PROTEST

PROTEST FEE PAID

\$15.00 21-03522

Fee Rec'd BY: ONLINE

June 22, 2021

Protestant: Pineview West Water Company

c/o Jonathan Clyde

201 South Main Street, Suite 2200

Salt Lake City, UT 84111

RE: Protest of Exchange Application E6192

A hearing is requested.

Please see attached correspondence.

Jonathan Clyde

Enclosure

RECEIVED

JUN 22 2021 WATER RIGHTS ONLINE



ONE UTAH CENTER • THIRTEENTH FLOOR 201 SOUTH MAIN STREET, SUITE 1300 SALT LAKE CITY, UTAH 84111-2216 TEL 801.322.2516 • FAX 801.521.6280 clydesnow.com

RODNEY G. SNOW STEVEN E. CLYDE EDWIN C. BARNES NEIL A. KAPLAN◊ D. BRENT ROSE J. SCOTT HUNTER DEAN C. ANDREASEN ANNELI R. SMITH WALTER A. ROMNEY, JR. MATTHEW A. STEWARD CHRISTOPHER B. SNOW¢¤ WAYNE Z. BENNETT BRIAN A. LEBRECHT¤ TIMOTHY R. PACK JAMES W. ANDERSON DIANA L. TELFER SHANNON K. ZOLLINGER EMILY E. LEWISπ KEITH M. WOODWELL SHAUNDA L. MCNEILL¤

JONATHAN S. CLYDE≈ VICTORIA B. FINLINSON LAURA D. JOHNSON TAYMOUR B. SEMNANI TRENTON L. LOWE KATHERINE E. PEPIN JOSEPH D. WATKINS• KODY L. CONDOS MEREDITH I MONEY

OF COUNSEL: THOMAS A. BRADY T. EDWARD CUNDICKO REAGAN L.B. DESMOND≈¤ CLARK W. SESSIONS‡ PETER STIRBA JAKE TAYLORA NATHAN B. WILCOX

EDWARD W. CLYDE (1917-1991)

- **‡ SENIOR COUNSEL**
- ALSO ADMITTED IN ARIZONA
 ALSO ADMITTED IN CALIFORNIA
 ALSO ADMITTED IN DISTRICT OF COLUMBIA
- A ALSO ADMITTED IN FLORIDA
- Ø ALSO ADMITTED IN NEW YORK ≈ ALSO ADMITTED IN OREGON
- Ω ALSO ADMITTED IN TEXAS

 π ALSO ADMITTED IN WYOMING

June 22, 2021

Ms. Teresa Wilhelmsen State Engineer Utah Division of Water Rights 1594 West North Temple, Suite 220 P. O. Box 146300 Salt Lake City, UT 84114

> Re: **Protest to Exchange Application E6192 (35-13915)**

Dear Ms. Wilhelmsen:

This letter of protest is submitted on behalf of Pineview West Water Company ("Protestant") the owner of a number of water rights located in the vicinity of the proposed place of use and point of diversion the exchange application filed by Crimson Ridge Water Company ("Applicant"). Protestant owns groundwater rights in the immediate area identified as E4625, 35-1875, and 35-7263 (a27794). These water rights all draw water from underground wells that are located in close proximity to the proposed point of diversion. Therefore, Protestant has standing to protest the above referenced change application, filed by Applicant.

The requested exchange (E6192) involves a portion of a Bureau of Reclamation water right, contracted to the Weber Basin Water Conservancy District. The proposed exchange would allow the diversion of 30 acre-feet from an underground well(s), with a corresponding amount of water released from Pineview Reservoir. This Exchange Application must be rejected for the following reasons:





1. The Proposed Exchange Will Not Result in a Release That Compensates for the Diversion at the Proposed Place of Diversion:

The proposed exchange seeks to move both the point of diversion and place of use from Pineview Reservoir to a well located to the West of the reservoir. The point of diversion would change from a surface source to an underground well. This area is already fully appropriated and there is no unappropriated water available in the source to accommodate a change such as this. The Division of Water Rights Policy for Area 35 indicates that:

"Exchange applications will continue to be considered on their own merit. New water diversions, based on exchange applications, will be permitted for projects where there is water available in the proposed source that can be diverted without impairing the existing rights on the source, and where water can be released under the exchange to replace water for downstream rights." *See* Policy for Area 35.

Additionally, pursuant to Utah Code 73-3-20(1), an exchange application allows:

"[A]ny appropriated water may ... be turned from the channel of any stream or any lake or other body of water, into the channel of any natural stream or natural body of water or into a reservoir constructed across the bed of any natural stream, and commingled with its waters, and a <u>like quantity less the quantity lost by evaporation and seepage may be taken out, either above or below the point where emptied into the stream, body of water or reservoir"</u> (emphasis added).

In order to be approved, the exchange must allow a like quantity of water to be released to the same source of water as the new diversion. A change in the point of diversion to a location upstream from the point of exchange cannot satisfy these requirements.

In this case, the proposed withdrawal is located at a point (or points) above the point of release from Pineview Reservoir, some 700 to 800 feet above the reservoir's high-water mark. As such, a release from Pineview Reservoir would not result in a successful exchange of water. Rather, the planned exchange would simply increase the amount of water in the Ogden River below the dam. Protestant's water rights impacted by the proposed diversion would not be made whole by the exchange, nor would the exchange offset the new diversion from the aquifer. This exchange should be denied, as it will not accomplish the requirements for the exchange.

2. The Proposed Change Would Impair Protestant's Water Rights: The proposed exchange seeks to establish a point of diversion that is approximately 850 feet from the point of diversion for the Protestant's senior water rights.1 Additionally, Protestant has a surface diversion that is located only 420 feet away from the proposed well. The well that that is the

_

¹ The exchange contemplates 3 additional points of diversion that would potentially be drilled and utilized if the existing POD (#1) does not provide sufficient water. These points of diversion are all located in close proximity to the Protestant's wells and, given the proximity, are also likely to impair the Protestant's water rights.



proposed diversion point was drilled to a depth of 1005 feet and, during testing, exhibited significant drawdowns (See attached well log 2035005M00). The Protestant's well is only 504 feet in depth and is very likely to be impacted by diversions from Applicant's new well (See attached well log for 97-35-005-R-01).

In recent years, Protestant has been involved in lengthy litigation regarding claims of well interference in the area. The proliferation of wells in this area has generated (and encouraged) interference claims independent from the impacts of the significant drought. Approval of this application would further complicate an already confusing situation. At full operation, the drawdown from the proposed well has a very high likelihood of impairing Protestant's water rights. As shown on the well log for the proposed point of diversion, a brief 6-hour pump test resulted in 424.5 feet of drawdown. The Protestant has senior water rights with nearby points of diversion, and those rights are likely to be impaired by this new diversion. It is the Applicant's burden to show that impairment will not occur, a burden that has not been met here.

3. Applicant Cannot Mitigate Any Impairment: Based upon a quick review of the files of the Division of Water Rights, Applicant owns no other water rights in the area that could be used to off-set the adverse impacts to Protestant's, or others, vested water rights. Likewise, the proposed exchange would not replace any withdrawn water. Accordingly, the application fails to meet the statutory criteria for approval under Utah Code Ann. §73-3-3 and §73-3-8, and the State Engineer must reject the exchange application.

Protestant requests a hearing on its Protest.

Very truly yours,

CLYDE SNOW & SESSION P.C.

Jonathan S. Clyde

WELL DRILLER'S REPORT State of Utah Division of Water Rights For additional space, use "Additional Well Data Form" and attach

andaras suma assuma as a suma a					
Well Identification		ell: 2035005M00			WIN: 444101
		EII: 2033003M00			
110		Properties, LLC rth n 84014			
		Contact Person	/Engineer: Ne	eil Burk, Lo	oughlin Water Assoc., 801-541-4426
Well Location No	te any changes				
N 92 W 1019	from the S4 of	corner of section	03, Towns	ship 6N,	Range 1E, SL B&M
Location Description	n: (address nroxim	ity to buildings, landmarks	s oround eleva	tion local w	ell #)
Drillers Activity					
Check all that apply:	Start Date: Jul				September 21, 2020 f Use: Public Water System
					feet east/west of the existing wel
DEPTH (feet)	BOREHOLE	DRILLING	METHOD		DRILLING FLUID
FROM TO 159	DIAMETER (in) 22	Conventional mud-			DRILLING FLOID
159 1005	14.75	Flooded reverse circ			Water, bentonite and polymer
/ 17 1	P UNCONSOL R C S S G A M L L A R A L L A R C E L C C C C C C C C C	IDATED CONSOLIDATED C B O O O T B U H B L E L D R ROCK TYPE S R	COLOR	grain comp	DESCRIPTION AND REMARKS ive %, grain size, sorting, angularity, bedding, position density, plasticity, shape, cementation, y, water bearing, odor, fracturing, minerology, gree of weathering, hardness, water quality, etc.)
FROM 10	High Low			SEE ATT	ACHED LITHOLOGIC LOG
					RECEIVED
					SEP 2 8 2020
					WATER RIGHTS SALT LAKE
Static Water Level					
Date August 27 Method of Water L Point to Which Wa	, 2020 Level Measurement Iter Level Measurer	nent was Referenced gro	If Flowin	ng, Capped F	PressurePSI

FROM TO STEEL STATE OF STATE O	DEPTH	1 (CACINIC	***************************************		DEDTI	(Cast)	[Vecpers F	DED COD ATLONIC	FIODEN POTEON
FROM TO MAINTENANCE 1982 1982 1983 1984 1985 1984 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 1985 19		(feet)		CASING TYPE			DEPTH	(leet)	SCREEN SLOT SIZE	SCREEN DIAM.	
Steel production casing 0.250 8	FROM	ТО	N	AND MATERIAL/GRADE			FROM	ТО			
Note Head Configuration: 150 b. flange and blind flange with 2" pipe plug	0	159	Steel s	urface casing	0.250	18	690	991	0.100	8	Ful Flo Louve
Perforator Used	+2	690	Steel p	roduction casing	0.250	8					
As a Surface Seal Installed? X Yes No Depth of Surface Seal: 446 feet Drive Shoc? Ves X No Intrace Seal Material Placement Method: Tremie pipe and grout pump Vas a temporary surface casing used? Ves X No If yes, depth of casing feet diameter inches DEPTH (feet) SURFACE SEAL / INTERVAL SEAL / FILTER PACK / PACKER INFORMATION SEAL MATERIAL, FILTER PACK Quantity of Material Used of applicable of applicable of disapplicable of the styles. A page may pail/sack etc. O 159 Neat cement grout around surface casing 195 cubic feet 15.3 lbs/gal O 436 Neat cement grout around production casing 418 cubic feet 15.3 lbs/gal 436 446 Bentonite plug around production casing 8 cubic feet on top of gravel pack NetI Development and Well Yield Test Information DATE METHOD YIELD Check One (fit) PUMPED (this Ministry) (fit) Check One				lb. flange and bli	nd flang	e with 2"				Port Provided? XXY	es 🗆 No
Tremie pipe and grout pump Cas a temporary surface casing used? □Yes □Xivo If yes, depth of casing:				ov. □No	Donth of C	urfaca Saal:				w? TVos IVNo	
Value Constant-rate pumping test Value Val					-			icci	DINE SIN	oc. Lites talko	
SEAL MATERIAL, FILTER PACK and PACKER TYPE and DESCRIPTION TO 159 Neat cement grout around surface casing 195 cubic feet 15.3 lbs/gal # rag mix, gal./sack. etc. of the plug around production casing 418 cubic feet 15.3 lbs/gal 436								et d	iameter:	inches	
FROM TO and PACKER TYPE and DESCRIPTION (if applicable) (lbs./gal. # bag mix. gal./sack etc.) 0 159 Neat cement grout around surface casing 195 cubic feet 15.3 lbs/gal 0 436 Neat cement grout around production casing 418 cubic feet 15.3 lbs/gal 436 446 Bentonite plug around production casing 8 cubic feet on top of gravel pack Vell Development and Well Yield Test Information DATE METHOD YIELD Check One GPM CIS (fit) (hrs. & min) 8/10/20 Step-rate pumping test 46 to 87 X 424.5 6 hrs 8/27-28/20 Constant-rate pumping test 70 X 610.33 31 hrs ump (Permanent) M/A Horsepower: Pump Intake Depth: [cet proximate Maximum Pumping Rate: Well Disinfected upon Completion? Yes No on ments Description of construction activity, additional materials used, problems encountered, extraordinary	DEPTH	(feet)		SURI	ACE SEA	AL/INTER	VAL SEA	L/FILT	ER PACK / PA	CKER INFORM	IATION
Neat cement grout around surface casing 195 cubic feet 15.3 lbs/gal 186	FROM	ТО								4	
Neat cement grout around production casing 418 cubic feet 436 446 Bentonite plug around production casing 8 cubic feet 9 on top of gravel pack 9 On to	0	159	Neat ce	ement grout arou	ınd surfa	ace casing	3			15.3 lbs/	gal
on top of gravel pack Vell Development and Well Yield Test Information	0	436	Neat ce	ement grout arou	ınd proc	luction ca	sing	418 (ubic feet	15.3 lbs/	gal
Vell Development and Well Yield Test Information YIELD Check One DRAWDOWN (fi) PUMPED (thrs & min)	436	446	Benton on top	Bentonite plug around production casing					ubic feet		
DATE METHOD YIELD Check One OF DRAWDOWN (fit) TIME PUMPED (hrs & min) 8/10/20 Step-rate pumping test 46 to 87 X 424.5 6 hrs 8/27-28/20 Constant-rate pumping test 70 X 610.33 31 hrs ump (Permanent) ump Description: N/A Horsepower: Pump Intake Depth: feet pumping test Well Disinfected upon Completion? Yes No forments Description of construction activity, additional materials used, problems encountered, extraordinary											
METHOD METHOD YIELD Check One GPM CFS (fi) PUMPED (hrs & min) 8/10/20 Step-rate pumping test 46 to 87 X 424.5 6 hrs 8/27-28/20 Constant-rate pumping test 70 X 610.33 31 hrs Pump (Permanent) Pump Description: N/A Horsepower: Pump Intake Depth: feet Approximate Maximum Pumping Rate: Well Disinfected upon Completion? Yes No Comments Description of construction activity, additional materials used, problems encountered, extraordinary	Vell Dev	elopme	ent and Well	Yield Test Informa	tion						
Constant-rate pumping test 70 X 610.33 31 hrs Pump (Permanent) Pump Description: N/A Horsepower: Pump Intake Depth: feet Approximate Maximum Pumping Rate: Well Disinfected upon Completion? Yes No Comments Description of construction activity, additional materials used, problems encountered, extraordinary		T		METHOD			Y	IELD	Check One		PUMPED
tump (Permanent) ump Description: N/A Horsepower: Pump Intake Depth: feet spproximate Maximum Pumping Rate: Well Disinfected upon Completion? Yes No Comments Description of construction activity, additional materials used, problems encountered, extraordinary	DAT	TE						0.87	X	1215	6.1
ump Description: N/A Horsepower: Pump Intake Depth: feet approximate Maximum Pumping Rate: Well Disinfected upon Completion? Pee No Comments Description of construction activity, additional materials used, problems encountered, extraordinary			Step-rate p				46 t	00/		424.3	6 hrs
pproximate Maximum Pumping Rate: Well Disinfected upon Completion? Yes No	8/10/20	0		oumping test				087	X		
Comments Description of construction activity, additional materials used, problems encountered, extraordinary	8/10/20 3/27-28	3/20	Constant-r	oumping test			70			610.33	31 hrs
	8/10/20 8/27-28 Pump (Pe	3/20 rmane	Constant-r	oumping test ate pumping test			70 _ Horsepo	wer:	Pui	610.33	31 hrs
Circumstances, abandonment procedures. Use additional well data form for more space.	8/10/20 3/27-28 ump (Pe	3/20 rmane	Constant-r	oumping test ate pumping test			70 _ Horsepo	wer:	Pui	610.33	31 hrs
	8/10/20 3/27-28 ² ump (Pe tump Des	3/20 crmane criptio	ent) n: N/A eximum Pump	oumping test ate pumping test oing Rate:	. additional	materials used	70 Horsepo Well D	wer:	Pured upon Compled, extraordinary	610.33	31 hrs
	8/10/20 3/27-28 tump (Pe ump Des	3/20 crmane criptio	ent) n: N/A eximum Pump	oumping test ate pumping test oing Rate:	. additional	materials used	70 Horsepo Well D	wer:	Pured upon Compled, extraordinary	610.33	31 hrs
	8/10/20 3/27-28 ² ump (Pe tump Des	3/20 crmane criptio	ent) n: N/A eximum Pump	oumping test ate pumping test oing Rate:	. additional	materials used	70 Horsepo Well D	wer:	Pured upon Compled, extraordinary	610.33	31 hrs
	8/10/20 8/27-28 Pump (Pe Pump Des	3/20 crmane criptio	ent) n: N/A eximum Pump	oumping test ate pumping test oing Rate:	. additional	materials used	70 Horsepo Well D	wer:	Pured upon Compled, extraordinary	610.33	31 hrs
	8/10/20 3/27-28 ump (Pe ump Des pproxim	o s/20 criptio ate Ma	Constant-roment) n: N/A eximum Pump Descriptic Circumsta	oumping test ate pumping test oing Rate: on of construction activity ances, abandonment proc	, additional edures. <i>Use</i>	materials used additional we	Horsepo Well D d, problems of data form	wer:	Pured upon Compled, extraordinary opace.	np Intake Depth:	31 hrs
and this report is complete and correct to the best of my knowledge and belief.	8/10/20 8/27-28 Sump (Peump Des	o :: s/20 ermane criptio ate Ma	constant-rangement) n: N/A eximum Pump Descriptic Circumsta	oumping test ate pumping test oing Rate: on of construction activity ances, abandonment proc	, additional edures. <i>Use</i>	materials used additional we	Horsepo Well D d, problems of data form	wer:	Pured upon Compled, extraordinary space.	np Intake Depth:	31 hrs
This well was drilled and constructed under my supervision, according to applicable rules and regulations, and this report is complete and correct to the best of my knowledge and belief. License No. 568 1 Date 9/23/20	8/10/20 8/27-28 ump (Pe ump Des pproxim	o :: s/20 ermane criptio ate Ma	cent) n: N/A eximum Pump Descriptic Circumsta	oumping test ate pumping test oing Rate: on of construction activity ances, abandonment process is well was drilled and conditions the complete and this report is complete and the complete	, additional edures. <i>Use</i>	materials used additional we	Horsepo Well D d, problems of data form	wer:	Pured upon Compled, extraordinary space.	np Intake Depth: etion?	31 hrs feet

De	pth	Geologic	Pagailation
From	То	Unit	Description
0	5		Alluvium - 70% brown-dark brown clay and 30% gray gravel
5	10		Moderate brown clay with trace angular tan quartzite gravel
10	15		Light brown clay with trace angular gravel up to 10mm in diameter
15	20	(Qms)	90% Light brown to light gray clay with 10% trace angular coarse sand and fine gravel
20	25		65% Light brown to light gray clay with 35% trace angular coarse sand and fine gravel
25	30	posits	50% Light brown to light gray clay with 50% trace angular coarse sand and fine gravel
30	40	ent de	40% Light brown clay and 60% gravel
40	45	Quarternary mass-movement deposits (Qms)	60% Light brown clay with course sand and 60% fine gravel
45	50	mass-I	60% Light greenish-gray to light brown clay and 40% gravel
50	60	ernary	30% Light brown with trace greenish-gray clay and 70% gravel
60	70	Quarte	20% Light brown with trace greenish-gray silty clay and 80% gravel
70	75		10% Light brown with trace greenish-gray silty clay and 90% gravel
75	80		Volcanic coarse sand to gravel sized clasts with trace light brown silty clay
80	95		80% volcanic coarse sand to fine gravel with 20% light brown silt
95	100		75% coarse gravel (dark red to light tan) with 25% brown silty clay
100	105		80% coarse gravel (dark red to light tan) with 20% brown silty clay
105	110		50% gravel and sand with light greenish-gray to light brown clay
110	125		85% coarse gravel and sand with 15% brown silty clay
125	130		70% coarse gravel and sand with 30% brown silty clay
130	135		80% light greenish-gray clay with 20% cobble clasts
135	140		90% light greenish-gray clay with 10% cobble clasts
140	150	(£)	80% light greenish-gray clay with 20% cobble clasts
150	155	Norwood Formation (Tn)	70% light gray silty tuff with 30% light greenish-gray clay and trace moderate brown gravel
155	160	ood Fc	75% light gray silty tuff and 25% light gray-green clay
160	170	No.₹	60% light gray tuff and 40% light tan sandy tuff
170	175		90% light gray tuff and 10% light tan sandy tuff
175	185		Light gray silty tuff
185	195		70% greenish-gray sandy tuff with 30% light gray silty tuff
195	200		70% greenish-gray sandy tuff with 30% light gray-tan silty tuff
200	210		80% light gray sandy tuff and 20% sticky gray clay
210	220		80% light greenish-gray to light tan sandy tuff with 20% sticky gray clay

	pth	Geologic	Description
From	To	Unit	·
220	225		Light greenish-gray sandy tuff with sticky gray-yellow clay
225	245		Sticky gray tuffaceous clay with trace light tan angular sand
245	250		80% sticky gray tuffaceous clay with 20% tan-brown-red coarse sand-gravel clasts
250	255		60% sticky gray tuffaceous clay with 40% tan-brown-red coarse sand-gravel clasts
255	265		Stiff sticky gray clay with trace fine gravel
265	280		Light gray sandy tuff with sticky gray clay and trace coarse sand
280	300		Light gray sandy/silty tuff with sticky gray clay
300	315		Light gray sandy tuff with sticky gray clay and trace coarse sand
315	320		Light gray sandy tuff with sticky gray clay and trace fine gravel
320	325		60% light gray sandy tuff with sticky gray clay and 40% gravel
325	330		50% angular quartzite gravel (black-brown) and 50% light gray sandy tuff
330	345		60% angular quartzite gravel (black-brown) and 40% light gray sandy tuff
345	350		75% angular quartzite gravel (black-brown) and 25% light gray sandy tuff
350	355	Ĺ	60% angular quartzite gravel (black-brown) and 40% light gray sandy tuff
355	385	ation (T	50% angular quartzite gravel (black-brown) and 50% light gray sandy tuff
385	390	Forms	Gray-green plastic tuffaceous clay with trace gravel and silt
390	400	Nowood Formation (Tn)	Gray-green plastic tuffaceous clay with trace tuff clasts and silt
400	405	ž	Light gray with green-gray-brown sandy plastic clay
405	420		Green-gray-brown sandy stiff plastic clay
420	430		Green-gray silty stiff clay with trace light brown clay
430	440		Green-gray silty stiff clay with trace light brown clay and gravel
440	450		Gray-brown stuff silty clay with some soft plastic clay
450	465		Gray-brown-green stuff silty clay with some soft plastic clay
465	470		Gray-brown-green stuff silty clay with some soft plastic clay and trace gravel
470	475		Light gray-brown clay with some light gray-green sandy clay and trace gravel
475	500		Light gray-green sandy clay with trace gravel
500	525		Gray-green stiff sandy clay with some soft plastic clay and trace gravel
525	535		Green-gray silty plastic clay
535	545		Green-gray silty plastic clay with some light brown stiff clay
545	560		Light green-gray silty stiff clay
560	575		Light green-gray silty stiff clay with trace tuffaceous fragments

	pth	Geologic	Description
From	То	Unit	•
575	580		Light green-gray with some light brown silty stiff clay with trace tuffaceous fragments
580	600		Light brown-green-gray stiff silty clay
600	605		Light gray stiff sandy/silty clay with trace angular quartzite fine gravel
605	620	Norwood Formation (Tn)	Light gray stiff silty clay
620	625		90% Light gray stiff silty clay and 10% quartzite fine gravel
625	655	Form	Light gray stiff silty clay
655	660	poowo	Light gray stiff silty clay with trace quartzite clasts
660	665	ž	Light gray-green sandy clay
665	670	-	Light gray sandy clayey tuff with trace quartzite clasts
670	680		Light gray-green sandy tuff with stuff clay and trace angular coarse sand
680	690		Light gray-green sandy tuff with stuff clay
690	700		80% red sticky sandy clay and 20% quartzite gravel (1-2 cm diameter)
700	705	Q	Orange-pink-yellow silty coarse sand with quartzite clasts
705	715	Fault Zone	Orange-pink silty sand with fine quartzite gravels
715	720	Ē.	Orange-pink sandy clay with trace fine quartzite gravel
720	730		Light pink stiff clay with some sand and trace quartzite coarse sand
730	735		75% white-tan-dark brown quartzite gravel with 25% pink-tan sandy clay
735	740		90% white-tan-dark brown quartzite gravel with 10% pink-tan sandy clay and trace argillite clasts
740	750	<u> </u>	Light tan to brown quartzite with dark argillite clasts
750	755	(Zmcg	90% tan to brown quartzite with 10% iron stained argillite
755	760	mation	Glassy light tan to tan quartzite with some green-gray and trace dark gray argillite
760	765	on For	Light gray to yellow clay with dark gray fine grained argillite with moderate gray quartzite
765	770	Cany	50% light gray quartzite and 40% tan to moderate brown quartzite and 10% gray-tan quartzite
770	780	Maple	Gray-tan-brown fine gravel quartzite
780	790	r of the	85% tan to light gray quartzite with 15% glassy gray quartzite
790	795	/embe	Gray-brown glassy quartzite with lesser amounts dark gray quartzite
795	800	kose N	Light tan to brown quartzite with dark argillite clasts and trace white sandy clay
800	805	Green Arkose Member of the Maple Canyon Formation (Zmcg)	50% light tan-brown quartzite and 50% dark brown argillite with trace white sandy clay
805	830	Ö	Tan-brown quartzite and dark brown argillite with some white sandy clay
830	835		Tan-white-brown quartzite and argillite with trace off white-light red sandy clay
835	840		Tan-white-brown quartzite and argillite with ~10% off white-light red sandy clay

	pth	Geologic	Description
From	То	Unit	Description
840	850		Light tan-brown quartzite and argillite with 5-10% off white clay
850	855		Light tan-brown quartzite and argillite with 10-15% off white clay
855	860		Green-white-tan-brown quartzite with argillite and off white-red sandy clay
860	865		Light tan-brown quartzite with argillite and trace off white-red sandy clay
865	875		Light tan-brown quartzite with argillite with some off white-red sandy clay
875	880		50% Light tan-brown quartzite with argillite and 50% off white-red sandy clay
880	890		50% argillite with trace light tan-gray quartzite and 50% silty clay
890	895		60% light tan-white quartzite and argillite with 40% off white silty clay
895	900	mcg)	50% quartzite and argillite with 50% off white-light red silty clay
900	905	Green Arkose Member of the Maple Canyon Formation (Zmcg)	80% dark gray argillite with 15% reddish-gray and 5% light brown silty clay
905	910	Forma	75% light-red to gray clay with 25% dark argillite and trace quartzite
910	915	anyon	90% tan quartzite with 10% white clay
915	920	aple C	60% off white clay with ~40% argillite and quartzite
920	925	f the M	70% light-gray to pale-red clay with ~30% gray argillite and tan quartzite
925	930	nber o	80% light-gray and pale-red clay with 20% gray sandy quartzite
930	935	se Mer	70% light gray clay with 20% dark gray argillite and 10% light-gray quartzite
935	940	n Arko:	70% dark gray argillite and 20% light brown-gray clay with 10% light moderate brown quarzite
940	945	Gree	70% light gray quartzite and 25% pale-reddish-brown clay and ~5% dark gray argillite
945	950		75% white to brown quartzite with 25% white sandy clay
950	955		80% light-gray to pale-reddish-brown clay with 20% moderate gray quartzite
955	960		60% pale-reddish-brown clay with 30% moderate gray quartzite and 10% dark gray argillite
960	970		70% tan to light brown clay with 30% white to light-brown quartzite
970	980		75% tan to light-brown clay with 25% white to light-brown quartzite
980	985		60% fine angular quartzite gravel with tan to reddish sandy clay
985	990		70% light green-gray and reddish silty clay with 30% fine angular quartzite gravel
990	1005		80% light green-gray and reddish silty clay with 20% fine angular quartzite gravel

Notes:

Logged by Neil Burk, P.G., John Brown, P.G. and Greg Gavin, G.I.T. of Loughlin Water Associates, LLC

WELL DRILLER'S REPORT

State of Utah
Division of Water Rights
PROV For an Artificial 27-35-29.95-28-29.5

Well Identification	on l	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		CII Data I	orm" and any of EVED
Th. 10	 Edward E.				All 1998
Owner Note any c	ிழ்த் Conne Salt Lake	ecticut Dr. City, UT 8410)3		NOV 2 0 1998 WATER RIGHTS SALT LAKE
ell Location No	MARTHINA OO	Contact Per	son/Engineer:		
CH Location	SECTION 3	TOWNSHIP 6N	reet f , RANGE	rom the	SW Corner of B&M.
cation Description	n: (address, proximit	ty to buildings, landmarks, į	ground elevatio	n, local well #	f)
rillers Activity	Start Date:	et 1-97	· · · · · · · · · · · · · · · · · · ·		
eck all that apply: New		ndon Replace Publi			Date: 19 30 - 98
EPTH (feet) ROM TO	BOREHOLE DIAMETER (in)	DRILLING		7777	DRILLING FLUID
0 100	15"	Mud Rotary	,		
0 240	//"				Benjonite
504	82"	N it			11
EPTH (fect) ROM TO	A	LIDATED CONSOLIDATED C B O O O T B U H B L E L D R E E S R	COLOR	(incl	DESCRIPTIONS AND REMARKS ude comments on water quality if known.)
9 2		*	Black	Top S	011
32	X X	XX	white	2" 6	8"Rock + Shale
2 49		X	Brown		
9 63 X	X		Brown	Shale	
100		X	Bush	White C	lay + Brown shale
190 x		X	Brown	Shale	(
8 504 X	X		witte	Shale Busine +	(Water) 184 to 495 (Water) While green shale
				constant V	- Jane
c Water Level					

Static Water Level		
Date Jept 30 - 98 Water Lev	elfeet Flowing?	☑ Yes □ No
Method of Water Level Measurement	If Flowing, Capped Pressure	PSI
Height of Water Level reference point above ground surface	feet Temperature	□°C F°F

Well Log

		nation							1		
DEPTH	(feet)			CASING			DEPTH	(feet)	SCREE		DRATIONS []
FROM	то		CASING AND MATERIAL		WALL THICK (in)	NOMINAL DIAM. (in)	FROM	ТО	SLOT SIZE OR PERF SIZE (in)	SCREEN DIAM. OR PERF LENGTH (in)	SCREEN TYPE OR NUMBER PERF (per round/interval)
+3'	240	PVC	Well	Casing	Sk3 80	8"	240	260	.050	6"	PVC SKI
240	502	11	11		Kd 80	6"	300	502	.050	6"	PVC SKI
Well He	ad Config	guration:	w.	ell Se	4	Perforator	· Used:		cess Port Pro	vided? ØYes	□ No
DEPTH	(feet)								NMENT MAT		
FROM	ТО			MATERIAL, and/or PACK	ER DESCRIP	TION		(if	of Material Use applicable)	(lbs./gal.,# bag	T DENSITY mix, gal./sack etc.)
0	100	12 6	say 1	nix G	rout	Punpe	d Fin	n bolt	im to T	ip /2	bag Mix
Well De	evelopmen	nt / Pump		Tests			Y	ïeld	Units Check One GPM CFS	DRAWDOWN (ft)	TIME PUMPED (hrs & min)
Dat	te		Me	thod	er inith	L A IR	Y		Check One GPM CFS	l .	PUMPED
Dat	te		Me		es with	L A ir	Y		Check One	l .	PUMPED (hrs & min)
Dat	-98	Bail	Me	Jupin	es with	(A ir	Y		Check One GPM CFS	l .	PUMPED (hrs & min)
Dat Aug 10 to supt 30	-98 3-98	Bail Dis	Me	Jupin	es with	(A ir	Y		Check One GPM CFS	l .	PUMPED (hrs & min)
Date 10 Sept 30 Pump (Po	te -98 5-98 ermanent Description	Bail Test	Me sing / y ICC pungu	ithod Suyping ing 03/Fran	ıKLı2		y y		Check One GPM CFS A 40	l .	PUMPED (hrs & min) /6/ how s To Tak
Dat Aug 10 Sept 30 Pump (Po Pump D	te -98 3-98 ermanent Description imate ma	Bail Test in: See a simum p	Me	ing 03/Fran ate: 40	IKLIZ GPM	Horsep	power:nfected up	A7	Check One GPM CFS W Lo 40 Pump Intak letion?	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) /6/ how Total
Date of the part 30 Pump (Per Pump D. Approx.)	ermanent Description	Bail Test in: See a simum perintion of	Me fing / fing / funge and Financial construct construct	ing 03/Fran rate: 40	KLIN GPM	Horsep Well disin	power:nfected up	17 on comp	Check One GPM CFS Lo Lo Lo Pump Intak letion?	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) /6/ how To Tak
Date of the part 30 Pump (Per Pump D. Approx.)	ermanent Description	Bail Test in: See a simum perintion of	Me fing / fing / funge and Financial construct construct	ing 03/Fran ate: 40	KLIN GPM	Horsep Well disin	power:nfected up	17 on comp	Check One GPM CFS Lo Lo Lo Pump Intak letion?	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) 161 how To Tak
Dat Aug 10 Supt 30 Pump (Po Pump D	ermanent Description	Bail Test in: See a simum perintion of	Me fing / fing / funge and Financial construct construct	ing 03/Fran rate: 40	KLIN GPM	Horsep Well disin	power:nfected up	17 on comp	Check One GPM CFS Lo Lo Lo Pump Intak letion?	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) /6/ how To Tak
Date of the part 30 Pump (Per Pump D. Approx.)	ermanent Description	Bail Test in: See a simum perintion of	Me fing / fing / funge and Financial construct construct	ing 03/Fran rate: 40	KLIN GPM	Horsep Well disin	power:nfected up	17 on comp	Check One GPM CFS Lo Lo Lo Pump Intak letion?	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) /6/ how To Tak
Date of the Pump Date of Approximate of the Pump Date of	ermanent Description	Bail Test ,	Me	cate: 40 ion activity, a ment / proces	GPM additional malures. Use according to the second secon	Horsey Well disinaterials used	power:nfected up, problems !! data form	on compencounter for more	Check One GPM CFS 20 210 Pump Intak letion? ed, extraordina space.	(fi) te Depth: <u>'/3'/</u> Yes	PUMPED (hrs & min) /b/ how To Tak-
Dat Aug 10 Leght 30 Pump (Po Pump D Approxi	ermanent Description imate materials Description circularity Description circu	Bail Test in: Less in:	Me Ing / I CC purpulate awdf cumping r construct abandon This well this repor	was drilled of t is complete	or abandoned and correct	— Horsep Well disinaterials used diditional wear and the distribution of the best of the b	power:nfected up, problems !! data form	on compencounter for more accordingledge and	Check One GPM CFS W W Pump Intak letion? [ed, extraordina space. g to applicable belief.	te Depth: 4/3 4/3 4/3 1/10 1/20 1/20 1/20 1/20 1/20 1/20 1/20	PUMPED (hrs & min) /b/ how To Tak feet