

TECHNICAL MEMORANDUM

DATE: October 7, 2016

TO: Roger Lange

Mason County Transportation Cooperation

FROM: Megan Nogeire

PBS PROJECT NO: 41271.004

RE: Groundwater Well Decommissioning

Mr. Lange:

PBS was on site September 14, 2016 to decommission the four groundwater monitoring wells (MW-3, MW-4, MW-5 and MW-6) located at 3740 N. Shelton Springs Road in Shelton, Washington. Well locations are presented in Figure 1 (attached). The wells were decommissioned in accord with the findings of the Washington Department of Ecology letter dated June 20, 2016.

The purpose of the groundwater well decommissioning was to remove potential conduits to groundwater at the property. All decommissioning work was completed by a licensed drilling company (Holocene Drilling) who is experienced in resource protection well decommissioning per Chapter 18.27 of the Revised Code of Washington (RCW). PBS was onsite to observe and document the well decommission work.

The wells were decommissioned by removing the monument lid and filling the wells with bentonite slurry and filling the surface monument with cement. The concrete was finished to the existing surface elevation. A copy of the well decommissioning logs is included in Attachment 1.

Please note, the two observation wells (OB-1 and OB-2) located on the perimeter of the existing underground storage tank area were not decommissioned. These wells were originally installed in association with the underground storage tank system and are considered leak detection observation wells. The observation well locations are presented on Figure 1.

Please let me know if you need any additional information or clarification.

Thank you.

PBS Engineering and Environmental

Attached
Figure 1 – Site Plan
Attachment 1 - Well Decommissioning Logs

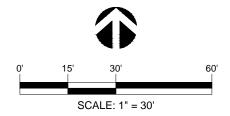


LEGEND

OW-1 EXISTING TANK OBSERVATION WELLS

→ MW-3 DECOMMISSIONED MONITORING WELLS (SEPTEMBER 2016)

XX FENCE



PREPARED FOR: MASON COUNTY TRANSPORTATION COOPERATIVE



SITE PLAN

3740 SHELTON SPRING ROAD SHELTON, WASHINGTON

FIGURE

1

(1) OWNER/PROJECT WELL NO.	(5: LOCATION OF WELL By legal description: 20. Latitude Longitude
Mama Mason County Transportation Coo Address 3740 Shelton Springs Rd. OLIV Shelton State WA Zip 985	Township 20N (N or S) Range 4W (E or W) Section 12
	Street address of well location 3740 Shelten Springs Pd
(2) TYPE OF WORK	Shelton
New construction Alteration (Rapair/Recondition)	Tax lot number of well location
☐ New construction ☐ Alteration (Rapair/Recondition: ☐ Conversion ☐ Deepening ☐ Abandonment	
(3) DRILLING METHOD	(7) STATIC WATER LEVEL:
Rotary Air Rotary Mud Cable	Ft. below land surface. Date
Hollow Stein Auger Other	Artesian PressureIb/sq. in. Date
(4) BORE HOLE CONSTRUCTION:	(3) WATER BEARING ZONES:
	Depth at which water was first found
Special Standards Yes No Depth of Completed Well 20 ft.	
	From To Est. Flow Rate SWL
Vault Water-tight cover	
M	
TO 1 Surface flush vault Locking cap	
tt. b Casing mannerer 1	7 "
Casing diameter A	OVC (9) WELL LOG:
Material Welded Threaded	Crowd Slavering
Welder I dealed	Material From To SWL
Seal Social Social	
t p D 2 D	traile backfilled from
To South Material Ben	Honite backthed work
ft. Amount	hips bottom to top
Grout weight	
	w/ bentonite chips 0 20
Byrehole diameter	70
in. from O	
men ni men ni	ft to tt
Bentonite plug at	t least 3 it, thick
Filter/	
the second secon	to
t. TO Slot size Filter pack:	, ut.
	Date started 9 / 14 / 16 Completed 9 / 14 / 16
o a c Material	
Cood Siza	WELL CONSTRUCTION CERTIFICATION:
	constructed and/or accept reaponsibility for construction of this well, and its compilance with all Washington well construction standards. Materials used
WELL TESTS: Sump	and the information reported above are true to my best knowledge and belief.
Parme ability Yield	The same and the same of the s
Conductivity ?#	Trainee Name License No.
Temperature of water OF/C Depth artesian flow found	or ing company to large Adilling Inc.
Was warer analysis done Yes	1013
By whom? Depth of strara to be analyzed From the to	(Signed) License No. <u>LOLO</u>
Dopar of Jana to or many	Address (1412 black tre. E. Frydlup, Ma. 90373)
Remarks:	Pagistration No HOLD CO I OH+KH Date 12/5/16
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MONITORING WELL REPORT	Well 104 APF -863 Start Card # AE 39327			
MOVITORING METE VELOVI				
(1) OWNER/PROJECT well no	(5) LOCATION OF WELL By legal description:			
(1) OWNER/PROJECT WELL NO Name: Mason County Transportation Coop. Address 3740 Shelton Springs Rd.	Covan Mason - Latitude Longitude Longitude Township 20N (Nor St Range 4W (E or W) Section 12			
Address 8740 Shelton Springs Rd. Sizy Shelton State WA Zip 98584	Thomship (Nor S) Range 144 (E or W) Section 16			
Sity Shelton State WA 2ip 98584	Smarthan actual location 3740 Shelten Sounds Rd			
(2) TYPE OF WORK	SE 14 of NE 1.4 of above section. Screen address of well location 3740 Shelton Springs Rd Shelton			
C. Henrico Manager Paradition	Tax lot number of well location			
☐ New construction ☐ Alteration (Repair/Recondition: ☐ Conversion ☐ Despening				
(3) DRILLING METHOD	(7) STATIC WATER LEVEL:			
☐ Rotary Air ☐ Rotary Mud ☐ Cable	Ft. below land surface. Date			
Hollow Stein Auger Other	Artesian Pressurelb/sq. in. Date			
(4) BORE HOLE CONSTRUCTION:	(3) WATER BEARING ZONES:			
· · · · · · · · · · · · · · · · · · ·	Depth at which water was first found			
Special Standards Yes No Depth of Completed Well the	E. El. Dec 0771			
Vault / []	From To Est. Flow Rate SW L			
Special Standards Water-tight cover				
C Surface flush vault				
TO 13 Locking cap				
Casing diameter Casing diameter				
Material PVC	(9) WELL LOG:			
Welded Threaded Glued	Ground Elevation			
	Material From To SWL			
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Wall Seal:				
Material Bentonik	e backfilled from			
TO CANON AMOUNT CLASO	lookton la la o			
	- bottom to top			
Grout weight	w/ bentonite chips 0 20			
103c				
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Bentonite plug at least 3 ft.	thick			
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gera Greek Size	WELL CONSTRUCTION CERTIFICATION:			
10004	constructed and/or accept responsibility for construction of this well, and its			
SLWELL TESTS:	compilance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.			
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Parmeability Yield	Type or Print Name RECCT (TLCMN) CIT Closure No. 2020			
Conductivity ?# OF/C Depth artesian flow found;	Trainee Name License No			
Temperature of water OF/C Depth artesian its without Swar water analysis done?	3r. ing 22maany tackers the lung Inc.			
By whom?	Signed License No 2823			
Depth of strata to be analyzed. From th. to	Address (14/2 62Ad Ave. E. Phylllup, lla. 98373			
Remarks:	Registration No HTI DCN TN4444 Date 15/10			
Name of Supervising Geologist/Engineer PBS	10/5/10			
1 1				

MONITORING WELL REPORT	Well (D# B 1 P - 468 Start Card # AE 39327				
	(5) LOÇATION OF WELL By legal description:				
(1) OWNER/PROJECT WELL NO	Octob Mason LatitudeLongitude				
Mason County Transportation Coop.	Township 20N (Nor S) Range 4W (E or W) Section 12				
Address 3740 Shelton Springs Rd. Shelton State WA Zip 98584					
Dity Shelton State WA 2 zip 98584	2740 Shalten Sychology				
(2) TYPE OF WORK	SE 14 of NE 14 of above section Springs Rd				
(Z) THE OT WORLD	Offettori				
☐ New construction ☐ Alteration (Repair/Recondition) ☐ Conversion ☐ Deepening ☐ Abandonment	Tax for number of well location				
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(3) DRILLING METHOD	(7) STATIC WATER LEVEL:				
Rotary Air Rotary Mud Cable	- C. Octow land status.				
☐ Hollow Stein Auger ☐ Other	Artesian Pressurelb/sq. in. Date				
W. DODE HOLE CONCERNICATION.	(3) WATER BEARING ZONES:				
(4) BORE HOLE CONSTRUCTION:	(3: Witten Belder a Bottle)				
Special Standards Depth of Completed Well 20 th	Depth at which water was first found				
Deput of County steat with 2	From To Est. Flow Rate SWL				
\(\frac{1}{2} \)	From To Est. Flow Rate SWL				
Vault Standards Water-tight cover					
/ ** [3					
TO 3					
tt. 12 Cocking cap					
Casing diameter Casing diameter					
Material PVC	(9) WELL LOG:				
Welded Threaded Glued	Ground Elevation				
	Material From To SWL				
Seal Society (1995)					
a constant well Seal:					
Material Bentoni	e backfilled from				
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Grout weight					
	w/ bentonite chips 0 20				
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/ TO GARD H GARD					
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Filter pack:	Date staded 9/14/16 Completed 9/14/16				
Material Material	Once smarted 7/11/10 Completed 1/11/10				
0329 Size	WELL CONCEDURATION GERTIFICATION				
(4000 a	WELL CONSTRUCTION CERTIFICATION:				
Z- WOLL ME 272	compliance with all Washington well construction standards. Materials used				
SUWELL TESTS: Sump	and the information reported above are true to my best knowledge and belief.				
25.00	Figa or and Name Delect The Missing License No. 2823				
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	Signed License No 2823				
By whom? Depth of stram to be analyzed. From	7 1/2 10 10 1 7 7 111 20277				
Remarks:	Address (1412 Wind tre. E. Prydllup, lla 98573				
Activated.	Pagistration No HTIDCNTOHHAH Date . 15/10				
Name of Supervising Geologist Engineer PBS	10/5/10				
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MONITORING WELL REPORT	Well ID# BIP 469 Start Card # AE 39327					
(1) OWNER/PROJECT WELL NO. Nam: Mason County Transportation Address 3740 Shelten Springs Re	n Coop.	(5) LOCATION (COURTY MASON TOWARD 200	Latitude	egal description: Longitude W (E or W) Section	. 12.	
Address 8740 Shelton Springs Re City Shelton State WA Zip	98584	_SE140				
	70-0	Street address of well I	ocation 3	740 Shelton	Prings Rd	
(2) TYPE OF WORK				74 of above section. 740 Shelton Shelton		
☐ New construction ☐ Alteration (Repair/Recondition) ☐ Conversion ☐ Deepening ☐ Abandonn	i	Tax lot number of well	location	*		
(3) DRILLING METHOD		(7) STATIC WA	TER LEVEL:	_		
Rotary Air Rotary Mud Cable			selow land surface.	Date		
☐ Hollow Stein Auger ☐ Other		Artesian Pressure _	lb/sq. i	n. Date		
(4) BORE HOLE CONSTRUCTION:		(8) WATER BEA	RING ZONES:			
Special Standards Per Depth of Completed Well	<u> </u>	Depth at which water was first found				
		From	To	Est. Flow Rate	SWL	
Vault Special Standards Water-tight						
/ " 13 14		:				
TO Surface flu						
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13.44. M. 14.14. 17.14. 14.14.	pvc_	(9) WELL LOG:	ind Elevation			
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		compliance with all	Washington well con	for construction of this well struction standards. Materi	ais used	
WELL TESTS: Pump Buller Air Th	owing Artesian	and the information	reported above are tr	rue to my best knowledge at	nd belief.	
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Conductivity PH		Trainee Name		License No.		
Temperature of water OF/C Depth artesian flow	found a	Dr. ing Company	locene An	illina Inc.		
Was water analysis done? Yes No		19.5		0	012	

By whom'? _

Remarks:

Depth of strata to be analyzed. From_

Name of Supervising Geologist/Engineer