

# LOG OF EXPLORATORY BORING

PROJECT NAME Holts Quik Chek  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY Michelle Lange

BORING NO. MW- 5  
PAGE 1 OF 2  
GROUND ELEV.  
TOTAL DEPTH 30.50'  
DATE COMPLETED 09/23/97

SAMPLE NUMBER	SAMPLE TYPE	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
5-4.5	SS	6-8-11		5				0 to 0.5 foot: ASPHALT 0.5 to 14.75 feet: SAND WITH SILT (SP-SM); brown; fine; few nonplastic silt; trace medium to coarse sand; trace fine to coarse, subangular to subrounded gravel; damp to moist.  @ 4.5 to 30.5 feet: localized iron staining; micaceous.
5-9.5	SS	8-12-14		10				
5-14.5	SS	8-10-16		15				14.75 to 19.5 feet: SAND (SP); gray to brown; fine to coarse; trace nonplastic silt; moist; petroleum hydrocarbon-like odor.
5-19.5	SS	4-12-14		20				19.5 to 19.75 feet: SILTY SAND (SM); gray to



EMCON

## REMARKS

(1) SS = Soil samples collected with 3-inch outside-diameter split-spoon sampler. (2) Blow counts do not represent SPT results. (3) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

# LOG OF EXPLORATORY BORING

PROJECT NAME **Holts Quik Chek**  
 LOCATION **Kelso, Washington**  
 DRILLED BY **Cascade Drilling, Inc.**  
 DRILL METHOD **Hollow Stem Auger**  
 LOGGED BY **Michelle Lange**

BORING NO. **MW- 5**  
 PAGE **2 OF 2-**  
 GROUND ELEV.   
 TOTAL DEPTH **30.50'**  
 DATE COMPLETED **09/23/97**

SAMPLE NUMBER	SAMPLE TYPE	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
5-24.5	SS	10-16-21		25				brown; fine to coarse; some low plasticity silt; moist. 19.75 to 24.0 feet: <b>SILT (ML)</b> ; brown; fine; few nonplastic silt; trace medium to coarse sand; trace fine to coarse, subangular to subrounded gravel; damp to moist.
5-29.5	SS	20-50/6"		30				24.0 to 30.25 feet: <b>SILTY SAND (SM)</b> ; gray; fine to medium; little nonplastic to low plasticity silt; wet; petroleum hydrocarbon-like odor. @ 24.5 wet.
				35				30.25 to 30.5 feet: <b>SILTSTONE</b> ; red. Total depth drilled = 29.5 feet. Total depth sampled = 31.0 feet.
				40				<b>WELL COMPLETION DETAILS:</b> 0.5 to 18.5 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC blank riser pipe. 18.5 to 29.0 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC well screen with 0.010-inch machined slots. 29.0 to 29.5 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC end cap. 0 to 1.0 foot: Flush monument and concrete. 1.0 to 15.0 feet: Bentonite chips hydrated with potable water. 15.0 to 31.0 feet: 10 - 20 Colorado Silica Sand.



## REMARKS

(1) SS = Soil samples collected with 3-inch outside-diameter split-spoon sampler. (2) Blow counts do not represent SPT results. (3) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

PROJECT:	Holt's Quik Chek	JOB # 14-174	BORING # B-1	PAGE 1 OF 2
Location:	400 North Pacific Avenue, Kelso, WA	Approximate Elevation: 55 feet amsl		
Subcontractor / Driller:	ESN / Brian	Equipment / Drilling Method: Geoprobe		
Date:	June 17, 2015	Logged By: Nicolas Pushckor		

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
5	3 inch asphalt surface underlain by; Dark gray, moist, medium dense, <u>SANDY SILT</u> ; fine grained	ML	1				N/A		None	
			2							
			3							
			4							
			5		B1-5	10:19		1149		
			6							
			7							
			8							
			9							
10			10		B1-10	10:22		2542		
			11							
	At 11 feet; Dark gray, moist, medium dense, <u>SILTY SAND</u> ; fine grained	SM	12							
			13							
			14							
15			15		B1-15	10:24		1272		
			16							
	At 17 feet; brown		17							
			18							
			19							
20			20		B1-20	10:29		951		
			21							
			22							
	At 22 feet; Light gray, moist, medium dense, <u>SAND</u> ; fine grained	SP	23							
			24							
25	At 24 feet; Dark gray		25		B1-25	10:34		420		

**Explanation**



Sample Advance / Recovery



No Recovery



Contact located approximately



ATD

Groundwater level at time of drilling  
or date of measurement



PROJECT:	Holt's Quik Check	JOB # 14-174	BORING # B-1	PAGE 2 OF 2
Location:	400 North Pacific Avenue, Kelso, WA	Approximate Elevation: 55 feet amsl		
Subcontractor / Driller:	ESN / Brian	Equipment / Drilling Method: Geoprobe		
Date:	June 17, 2015	Logged By: Nicolas Pushckor		

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
		▼	26				N/A		None	
	At 26 feet; Wet		27							
	At 27 feet; Brown, wet, medium dense, <u>GRAVELLY SAND</u> ; fine grained sand coarse grained gravel	SW	28							
			29		B1-29	10:42		5.7		
30			30							
	Total Depth = 30 feet									
35										
40										
45										
50										

**Explanation**



Sample Advance / Recovery



No Recovery

----- Contact located approximately



ATD

Groundwater level at time of drilling  
or date of measurement



<b>PROJECT:</b>	<b>Holt's Quik Chek</b>	<b>JOB # 14-174</b>	<b>BORING # B-2</b>	<b>PAGE 1 OF 2</b>
<b>Location:</b>	400 North Pacific Avenue, Kelso, WA	<b>Approximate Elevation:</b> 55 feet amsl		
<b>Subcontractor / Driller:</b>	ESN / Brian	<b>Equipment / Drilling Method:</b> Geoprobe		
<b>Date:</b>	June 17, 2015	<b>Logged By:</b> Nicolas Pushckor		

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	3 inch asphalt surface underlain by;		1				N/A		None	
			2							
	Brown, dry, medium dense, <u>SAND</u> ; fine grained	SP	3							
			4							
5	At 3.5 feet; Gray, moist, medium dense, <u>SANDY SILT</u> , fine grained	ML	5		B2-5	11:26		506		
			6							
			7							
			8							
			9							
10			10		B2-10	11:30		1050		
			11							
			12							
			13							
	At 13 feet; Gray, moist, medium dense, <u>SILTY SAND</u> , fine grained	SM	14							
15			15		B2-15	11:35		1237		
			16							
	At 16 feet; Brown		17							
			18							
			19		B2-19	11:40		107		
20			20							
			21							
			22							
			23							
	At 23 feet; Brown, moist, medium dense, <u>SAND</u> ; fine grained	SP	24							
25			25		B2-25	11:45		1590		

**Explanation**



Sample Advance / Recovery



No Recovery



Contact located approximately



Groundwater level at time of drilling  
or date of measurement

ATD





<b>PROJECT:</b>	<i>Holt's Quik Chek</i>	<b>JOB # 14-174</b>	<b>BORING # B-2</b>	<b>PAGE 2 OF 2</b>
<b>Location:</b>	<i>400 North Pacific Avenue, Kelso, WA</i>		<b>Approximate Elevation:</b> 55 feet amsl	
<b>Subcontractor / Driller:</b> ESN / Brian		<b>Equipment / Drilling Method:</b> Auger		
<b>Date:</b>	<i>June 17, 2015</i>	<b>Logged By:</b>	<i>Nicolas Pushckor</i>	

[illegible]

**Explanation**



### Sample Advance / Recovery



No Recovery

--- Contact located approximately



ATD

Groundwater level at time of drilling  
or date of measurement



PROJECT:	Holt's Quik Chek	JOB # 14-174	BORING # B-3	PAGE 1 OF 2
Location:	400 North Pacific Avenue, Kelso, WA	Approximate Elevation: 55 feet amsl		
Subcontractor / Driller:	ESN / Brian	Equipment / Drilling Method: Geoprobe		
Date:	June 17, 2015	Logged By: Nicolas Pushckor		

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
5	3 inch asphalt surface underlain by;  Brown, dry, medium dense, <u>SAND</u> ; fine grained	SP	1 2 3 4 5		B3-5	12:25	N/A	0.0	None	
10	At 6 feet; Gray, moist, medium dense, <u>SANDY SILT</u> ; fine grained  At 8.5 feet; Brown	ML	6 7 8 9 10 11 12 13 14		B3-10	12:28		449		
15			15		B3-15	12:32		127		
20	At 16 feet; Gray, moist, medium dense, <u>SILTY SAND</u> ; fine grained	SM	16 17 18 19 20 21 22 23		B3-20	12:38		130		
25	At 23 feet; Brown, moist, medium dense, <u>SAND</u> ; fine grained  At 24 feet; Gray	SP	24 25		B3-25	12:43		672		

**Explanation**



Sample Advance / Recovery



No Recovery






Contact located approximately



ATD

Groundwater level at time of drilling  
or date of measurement



PROJECT: <i>Holt's Quik Check</i>		JOB # 14-174		BORING # B-3		PAGE 2 OF 2				
Location: <i>400 North Pacific Avenue, Kelso, WA</i>		Approximate Elevation: 55 feet amsl								
Subcontractor / Driller: ESN / Brian		Equipment / Drilling Method: Geoprobe								
Date: <i>June 17, 2015</i>		Logged By: <i>Nicolas Pushckor</i>								
Boring Depth (feet)	Soil Description	Unified Soil Symbol ▼	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	At 25 feet; Wet		26				N/A		None	
			27							
	At 27.5 feet; Brown, moist, medium dense, <u>SANDY SILT</u> ; fine grained		28							
			29		B3-29	12:51		0.0		
30			30							
Total Depth = 30 feet										
35										
40										
45										
50										
<b><u>Explanation</u></b>  Sample Advance / Recovery  No Recovery - - - - - Contact located approximately  Groundwater level at time of drilling or date of measurement ATD										



PROJECT:	Holt's Quik Chek	JOB # 14-174	BORING # B-4	PAGE 1 OF 2
Location:	400 North Pacific Avenue, Kelso, WA	Approximate Elevation: 55 feet amsl		
Subcontractor / Driller:	ESN / Brian	Equipment / Drilling Method: Geoprobe		
Date:	June 17, 2015	Logged By: Nicolas Pushckor		

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	3 inch asphalt surface underlain by;		1				N/A		None	
			2							
	Gray, moist, medium dense, <u>SANDY SILT</u> ; fine grained	ML	3							
			4							
5			5		B4-5	13:16		699		
			6							
			7							
			8							
			9							
10			10		B4-10	13:20		1371		
			11							
			12							
			13							
	At 13 feet; Gray, moist, medium dense, <u>SILTY SAND</u> ; fine grained	SM	14							
15			15		B4-15	13:23		2112		
	At 15 feet; Brown		16							
			17							
			18							
			19							
20	At 19 feet; Brown, moist, medium dense, <u>SAND</u> ; fine grained	SP	20		B4-20	13:27		0.0		
			21							
			22							
			23							
		▼	24							
25	At 24 feet; Wet		25		B4-25	13:32		0.0		

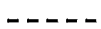
**Explanation**



Sample Advance / Recovery



No Recovery



Contact located approximately








ATD

Groundwater level at time of drilling  
or date of measurement







PROJECT: <i>Holt's Quik Check</i>		JOB # <i>14-174</i>		BORING # <i>B-4</i>		PAGE 2 OF 2				
Location: <i>400 North Pacific Avenue, Kelso, WA</i>		Approximate Elevation: 55 feet amsl								
Subcontractor / Driller: ESN / Brian		Equipment / Drilling Method: Geoprobe								
Date: <i>June 17, 2015</i>		Logged By: <i>Nicolas Pushckor</i>								
Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
			26				N/A		None	
			27							
			28							
			29							
30			30			13:38		0.0		
Total Depth = 30 feet										
35										
40										
45										
50										
<b>Explanation</b>  Sample Advance / Recovery  No Recovery  Contact located approximately  Groundwater level at time of drilling  or date of measurement										



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

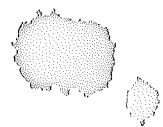
BORING NO. MW-1  
PAGE 1 OF 2  
GROUND ELEV. 10.00  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/24/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 4.0 feet: Hand Augered
MW-1-4	2.0 (100)	6-9-14		5				4.0 to 9.0 feet: SILTY SAND (SP), brown, micaceous, fine, some nonplastic fines, trace coarse sand, trace medium sand with clayey silt lenses, scattered iron oxide staining, moist, loose to medium dense.
MW-1-6.5	2.4 (100)	9-11-19						
MW-1-9	4.4 (100)	10-14-20		10				9.0 to 11.5 feet: SILT WITH SAND (ML), brown, micaceous, nonplastic, little fine sand, moist, soft to very stiff.
MW-1-11.5	4.3 (87)	4-7-8						11.5 to 21.5 feet: SANDY SILT (SM), brown to reddish brown, micaceous, nonplastic, little to some fine to medium sand, trace coarse sand, trace subangular to angular gravel, scattered iron oxide staining, moist to wet, soft to very stiff.
MW-1-14	17.8 (100)	4-9-10		15				
MW-1-16.5	4.3 (100)	8-12-13						
MW-1-19	7.2 (87)	13-18-15		20				



## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoionization detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW- 1-  
PAGE 2 OF 2  
GROUND ELEV. 30.50'  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/24/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
MW-1-21.5	7.2 (33)	13-50/6"	▽	21.5				11.5 to 21.5 feet: SANDY SILT (SM), continued.
MW-1-22.5	7.2 (33)	50/6"		22.5				21.5 to 30.5 feet: SILTY SAND WITH WEATHERED SANDSTONE (SM), yellowish brown/dark yellowish brown, micaceous, fine to medium sand, some non to low plasticity fines, few coarse sand and fine gravel, dry, medium to very dense. @ 24.0 to 25.5 feet: laminated.
MW-1-24	5.8 (67)	29-50/5"		25				
MW-1-26.5	4.9 (73)	25-50/6"		26.5				
MW-1-29	2.8 (60)	50/6"		30				Total depth drilled = 30.5 feet. Total depth sampled = 30.5 feet.
				35				WELL COMPLETION DETAILS: 0 to 16.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 16.0 to 25.8 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots. 25.8 to 26.2 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC end cap.  0 to 1.0 foot: Concrete. 1.0 to 13.0 feet: Bentonite chips hydrated with potable water. 13.0 to 30.5 feet: 10 - 20 Colorado Silica Sand.
				40				



## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoionization detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

EMCON

41241-001.001.HOLTS.ss:4,07/23/97...STANDARD



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW-3  
PAGE 1 OF 2  
GROUND ELEV. 30.50'  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/25/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
MW-3-4	7.1 (73)	9-12-14		5				0 to 4.0 feet: Hand Augered
MW-3-6.5	6.4 (87)	9-10-12						4.0 to 6.5 feet: SILTY SAND (SM), dark gray, fine to medium, some nonplastic fines, moist, loose to medium dense.
MW-3-9	8.2 (100)	6-10-11		10				6.5 to 14.0 feet: SAND (SP), brown to dark gray, fine to medium, few to some nonplastic fines, moist, loose to medium dense.
MW-3-11.5	7.4 (100)	3-4-8						
MW-3-14	11.2 (93)	7-8-11		15				14.0 to 20.5 feet: SAND WITH SILT (SP-SM), brown, fine to medium, some fines, trace coarse sand, trace fine to coarse angular gravel, trace angular cobble, moist to wet, loose to dense.
MW-3-16.5	13.1 (100)	11-12-14						
MW-3-19	9.8 (93)	11-22-22		20				



## REMARKS

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EMCON

41241-001.001,HOLTS...3.07/21/97...STANDARD





# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW-3  
PAGE 2 OF 2  
GROUND ELEV. 30.50'  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/25/97

SAMPLE NUMBER	PID (n ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
MW-3-21.5	9.6 (100)	11-13-24	▽	25				14.0 to 20.5 feet: SAND WITH SILT (SP-SM), continued. 20.5 to 26.5 feet: SILT WITH SAND (SM), dark gray to reddish brown, micaceous, silt, few to some fine to coarse sand, trace gravel, wet, stiff to hard.
MW-3-24	9.6 (100)	20-40-40						
MW-3-26.5	8.5 (100)	35-50/6"						26.5 to 29.0 feet: SAND (SP), brown, fine to medium, trace to few fines, trace fine to coarse angular gravel, scattered iron-oxide staining, wet, dense.
MW-3-29	9.5 (100)	25-50/6"		30				29.0 to 30.5 feet: SAND WITH SILT AND GRAVEL (GP-SM), orange and buff, fine to medium sand, some nonplastic fines, little angular fine to medium gravel, wet, dense.
Total depth drilled = 30.5 feet. Total depth sampled = 30.5 feet.								
WELL COMPLETION DETAILS: 0 to 19.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 19.0 to 28.5 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots. 28.5 to 29.8 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC end cap.								
0 to 1.5 feet: Concrete. 1.5 to 15.8 feet: Bentonite chips hydrated with potable water. 15.8 to 30.5 feet: 10 - 20 Colorado Silica Sand.								



## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoluminescence detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW-4 -  
PAGE 1 OF 2  
GROUND ELEV. 30.50'  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/26/97

SAMPLE NUMBER	PID (n ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
								0 to 4.0 feet: Hand Augered
MW-4-4	7.1 (87)	4-35-12		5				4.0 to 6.5 feet: SANDY SILT (SM), dark gray silt, some fine sand, moist, soft to hard. Strong hydrocarbon-like odor.
MW-4-6.5	6.4 (100)	10-14-15						6.5 to 9.0 feet: SAND (SP), very dark gray, fine, some silt, moist, medium dense. Hydrocarbon-like odor.
MW-4-9	5.1 (87)	6-9-9		10				9.0 to 11.5 feet: SAND WITH SILT (SP-SM), very dark gray, fine to medium, some nonplastic fines, moist, loose.
MW-4-11.5	8.2 (100)	9-10-13						11.5 to 14.0 feet: SAND (SP), very dark gray, fine to medium, trace nonplastic fines, moist, loose to medium dense. Hydrocarbon-like odor.
MW-4-14	7.4 (100)	8-11-15		15				14.0 to 19.0 feet: SAND WITH SILT (SP-SM), fine sand, some silt, trace coarse sand, trace fine angular gravel, wet, loose to medium dense. Strong hydrocarbon-like odor.
MW-4-16.5	11.2 (100)	7-7-5						
MW-4-19	13.1 (100)	10-12-13		20				19.0 to 24.0 feet: SAND (SP), very dark gray to brown, fine to medium, little nonplastic fines,



## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoluminescence detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW-4-  
PAGE 2 OF 2  
GROUND ELEV.  
TOTAL DEPTH 30.50'  
DATE COMPLETED 06/26/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
MW-4-21.5	9.8 (100)	4-15-24	▽					trace coarse sand, trace fine angular gravel, moist, loose to medium dense. Strong hydrocarbon-like odor.
MW-4-24	9.6 (87)	11-20-22		25				24.0 to 29.0 feet: SAND WITH GRAVEL AND SILT (SW-GP), dark yellowish brown, fine to coarse angular sand, some fine to medium angular gravel, little non to low plasticity fines, wet, medium dense.
MW-4-26.5	8.5 (100)	15-29-23						
MW-4-29	9.5 (100)	50/6"		30				Total depth drilled = 30.5 feet. Total depth sampled = 30.5 feet.
				35				WELL COMPLETION DETAILS: 0 to 18.5 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 18.5 to 28.3 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots. 28.3 to 28.7 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC end cap.  0 to 1.0 foot: Concrete. 1.0 to 15.7 feet: Bentonite chips hydrated with potable water. 15.7 to 30.5 feet: 10 - 20 Colorado Silica Sand.
				40				



## REMARKS









(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoionization detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.



PROJECT: **Holt's Quik Chek** JOB # **14-174** Monitoring Well # **MW-7** PAGE 1 OF 1  
 Location: **400 North Pacific Avenue, Kelso, WA** Approximate Elevation: **45 feet amsl**  
 Subcontractor / Driller: **ESN/ Brian** Equipment / Drilling Method: **Auger**  
 Date: **June 17, 2015** Logged By: **Nicolas Pushckor**

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Monitoring Well Construction
5	4 inch concrete surface underlain by; Brown, moist, medium dense; <b>SANDY SILT</b> ; fine grained	ML	1				N/A		None	
			2							
			3							
			4							
			5		MW-7-5	9:16		0.0		
			6							
			7							
			8							
			9							
10	At 9 feet; Brown, moist, medium dense, <b>SILTY SAND</b> ; fine grained	SM	10		MW-7-10	9:18		0.0		
			11							
			12							
	At 12 feet; Brown, moist, medium dense, <b>SAND</b> ; fine grained	SP	13							
			14		MW-7-14	9:21		0.0		
15	At 14 feet; Wet		15							
			16							
			17							
			18							
			19							
20			20		MW-7-20	9:25		0.0		

Total Depth = 20 feet

<p><b>Explanation</b></p> <p> Sample Advance / Recovery</p> <p> No Recovery</p> <p>--- Contact located approximately</p> <p> Groundwater level at time of drilling or date of measurement</p>	<p><b>Monitoring Well Construction</b></p> <p> Grout/Concrete</p> <p> 3/4-inch bentonite chips</p> <p> Silica sand</p> <p> 2-inch diameter blank PVC casing from</p> <p> 2-inch diameter PVC 0.01 slotted screen</p>	<p>Ecology Tag #</p> <p>BJC 838</p>
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# LOG OF EXPLORATORY BORING

PROJECT NAME Holts Quik Chek  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY Michelle Lange

BORING NO. MW- 6  
PAGE 1 OF 2  
GROUND ELEV.  
TOTAL DEPTH 31.00'  
DATE COMPLETED 09/23/97

SAMPLE NUMBER	SAMPLE TYPE	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
6-4.5	SS	6-10-11		5				0 to 7.0 feet: SAND WITH SILT (SP-SM); brown; fine; micaceous; few nonplastic silt; few fine to coarse, subangular to subrounded gravel; trace medium to coarse sand; damp to moist.  @ 4.5 to 6.0 feet: reddish patches; no gravel.
6-7	GRAB							7.0 to 9.0 feet: SILTY SAND (SM); gray; fine; some nonplastic to low plasticity silt; moist; petroleum hydrocarbon-like odor.
6-9.5	SS	6-10-11		10				9.0 to 14.0 feet: SILTY SAND (SM); mottled gray and brown with reddish patches; fine; micaceous; some nonplastic to low plasticity silt; trace medium to coarse sand; trace fine to coarse, subangular to subrounded gravel; moist.
6-14.5	SS	50/6"		15				14.0 to 19.0 feet: GRAVELLY SAND WITH SILT (SP-SM); brown; fine to coarse; micaceous; little fine subangular gravel; trace nonplastic silt; moist; hydraulic fuel-like odor.
6-19.5	SS	50/6"		20				19.0 to 31.0 feet: SILTSTONE; reddish; micaceous; damp.



EMCON

## REMARKS

(1) SS = Soil samples collected with 3-inch outside-diameter split-spoon sampler. (2) Blow counts do not represent SPT results. (3) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

41241-001.003.HQC.ss:4.10/15/97...HQC

# LOG OF EXPLORATORY BORING

PROJECT NAME Holts Quik Chek  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY Michelle Lange

BORING NO. MW- 6  
PAGE 2 OF 2-  
GROUND ELEV.  
TOTAL DEPTH 31.00'  
DATE COMPLETED 09/23/97

SAMPLE NUMBER	SAMPLE TYPE	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
6-24.5	SS	50/6"		25				19.0 to 31.0 feet: SILTSTONE; continued.
6-29.5	SS	50/6"		30				@ 29.5 to 30.2 feet: mottled red, yellow, gray and green. Hydraulic fuel-like odor.
				35				Total depth drilled = 29.5 feet. Total depth sampled = 31.0 feet.
				40				WELL COMPLETION DETAILS: 0.5 to 19.9 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC blank riser pipe. 19.9 to 29.9 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC well screen with 0.010-inch machined slots. 29.9 to 30.4 feet: Nominal 2-inch inside-diameter, flush-threaded, Schedule 40 PVC end cap. 0 to 1.0 foot: Flush monument and concrete. 1.0 to 17.0 feet: Bentonite chips hydrated with potable water. 17.0 to 31.0 feet: 10 - 20 Colorado Silica Sand.



EMCON

## REMARKS

(1) SS = Soil samples collected with 3-inch outside-diameter split-spoon sampler. (2) Blow counts do not represent SPT results. (3) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

41241-001.003.HQC, 09/24/10/15/97...HQC

# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW- 2 -  
PAGE 1 OF 2  
GROUND ELEV. 27.50'  
TOTAL DEPTH 27.50'  
DATE COMPLETED 06/24/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
MW-2-4.5	26.5 (100)	9-18-24		5				0 to 4.5 feet: Hand Augered
MW-2-7	160 (100)	NA						4.5 to 9.5 feet: SANDY SILT (ML), brown and mottled gray, micaceous, nonplastic, some fine sand, strong hydrocarbon-like odor, damp, stiff to very stiff.
MW-2-9.5	1027 (100)	18-45-50/5"		10				9.5 to 17.0 feet: SAND WITH SILT (SP-ML), dark gray, micaceous, fine to medium, few nonplastic fines, moist, medium dense to very dense. Strong hydrocarbon-like odor,
MW-2-12	728 (100)	NA						17.0 to 19.5 feet: SILT WITH SAND (ML-SP), brown, nonplastic, some fine to medium sand, moist to wet, stiff. Trace hydrocarbon-like odor,
MW-2-14.5	114 (100)	10-13-17		15				19.5 to 21.0 feet: SAND WITH SILT INTERBEDS
MW-2-17	40.5 (100)	NA						
MW-2-	32.0	10-10-14		20				



EMCON

## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photoluminescence detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

41241-001.001.HOLTS,sa:4.07/23/97...STANDARD



# LOG OF EXPLORATORY BORING

PROJECT NAME Holt's Quik Chek Market  
LOCATION Kelso, Washington  
DRILLED BY Cascade Drilling, Inc.  
DRILL METHOD Hollow Stem Auger  
LOGGED BY A. Coates

BORING NO. MW-2  
PAGE 2 OF 2  
GROUND ELEV.  
TOTAL DEPTH 27.50'  
DATE COMPLETED 06/24/97

SAMPLE NUMBER	PID (in ppm) (RECOVERY PERCENT)	BLOWS PER 6 INCHES	GROUND WATER LEVELS	DEPTH IN FEET	SAMPLES	WELL DETAILS	LITHOLOGIC COLUMN	LITHOLOGIC DESCRIPTION
19.5	(100)							(SP-ML), very dark, fine to medium, little fines, trace coarse sand, wet, medium dense.
MW-2-22	31 (67)	NA						21.0 to 27.0 feet: SAND (SP), very dark gray, micaceous, fine to medium, few nonplastic fines, moist, loose to dense.
MW-2-24.5	105 (100)	8-31-50/5"		25				
MW-2-27	110 (27)	NA						27.0 to 27.5 feet: SILTY SAND (SM), fine to coarse, some fines, trace gravel, very dense. @ 27.5 feet: auger refusal. Refusal at 27.5 feet. Total depth sampled = 27.5 feet.
				30				WELL COMPLETION DETAILS: 0 to 17.3 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC blank riser pipe. 17.3 to 26.8 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC well screen with 0.010-inch machined slots. 26.8 to 27.0 feet: 2-inch-diameter, flush-threaded, schedule 40 PVC end cap.
				35				0 to 1.0 foot: Concrete. 1.0 to 14.0 feet: Bentonite chips hydrated with potable water. 14.0 to 27.5 feet: 10 - 20 Colorado Silica Sand.
				40				



EMCON

## REMARKS

(1) SB = Soil samples collected with 3-inch outside diameter split-barrel sampler. (2) Blow counts do not represent SPT results. (3) White triangle = field estimate of water table at time of drilling. (4) Soil samples screened with a photolocalization detector (PID). (5) Reference elevation = ground surface. (6) Borings were hand augered from ground surface to approximately 4 feet bgs for utility clearance purposes.

41241-001.001.HOLTS.ss:3.07/21/97...STANDARD