

Nowell, Keith, Env. Health

From: Craig Drizin <craig@weber-hayes.com>
Sent: Monday, August 28, 2017 5:07 PM
To: Nowell, Keith, Env. Health
Cc: Cockerham, Kyle@Waterboards; Roe, Dilan, Env. Health; Khatri, Paresh, Env. Health; Pat Hoban
Subject: Piezometer Fieldwork data: Fuel Leak Case RO271 and GeoTracker Global ID T0600100538, EXXON, 3055 35th Avenue, Oakland
Attachments: F 2 Rev Proposed Piezometer Locations.pdf; PZs_All.pdf

Keith,

Four piezometers were installed at the subject site on July 28, 2017 in accordance with approved Work Plans. A site map showing the piezometer locations is attached, along with the boring logs of the piezometers.

Field staff returned to the site on August 18 to inspect the piezometers. On that day shallow piezometers PZ-1A and 2A were dry (total depth of each approximately 12.5 feet below ground surface [bgs]). Water was found in deeper piezometers PZ-1B at 17.57 feet bgs and in PZ-2B at 16.97 feet bgs, respectively (total depth of PZ-1B and 2B is approximately 20 feet bgs). The depth-to-groundwater in the closest monitoring well (MW-3) was 15.09 feet bgs, which does not correlate with the depth to water in the deeper PZs.

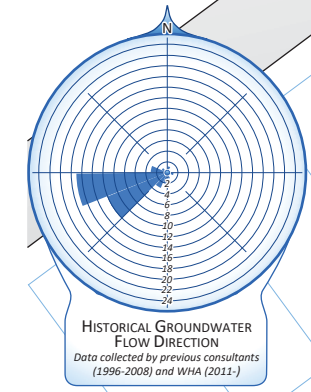
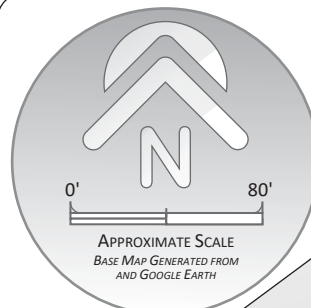
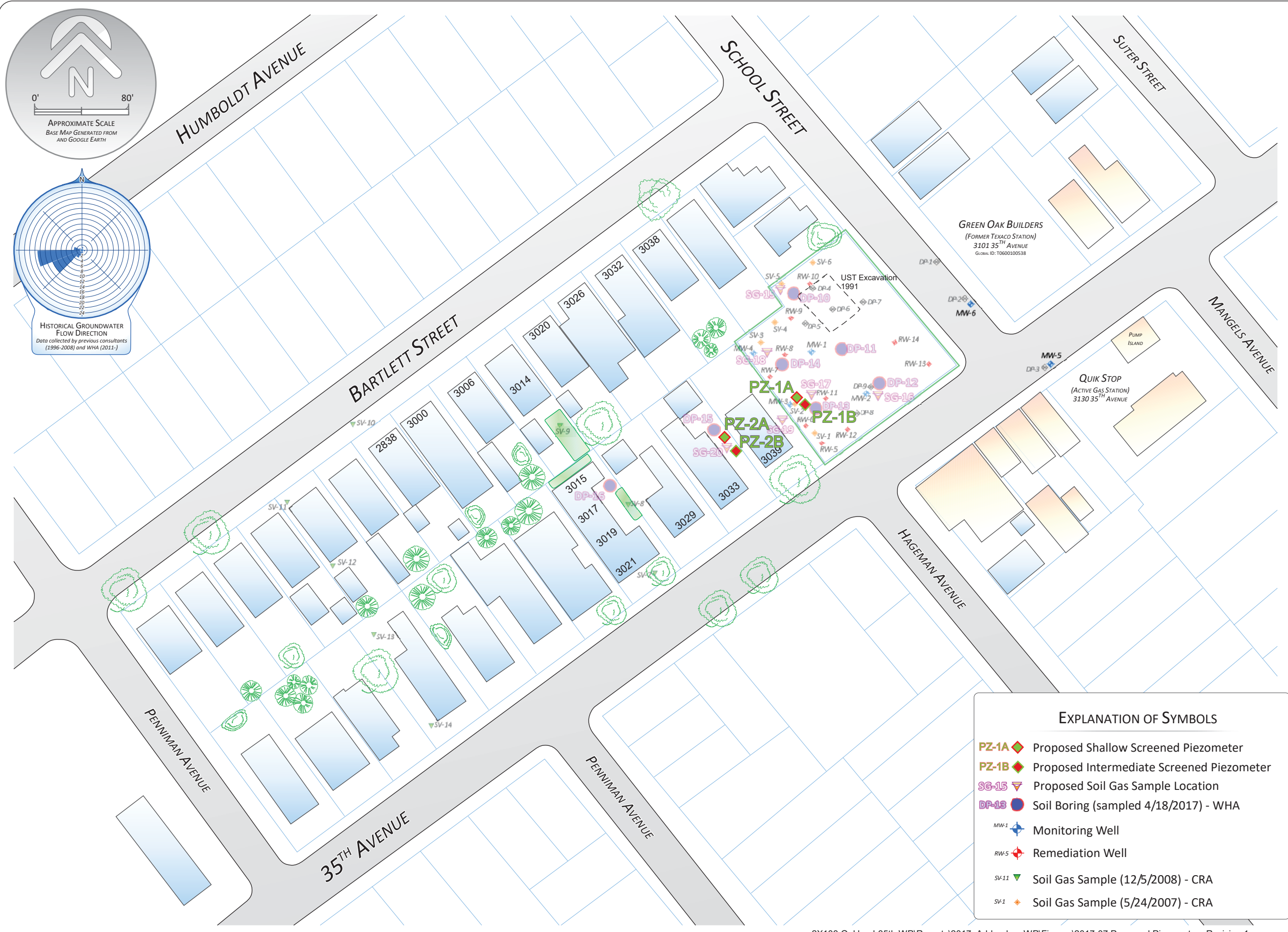
Field staff attempted to develop the piezometers, but each de-watered after approximately one piezometer volume (300 milliliters) of water was removed. The water level did not recover more than 17% in each piezometer before the end of the day, so development and sampling could not be completed. Based on these observations we do not believe the piezometers are screened in a viable water bearing zone.

To confirm the situation we plan to return to the site on August 31 to check water levels and attempt to complete piezometer development and sampling. If the water levels in the piezometers do not recover to 80% of the initial water level (or if they are still dry) by the end of the day on August 31, we will return to the site to check the water levels within 24-hours - on September 1, 2017. If the water levels in the piezometers do not recover to 80% of the initial water level within 24-hours, we will assume the piezometers are not screened in a viable water bearing zone and we will not attempt to collect a water sample from them.

Please let me know if you have any questions or comments.

Thank you,

Craig Drizin
Weber, Hayes and Associates
831-722-3580



EXPLANATION OF SYMBOLS

PZ-1A ◆	Proposed Shallow Screened Piezometer
PZ-1B ◆	Proposed Intermediate Screened Piezometer
SG-15 ▼	Proposed Soil Gas Sample Location
DP-18 ●	Soil Boring (sampled 4/18/2017) - WHA
MW-1 ◆	Monitoring Well
RW-5 ◆	Remediation Well
SV-11 ▼	Soil Gas Sample (12/5/2008) - CRA
SV-1 ◆	Soil Gas Sample (5/24/2007) - CRA

FIGURE 2
Project 2X103.F

PROPOSED PIEZOMETER LOCATIONS

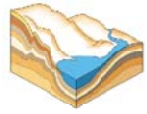
SITE: FORMER EXXON STATION
ADDRESS: 3055 35TH AVENUE, OAKLAND, CA

DATE: JULY 2017

REVISIONS/NOTES: 1



WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com



GEOLOGIC LOG

Piezometer

JOB NO.: 2X103.G DATE: July 28, 2017

CLIENT: Golden Empire Properties

LOCATION: 3033 35th Avenue, Oakland, CA

LOGGED BY: J. Chaney, PG #8452

DRILLER: Environmental Control Associates (Jeff Edmond)

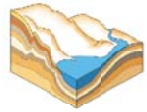
DRILL METHOD: Hydraulic Driven Dual Wall Probes

Well #

PZ-1A

Sheet
1 of 1

Depth (feet)	Sample Interval	Blow Counts	PID Reading (ppm)	Coring Information, Groundwater Zones, & Well Construction Details	Groundwater Depth	Piezometer Construction 2.25" borehole 3/4" Casing	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0								SM	Silty SAND , dark brown (10YR 3/3), dry, appears medium dense, 60-70% fine to medium sand, 20-30% silt fines, no odor, no discoloration. Gradational contact.
1				<i>Borehole diameter from ground surface to 5 feet = 6-inches</i>				SC	Clayey SAND , dark yellowish brown (10YR 4/6), dry to damp, appears medium dense, slightly plastic, 60-70% fine to medium sand, trace coarse sand, trace localized fine gravel, 30-40% clay fines, no odor, no discoloration.
2									- Gradational contact.
3									
4			0					SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, trace odor, no apparent discoloration.
5									
6				Portland Cement 0.5' to 8.5' bgs					
7			0.3						- Gradational contact
8				Hydrated Bentonite 6.5 to 8.5' bgs					
9								SC	Sandy CLAY w/ Gravel , dark yellowish brown (10YR 4/4), dry to slightly damp, very stiff to hard, dominantly clay fines, 25-30% fine to medium sand, some coarse sand, 10-15% fine subangular to subrounded gravels, low hydrocarbon odor, no apparent discoloration.
10				#3 RMC Sand 8.5' to 12.5' bgs					- Gradational contact.
11			654						
12			4000	Pre-Pack 0.010-inch Screen 9.5' to 12.5' bgs				SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, strong hydrocarbon odor, no apparent discoloration.
13									
14									
15									
16									
17									
18									
19									
20									



GEOLOGIC LOG

Piezometer

JOB NO.: 2X103.G DATE: July 28, 2017

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LOGGED BY: J. Chaney, PG #8452

DRILLER: Environmental Control Associates (Jeff Edmond)

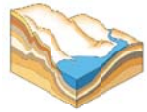
DRILL METHOD: Hydraulic Driven Dual Wall Probes

Well #

PZ-1B

Sheet
1 of 1

Depth (feet)	Sample Interval	Blow Counts	PID Reading (ppm)	Coring Information, Groundwater Zones, & Well Construction Details	Groundwater Depth	Piezometer Construction 2.25" borehole 3/4" Casing	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0								SM	Silty SAND , dark brown (10YR 3/3), dry, appears medium dense, 60-70% fine to medium sand, 20-30% silt fines, no odor, no discoloration. Gradational contact.
1				Borehole diameter from ground surface to 5 feet = 6-inches				SC	Clayey SAND , dark yellowish brown (10YR 4/6), dry to damp, appears medium dense, slightly plastic, 60-70% fine to medium sand, trace coarse sand, trace localized fine gravel, 30-40% clay fines, no odor, no discoloration.
2									- Gradational contact.
3									
4		0						SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, trace odor, no apparent discoloration.
5									
6				Portland Cement 0.5' to 14' bgs					
7		0							- Gradational contact
8									
9								SC	Sandy CLAY w/ Gravel , dark yellowish brown (10YR 4/4), dry to slightly damp, very stiff to hard, dominantly clay fines, 25-30% fine to medium sand, some coarse sand, 10-15% fine subangular to subrounded gravels, moderate to strong hydrocarbon odor, no apparent discoloration.
10		143							- Gradational contact.
11									
12								SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, strong hydrocarbon odor, no apparent discoloration.
13		1870							- Gradational contact.
14			4000						
15				Hydrated Bentonite 14 to 16' bgs				SC	Sandy CLAY , dark yellowish brown (10YR 4/4), moist, very stiff to hard, dominantly clay fines, 30-40% fine to medium sand, trace coarse sand, trace fine subrounded gravels, strong hydrocarbon odor, no discoloration. Gradational contact.
16			4000						
17				#3 RMC Sand 16' to 20' bgs				SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, strong hydrocarbon odor, no apparent discoloration.
18			4000						- Gradational contact.
19				Pre-Pack 0.010-inch Screen 17' to 20' bgs					
20			712					SC	Sandy CLAY , dark yellowish brown (10YR 4/4), damp, very stiff to hard, dominantly clay fines, 30-40% fine to medium sand, trace coarse sand, trace fine subrounded gravels, moderate to strong hydrocarbon odor, no discoloration.



GEOLOGIC LOG

Piezometer

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LOGGED BY: J. Chaney, PG #8452

DRILLER: Environmental Control Associates (Jeff Edmond)

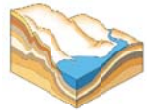
DRILL METHOD: Hydraulic Driven Dual Wall Probes

Well #

PZ-2A

Sheet
1 of 1

Depth (feet)	Sample Interval	Blow Counts	PID Reading (ppm)	Coring Information, Groundwater Zones, & Well Construction Details	Groundwater Depth	Piezometer Construction 2.25" borehole 3/4" Casing	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0								--	Concrete driveway (~4 inches thick)
1				Borehole diameter from ground surface to 5 feet = 6-inches				SM	Silty SAND , dark brown (10YR 3/3), dry to damp, appears medium dense, 60-70% fine to medium sand, 20-30% silt fines, no odor, no discoloration. Gradational contact.
2								SC	Clayey SAND , dark yellowish brown (10YR 4/6), damp to moist, appears medium dense, slightly plastic, 60-70% fine to medium sand, trace coarse sand, trace localized fine gravel, 30-40% clay fines, no odor, no discoloration.
3									- Gradational contact.
4			0					SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to slightly damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, trace odor, no apparent discoloration.
5									
6				Portland Cement 0.5' to 8.5' bgs					
7			0						
8				Hydrated Bentonite 6.5 to 8.5' bgs					
9			0						
10				#3 RMC Sand 8.5' to 12.5' bgs					
11			0						
12			0	Pre-Pack 0.010-inch Screen 9.5' to 12.5' bgs					
13									
14									
15									
16									
17									
18									
19									
20									



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LOCATION: 3033 35th Avenue, Oakland, CA

LOGGED BY: J. Chaney, PG #8452

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DRILL METHOD: Hydraulic Driven Dual Wall Probes

Well #

PZ-2B

Sheet
1 of 1

Depth (feet)	Sample Interval	Blow Counts	PID Reading (ppm)	Coring Information, Groundwater Zones, & Well Construction Details	Groundwater Depth	Piezometer Construction 2.25" borehole 3/4" Casing	Lithologic Pattern	USCS symbol	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
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1				Borehole diameter from ground surface to 5 feet = 6-inches				SM	Silty SAND , dark brown (10YR 3/3), dry, appears medium dense 60-70% fine to medium sand, 20-30% silt fines, no odor, no discoloration. Gradational contact.
2								SC	Clayey SAND , dark yellowish brown (10YR 4/6), damp to moist, appears medium dense, slightly plastic, 60-70% fine to medium sand, trace coarse sand, trace localized fine gravel, 30-40% clay fines, no odor, no discoloration. - Gradational contact.
3									
4			0					SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to slightly damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, trace odor, no apparent discoloration.
5									
6				Portland Cement 0.5' to 14' bgs					
7			0						
8									
9									
10			0						
11								SC	Sandy CLAY w/ Gravel , dark yellowish brown (10YR 4/4), dry to slightly damp, very stiff to hard, dominantly clay fines, 25-30% fine to medium sand, some coarse sand, 10-15% fine subangular to subrounded gravels, no odor, no discoloration. Gradational contact.
12									
13			0					SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, no odor, no discoloration. - Gradational contact.
14									
15				Hydrated Bentonite 14 to 16' bgs				SC	Sandy CLAY , dark yellowish brown (10YR 4/4), damp to moist, very stiff to hard, dominantly clay fines, 30-40% fine to medium sand, trace coarse sand, trace fine subrounded gravels, strong hydrocarbon odor, no discoloration. Gradational contact.
16			0						
17				#3 RMC Sand 16' to 20' bgs				SW-SM	Well Graded SAND w/ Silt/Clay & Gravel , dominantly olive brown (2.5Y 4/4), dry to damp, appears medium dense, 40-50% fine to medium sand, up to 10% coarse sand, 20-25% fine to medium subangular gravels, 15-20% clay/silt fines, no odor, no discoloration. - Gradational contact.
18			0	Pre-Pack 0.010-inch Screen 17' to 20' bgs				SW-SM	
19								SC	Sandy CLAY , dark yellowish brown (10YR 4/4), damp, very stiff to hard, dominantly clay fines, 30-40% fine to medium sand, trace coarse sand, trace fine subrounded gravels, moderate to strong hydrocarbon odor, no discoloration.
20			0						