

# *Appendices*

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## *Appendix F* *Boring Logs*



# *Appendices*

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# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-1**

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PROJECT	High School 5, Option A	TPC FILE NO.	ISD-28.0
LOCATION	South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California	FIELD REP.	M. Watson
CLIENT	Irvine Unified School District	DATE STARTED	12/9/2013
CONTRACTOR	InterPhase Environmental	DATE FINISHED	12/9/2013
DRILLER	Gilbert		

Elevation	ft.	Datum	Boring Location	
Boring Equipment		Rig Make & Model		Backfill Material
Type	Geoprobe	<input checked="" type="checkbox"/> Truck	<input type="checkbox"/> Tripod	Hydrated Bentonite Chips
Outside Dia. (in.)		<input type="checkbox"/> ATV	<input checked="" type="checkbox"/> Geoprobe	
Length Sleeve (in)		<input type="checkbox"/> Track	<input type="checkbox"/> Air Track	
Type Sleeve	Acetate	<input type="checkbox"/> Skid	<input type="checkbox"/> other	
Drilling Notes: Probes installed at 5' and 15' bgs				

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0					ML	SILT soft brown (7.5YR 5/4) SILT, low plasticity, no odor, no staining, low moisture	
			31		ML (cont.)	SILT WITH SAND same as above, with fine sand, medium stiff	
					ML (cont.)	SILT same as above, without sand	
5			31		CL	CLAY WITH SAND medium stiff dark brown (7.5YR 3/4) CLAY with medium sand, medium plasticity, no odor, no staining, moist	
					SC	CLAYEY SAND medium dense light brown (7.5YR 6/4) clayey medium SAND, nonplastic, no odor, no staining, low moisture	
10			37		ML	SILT medium stiff light brown (7.5YR 6/3) SILT, low plasticity, no odor, no staining, moist	
			47		CL	CLAY WITH SAND medium stiff dark brown (7.5YR 3/4) CLAY with medium sand, medium plasticity, no odor, no staining, low moisture	
15					END OF BORING - Total depth 16.0 feet bgs, no groundwater encountered		
20							
25							
30							

Water Level Data					Sample ID			Well Diagram		Summary											
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	Riser Pipe	Screen	Filter Sand	Cuttings	Grout	Concrete	Bentonite Seal	Overburden (Linear ft.)	Rock Cored (Linear ft.)	Number of Samples	
			Bottom of Casing	Bottom of Hole	Water																

Field Tests	Dilatancy: R - Rapid S - Slow N - None Toughness: L - Low M - Medium H - High	Plasticity: N - Nonplastic L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High	BORING LOG AND SAMPLE REVIEW: M. Watson, PG#8177
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\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.



# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-2**

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PROJECT	High School 5, Option A	TPC FILE NO.	ISD-28.0
LOCATION	South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California	FIELD REP.	M. Watson
CLIENT	Irvine Unified School District	DATE STARTED	12/9/2013
CONTRACTOR	InterPhase Environmental	DATE FINISHED	12/9/2013
DRILLER	Gilbert		

Elevation	ft.	Datum	Boring Location
Boring Equipment		Rig Make & Model	Backfill Material
Type	Geoprobe	<input checked="" type="checkbox"/> Truck <input type="checkbox"/> ATV <input type="checkbox"/> Tripod <input type="checkbox"/> Geoprobe <input type="checkbox"/> Track <input type="checkbox"/> Air Track <input type="checkbox"/> Skid <input type="checkbox"/> other	Hydrated Bentonite Chips
Outside Dia. (in.)			Drilling Notes: Probes installed at 5' and 15' bgs
Length Sleeve (in.)			
Type Sleeve	Acetate		

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0					ML	SILT WITH SAND soft brown (7.5YR 5/4) SILT with fine sand, low plasticity, no odor, no staining, low moisture	
			29		CL	CLAY WITH SAND stiff brown (7.5YR 5/4) CLAY with fine sand, medium plasticity, no odor, no staining, low moisture	
					SM-SP	SILTY SAND TO POORLY GRADED SAND medium dense brown (7.5YR 5/4) silty fine SAND, below 3.5' bgs poorly graded fine SAND, nonplastic, no odor, no staining, low moisture	
5			28		SP	POORLY GRADED SAND medium dense brown (7.5YR 5/4) poorly graded fine SAND, nonplastic, no odor, no staining, low moisture	
					ML	SILT medium stiff dark brown (7.5YR 4/4) SILT, low plasticity, micaceous, no odor, no staining, moist	
10			23		CL	CLAY stiff brown (7.5YR 4/2) CLAY, medium plasticity, no odor, no staining, moist	
					CL (cont.)	CLAY WITH SAND stiff dark brown (7.5YR 3/4) CLAY with fine sand, medium plasticity, no odor, no staining, low moisture	
			48		CL (cont.)	CLAY WITH SAND same as above, reddish brown (5YR 4/4)	
15						END OF BORING - Total depth 16.0 feet bgs, no groundwater encountered	
20							
25							
30							

Water Level Data					Sample ID			Well Diagram		Summary		
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	<input type="checkbox"/> Riser Pipe <input type="checkbox"/> Screen <input type="checkbox"/> Filter Sand <input type="checkbox"/> Cuttings <input type="checkbox"/> Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Seal	Overburden (Linear ft.) _____ Rock Cored (Linear ft.) _____ Number of Samples _____
			Bottom of Casing	Bottom of Hole	Water							

Field Tests Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

BORING LOG AND SAMPLE REVIEW:  
 M. Watson, PG#8177

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
 NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.



# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-3**

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PROJECT	High School 5, Option A	TPC FILE NO.	ISD-28.0
LOCATION	South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California	FIELD REP.	M. Watson
CLIENT	Irvine Unified School District	DATE STARTED	12/9/2013
CONTRACTOR	InterPhase Environmental	DATE FINISHED	12/9/2013
DRILLER	Gilbert		

Elevation	ft.	Datum	Boring Location
Boring Equipment		Rig Make & Model	Backfill Material
Type	Geoprobe	<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Tripod	Hydrated Bentonite Chips
Outside Dia. (in.)		<input type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe	
Length Sleeve (in)		<input type="checkbox"/> Track <input type="checkbox"/> Air Track	
Type Sleeve	Acetate	<input type="checkbox"/> Skid <input type="checkbox"/> other	
Drilling Notes: Probes installed at 5' and 15' bgs			

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0			28		SM	SILTY SAND medium dense brown (7.5YR 5/4) silty fine SAND, nonplastic, no odor, no staining, moist	
					SP	POORLY GRADED SAND medium dense brown (7.5YR 5/4) poorly graded fine SAND, nonplastic, no odor, no staining, low moisture	
5			34		SP (cont.)	POORLY GRADED SAND same as above, primarily medium sand	
					CL	CLAY WITH SAND stiff brown (7.5YR 5/4) CLAY with medium sand, medium plasticity, no odor, no staining, low moisture	
10			45				
					SM	SILTY SAND dense reddish brown (5YR 4/4) silty medium SAND, nonplastic, no odor, no staining, low moisture	
15			32				
						END OF BORING - Total depth 16.0 feet bgs, no groundwater encountered	
20							
25							
30							

Water Level Data					Sample ID			Well Diagram		Summary											
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	Riser Pipe	Screen	Filter Sand	Cuttings	Grout	Concrete	Bentonite Seal	Overburden (Linear ft.)	Rock Cored (Linear ft.)	Number of Samples	
			Bottom of Casing	Bottom of Hole	Water																

**Field Tests** Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

**BORING LOG AND SAMPLE REVIEW:**  
 M. Watson, PG#8177

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
 NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.



# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-4**

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<b>PROJECT</b>	High School 5, Option A	<b>TPC FILE NO.</b>	ISD-28.0
<b>LOCATION</b>	South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California	<b>FIELD REP.</b>	M. Watson
<b>CLIENT</b>	Irvine Unified School District	<b>DATE STARTED</b>	12/9/2013
<b>CONTRACTOR</b>	InterPhase Environmental	<b>DATE FINISHED</b>	12/9/2013
<b>DRILLER</b>	Gilbert		

<b>Elevation</b>	ft.	<b>Datum</b>	<b>Boring Location</b>
<b>Boring Equipment</b>		<b>Rig Make &amp; Model</b>	<b>Backfill Material</b>
Type	Geoprobe	<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Tripod	Hydrated Bentonite Chips
Outside Dia. (in.)		<input type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe	
Length Sleeve (in)		<input type="checkbox"/> Track <input type="checkbox"/> Air Track	
Type Sleeve	Acetate	<input type="checkbox"/> Skid <input type="checkbox"/> other	

Drilling Notes: Probes installed at 5' and 15' bgs

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0					SM	SILTY SAND medium dense brown (7.5YR 4/3) silty fine SAND, nonplastic, no odor, no staining, moist	
			32		SM (cont.)	SILTY SAND same as above, brown (7.5YR 5/4)	
					SM (cont.)	same as above, with gravel	
					CL	CLAY stiff dark brown (7.5YR 3/4) CLAY, medium plasticity, no odor, no staining, low moisture	
5			31		CL (cont.)	CLAY WITH SAND stiff yellowish red (5YR 4/6) CLAY with medium sand, occasional rounded gravel, no odor, no staining, low moisture	
			45		CL (cont.)	CLAY WITH SAND same as above, reddish brown (5YR 4/4)	
10							
			36		SP	POORLY GRADED SAND dense reddish yellow (7.5YR 6/6) poorly graded fine SAND, occasional rounded gravel, nonplastic, no odor, no staining, low moisture	
15					SP (cont.)	POORLY GRADED SAND same as above, light brown (7.5YR 6/3), fine to medium SAND	
						END OF BORING - Total depth 16.0 feet bgs, no groundwater encountered	
20							
25							
30							

Water Level Data					Sample ID			Well Diagram		Summary		
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	<input type="checkbox"/> Riser Pipe <input type="checkbox"/> Screen <input type="checkbox"/> Filter Sand <input type="checkbox"/> Cuttings <input type="checkbox"/> Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Seal	Overburden (Linear ft.) _____ Rock Cored (Linear ft.) _____ Number of Samples _____
			Bottom of Casing	Bottom of Hole	Water							

<b>Field Tests</b>	Dilatancy: R - Rapid S - Slow N - None Toughness: L - Low M - Medium H - High	Plasticity: N - Nonplastic L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High	<b>BORING LOG AND SAMPLE REVIEW:</b> M. Watson, PG#8177
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\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.



# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-5**

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PROJECT <u>High School 5, Option A</u>	TPC FILE NO. <u>ISD-28.0</u>
LOCATION <u>South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California</u>	
CLIENT <u>Irvine Unified School District</u>	FIELD REP. <u>M. Watson</u>
CONTRACTOR <u>InterPhase Environmental</u>	DATE STARTED <u>12/9/2013</u>
DRILLER <u>Gilbert</u>	DATE FINISHED <u>12/9/2013</u>

Elevation	ft.	Datum	Boring Location		
Boring Equipment			Rig Make & Model		Backfill Material
Type	Geoprobe		<input checked="" type="checkbox"/> Truck	<input type="checkbox"/> Tripod	Hydrated Bentonite Chips
Outside Dia. (in.)		<input type="checkbox"/> ATV	<input checked="" type="checkbox"/> Geoprobe		
Length Sleeve (in)		<input type="checkbox"/> Track	<input type="checkbox"/> Air Track		
Type Sleeve	Acetate		<input type="checkbox"/> Skid	<input type="checkbox"/> other	

Drilling Notes: Probes installed at 5' and 15' bgs

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0					SM	<b>SILTY SAND</b> medium dense brown (7.5YR 5/4) silty fine SAND, nonplastic, no odor, no staining, moist	
			33		SP	<b>POORLY GRADED SAND</b> medium dense light brown (7.5YR 6/3) poorly graded fine SAND with gravel, nonplastic, no odor, no staining, low moisture	
5					CL	<b>CLAY WITH SAND</b> stiff dark reddish brown (5YR 3/4) CLAY with medium sand, medium plasticity, no odor, no staining, low moisture	
			31		CL (cont.)	<b>CLAY WITH SAND</b> same as above, reddish brown (2.5YR 4/4)	
10					SC	<b>CLAYEY SAND</b> dense red (5YR 5/6) clayey medium SAND with gravel, nonplastic, no odor, no staining, moist	
			26				
15						<b>END OF BORING</b> - Total depth 16.0 feet bgs, no groundwater encountered	
20							
25							
30							

Water Level Data					Sample ID			Well Diagram		Summary		
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	<input type="checkbox"/> Riser Pipe <input type="checkbox"/> Screen <input type="checkbox"/> Filter Sand <input type="checkbox"/> Cuttings <input type="checkbox"/> Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Seal	Overburden (Linear ft.) _____ Rock Cored (Linear ft.) _____ Number of Samples _____
			Bottom of Casing	Bottom of Hole	Water							

Field Tests Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

**BORING LOG AND SAMPLE REVIEW:**  
M. Watson, PG#8177

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.



# TEST BORING REPORT - Geoprobe

BORING NO.

**SG-11**

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<b>PROJECT</b>	High School 5, Option A	<b>TPC FILE NO.</b>	ISD-28.0
<b>LOCATION</b>	South of the Intersection of Desert Storm Drive and Irvine Blvd., Irvine, California	<b>FIELD REP.</b>	M. Watson
<b>CLIENT</b>	Irvine Unified School District	<b>DATE STARTED</b>	12/10/2013
<b>CONTRACTOR</b>	InterPhase Environmental	<b>DATE FINISHED</b>	12/10/2013
<b>DRILLER</b>	Gilbert		

<b>Elevation</b>	ft.	<b>Datum</b>	<b>Boring Location</b>	
<b>Boring Equipment</b>		<b>Rig Make &amp; Model</b>		<b>Backfill Material</b>
Type	Geoprobe	<input checked="" type="checkbox"/> Truck	<input type="checkbox"/> Tripod	Hydrated Bentonite Chips
Outside Dia. (in.)		<input type="checkbox"/> ATV	<input checked="" type="checkbox"/> Geoprobe	
Length Sleeve (in)		<input type="checkbox"/> Track	<input type="checkbox"/> Air Track	
Type Sleeve	Acetate	<input type="checkbox"/> Skid	<input type="checkbox"/> other	
Drilling Notes: Probes installed at 5', 15' & 40' bgs				

Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery (in.)	PID Reading ppm	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Time
0			26		SM	<b>SILTY SAND</b> medium dense brown (7.5YR 4/4) silty fine SAND, nonplastic, no odor, no staining, low moisture	
					SP	<b>POORLY GRADED SAND</b> medium dense brown (7.5YR 5/4) poorly graded fine SAND, nonplastic, no odor, no staining, low moisture	
5			30		SC	<b>CLAYEY SAND</b> medium dense dark brown (7.5YR 3/4) clayey fine SAND, nonplastic, no odor, no staining, low moisture	
					SM	<b>SILTY SAND</b> medium dense reddish brown (5YR 4/4) silty fine SAND, nonplastic, no odor, no staining, low moisture	
					SP	<b>POORLY GRADED SAND</b> medium dense brown (7.5YR 5/4) poorly graded fine SAND, nonplastic, no odor, no staining, low moisture	
10			32		SC	<b>CLAY WITH SAND</b> stiff dark reddish brown (5YR 3/4) CLAY with fine sand, occasional concretions, medium plasticity, no odor, no staining, low moisture	
			46				
15					SC	<b>CLAYEY SAND</b> medium dense reddish brown (5YR 4/4) clayey medium SAND with gravel, nonplastic, no odor, no staining, low moisture	
			33		SP	<b>POORLY GRADED SAND</b> medium dense strong brown (7.5YR 5/6) poorly graded medium SAND, nonplastic, no odor, no staining, low moisture	
20			31				
25			30				
					SP (cont.)	<b>POORLY GRADED SAND</b> same as above, with gravel	
30			33				

Water Level Data					Sample ID			Well Diagram		Summary		
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	T	U	S	G	<input type="checkbox"/> Riser Pipe <input type="checkbox"/> Screen <input type="checkbox"/> Filter Sand <input type="checkbox"/> Cuttings <input type="checkbox"/> Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Seal	Overburden (Linear ft.) _____ Rock Cored (Linear ft.) _____ Number of Samples _____
			Bottom of Casing	Bottom of Hole	Water							

<b>Field Tests</b>	Dilatancy: R - Rapid S - Slow N - None Toughness: L - Low M - Medium H - High	Plasticity: N - Nonplastic L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High	<b>BORING LOG AND SAMPLE REVIEW:</b> M. Watson, PG#8177
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\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.  
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by The Planning Center|DC&E.





# TEST BORING REPORT

BORING NO.

**SG-11**

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Depth (ft.)	Sample Depth (ft.)	Sample No.	Recovery in/in	PID Reading (ppm)	USCS Symbol	Visual-Manual Identification & Description <small>(density/consistency, color, GROUP NAME &amp; SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)</small>	Time
30					SP (cont.)	<b>POORLY GRADED SAND</b> medium dense strong brown (7.5YR 5/6) poorly graded medium SAND with gravel, nonplastic, no odor, no staining, low moisture	
			32		CL	<b>CLAY</b> - very stiff brown (7.5YR 4/4) CLAY, medium plasticity, no odor, no staining, low moisture	
					SP	<b>POORLY GRADED SAND</b> - medium dense strong brown (7.5YR 5/6) poorly graded medium SAND with gravel, nonplastic, no odor, no staining, low moisture	
35					CL	<b>CLAY</b> very stiff brown (7.5YR 4/4) CLAY, medium plasticity, mottled, no odor, no staining, low moisture	
			36				
					CL (cont.)	<b>CLAY</b> - same as above, stiff, with gravel	
					CL (cont.)	<b>CLAY</b> medium stiff brown (7.5YR 4/4) CLAY, occasional concretions, medium plasticity, no odor, no staining, low moisture	
40							
						<b>END OF BORING</b> - Total depth 41.0 feet bgs, no groundwater encountered	