SHANNON & WILSON

August 15, 2024

Mr. Roger Burggraf 830 Sheep Creek Road Fairbanks, Alaska 99709

RE: MONITORING WELL DECOMMISSIONING REPORT, GRANT MINE SITE, ESTER DOME, ALASKA

Dear Mr. Burggraf:

Shannon & Wilson prepared this report to summarize methods used to decommission five groundwater monitoring wells (M-1, M-2, M-3, ADNR-1, and the Trailer Court Well) at the Grant Mine site on Ester Dome (Figure 1). In a letter dated November 29, 2021, the Alaska Department of Environmental Conservation (DEC) requested that monitoring wells at the site be decommissioned prior to site closure with the DEC Contaminated Sites Program.

Monitoring wells were decommissioned in general accordance with the June 2016 *Alaska Best Management Practices - Maintaining or Decommissioning Water Wells and Boreholes* prepared by the Groundwater Protection Stakeholder Workgroup and our May 16, 2024 *Monitoring Well Decommissioning Work Plan.*

WELL DECOMMISSIONING SUMMARY

We decommissioned the monitoring wells at the site on July 25, 2024 with the assistance of your heavy equipment operator and laborers. In preparation for backfilling, soil was excavated around the wells and the casings were cut approximately 2 feet below ground surface. The submersible pumps and drop pipes installed in wells M-1, M-2, and the Trailer Court Well were also removed.

The producing zones of the wells were backfilled with clean, pit-run gravel which was disinfected with a 50 part-per-million chlorine-water solution poured on the backfill material as it was slowly placed in the well. Bentonite chips were then poured down the well casing to form plugs approximately 8 to 10 feet in thickness above the producing zones. Additional backfill of disinfected gravel and bentonite plugs were then placed so that the thicknesses of gravel between the plugs did not exceed 100 feet. Approximately the top 15 feet of each well casing were backfilled with bentonite chips and capped with either a bag of cement (wells M-3, ADNR-1, and Trailer Court Well) or a glued PVC cap (wells M-1 and M-2). A 50-pound bag of bentonite chips was then poured on top of the capped wells and the



excavations around the wells were backfilled with native soil. Alaska Department of Natural Resources *Well Record of Decommissioning Forms* and photographs documenting the well decommissioning are enclosed to this report.

SITE CLOSURE DISCUSSION

We understand that decommissioning monitoring wells at Grant Mine was prerequisite for DEC making a site closure determination for the contaminated site. Since the monitoring wells are now decommissioned, we recommend that DEC takes appropriate steps to close the site with institutional controls to ensure the protection of human health and the environment.

We appreciate the opportunity to assist you with this project. Please contact me at 907-458-3149 if you have any questions.

Sincerely,

SHANNON & WILSON

Andrew Frick Environmental Scientist

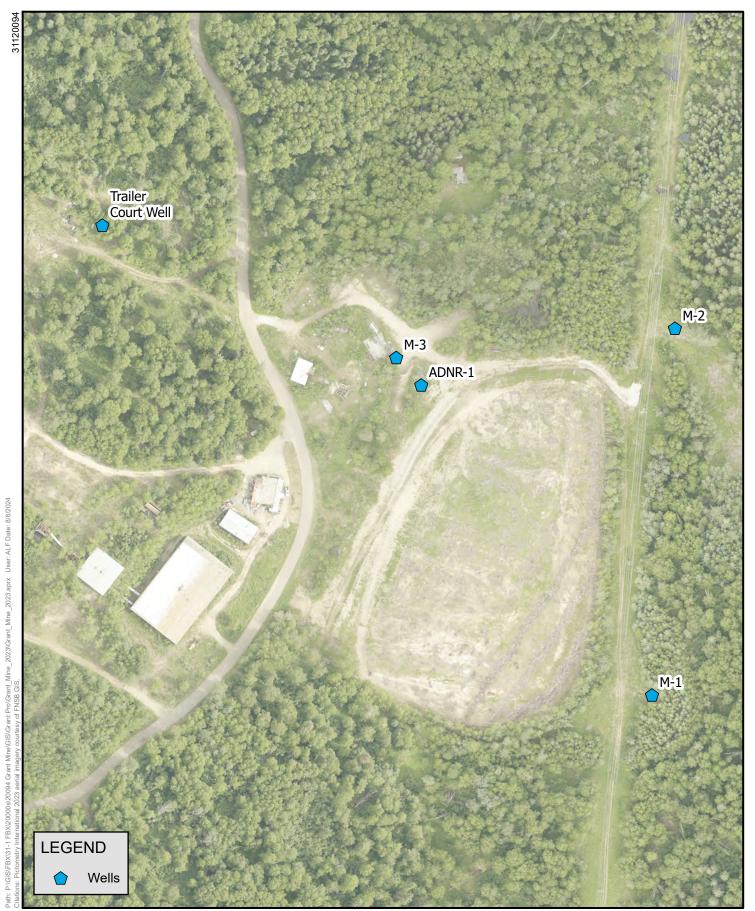
Enc. Figure 1 – Decommissioned Well Locations

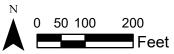
Well Record of Decommissioning Forms

Project Photographs

Important Information About Your Geotechnical / Environmental Report

Grant Mine Well Decom Report Project No. 31-1-20094





DECOMMISSIONED WELL LOCATIONS
Figure 1



Division of Mining, Land & Water 550 w 7th Ave., Suite 1020 Anchorage, AK 99501-3562 dnr.water.reports@alaska.gov



Department of Environmental Conservation

Division of Environmental Health, Drinking Water Program 555 Cordova Street Anchorage, AK 99501

State

dec.eh.drinkingwater.reports@alaska.gov

Well Record of Decommissioning (version 2021)

This form is intended to convey information Well Decommissioner or Con	iter well as required by both	uired by both DEC and DNR. Add additional datasheets (e.g., site schematic and photos) as necessary.											
Name: Andrew Frick	Well and Owner Details ** r's name and address: Roger Burggraf												
Company: Shannon & Wilson, In		Well location - Street & number: 499 St. Patrick Road, Fairbanks, Alaska											
Address: 2355 Hill Road			ot & Block: FNSB Subdivision 1N, 2W, Block 28, Lot 2808										
(continued): Fairbanks, Alaska 99	709 Meridian: _F	Township: 1N	Rar	nge: 2V	/	Section: 28 Quarters:		SW1/4, SE1/4		Ξ1/4			
Phone: 907-458-3149	GPS to 5 places: Latitu	ude: 64.88087	D87 Longitude: 1			47.96089 Datum:		WGS 84		4			
Email: andrew.frick@shanwi	I.com Well Name or AK	WELTS Number: Pod Well	; WEL	TS Lo	og# 129	23 also A	LDNR-	1					
Please check all boxes that apply and provi	ide all requested information. Do not ch	eck boxes that do not apply.											
Details of Former Well		Former Well Description	(Not r	equire	d if orig).						
Public water system? (See note **) Yes: No: X	Original Driller's Name: Unknown					Well depth (ft bls): 365	Date of complet	ion:		Unknown			
If so, PWSID number:	Well Type Drilled Yes: X No.	o: <u>Finish</u> Cased	Yes: X	No:	N/A Unknown	SWL (ft bls): 170	Flowing artesian	Yes:	No: X	N/A Unknown			
Single Family Domestic Yes: No: X	Driven Yes: No	o: X Capped	Yes: X	No:	N/A Unknown	Bedrock (ft bls): 45	Flood prone site	Yes:	No: X	N/A Unknown			
Commercial/ Fishery Yes: No: X	Jetted Yes: No	o: X Screened	Yes:	No: X	N/A Unknown	Casing type: Steel	Well condition	Good: X	Poor:	N/A Unknown			
Irrigation/Agricultural Yes: No: X	Dug Yes: No	o: X Perforated	Yes:	No: X	N/A Unknown	Diameter (inches): 6	Grouted	Yes:	No:	N/A X			
Heating / Cooling Yes: No: X	Unknown Yes: No	o: X Well liner present	t Yes:	No: X	N/A Unknown	Stickup (ft): 1.5	Well house	Yes:	No: X	N/A Unknown			
** Public Water System decommissioning	may requires additional documentation,				- Constant			7.61		Unknown			
						ecommissioning process	process						
Include notes regarding any deviations from state	Monitoring well decommissioned as p	part Casing cut below grade	Yes: X	No:	N/A Unknown	Well disinfected prior to decommissioning Yes			No:	N/A Unknown			
approved methods of decommissioning as described in 18 AAC 80.015e.	of contaminated site closure proces	SS Casing fully removed	Yes:	No: X	N/A Unknown	Plumbing removed from casing		Yes: X	No:	N/A Unknown			
http://dec.alaska.gov/eh/dw/regulations/	7	Casing filled with bentonite	Yes: X	No:	N/A Unknown	Liner	(if any) removed	Yes:	No:	N/A Unknown X			
AWWA A100 Method Yes: No: X	Excavation and Fill Details	Casing welded closed	Casing welded closed Vor. No. V NA Electric wiring rome			moved from site		No:	N/A				
Alaska BMPs Method Yes: X No:	Placement method Directly; see report			No:	N/A X		original well log		No: X	Unknown N/A			
Other Method (describe below) Yes: No:	Excavation Depth (ft) 2	Screen filled with gravel	200	No:				_		Unknown N/A			
					N/A Unknown X		log listed at DNR		No:	Unknown			
See attached report for further details.	Type of fill used Gravel/bentonite	Perforations filled with gravel		No:	Unknown 🔨		thorities notified	Yes:	No:	N/A Unknown X			
	Volume of fill (cu ft) 70 (gravel)	Excavated pit refilled	Yes: X	No:	N/A Unknown	DEC notified of d	ecommissioning	Yes: X	No:	N/A Unknown			
	# Bags of bentonite in casing 10	Pit area mounded	Yes:	No: X	N/A Unknown	DNR notified of d	ecommissioning	Yes: X	No:	N/A Unknown			
		*** Signatures require	ed						1				
Owner Boger C Burggul Decommissioner / Contractor :: Quelow File													
Date:	1 115 12024				Date:) .	202	1	-			

³⁾ Attach maintenance or water usage records and provide an adequate locational description, including maps or sketches. Use additional pages as needed.

⁴⁾ This form is under development and is subject to change. Please submit suggestions for changes or improvements to the addresses listed above.



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Department of Environmental Conservation

Division of Environmental Health, Drinking Water Program 555 Cordova Street Anchorage, AK 99501

dec.eh.drinkingwater.reports@alaska.gov



English Commission of the Commission	Well Record of Decor					•	au 3 - 2 - 2 - 3 - 3 - 3						
This form is intended to convey information reg Well Decommissioner or Contract		misioning of a water well as required by both DEC and DNR. Add additional datasheets (e.g., site schematic and photos) as necessary. Well and Owner Details *											
Name: Andrew Frick		and address: Roger Bu	raara		ina Own	CI Details							
Company: Shannon & Wilson, Inc.													
		Well location - Street & number: 499 St. Patrick Road, Fairbanks, Alaska Well location - Subdivision, Lot & Block: FNSB Subdivision 1N, 2W, Block 28, Lot 17											
Address: 2355 Hill Road							Quarters: SW1/4, SE1/4						
(continued): Fairbanks, Alaska 99709		Township: 1N	Range: 2W		Section: 28	Quarters:							
Phone: 907-458-3149	GPS to 5 places: Latitude:		-	Long	itude: 14	7.95821	Datum:		WGS 8	4			
Email: andrew.frick@shanwil.co		TS Number: M-1 or M	11										
Please check all boxes that apply and provide all Details of Former Well		mer Well Description (Not re	auiro	d if orio	inal well log attached	1						
	ginal Driller's Name: Unknown	mer wen bescription (NOC 10	quire	u ii orig		on:	, 1989					
	ell Type Drilled Yes: X No:	Finish Cased	Voc. Y	No:	N/A		Date of completi		No: X	N/A			
Single Family Domestic Yes: No: X	Driven Yes: No: X	Capped	-		Unknown N/A					Unknown N/A			
	77764				Unknown N/A		Flood prone site		No: X	Unknown N/A			
	Jetted Yes: No: X	Screened	-1.	No:	Unknown N/A	Casing type: PVC	Well condition		Poor:	Unknown			
Irrigation/Agricultural Yes: No: X	Dug Yes: No: X	Perforated		No: X	Unknown	Diameter (inches): 4	Grouted	Yes:	No:	N/A Unknown X			
Heating / Cooling Yes: No: X	Unknown Yes: No: X	Well liner present	_	No: X	N/A Unknown	Stickup (ft): 2	Well house	Yes:	No: X	N/A Unknown			
** Public Water System decommissioning may r Decommissioning notes:	Reason for well decommissioning:	ise contact DEC in this reg	ard.		Do	commissioning process							
	onitoring well decommissioned as part	Casing cut below grade	Vec. Y	No:	N/A	Well disinfected prior to de	ecommissioning	Yes: X	No:	N/A.			
approved methods of decommissioning as	contaminated site closure process				Unknown N/A					Unknown N/A			
	contaminated site closure process						17.	No:	Unknown N/A				
http://dec.alaska.gov/eh/dw/regulations/	E LEW CARL	Casing filled with bentonite		No:	Unknown N/A	Liner (if any) removed Yes:			No:	N/A Unknown X			
AWWA A100 Method Yes: No: X	Excavation and Fill Details	Casing welded closed			Unknown	Electric wiring rer	Mark Carlotte Washington	Yes: X	No:	Unknown			
	Placement method Directly; see report	Borehole refilled	Yes:	No:	Unknown X	Attached an	original well log	Yes:	No: X	N/A Unknown			
Other Method (describe below) Yes: No: Ex	xcavation Depth (ft) 2	Screen filled with gravel	Yes: X	No:	N/A Unknown	Well le	og listed at DNR	Yes:	No: X	N/A Unknown			
See attached report for further details.	Type of fill used Gravel/bentonite	Perforations filled with gravel	Yes:	No:	Unknown X	Local aut	horities notified	Yes:	No:	N/A X			
V	Volume of fill (cu ft) 13 (gravel)	Excavated pit refilled	Yes: X	No:	N/A Unknown	DEC notified of de	ecommissioning	Yes: X	No:	N/A Unknown			
# Bags	gs of bentonite in casing 3	Pit area mounded	Yes:	No: X	N/A Unknown	DNR notified of de	ecommissioning	Yes: X	No:	N/A Unknown			
	18	Signatures required	d			1			,				
Owner***÷	(Burgant	Decommision	oner/	Contra	ctor***:	Alu	-I						
Date: S	15 17624				Date:	Children 18	0 100	074	1				
1) Submit this form to DNR and DEC (see contact info at top of form) w	within 45 days of decommissioning, as per 11 AAC 93.140 a	nd 18 AAC 80.015.	_	Ple		h schematics and photos to			ormation	provided			

Attach an original water well log. If not available, a blank water well log form is available at http://dnr.alaska.gov/mlw/forms/#waterother if well details are known.

³⁾ Attach maintenance or water usage records and provide an adequate locational description, including maps or sketches. Use additional pages as needed.

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Department of Environmental Conservation

Division of Environmental Health, Drinking Water Program 555 Cordova Street Anchorage, AK 99501

State

well Record of Decommissioning (version 2021)

This form is intended to convey information regarding	g the decommisioning of a water	well as required by both DE	C and [DNR.	Add add	ditional datasheets (e.g.,	site schematic a	nd pho	tos) as ne	ecessary.				
Well Decommissioner or Contractor	Well and Owner Details *													
Name: Andrew Frick	Owner's name	Owner's name and address: Roger Burggraf												
Company: Shannon & Wilson, Inc.	Well location - Stree	Well location - Street & number: 499 St. Patrick Road, Fairbanks, Alaska												
Address: 2355 Hill Road					on, Lot & Block: FNSB Subdivision 1N, 2W, Block 28, Lot 2808									
(continued): Fairbanks, Alaska 99709	Meridian: F	Township: 1N		e: 2W		Section: 28	Quarters:	SV	N1/4, SE	=1/4				
Phone: 907-458-3149	GPS to 5 places: Latitude:	•		Longitude: 14										
Email: andrew.frick@shanwil.com		Well Name or AK WELTS Number: M-2 or M2												
Please check all boxes that apply and provide all requ	ested information. Do not check	boxes that do not apply.												
Details of Former Well		Former Well Description (Not required if original well log attached).												
Public water system? (See note **) Yes: No: X Original D	riller's Name: Unknown					Well depth (ft bls): 200	Date of completi	on:	,	1990				
If so, PWSID number: Well Typ	De Drilled Yes: X No:	<u>Finish</u> Cased Y	es: X N	lo:	N/A Unknown	SWL (ft bls): 150	Flowing artesian	Yes:	No: X	N/A Unknown				
Single Family Domestic Yes: No: X	Driven Yes: No: X	Capped Y	es: X N	lo:	N/A Unknown	Bedrock (ft bls): unknown	Flood prone site	Yes:	No: X	N/A Unknown				
Commercial/ Fishery Yes: No: X	Jetted Yes: No: X	Screened Y	es: X N	lo:	N/A Unknown	Casing type: PVC	Well condition	Good: X	Poor:	N/A Unknown				
Irrigation/Agricultural Yes: No: X	Dug Yes: No: X	Perforated Y	es: N	lo: X	N/A Unknown	Diameter (inches): 4	Grouted		No:	N/A Unknown X				
Heating / Cooling Yes: No: X	Unknown Yes: No: X	Well liner present Yo	-	lo: X	N/A	Stickup (ft): 2	Well house	5.5	No: X	N/A				
** Public Water System decommissioning may requir	240000000000000000000000000000000000000				Unknown	Stickup (11). Z	Well flouse	163.	No.X	Unknown				
	on for well decommissioning:	l l l l l l l l l l l l l l l l l l l			De	commissioning process								
Include notes regarding any deviations from state Monitorin	ng well decommissioned as part	part Casing cut below grade Yes: X No: NA Well disinfected prior to				Well disinfected prior to de	ecommissioning	Yes: X	No:	N/A Unknown				
approved methods of decommissioning as described in 18 AAC 80.015e. Of conta	minated site closure process	Casing fully removed Yes: No: X N/A Unknown			Plumbing removed from casing Yes: X No:			No:	N/A Unknown					
http://dec.alaska.gov/eh/dw/regulations/		Casing filled with bentonite You	es: X N	lo:	N/A Unknown	Liner (if any) removed	Yes:	No:	N/A X				
AWWA A100 Method Yes: No: X	Excavation and Fill Details	Casing welded closed You	es: X N	lo:	N/A Unknown	Electric wiring ren			No:	N/A Unknown				
Alaska BMPs Method Yes: X No: Placem	ent method Directly; see report	Borehole refilled Yo		lo:	N/A Unknown X		original well log		No: X	N/A				
	on Depth (ft) 2	Screen filled with gravel Y		lo:	N/A		og listed at DNR	-	No: X	Unknown N/A				
	pe of fill used Gravel/bentonite	Perforations filled with gravel You	**		Unknown N/A				-	Unknown N/A				
					N/A Unknown X	PR. 1. 1977 198	horities notified		No:	N/A X				
	e of fill (cu ft) 13 (gravel)	Excavated pit refilled Y		lo:	Unknown N/A	DEC notified of de		Yes: X	No:	Unknown				
# Bags of ben	tonite in casing 3	Pit area mounded Yo	es: N	lo: X	Unknown	DNR notified of de	ecommissioning	Yes: X	No:	N/A Unknown				
		Signatures required					/		/					
Owner : Roger C	Burgar	Decommision	ner / Co	ontrac	ctor***:	(had	1114	Fait	6					
Date: 8 / 15	41				Date:	8/13	1 21	24						
1) Submit this form to DNR and DEC (see contact info at top of form) within 45	점점 하이는 것 같아 많아 들어 먹지 않아 되었다. 아이들이 어떤 휴가의 등로 시간 무슨데 되었다. 네 그렇게 되었다.			Plea	ase attac	h schematics and photos to	further docume	nt the in	formation	provided				

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Anchorage, AK 99501

State Of Alaska

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Well Record of Decommissioning (version 2021)

This form is intended to convey inf	ormatio				well as required by both					site schematic	and phot	tos) as ne	ecessary.					
Well Decommissioner or Contractor								er Details *										
Name: Andrew Frick		Owner's name			me and address: Roger Burggraf													
Company: Shannon & Wilson, Inc.			Well location - Street & number: 499 St. Patrick Road, Fairbanks, Alaska															
Address: 2355 Hill Road					on, Lot & Block: FNSB St													
(continued): Fairbanks, Alask	The state of the s			Meridian: F Township: 1N Range: 2W			Section: 28	Quarters:	SV	V1/4, SE	E1/4							
Phone: 907-458-3149			GPS to 5 place	s: Latitude	le: 64.88100 Longitude: 147.		7 96188	Datum:		WGS 8								
Email: andrew.frick@sh	nanwi				LTS Number: M-3, MW	-Δ or		_										
Please check all boxes that apply ar		ide all requested inforn	nation. Do	not check	boxes that do not apply.	Α, ΟΙ	Old IV	IIII VVCI	, WELTO LOG# 1293	7								
Details of Former Well				For	mer Well Description	(Not r	equire	d if orig	inal well log attached	<u>).</u>								
Public water system? (See note **) Yes:	No: X	Original Driller's Name	: Thibedea	u Drilling	Contractors, Fairbanks,	AK			Well depth (ft bls): 365	Date of completion: 11 ,3 ,1980			/ 1980					
If so, PWSID number:		Well Type D	rilled Yes:)	No:	<u>Finish</u> Cased	Yes: X	No:	N/A Unknown	SWL (ft bls): 190	Flowing artesian	Yes:	No: X	N/A Unknown					
Single Family Domestic Yes:	No: X	D	riven Yes:	No: X	Capped	Yes: X	No:	N/A Unknown	Bedrock (ft bls): 45	Flood prone site	Yes:	No: X	N/A Unknown					
Commercial/ Fishery Yes:	No: X	Je	etted Yes:	No: X	Screened	Yes:	No: X	N/A Unknown	Casing type: Steel	Well condition	Good: X	Poor:	N/A Unknown					
Irrigation/Agricultural Yes:	No: X		Dug Yes:	No: X	Perforated	Yes: X	No:	N/A Unknown	Diameter (inches): 8	Grouted	Yes:	No:	N/A Unknown X					
Heating / Cooling Yes:	No: X	Unkr	nown Yes:	No: X	Well liner present	Yes:	No: X	N/A Unknown	Stickup (ft): 1.5	Well house	Yes:	No: X	N/A Unknown					
** Public Water System decommiss	sioning	may requires additiona	l documen	ation, ple														
Decommissioning notes: Reason for well		Reason for well d	ecommissio	ning:				Decommissioning process										
Include notes regarding any deviations from approved methods of decommissioning		Monitoring well deco	mmissione	Casing cut below grade	Yes: X	No:	N/A Unknown	Well disinfected prior to decommissioning Ye			No:	N/A Unknown						
described in 18 AAC 80.015e.	iig as	of contaminated site closure process			Casing fully removed	Yes:	No: X	N/A Unknown	Plumbing remo	ved from casing	Yes: X	No:	N/A Unknown					
http://dec.alaska.gov/eh/dw/regula	tions/	1			Casing filled with bentonite	Yes: X	No:	N/A Unknown	Liner (if any) removed	Yes:	No:	N/A Unknown X					
AWWA A100 Method Yes:	No: X	Excavation ar	d Fill Detail	5	Casing welded closed	Yes:	No: X	N/A Unknown	Electric wiring rer	noved from site	Yes: X	No:	N/A Unknown					
Alaska BMPs Method Yes: X	No:	Placement method	Directly; se	report	Borehole refilled	Yes:	No:	N/A X	Attached an	original well log	Yes: X	No:	N/A Unknown					
Other Method (describe below) Yes:	No:	Excavation Depth (ft)	2		Screen filled with gravel	Yes:	No:	N/A X	Well I	og listed at DNR	Yes: X	No:	N/A Unknown					
See attached report for further of	details.	Type of fill used	Gravel/ben	onite	Perforations filled with gravel	Yes: X	No:	N/A. Unknown	Local aut	horities notified	Yes:	No:	N/A Unknown X					
DEL CO COMPLESSOR OF PARTY AND A CO		Volume of fill (cu ft)			Excavated pit refilled	Yes: X	No:	N/A Unknown	DEC notified of de	ecommissioning	Yes: X	No:	N/A Unknown					
		# Bags of bentonite in casing	P5 21		Pit area mounded	Yes:	No: X	N/A Unknown	DNR notified of d	ecommissioning	Yes: X	No:	N/A Unknown					
					*** Signatures require		The state of	Unanawn					Unknown					
77.73.2	1	- 22		7		_	Cantus	ahau###	1. 1		-/							
Owner***	Owner Burger C Burggraf Decommissioner/Contractor : Under Fale																	
Date:	8	1 15 12	024					Date	0-1-1-	1 2	02	4	-					
1) Submit this form to DNR and DEC (see contact in						wn	Ple	ease atta	ch schematics and photos to	further docume	nt the inf	ormation	provided					

Please attach schematics and photos to further document the information provided on this form. This is particularly important for public water system wells and also any other wells that might impact the public water system.

²⁾ Attach an original water well log. If not available, a blank water well log form is available at http://dnr.alaska.gov/mlw/forms/#waterother if well details are know

³⁾ Attach maintenance or water usage records and provide an adequate locational description, including maps or sketches. Use additional pages as needed.

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Anchorage, AK 99501 dec.eh.drinkingwater.reports@alaska.gov



Well Record of Decommissioning (version 2021)

This form is intended to convey information regarding the decommissioning of a water well as required by both DEC and DNR. Add additional datasheets (e.g., site schematic and photos) as necessary. Well Decommissioner or Contractor Well and Owner Details Owner's name and address: Roger Burggraf Name: Andrew Frick Well location - Street & number: 499 St. Patrick Road, Fairbanks, Alaska Company: Shannon & Wilson, Inc. Well location - Subdivision, Lot & Block: FNSB Subdivision 1N, 2W, Block 28, Lot 2808 Address: 2355 Hill Road (continued): Fairbanks, Alaska 99709 Meridian: F Range: 2W Township: 1N Quarters: SW1/4, SE1/4 GPS to 5 places: Latitude: 64.88158 Longitude: 147.96451 Phone: 907-458-3149 Datum: WGS 84 Well Name or AK WELTS Number: Trailer Court Well; WELTS Log# 12932 Email: andrew.frick@shanwil.com Please check all boxes that apply and provide all requested information. Do not check boxes that do not apply. **Details of Former Well** Former Well Description (Not required if original well log attached). Original Driller's Name: Aurora Drilling, Inc. Fairbanks, AK 1985 Public water system? (See note **) Yes: No: X Well depth (ft bls): 400 Date of completion: ,31 If so, PWSID number: Well Type Drilled Yes: X Finish Cased Yes: X No: SWL (ft bls): 280 Flowing artesian Yes: No: X N/A Single Family Domestic Yes: No: X Driven Yes: No: X Capped Yes: X No: Bedrock (ft bls): 40 Flood prone site Yes: No: X Commercial/ Fishery Yes: No: X Jetted Yes: No: X Screened Yes: No: X Casing type: Steel Well condition Good: X Poor: N/A nknowi Irrigation/Agricultural Yes: No: X Dug Yes: No: X Perforated Yes: X Diameter (inches): 6 Grouted Yes: No: N/A Heating / Cooling Yes: No: X Unknown Yes: No: X Well liner present Yes: No: X Stickup (ft): 1.5 Well house No: X Public Water System decommissioning may requires additional documentation, please contact DEC in this regard. Decommissioning notes: Reason for well decommissioning: **Decommissioning process** Include notes regarding any deviations from state Monitoring well decommissioned as part Casing cut below grade Yes: X No: Well disinfected prior to decommissioning Yes: X No: approved methods of decommissioning as of contaminated site closure process Casing fully removed Yes: Plumbing removed from casing Yes: X No: described in 18 AAC 80.015e. N/A N/A X http://dec.alaska.gov/eh/dw/regulations/ Casing filled with bentonite Yes: X Liner (if any) removed Yes: N/A N/A AWWA A100 Method Yes: No: X **Excavation and Fill Details** Casing welded closed Yes: Electric wiring removed from site Yes: X No: X No: N/A Alaska BMPs Method Yes: X No: Placement method Directly; see report Borehole refilled Yes: No: Attached an original well log No: N/A Other Method (describe below) Yes: Excavation Depth (ft) 2 Screen filled with gravel Yes: No: Well log listed at DNR Yes: X No: Perforations filled with gravel Yes: See attached report for further details. Type of fill used Gravel/bentonite Local authorities notified No: Volume of fill (cu ft) 70 (gravel) Excavated pit refilled Yes: X DEC notified of decommissioning N/A # Bags of bentonite in casing 16 N/A Pit area mounded Yes: No: X DNR notified of decommissioning Signatures required Decommisioner / Contractor***: Owner*** Date: 1) Submit this form to DNR and DEC (see contact info at top of form) within 45 days of decommissioning, as per 11 AAC 93.140 and 18 AAC 80.015. Please attach schematics and photos to further document the information provided

²⁾ Attach an original water well log. If not available, a blank water well log form is available at http://dnr.alaska.gov/mlw/forms/#waterother if well details are known.

³⁾ Attach maintenance or water usage records and provide an adequate locational description, including maps or sketches. Use additional pages as needed.

⁴⁾ This form is under development and is subject to change. Please submit suggestions for changes or improvements to the addresses listed above.



Photo 1: Backfill in progress at well M-3.



Photo 2: Backfill in progress at well M-3.



Photo 3: Bentonite chips placed within the top fifteen feet of well casing at well M-3.



Photo 4: Cement cap placed to complete the backfilling of well M-3.



Photo 5: Bentonite chips placed on top of the cement cap at well M-3.



Photo 6: Location of well M-3 after the excavation around the well was backfilled.



Photo 7: Excavation around the Pod Well in preparation for backfill.



Photo 8: Backfill in progress at the Pod Well.



Photo 9: Bentonite chips placed within the top fifteen feet of well casing at the Pod Well.



Photo 10: Cement cap placed to complete the backfilling of the Pod Well.



Photo 11: Bentonite chips placed on top of the cement cap at the Pod Well.



Photo 12: Location of the Pod Well after the excavation around the well was backfilled.



Photo 13: Backfill in progress at the Trailer Court Well.



Photo 14: Backfill in progress at the Trailer Court Well.



Photo 15: Bentonite chips placed within the top fifteen feet of well casing at the Trailer Court Well.



Photo 16: Cement cap placed to complete the backfilling of the Trailer Court Well.



Photo 17: Bentonite chips placed on top of the cement cap at the Trailer Court Well.



Photo 18: Location of the Trailer Court Well after the excavation around the well was backfilled.



Photo 19: Bentonite chips placed within the top fifteen feet of well casing at well M-2.



Photo 20: PVC cap glued on top of the well casing at well M-2.



Photo 21: Bentonite chips placed on top of the PVC cap at well M-2.



Photo 22: Location of well M-2 after the excavation around the well was backfilled.



Photo 23: Backfill in progress at well M-1.



Photo 24: Bentonite chips placed within the top fifteen feet of well casing at well M-1.



Photo 25: PVC cap glued on top of the well casing at well M-1.



Photo 26: Bentonite chips placed on top of the PVC cap at well M-1.



Photo 27: Location of well M-1 after the excavation around the well was backfilled.



Attaciii	nent to and part of Report:	
Date:		
To:		

Important Information About Your Geotechnical/Environmental Report

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.



A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the GBA, Silver Spring, Maryland