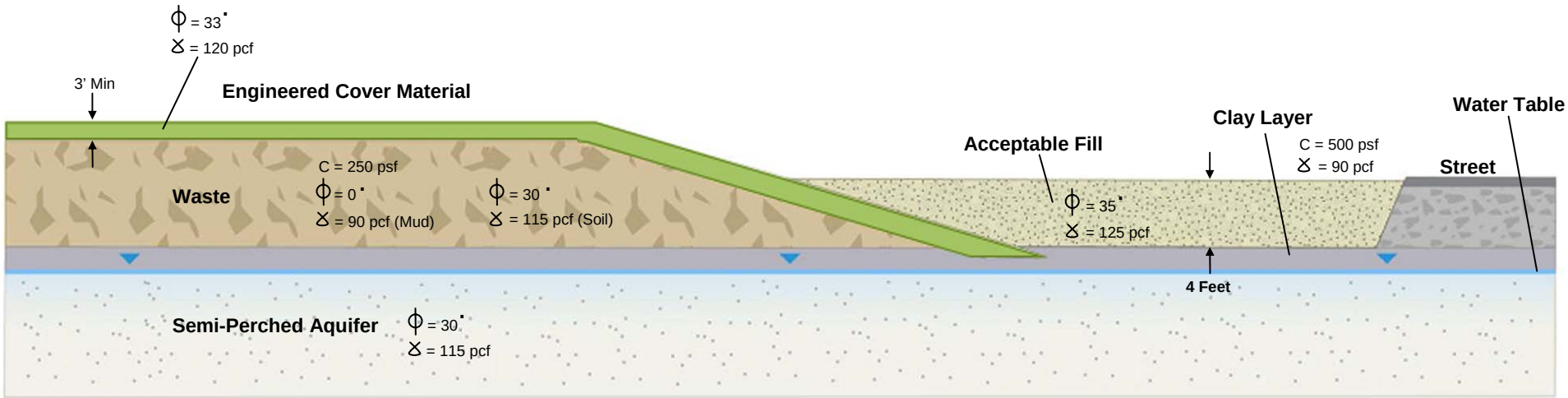
Blow Counts

30

10



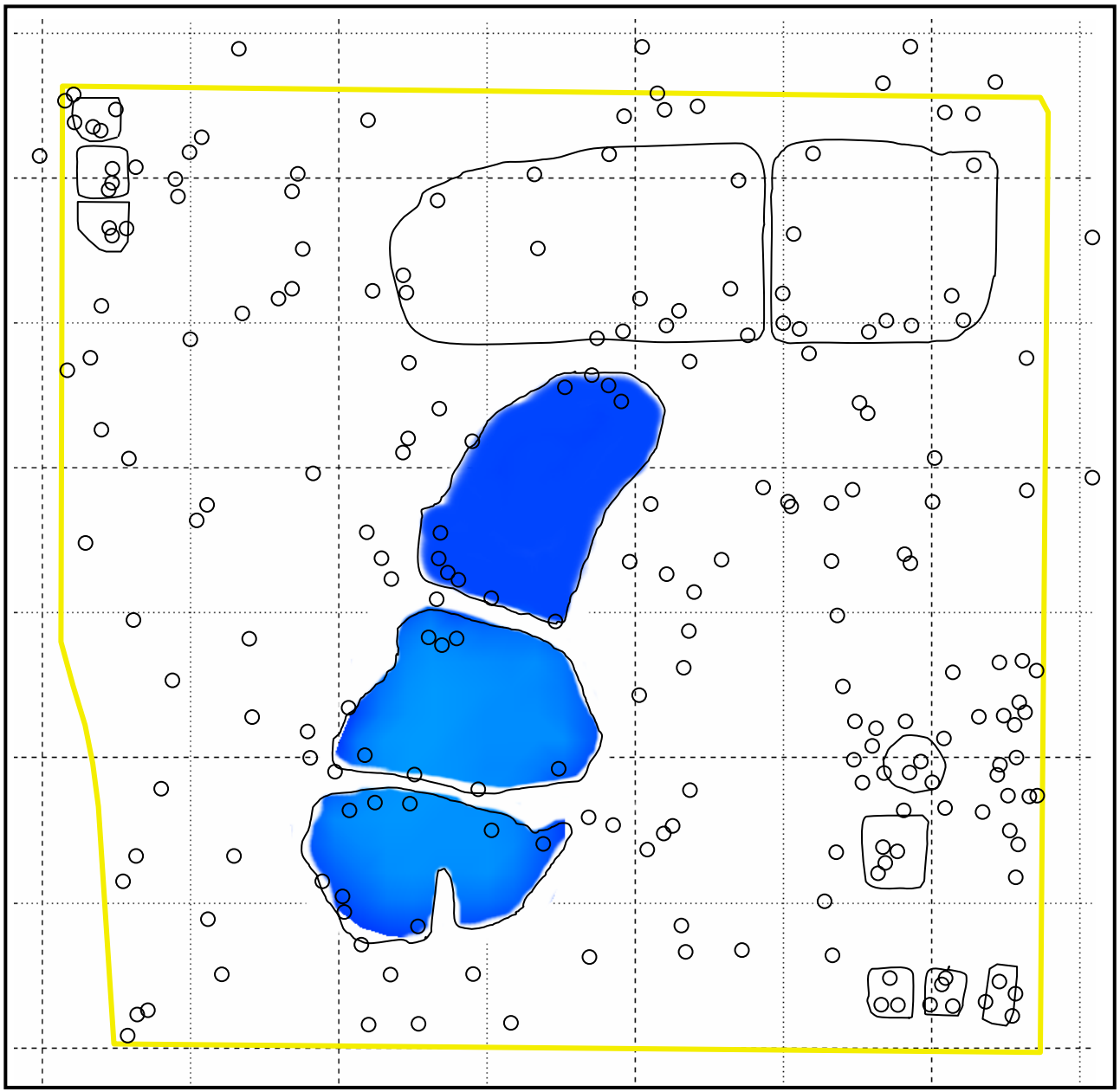
Blow Counts		**Figure 3.2-5**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



Not to Scale

Note: Parameters shown imputed into PCSTABLS program for stability analysis.

Conceptual Landfill Cover Scenario		Figure 3.2-6
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



Layer Thickness

30 ft
23 ft
16 ft
9 ft
2 ft

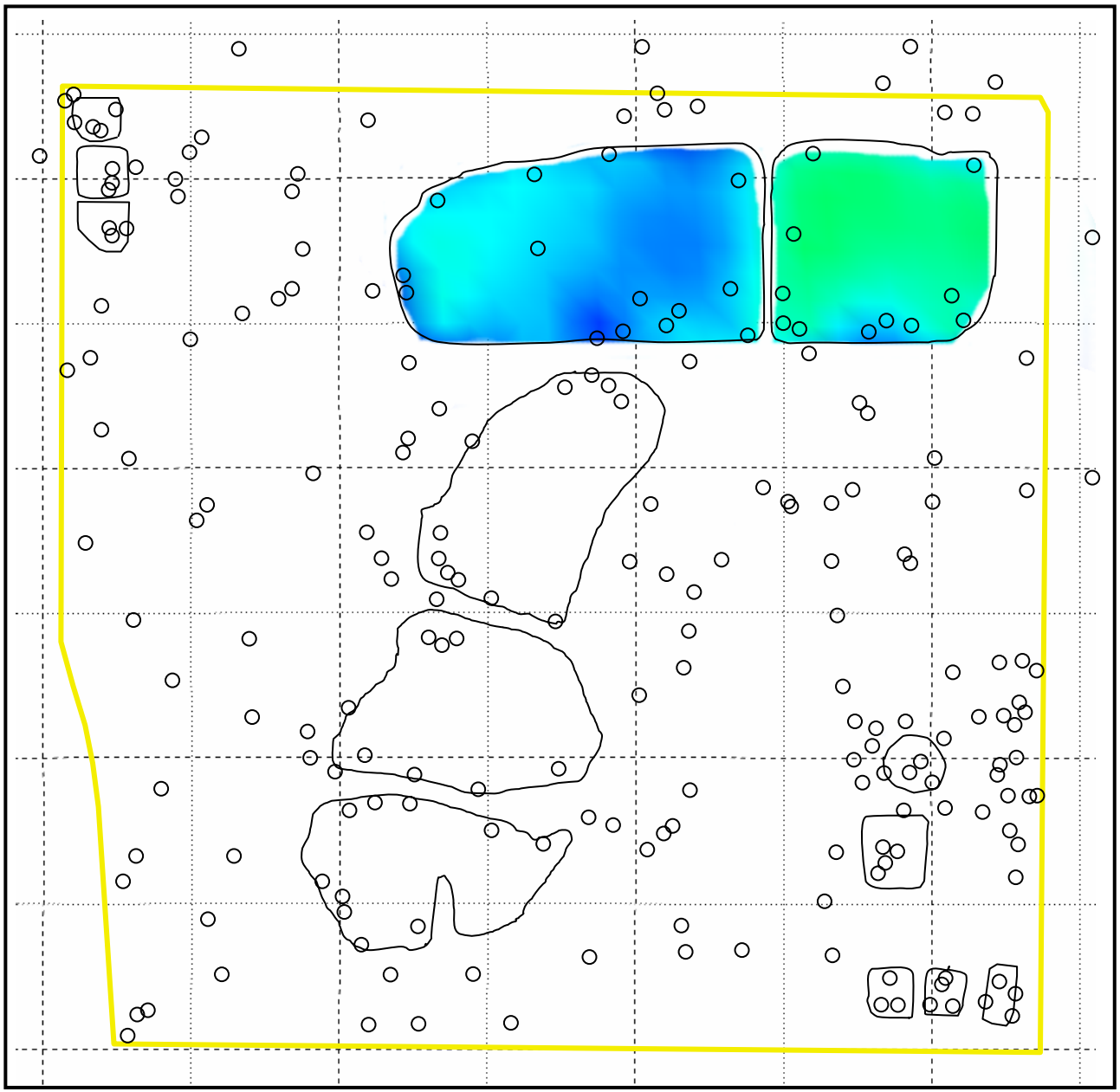
0 200 400 ft

NORTH

LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

Tarry Liquids Waste (Lagoons 1, 2, and 3)		**Figure 3.2-7**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



Layer Thickness

30 ft
23 ft
16 ft
9 ft
2 ft

0 200 400 ft

NORTH

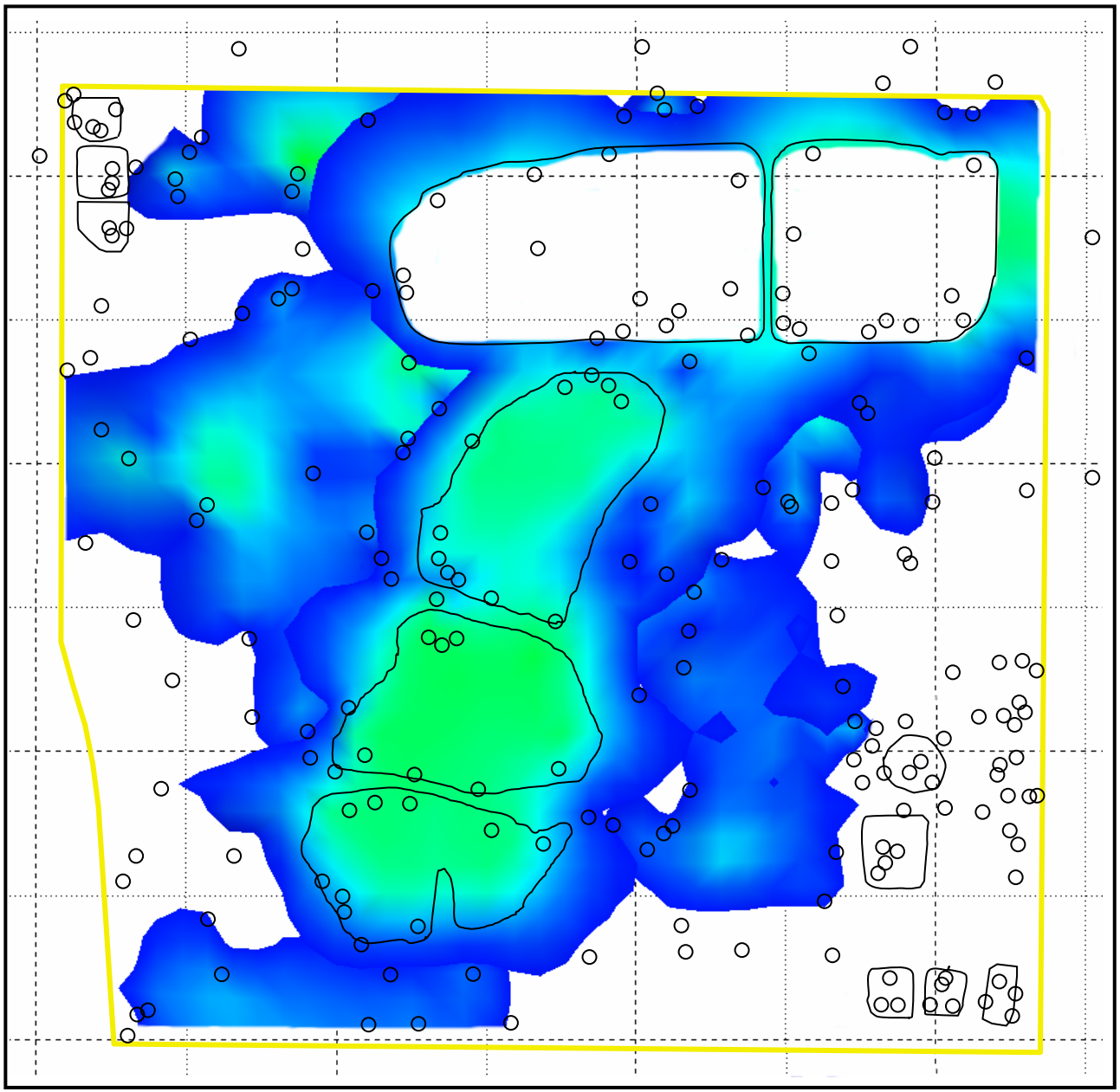
LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

Note:

1) Estimated thicknesses are prior to 2005 Emergency Action removal and grading.

Highly Liquid Drilling Muds Waste (Lagoons 4 and 5)		**Figure 3.2-8**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



Layer Thickness

30 ft
23 ft
16 ft
9 ft
2 ft

0 200 400 ft

NORTH

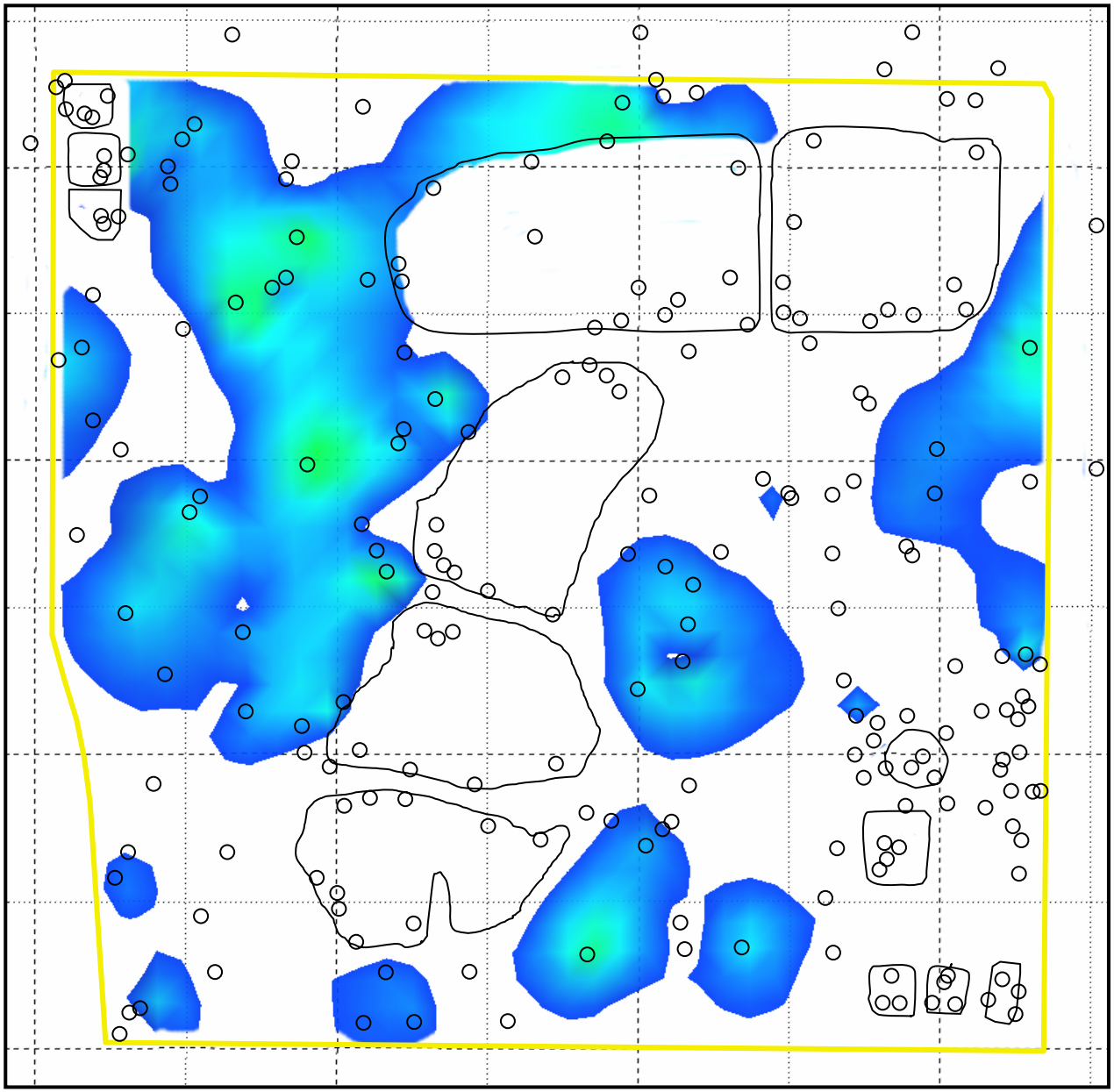
LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

Note:

1) Highly Liquid Drilling muds are assumed to be present beneath tarry liquids in Lagoons 1, 2, and 3.
2) Estimated thicknesses are prior to 2005 Emergency Action removal and grading.

Highly Liquid Drilling Muds Waste (Non-Pit/Non Lagoons 4 and 5)		**Figure 3.2-9**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



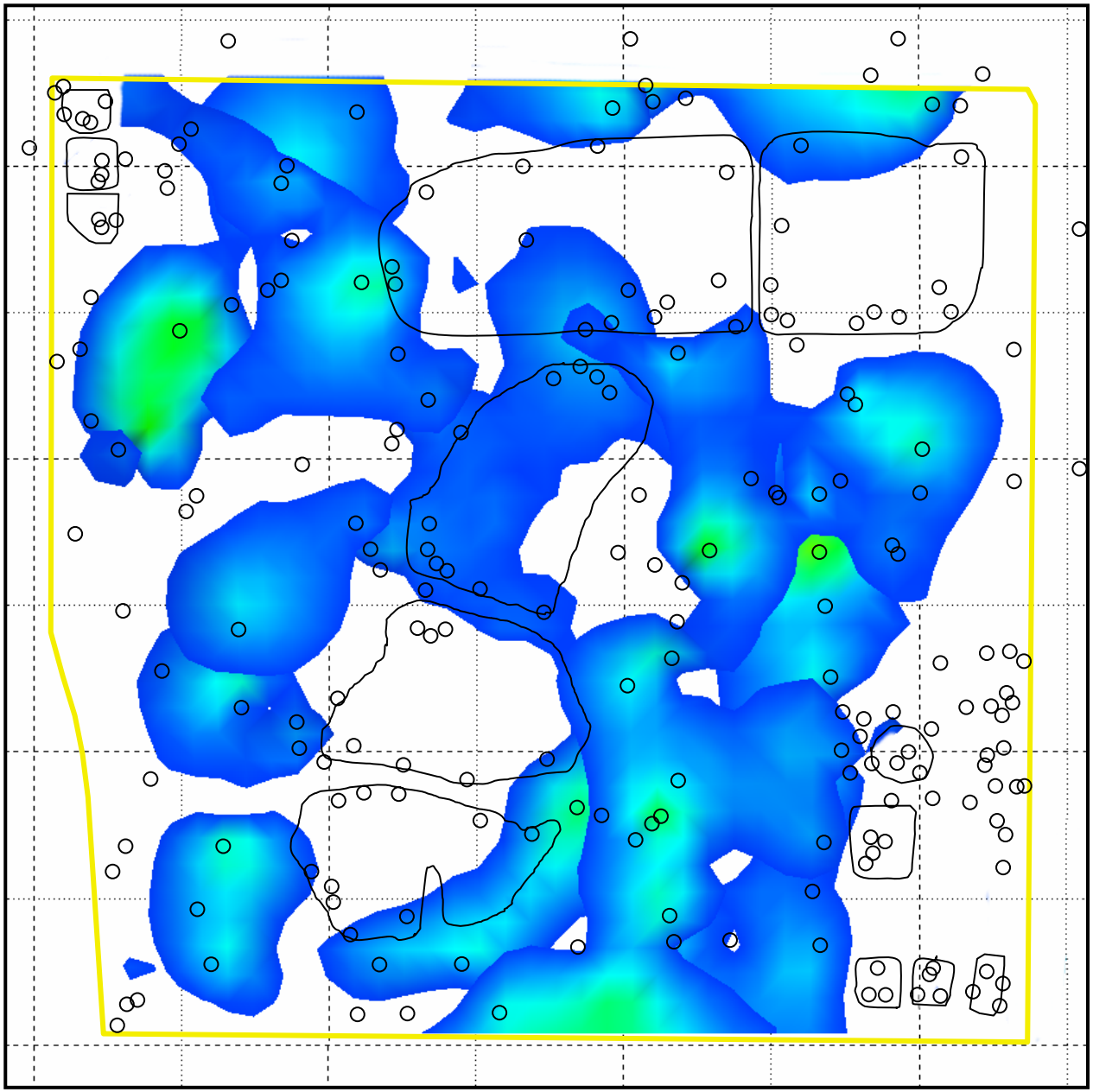
LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

Note:

1) Estimated thicknesses are prior to 2005 Emergency Action removal and grading.

Drilling Muds Waste (Non-Pit/Non-Lagoon)		**Figure 3.2-10**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



30 ft
23 ft
16 ft
9 ft
2 ft

0 200 400 ft

NORTH

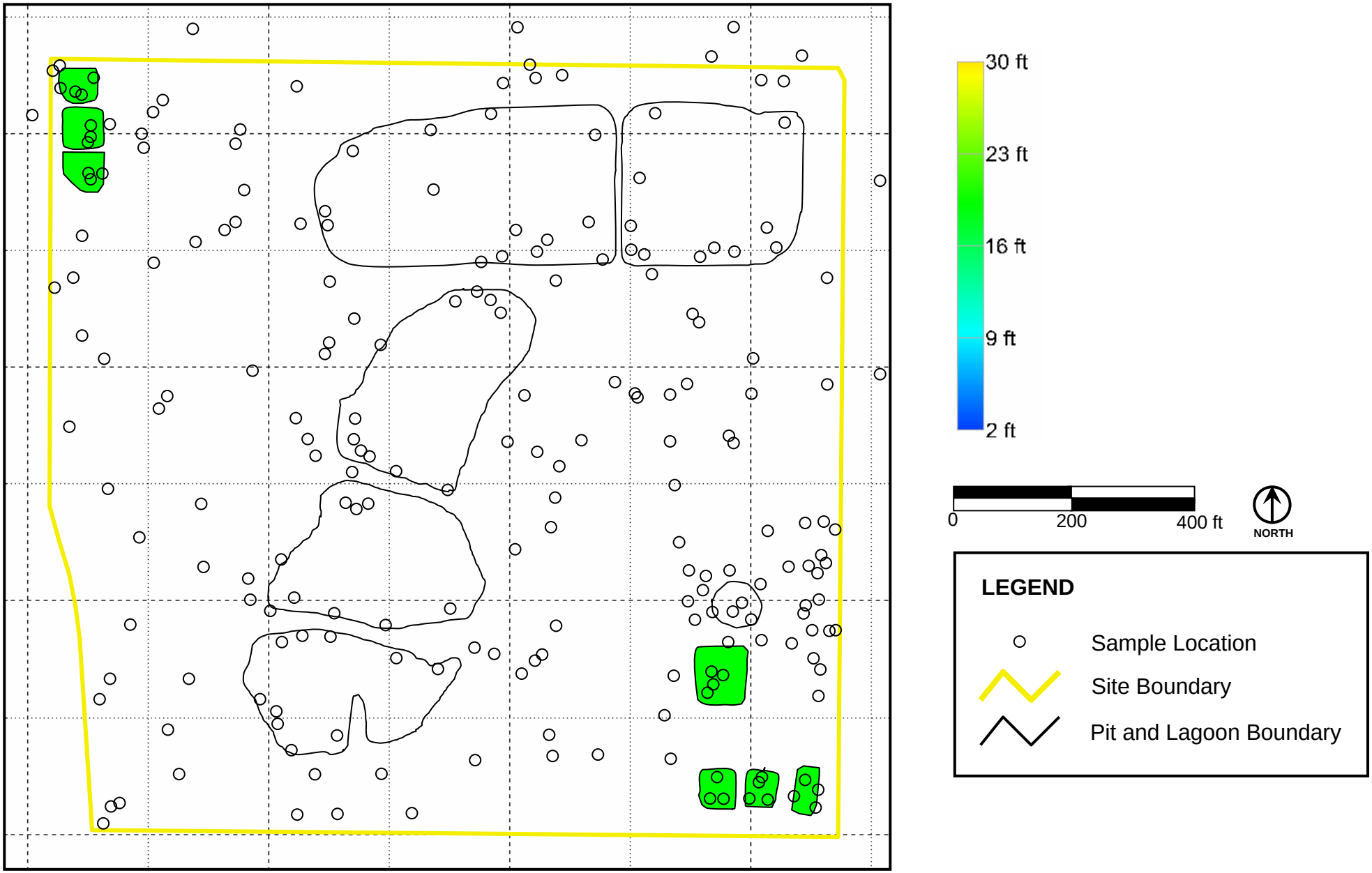
LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

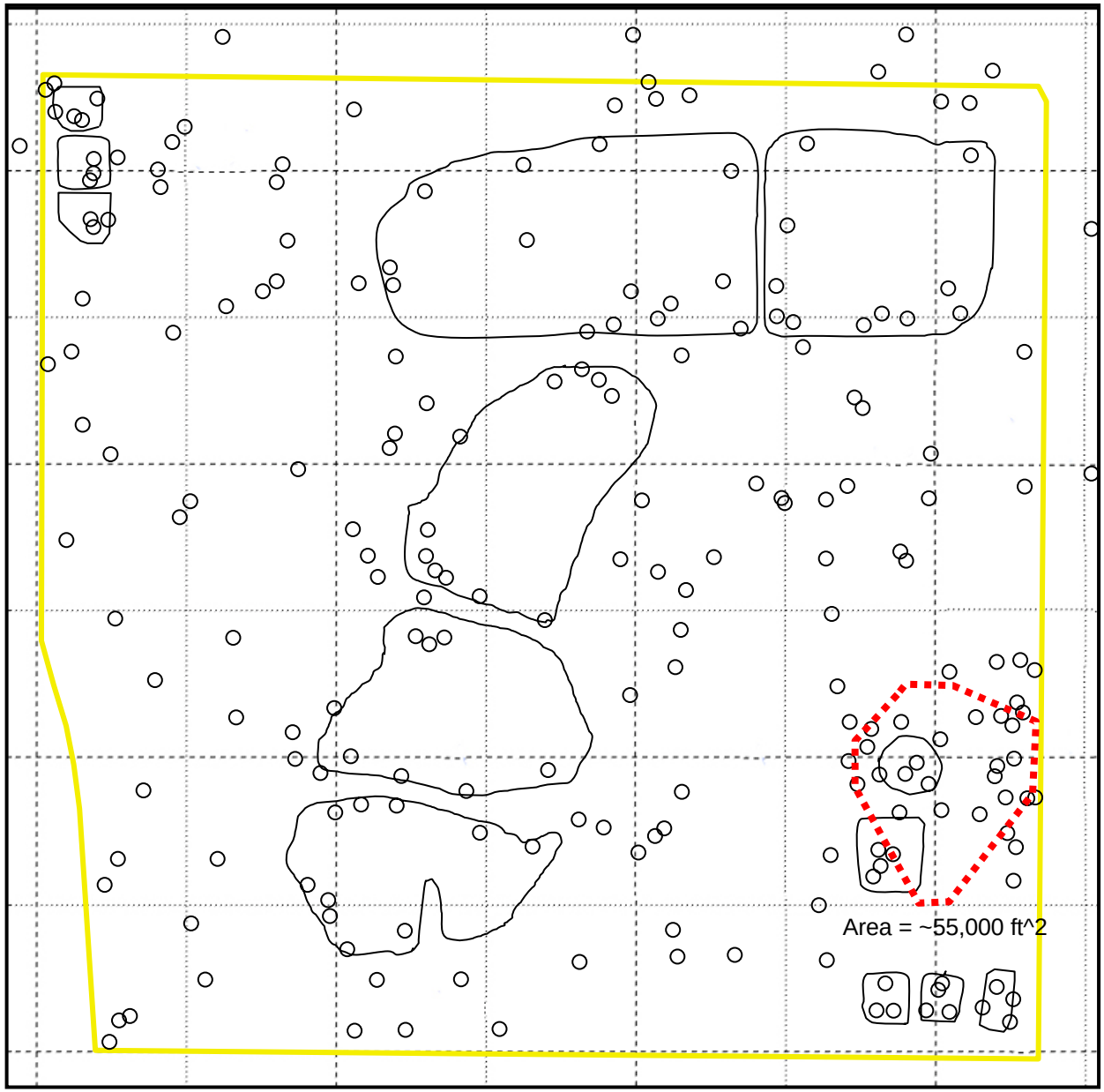
Note:

1) Estimated thicknesses are prior to 2005 Emergency Action removal and grading.

Impacted Soils Waste (Non-Pit Areas)		**Figure 3.2-11**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



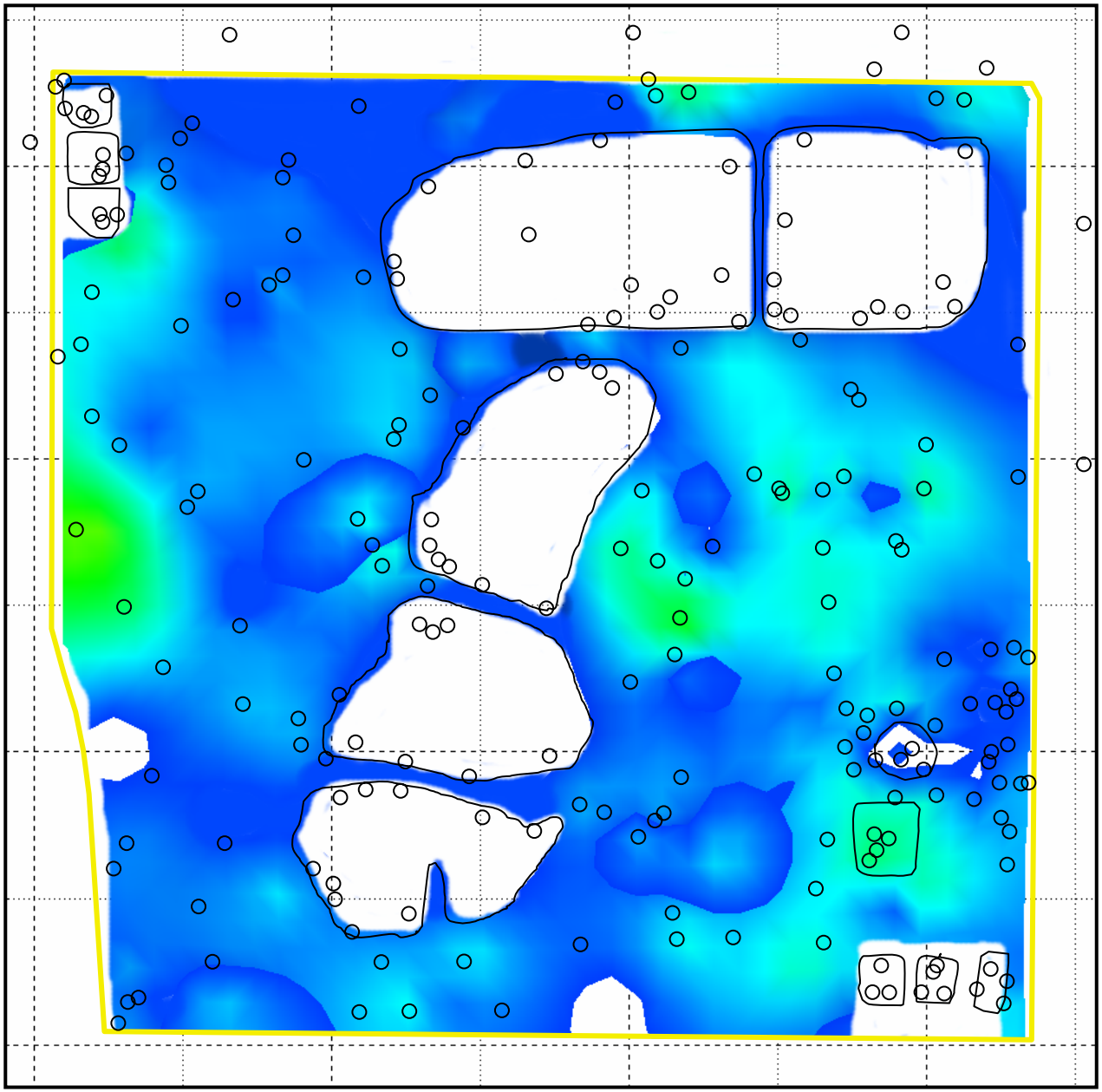
Pit A, B, C, D, E, G, and H Waste		Figure 3.2-12
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary
- Pit F Impacts (approx.)

Pit F Waste and Pit F-Impacted Soils		**Figure 3.2-13**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



30 ft
23 ft
16 ft
9 ft
2 ft

0 200 400 ft

NORTH

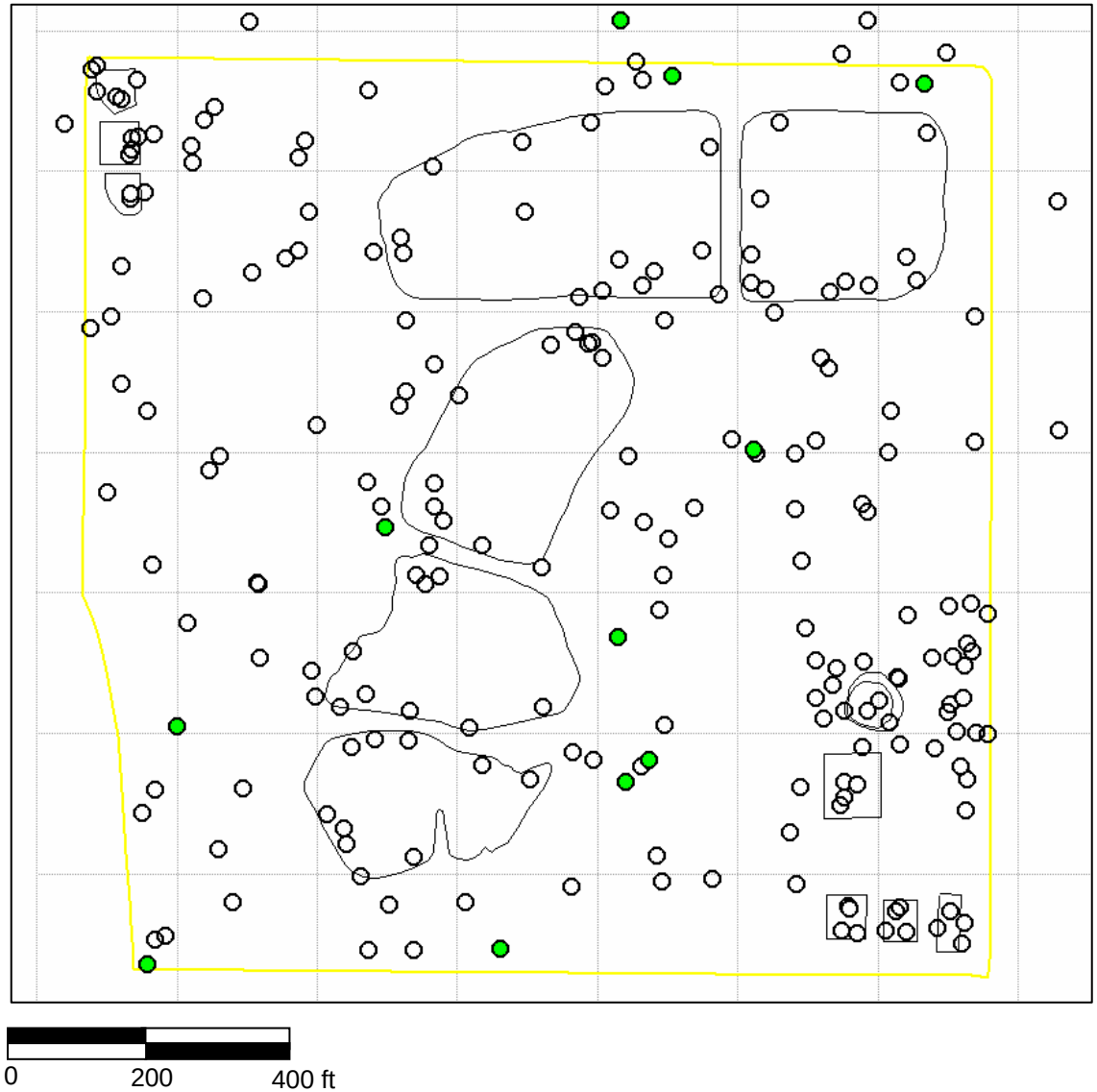
LEGEND

- Sample Location
- Site Boundary
- Pit and Lagoon Boundary

Note:

1) Estimated thicknesses are prior to 2005 Emergency Action removal and grading.

Fill Materials (Non-Pit Areas)		**Figure 3.2-14**
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®

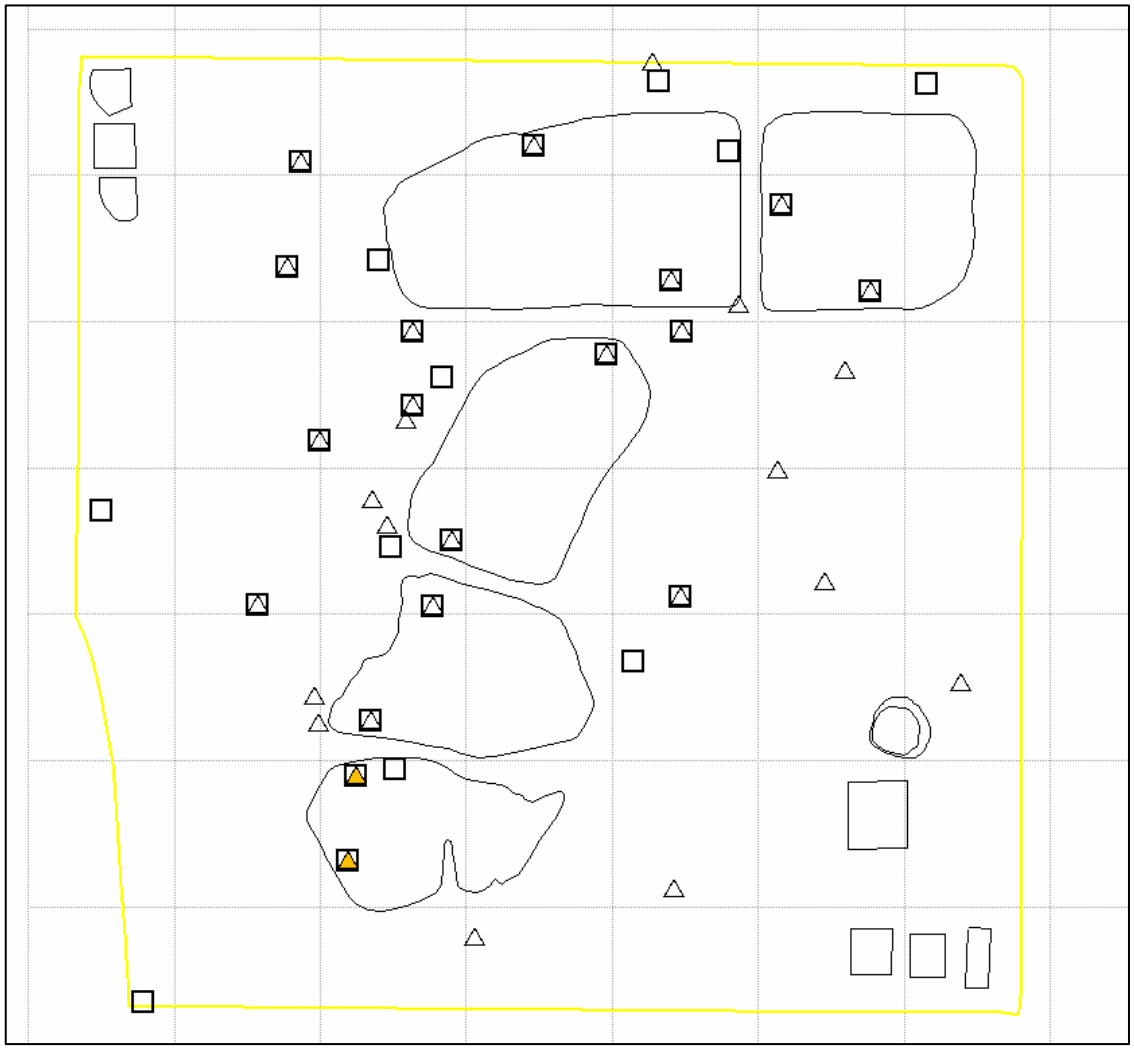


LEGEND

- Sampling Location
- Samples in Native Soils
- Site Boundary
- Pit and Lagoon Boundary
- 200 ft Grids

NORTH

Native Soils Sampling Locations (Non-Pit Areas)		Figure 3.2-15
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



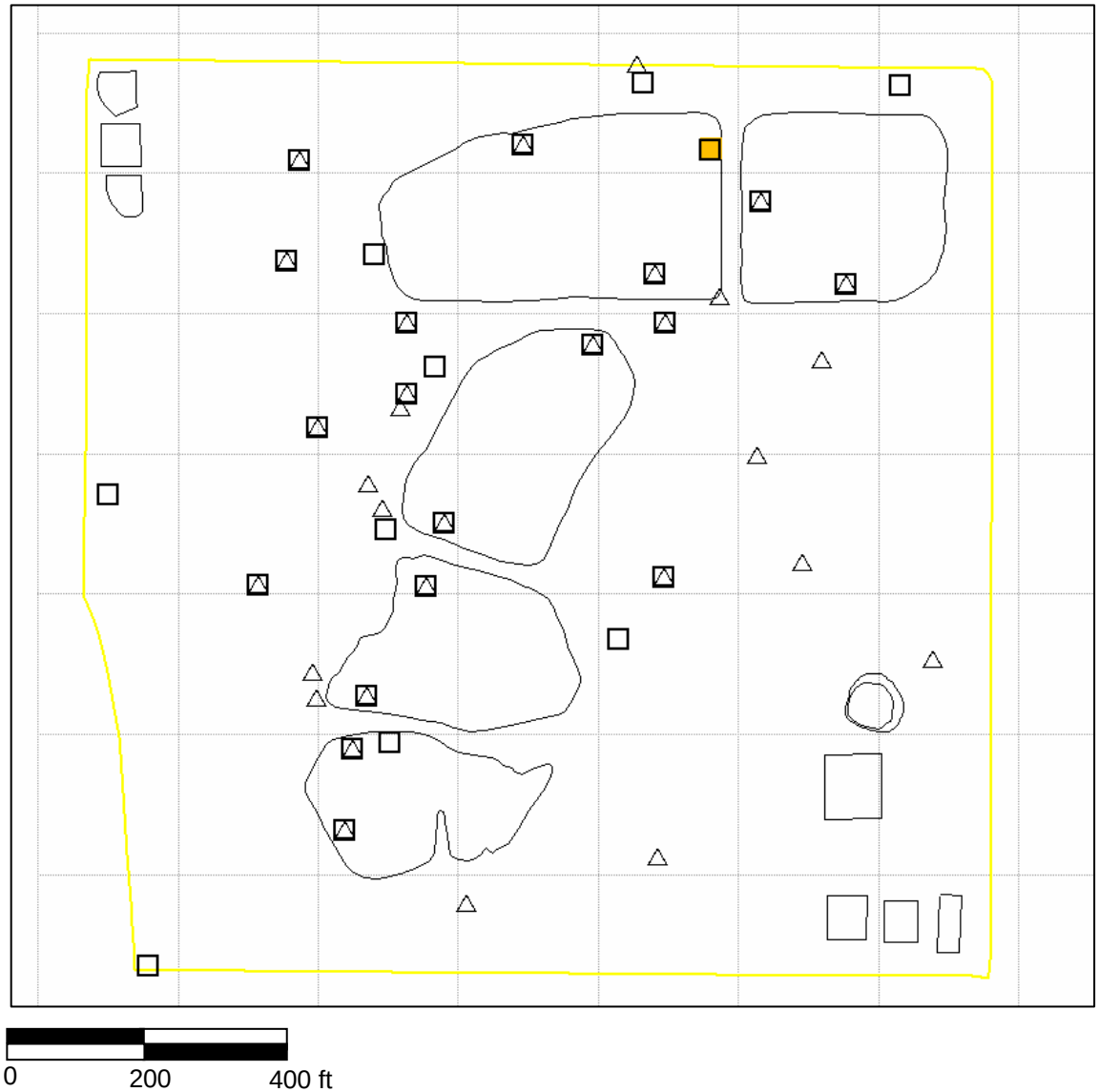
LEGEND

- STLC Sampling Location
- STLC Sample > 5.0 mg/L
- TCLP Sampling Location
- Site Boundary
- Pit and Lagoon Boundary
- 200 ft Grids

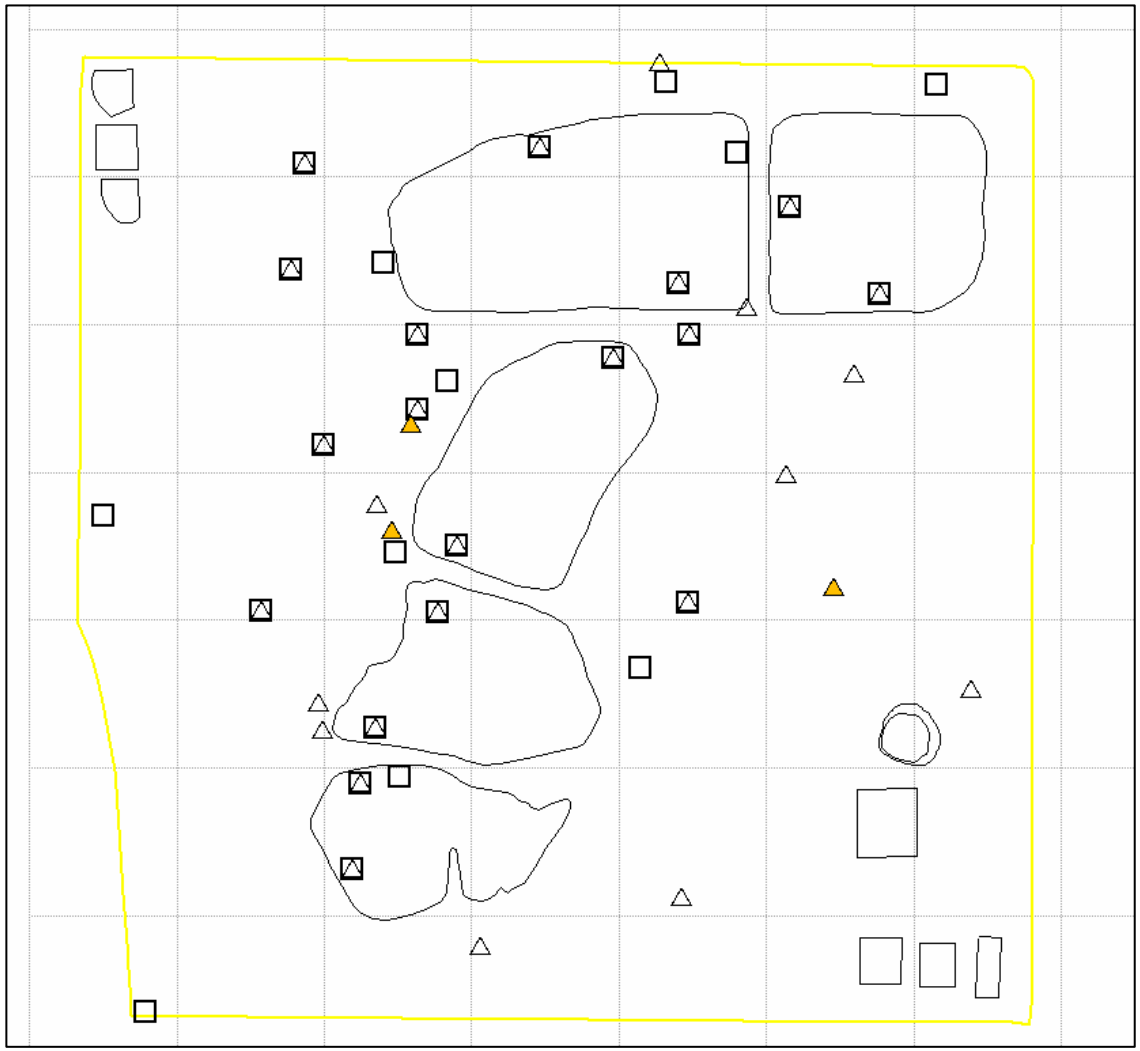
NORTH

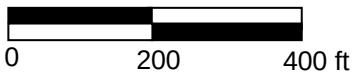
0 200 400 ft

STLC/TCLP Lead Analyses - Lagoons 1, 2, and 3		Figure 3.2-16
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



STLC/TCLP Lead Analyses - Lagoons 4 and 5		Figure 3.2-17
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



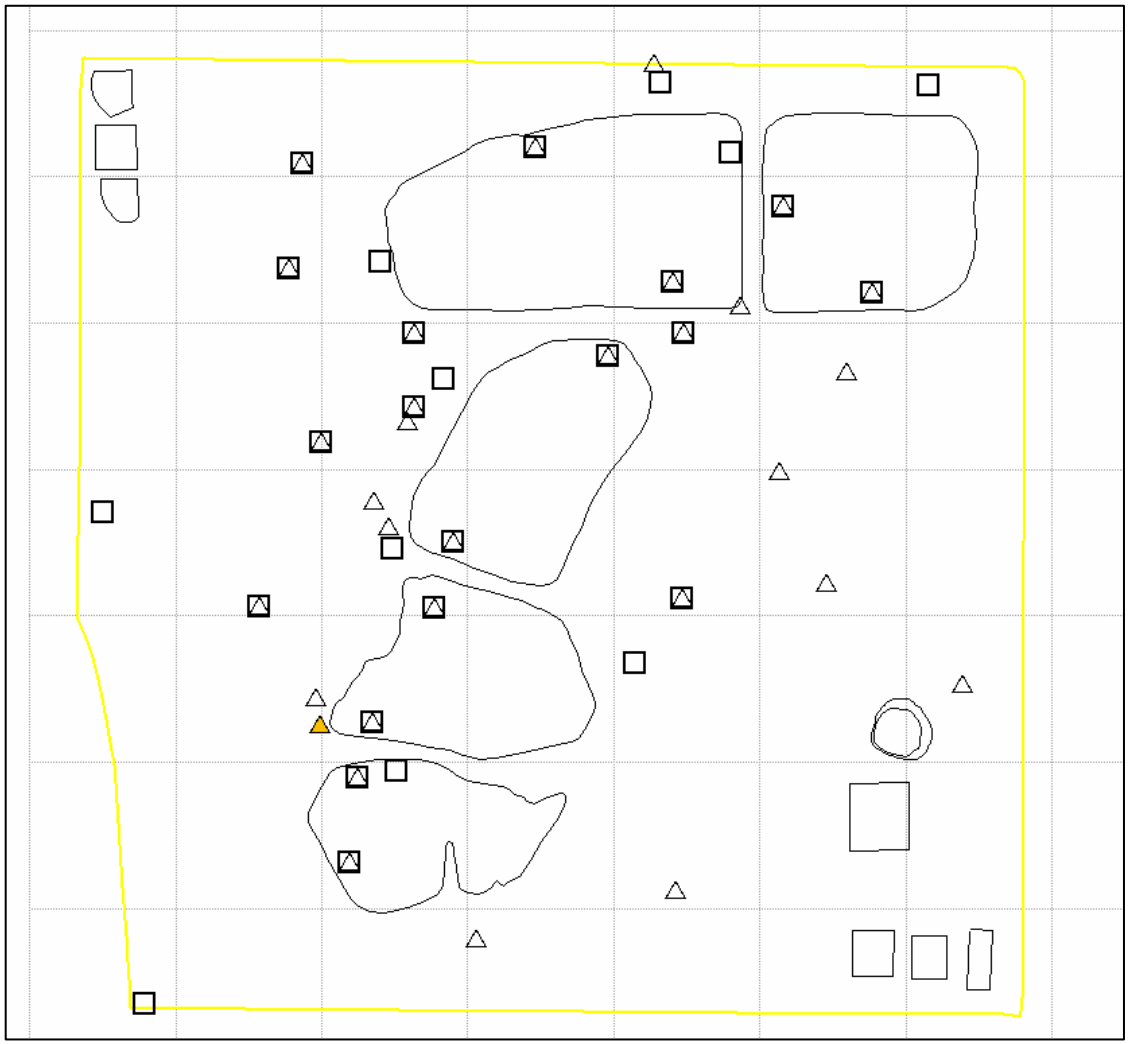


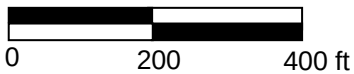
LEGEND

- STLC Sampling Location
- STLC Sample > 5.0 mg/L
- TCLP Sampling Location
- TCLP Sample > 5.0 mg/L
- Site Boundary
- Pit and Lagoon Boundary
- 200 ft Grids

NORTH

STLC/TCLP Lead Analyses - Highly Liquid Drilling Muds		Figure 3.2-18
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®



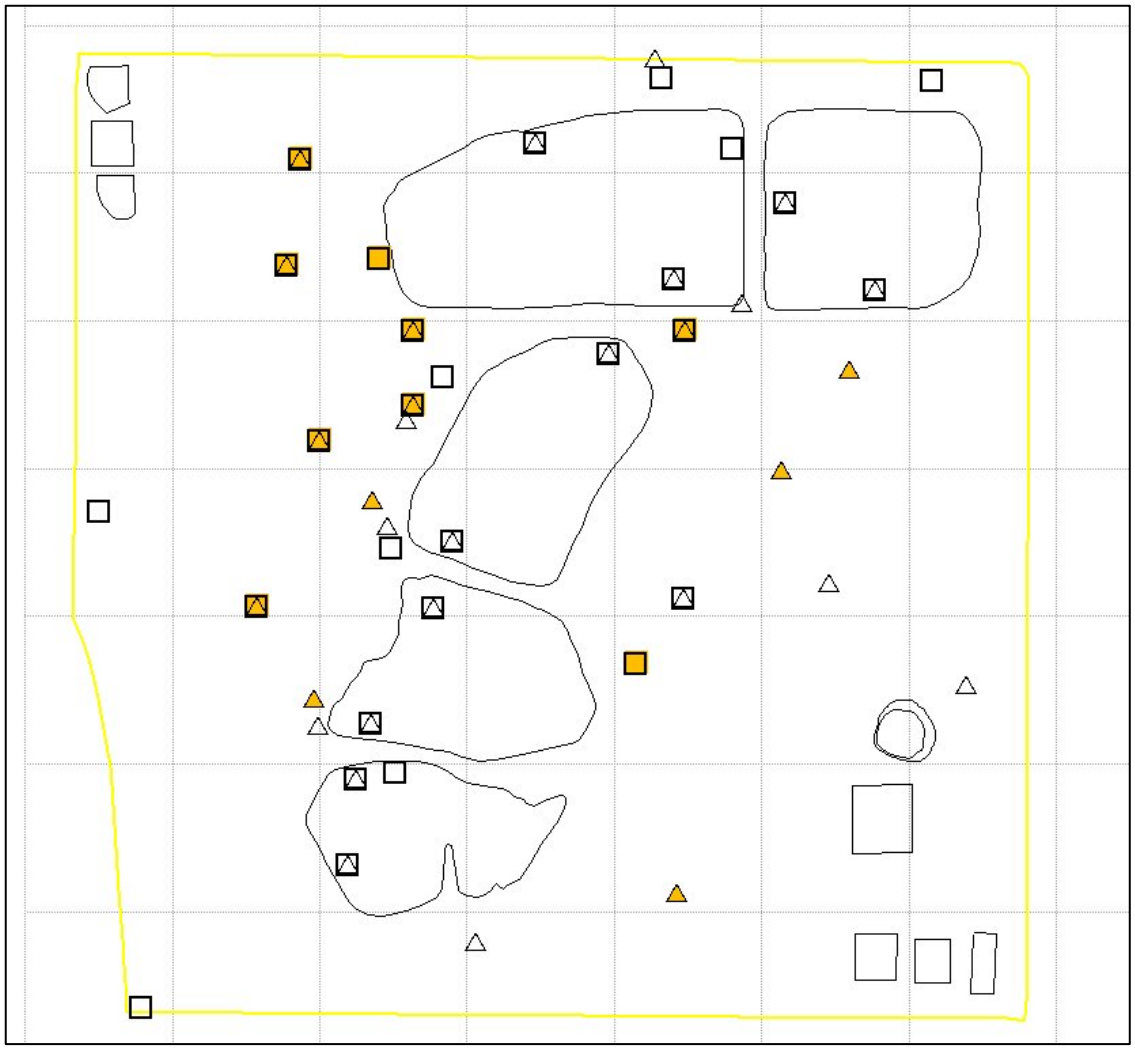


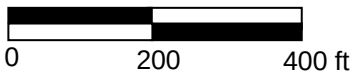
LEGEND

- STLC Sampling Location
- STLC Sample > 5.0 mg/L
- TCLP Sampling Location
- TCLP Sample > 5.0 mg/L
- Site Boundary
- Pit and Lagoon Boundary
- 200 ft Grids

NORTH

STLC/TCLP Lead Analyses - Drilling Muds		Figure 3.2-19
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®





LEGEND

- STLC Sampling Location
- STLC Sample > 5.0 mg/L
- TCLP Sampling Location
- TCLP Sample > 5.0 mg/L
- Site Boundary
- Pit and Lagoon Boundary
- 200 ft Grids

NORTH

STLC/TCLP Lead Analyses - Impacted Soils		Figure 3.2-20
Revised Feasibility Study Ascon Landfill Site, Huntington Beach, California	September 2007	PROJECT NAVIGATOR, LTD.®

MW-17 Emergents	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
NDMA	NA	0.0021J	<0.002	NA	NA	NA

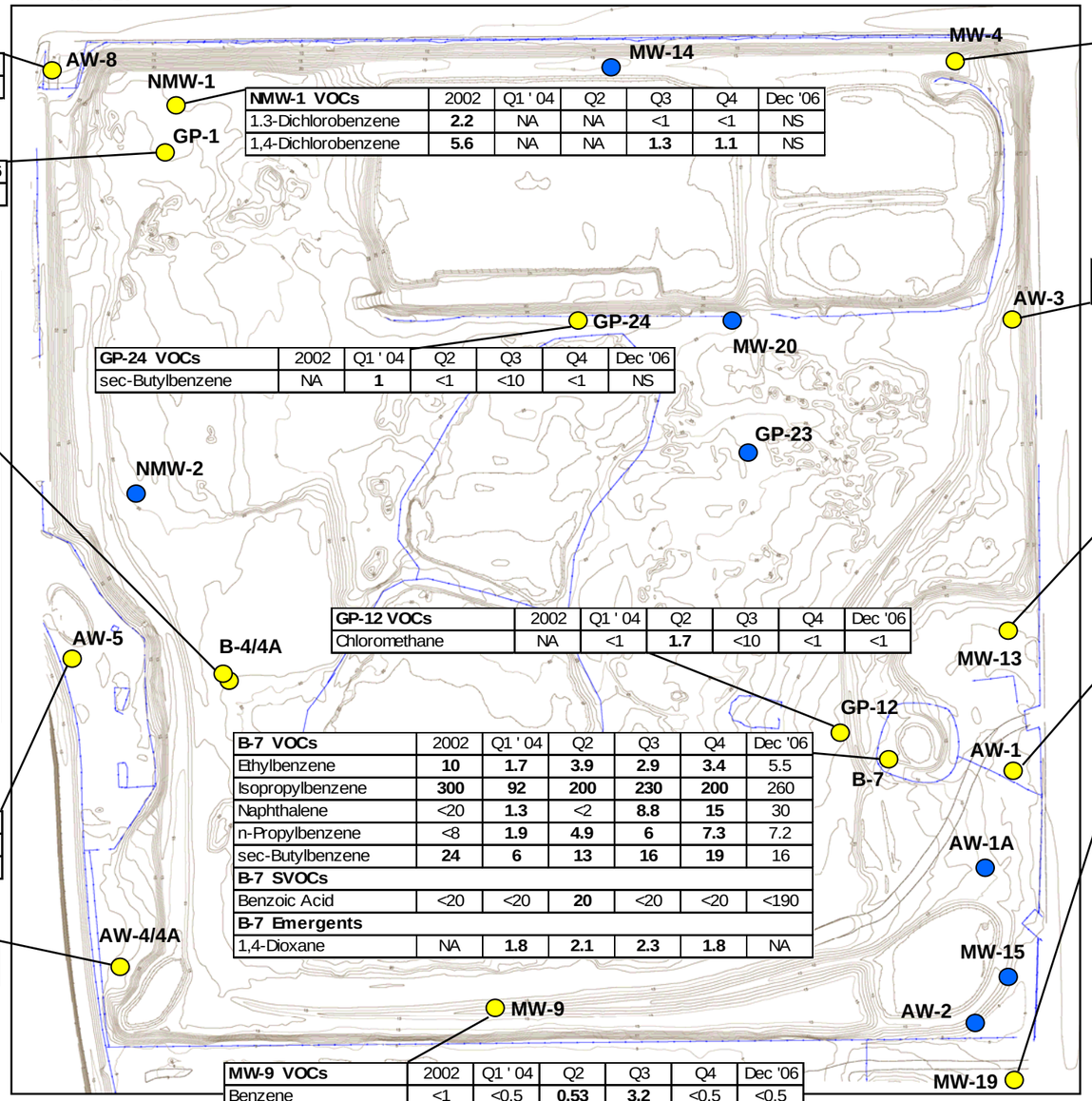
AW-8 VOCs	2002	Q1 '04	Q2	Q3	Q4	Dec '06
1,4-Dichlorobenzene	NA	NA	NA	**1.2**	**2**	<1

GP-1 Emergents	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,4-Dioxane	NA	**3.4**	**3.5**	**2.9**	**2.5**	NS

B-4/4A VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,2,4-Trimethylbenzene	**15**	**18**	**10**	**12**	**1.3**	**34**
1,3,5-Trimethylbenzene	**2.9**	**5.1**	**2.5**	**1.4**	<1	**7**
Benzene	**61**	**16**	**31**	**46**	**2.5**	**70**
Chloromethane	<5	<1	**2**	<1	<1	<1
Ethylbenzene	**16**	**11**	**3.2**	**11**	<1	**41**
Isopropylbenzene	**6.8**	**3.6**	**3.2**	**4.1**	**1.5**	**8.8**
m,p-Xylenes	**7**	**7.8**	**1.4**	**6.2**	<1	**32**
Naphthalene	**20**	**12**	**11**	**12**	<1	**30**
n-Butylbenzene	<5	<1	<1	<1	<1	**1.8**
n-Propopylbenzene	**6.7**	**4**	**3.2**	**3.7**	**1.6**	**8**
o-Xylene	<2	**1.6**	**1.8**	**16**	<1	**30**
p-Isopropyltoluene	<2	**1.3**	<1	<1	<1	**1.7**
sec-Butylbenzene	<5	<1	<1	<1	<1	**1.6**
Toluene	**3.1**	**2.4**	<1	**3.9**	<1	**28**
B-4/4A SVOCs						
2,4-Dimethylphenol	**230**	**140**	**130**	**192**	<20	**1500**
2-Methylphenol	<50	**36**	**37**	**652**	<10	**2100**
B-4/4A Emergents						
1,4-Dioxane	NA	**1.3**	**2**	**2.4**	**1.3**	NA

AW-5 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
Ethylbenzene	<2	**43**	**30**	**37**	**7.9**	<1
m,p-Xylenes	<2	**35**	**8.2**	**9.1**	<1	<1

AW-4A Emergents	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,4-Dioxane	NA	<0.5	NA	**0.6**	<0.5	NA



NMW-1 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1.3-Dichlorobenzene	**2.2**	NA	NA	<1	<1	NS
1,4-Dichlorobenzene	**5.6**	NA	NA	**1.3**	**1.1**	NS

GP-24 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
sec-Butylbenzene	NA	**1**	<1	<10	<1	NS

GP-12 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
Chloromethane	NA	<1	**1.7**	<10	<1	<1

B-7 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
Ethylbenzene	**10**	**1.7**	**3.9**	**2.9**	**3.4**	5.5
Isopropylbenzene	**300**	**92**	**200**	**230**	**200**	260
Naphthalene	<20	**1.3**	<2	**8.8**	**15**	30
n-Propylbenzene	<8	**1.9**	**4.9**	**6**	**7.3**	7.2
sec-Butylbenzene	**24**	**6**	**13**	**16**	**19**	16
B-7 SVOCs						
Benzoic Acid	<20	<20	**20**	<20	<20	<190
B-7 Emergents						
1,4-Dioxane	NA	**1.8**	**2.1**	**2.3**	**1.8**	NA

MW-9 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
Benzene	<1	<0.5	**0.53**	**3.2**	<0.5	<0.5
Chlorobenzene	<2	<1	<1	**2**	<1	<1

MW-4 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,2,4-Trimethylbenzene	<2	<1	<1	**1.7**	<1	NS
Benzene	<1	<0.5	<0.5	**0.53**	<0.5	NS
m,p-Xylenes	<2	<1	<1	**3.4**	<1	NS
Naphthalene	<5	<1	<1	**1**	<1	NS
o-Xylene	<2	<1	<1	**1.2**	<1	NS
Toluene	<2	<1	<1	**2.3**	<1	NS

AW-3 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
m,p-Xylenes	<2	<1	<1	**1.3**	<1	<1

MW-13 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,2,4-Trimethylbenzene	<2	<1	<1	**2**	<1	<1
Benzene	<1	<0.5	<0.5	**0.51**	<0.5	<0.5
m,p-Xylenes	<2	<1	<1	**3.8**	<1	<1
o-Xylene	<2	<1	<1	**1.4**	<1	<1
Toluene	<2	<1	<1	**2.3**	<1	<1
MW-13 Emergents						
1,4-Dioxane	NA	<0.5	**0.72**	<0.5	<0.5	NA

AW-1 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
1,2,4-Trimethylbenzene	NA	<1	<1	<1	**3.1**	<1
Isopropylbenzene	NA	<1	<1	<1	**1.2**	<1
sec-Butylbenzene	NA	<1	<1	<1	**2.3**	<1

MW-19 VOCs	2002	Q1 ' 04	Q2	Q3	Q4	Dec '06
Chloromethane	NA	<1	<1	**2.5**	<1	<1

LEGEND

- Monitoring Point with Detections (2002-2006)
- Monitoring Point with no Detections (2002-2006)

Note: All units are in µg/L
Base topographical map from 2006 (post-EA) site configuration.
Well locations are approximate.

VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
NDMA = n-Nitrosodimethylamine
NA = Not Analyzed, analysis not performed for this chemical.
NS = Not Sampled, sample not collected from this well.

Detections of VOCs, SVOCs, and Emergent Compounds in Groundwater – 2002 through 2006 | **Figure 3.3-1**

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Ascon Landfill Site, Huntington Beach, California

September 2007

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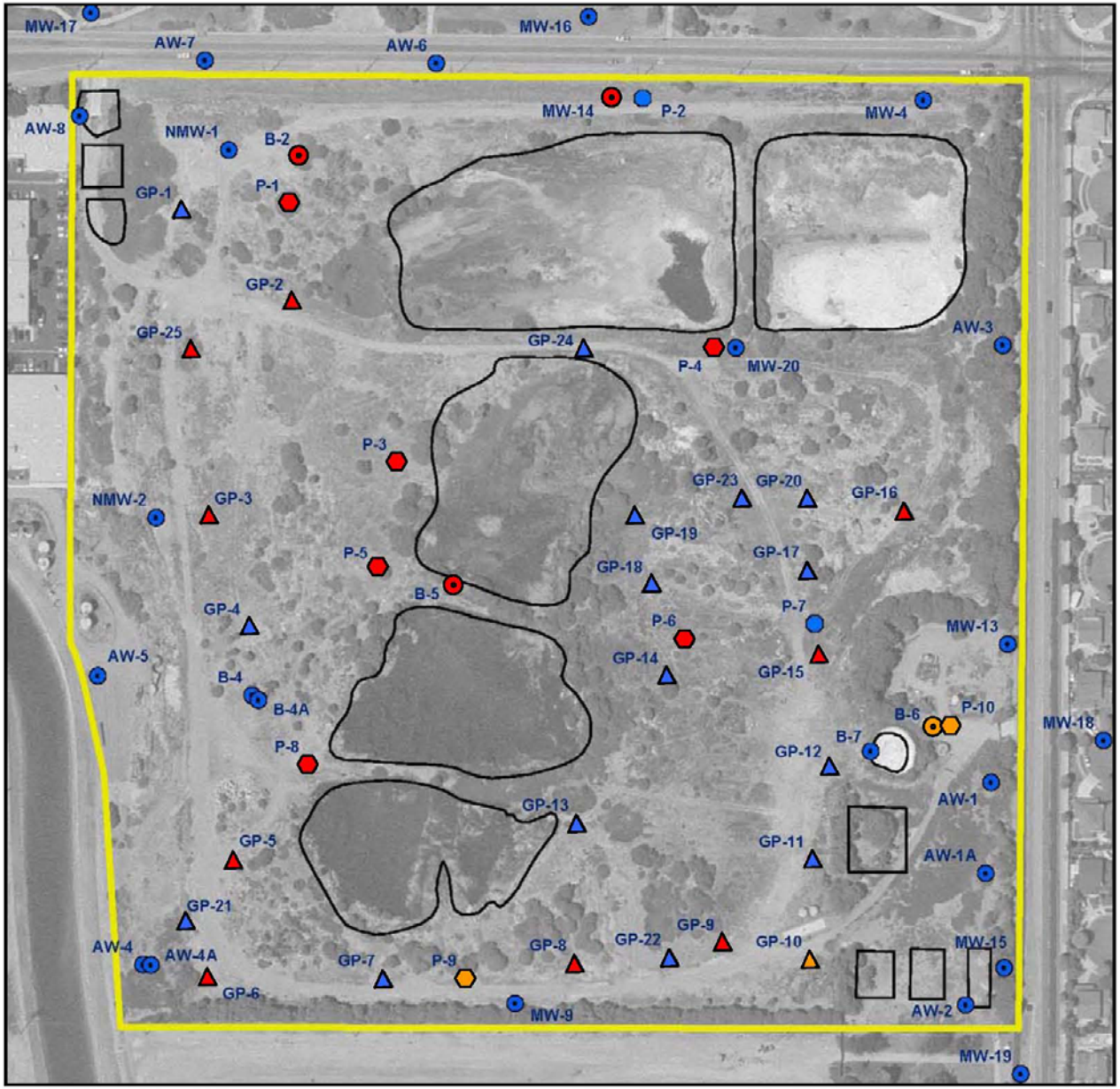

Legend

- GW Monitoring Well Locations
- Geoprobe Monitoring Well Locations
- Piezometer Well Locations
- Locations with NAPL detected in December 2004
- Locations with trace NAPL in December 2004 (observed but not detected by interface probe)
- Ascon Site Boundary
- Pits and Lagoons Boundaries

N

NOTES:

1. Monitoring wells AW-6 and AW-7 have been reported as being paved over during the expansion of Hamilton Avenue in 1986 (ESE, 1997).
2. The characteristics of the material encountered at monitoring well B-6 was different (i.e., light-tan, taffy-like, gluey material) than the NAPL at other wells.
3. Based on gauging data collected by GeoSyntec in December 2004 (GeoSyntec, 2004).

Taken from Groundwater Remedial Investigation Report. Revision 1.0, 2007, Figure 6-14, Geosyntec Consultants

NAPL Distribution in Monitoring Wells, Piezometers, and Geoprobe Wells – December 2004		**Figure 3.3-2**
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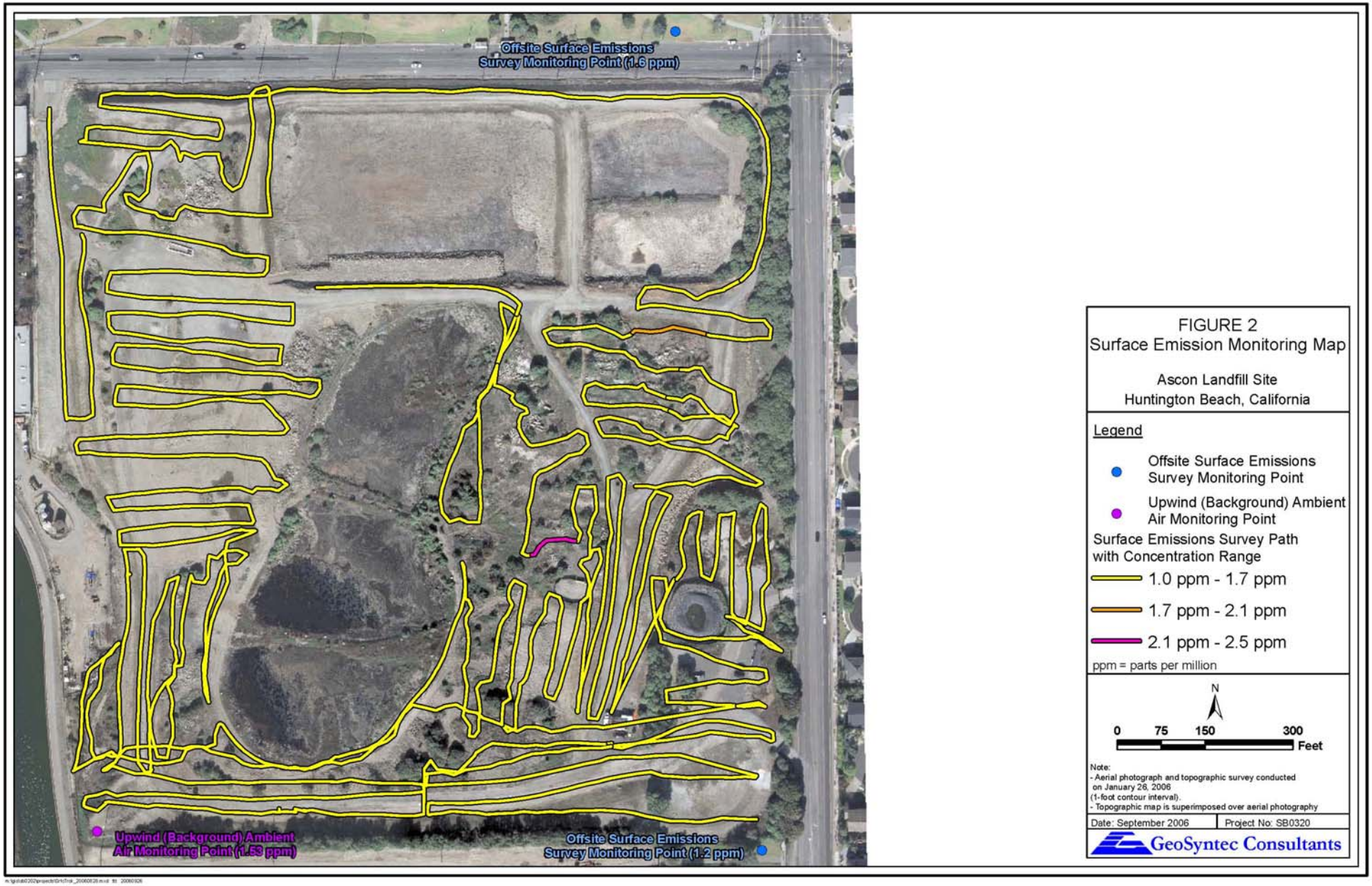

Source: Figure 2 from Supplemental Soil Vapor Investigation Report, Geosyntec, September 26, 2006 (Geosyntec, 2006c)

Surface Emissions -- July 2006		**Figure 3.4-1**
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