Project No. 1130-01-2011

Multiple Well Effect Analysis of Transfer 75738 and 75739

Prepared for: Matthew Machado

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Buhl, ID 83316

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2016 NORTH WASHINGTON, SUITE 4
TWIN FALLS, IDAHO 83301

EXHIBIT
tabbies 1

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STATE OF IDAHO
CHARLES E. BROCKWAY

Historical Summary

Mathew Machado has purchased 0.15/24.8 CFS/AFA of groundwater right 47-17510, 47-17512 and 47-17514 for irrigation and desires to change the beneficial use of the water to stock and commercial. Transfer 75738 and 75739 were prepared by Stan Haye of Snake River Management and submitted to the Idaho Department of Water Resources October 24, 2008. The transfer was processed and advertised for public notice. A notice of protest was filed by DuWayne Kimball. Mr. Kimball is concerned that if transfers 75738 and 75739 was approved that his water right 47-10987 would be injured.

The proposed points of diversion (POD) identified in transfer 75738 are located in Township 10 South Range 14 East Section 9 NWSW and NWSW for the dairy facility.

The proposed point of diversion (POD) identified in transfer 75529 is located in Township 10 South Range 14 East Section 8 SESE for the heifer facility.

The POD for 47-10987 (Protestant) is located in Township 11 South Range 14 East Section 2 NESW. (See attached Wells Analysis for Transfer Map)

Methodology

The Theis Equation is a standard tool used to analyze the effects of discharge from an aquifer on surrounding wells that may be affected by an increase or decrease in discharge. The effect may be a decrease of the static water level (SWL) within a designated well. The required characteristics of the aquifer needed to utilize the Theis Equation are the hydraulic conductivity (K), transmissivity (T) and the storativity (S). Other variables included in the Theis Formula include radius of analysis, length of time of discharge (T) and discharge rate (Q).

The Theis equation calculates the amount of draw down of the static water level in an aquifer at a designated radius and time with a known discharge rate from the pumped well.

Data Collection

A total of nine well logs (see Wells Analysis for Transfer map) in the Idaho Department of Water Resources database in the area of the protestants POD for 47-10987 and the proposed PODs for transfer 75738 and 75739 were examined (See attached well drillers logs). At the time of drilling of the wells, the drillers performed pump tests and recorded them in the driller's log. These pump tests were performed with an actual pump, by forcing pressurized air in to the well forcing water out, or by bailing the water out to determine how much water is available in the well.

From the nine well logs collected the hydraulic conductivity and saturation depth of the aquifer was estimated. The calculated hydraulic conductivity of 12.1 ft/day for the aquifer (Table 1 attached) was calculated. The 12.1 ft/day hydraulic conductivity is considered conservative for the area. The nine wells are shallow domestic wells which do not give a good representation of aquifer conditions because the wells do not penetrate the entire aquifer.

A model developed by Cosgrove et al. (1997 and 1998) modeled the aquifer under a large portion of Twin County from Murtaugh to Castleford. This model analyzes the steady state and transient state of the aquifer. This model is recognized by the Idaho Department of Water Resources. The minimal hydraulic conductivity that the Cosgrove model uses in the Castleford and Buhl aquifer area is 35.0 ft/day.

The proposed POD for transfer 75738 is approximately 2.4 miles (12,502 feet) from the POD for 47-10987 and transfer 75739 POD is approximately 2.8 miles (14,839 feet) from the POD for 47-10987 (see Transfer Protestant Location map). The estimates are based on protestants domestic residence as identified by Stan Haye (see Well Analysis for Transfer).

Analysis

The analysis of the additional water to be pumped from the aquifer as a result of transfer 75738 and 75739 was performed using both the conservative hydraulic conductivity 12.1 ft/day estimated from area domestic well logs and the hydraulic conductivity 35.0 ft/day used in the Cosgrove model.

The distance from the protestants well to the dairy facility is 2.4 miles. Which was used for analysis of the combined transfer discharge amount of 0.03/24.8 cfs/afa. This will show the maximum amount of possible effect on the protestants well.

Combined total volume proposed for the transfers is 24.8 afa. The 24.8 afa was converted into an average diversion of 0.034 cfs over 365 days. This is the average diversion that could be pumped based at a continuous rate throughout one year without exceeding the proposed volume limit. Transfers 75738 and 75739 are proposing an additional maximum diversion 0.12 cfs that could be legally diverted, but could not be pumped continuously without exceeding the limits set on forth for the water rights. Therefore, the 0.034 cfs was used as the continuous diversion amount in the Theis Model analysis.

A total of five distances from the pumped well were examined. This analysis assumes a constant continual diversion of 0.034 CFS. The first distance at 0.5 ft which represents the radius of the well. The second radius of 100 ft represents a well that is 100 ft from the proposed POD. Similarly, the radius of 2.4 miles represents the POD of the protestants well for 47-10987 in relation to the proposed PODs for both transfers 75738 and 75739. The elapsed time for the analysis is 2.0 years which is equivalent to 740 days of continuous pumping.

When the hydraulic conductivity of 12.1 ft/day was used in the Theis Model analysis the following values of draw down were calculated. At the elapsed time of 2.0 years the SWL at the POD (well) for the dairy is predicted to decrease 2.93 ft. At the elapsed time of 2.0 years the SWL at a radius of 100 ft is predicted to decrease 1.44 ft. At a radius of 1000 ft the decrease is predicted to be 0.79 ft. At a radius of 1mile the decrease is predicted to be 0.33 ft and at the elapsed time of 2.0 years the SWL at the protestants POD for 47-10987 is predicted to decrease 0.12 ft (See Table 2 and Table 2 Continued).

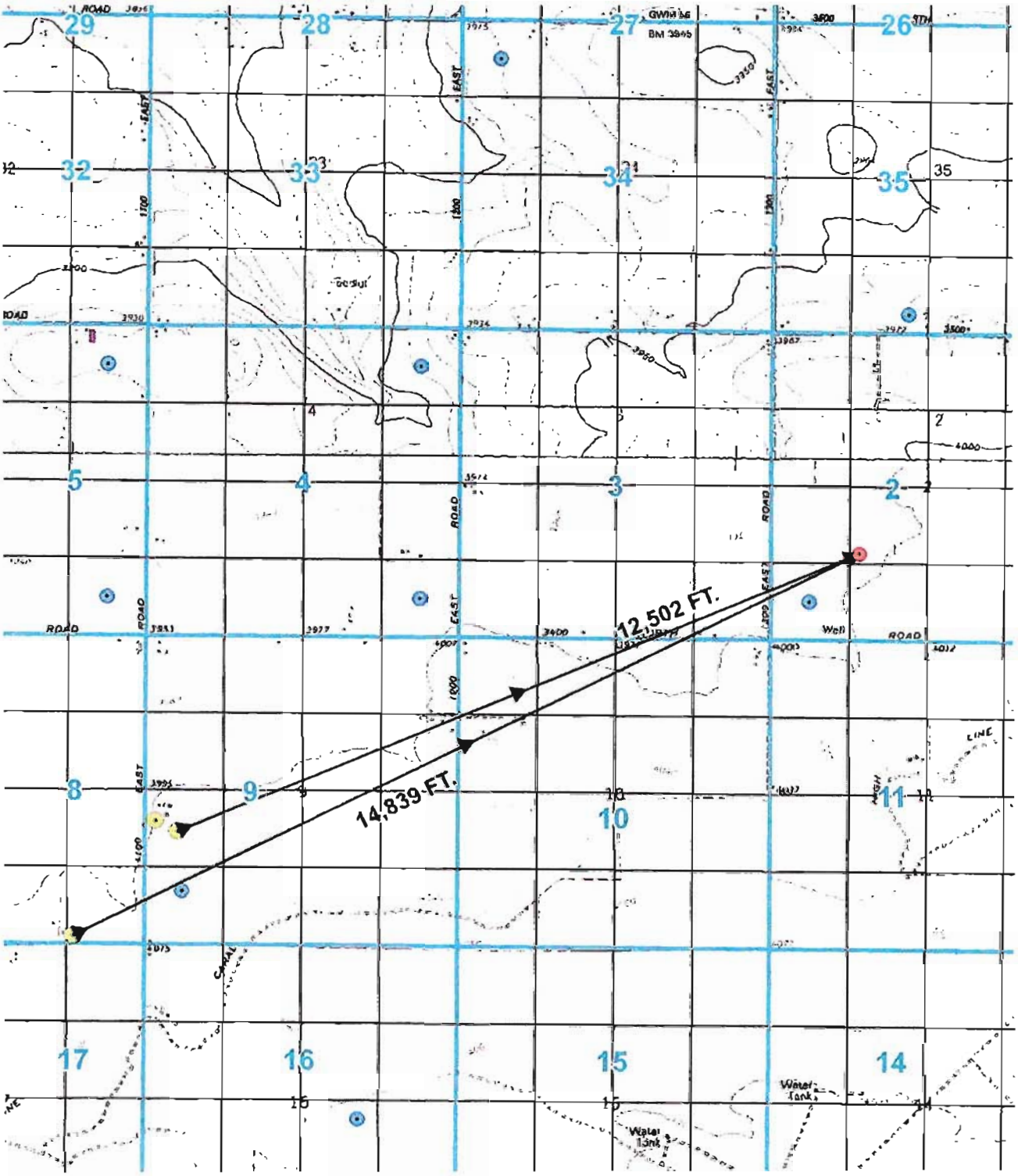
When the hydraulic conductivity of 35.0 ft/day was used in the Theis Model analysis the following values of draw down were calculated. At the elapsed time of 2.0 years the SWL at the POD (well) for the dairy is predicted to decrease 1.07 ft. At the elapsed time of 2.0 years the SWL at a radius of 100 ft is predicted to decrease 0.55 ft. At a radius of 1000 ft the decrease is predicted to be 0.33 ft. At a radius of 1mile the decrease is predicted to be 0.16 ft and at the elapsed time of 2.0 years the SWL at the protestants POD for 47-10987 is predicted to decrease 0.08 ft (See Table 3 and Table 3 Continued).

Conclusion

From this analysis, the 0.12/24.8 CFS/ AFA diversion proposed by Mr. Mathew Machado in transfer 75738 and 75739 will have an impact that will not adversely affect the operation of the protestants well or his ability to provide water for 47-75529.

A maximum decrease in pumping level of 0.12 or 0.08 ft in a domestic well or irrigation well will not be discernable during normal operation. The estimated depth to water in the aquifer at the protestants POD is approximately 190 feet. A maximum change of 0.12 feet will be a 0.06% of decrease of the depth of water in the protestants well. Transfers 75738 and 75739 will not affect the ability of the protestants well to provide the necessary water for 47-75529.

F:\PROJECTS\MACHADO\ARCVIEW 9\TRANSFER PROTESTANT MAP W-SURR WELL.MXD



MACHADO
WELLS ANALYSIS FOR TRANSFER
USGS 1:24,000 TOPOGRAPHICAL

Legend

- 47-10987 Protestant Kimball POD
- Machado POD's
- Sections
- t11s14e
- Wells_for_Analysis
- Distance

N

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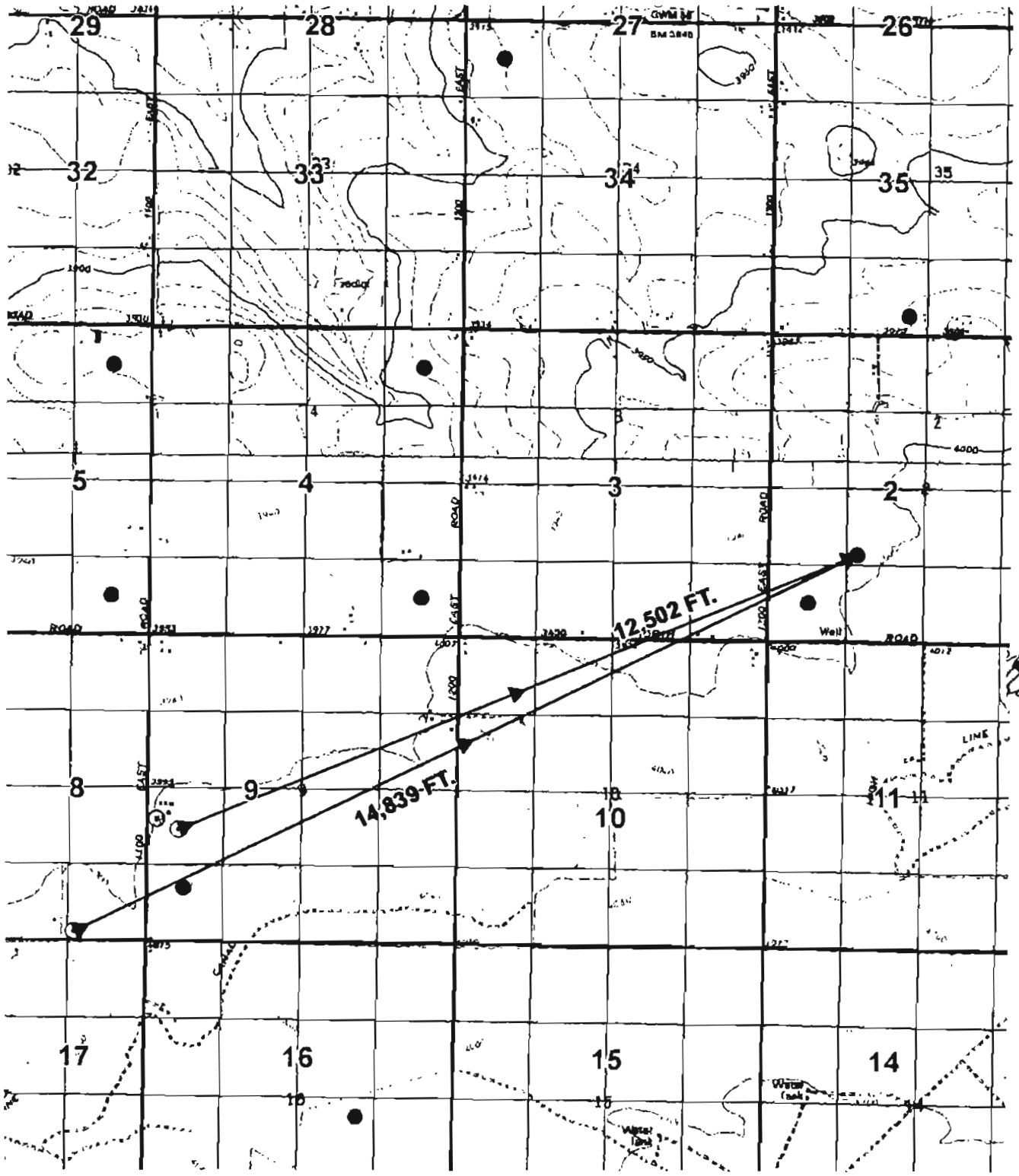
F:\PROJECTS\MACHADO\ARCVIEW\TRANSFER PROTESTANT MAP W-SURR WELL.MXD



MACHADO
WELLS ANALYSIS FOR TRANSFER
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Legend

- 47-10987 Protestant Kimball POD
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Table 1

ESTIMATION OF HYDRAULIC CONDUCTIVITY USING SPECIFIC CAPACITY

Project: Machado Stock and Commercial Well Analysis
Brockway Engineering, PLLC
GWS 4/11/2011

Assumed specific yield 0.01

Well I.D.	SWL (ft)	Bore diam (in)	Pumping rate (gpm)	Pumping duration (hrs)	Pumping WL (ft)	Well Depth (ft)	Saturated Depth (ft)	Drawdown (ft)	Specific Cap (gpm/ft)	Estimated T (ft2/d)* Method 1	Estimated T (ft2/d)* Method 2	Average T from the two methods	Estimated K (ft/d)** Method 1	Estimated K (ft/d)** Method 2	Average K from the two methods	Test Type
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	
James Schroeder	190	6	25	1	273	295	105	83	0.3	52	80	66.0	0.5	0.8	0.6	pump
Robert Schaer	115	6	12	1	135	287	172	20	0.6	103	160	131.5	1.0	1.5	1.3	pump
Jackie West	42	6	15	2	100	235	193	58	0.3	47	69	58.1	0.4	0.7	0.6	pump
Otto Straub	65	6	20	2	75	225	160	10	2.0	364	534	449.0	3.5	5.1	4.3	air
Paul Benko	90	6	25	1	180	187	97	90	0.3	48	74	60.9	0.5	0.7	0.6	air
Bundy Youth Ranch	30	6	10	4	60	96	66	30	0.3	58	89	73.4	0.6	0.8	0.7	pump
Hal Jardine	120	6	120	2	130	260	140	10	12.0	1966	3204	2585.1	18.7	30.6	24.6	bailer
Scott Blick	117	6	30	4	118	300	183	1	30.0	5781	8010	6895.5	55.1	76.3	65.7	pump
Ron Smith	70	6	5	0.5	71	200	130	1	5.0	804	1335	1069.4	7.7	12.7	10.2	bailer
Average	83.2	6.4	29.1	1.9	126.9	231.7	138.4	33.7		1025	1506	1265	9.8	14.3	12.1	

* Method 1: Theis (1963)
Method 2: Thomasson, et al. (1963)
** K = T / b, where b = average saturated depth

Saturated Depth = C6-C1
Drawdown = C5-C1
Specific Capacity = C3/C8
T Method 1 = 0.134*C9*F*(1300-264*LOG(5*C2)+264*LOG(C4/24))
T Method 2 = 267*C9
Average T = AVERAGE(C10,C11)
K Method 1 = C10/C7
K Method 2 = C11/C7
Average K = AVERAGE(C13,C14)

F	
in	
6	1
8	0.9
10	0.8
12	0.7
14	0.6
16	0.5
18	0.4
20	0.3

Hydraulic Conductivity (K)	
Over all Average	12.1
Average excluding high and low values	6.0
Average for only Pump Test values	13.8
Average excluding high and low values	0.9

Transmissivity (T)	
Over all Average	1265
Average excluding high and low values	633.2
Average for only Pump Test values	1444.9
Average excluding high and low values	90.3

Well Drillers Logs

Owner:	Legal
James Schroeder	T10S R14E Sec. 35 SESESW
Robert Schaer	T11S R14E Sec. 2 SWSW
Jackie West	T11S R14E Sec. 9 SWSW
Otto Straub	T11S R14E Sec. 4 NENE
Paul Benko	T11S R14E Sec. 4 SESE
Bundy Youth Ranch	T11S R14E Sec. 16 NENWSE
Hal Jardine	T11S R14E Sec. 5 NENE
Scott Blick	T10S R14E Sec. 34 NWNW
Ron Smith	T11S R14E Sec. 5 SESE

Table 2

Machado Stock and Commerical Well Analysis

Well Interference Analysis

Brockway Engr, PLLC

Greg Sullivan 4/11/11

Allowed Pumping Volume (afa)= 24.8

Pumping Rate (cfs)= 0.034 Proposed Diversion

Pumping Rate (gpm)= 15.4 Proposed Diversion

AQUIFER PROPERTIES BASED ON WELL LOGS AND CALCULATED AQUIFER CHARACTERISTICS

USING THEIS FORMULA S=114.6*Q/T*W(U)

Q= PUMPING RATE GPM

T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT

W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOGeU +U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....

U=1.87*r^2*S/(T*t)

r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT

S=COEFFICIENT OF STORAGE

T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT

t = TIME SINCE PUMPING STARTED, DAYS

INPUT

r=	0.500 FT	0.5 Ft	K=	12.19	FT/DAY
S=	100 Ft FT	100 Ft	K=	0.00014	CFS/FT^2
T=	1000 FT	1000 Ft	K=	9.03E+01	GPD/FT^3
r=	5280 FT	1.0 Mile	SAT. DEPTH EST.=	138.49	FT
r=	12672 FT	2.4 Mile	TRANSMISSIVITY=	12493	GPD/FT
S=	0.01		TRANSMISSIVITY=	1.93E-02	FT^2/SEC
T=	12493 GPD/FT		TRANSMISSIVITY=	1670.2	FT^2/DAY
Q WELL	15.4 GPM =	0.034CFS			

		Radius 1				Radius 2			Radius 3			Radius 4			Radius 5		
TIME	TIME	U	WELL	DRAW	SPEC.	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW
	t	w/r1	FUNCT.	DOWN	CAP	W/r2	FUNCT.	DOWN @	W/r3	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @
HOURS	DAYS	0.500	W(U)1	1	1	100	W(U)2	100	1000	W(U)3	1000	5280	W(U)4	5280	12672	W(U)5	12672
1	0.04	8.98E-06	11.04	1.56	10	3.59E-01	0.78	0.11	3.59E+01	0.00	0.00	1.00E+03	0.00	0.00	5.77E+03	0.00	0.00
2	0.08	4.49E-06	11.74	1.66	9	1.80E-01	1.31	0.18	1.80E+01	0.00	0.00	5.01E+02	0.00	0.00	2.88E+03	0.00	0.00
3	0.13	2.99E-06	12.14	1.71	9	1.20E-01	1.66	0.23	1.20E+01	0.00	0.00	3.34E+02	0.00	0.00	1.92E+03	0.00	0.00
10	0.42	8.98E-07	13.35	1.88	8	3.59E-02	2.78	0.38	3.59E+00	0.00	0.00	1.00E+02	0.00	0.00	5.77E+02	0.00	0.00
24	1.00	3.74E-07	14.22	2.00	8	1.50E-02	3.64	0.51	1.50E+00	0.10	0.01	4.17E+01	0.00	0.00	2.40E+02	0.00	0.00
48	2.00	1.87E-07	14.91	2.10	7	7.48E-03	4.33	0.61	7.48E-01	0.34	0.05	2.09E+01	0.00	0.00	1.20E+02	0.00	0.00
96	4.00	9.36E-08	15.61	2.20	7	3.74E-03	5.01	0.71	3.74E-01	0.75	0.11	1.04E+01	0.00	0.00	6.01E+01	0.00	0.00
120	5.00	7.48E-08	15.83	2.23	7	2.99E-03	5.24	0.74	2.99E-01	0.91	0.13	8.35E+00	0.00	0.00	4.81E+01	0.00	0.00
288	12.00	3.12E-08	16.71	2.35	7	1.25E-03	6.11	0.86	1.25E-01	1.83	0.23	3.48E+00	0.01	0.00	2.00E+01	0.00	0.00
960	40.00	9.36E-09	17.91	2.52	6	3.74E-04	7.31	1.03	3.74E-02	2.75	0.39	1.04E+00	0.29	0.03	6.01E+00	0.00	0.00
1632	68.00	5.50E-09	18.44	2.60	6	2.20E-04	7.84	1.11	2.20E-02	3.28	0.46	6.14E-01	0.44	0.06	3.53E+00	0.00	0.00
2304	96.00	3.90E-09	18.79	2.65	6	1.56E-04	8.19	1.15	1.56E-02	3.60	0.51	4.35E-01	0.65	0.09	2.50E+00	0.02	0.00
2976	124.00	3.02E-09	19.04	2.68	6	1.21E-04	8.45	1.19	1.21E-02	3.85	0.54	3.37E-01	0.82	0.12	1.94E+00	0.05	0.01
3648	152.00	2.48E-09	19.25	2.71	6	9.86E-05	8.65	1.22	9.85E-03	4.05	0.57	2.75E-01	0.97	0.14	1.58E+00	0.09	0.01
4320	180.00	2.08E-09	19.41	2.74	6	8.32E-05	8.82	1.24	8.32E-03	4.22	0.59	2.32E-01	1.10	0.16	1.34E+00	0.13	0.02
4992	208.00	1.80E-09	19.56	2.76	6	7.20E-05	8.96	1.26	7.20E-03	4.36	0.61	2.01E-01	1.22	0.17	1.16E+00	0.17	0.02
5664	236.00	1.59E-09	19.69	2.77	6	6.34E-05	9.09	1.28	6.34E-03	4.49	0.63	1.77E-01	1.32	0.19	1.02E+00	0.21	0.03
6336	264.00	1.42E-09	19.80	2.79	6	5.67E-05	9.20	1.30	5.67E-03	4.60	0.65	1.58E-01	1.42	0.20	9.10E-01	0.26	0.04
7008	292.00	1.28E-09	19.90	2.80	6	5.13E-05	9.30	1.31	5.13E-03	4.70	0.66	1.43E-01	1.51	0.21	8.23E-01	0.30	0.04
7680	320.00	1.17E-09	19.99	2.82	5	4.68E-05	9.38	1.32	4.68E-03	4.79	0.68	1.30E-01	1.59	0.22	7.51E-01	0.34	0.05
8352	348.00	1.08E-09	20.07	2.83	5	4.30E-05	9.46	1.34	4.30E-03	4.88	0.69	1.20E-01	1.66	0.23	6.91E-01	0.38	0.05
9024	376.00	9.95E-10	20.15	2.84	5	3.98E-05	9.55	1.35	3.98E-03	4.95	0.70	1.11E-01	1.73	0.24	6.39E-01	0.42	0.06
9696	404.00	9.26E-10	20.22	2.85	5	3.71E-05	9.63	1.36	3.71E-03	5.02	0.71	1.03E-01	1.79	0.25	5.95E-01	0.46	0.06
10368	432.00	8.66E-10	20.29	2.86	5	3.48E-05	9.69	1.37	3.48E-03	5.09	0.72	9.66E-02	1.86	0.26	5.56E-01	0.50	0.07
11040	460.00	8.14E-10	20.35	2.87	5	3.25E-05	9.76	1.37	3.25E-03	5.15	0.73	9.07E-02	1.91	0.27	5.23E-01	0.53	0.08
11712	488.00	7.67E-10	20.41	2.88	5	3.07E-05	9.81	1.38	3.07E-03	5.21	0.73	8.55E-02	1.97	0.28	4.93E-01	0.57	0.08
12384	516.00	7.25E-10	20.47	2.88	5	2.90E-05	9.87	1.38	2.90E-03	5.27	0.74	8.09E-02	2.02	0.28	4.66E-01	0.60	0.09
13056	544.00	6.88E-10	20.52	2.89	5	2.75E-05	9.92	1.40	2.75E-03	5.32	0.75	7.67E-02	2.07	0.29	4.42E-01	0.64	0.09
13728	572.00	6.54E-10	20.57	2.90	5	2.62E-05	9.97	1.41	2.62E-03	5.37	0.76	7.30E-02	2.11	0.30	4.20E-01	0.67	0.09
14400	600.00	6.24E-10	20.62	2.91	5	2.49E-05	10.02	1.41	2.49E-03	5.42	0.76	6.98E-02	2.16	0.30	4.01E-01	0.70	0.10
15072	628.00	5.96E-10	20.66	2.91	5	2.38E-05	10.07	1.42	2.38E-03	5.46	0.77	6.64E-02	2.20	0.31	3.83E-01	0.73	0.10
15744	656.00	5.70E-10	20.71	2.92	5	2.28E-05	10.11	1.42	2.28E-03	5.51	0.78	6.38E-02	2.24	0.32	3.66E-01	0.76	0.11
16416	684.00	5.47E-10	20.75	2.92	5	2.19E-05	10.15	1.43	2.19E-03	5.55	0.78	6.10E-02	2.28	0.32	3.51E-01	0.79	0.11
17088	712.00	5.26E-10	20.79	2.93	5	2.10E-05	10.19	1.44	2.10E-03	5.59	0.79	5.86E-02	2.32	0.33	3.38E-01	0.82	0.12
17760	740.00	5.06E-10	20.83	2.93	5	2.02E-05	10.23	1.44	2.02E-03	5.63	0.79	5.64E-02	2.35	0.33	3.25E-01	0.85	0.12

Table 2 continued

Machado Stock and Commerical Well Analysis
Aquifer Drawdown Anaysis Using Theis Equation

Hours	Years	Days	R= 0.5 ft	R= 100 ft	R= 1000 ft	R= 5280 ft	R= 12672 ft
0	0.0	0.00	0	0	0	0	0
1	0.0	0.04	-1.8	-0.1	0.0	0.0	0.0
2	0.0	0.08	-1.7	-0.2	0.0	0.0	0.0
3	0.0	0.13	-1.7	-0.2	0.0	0.0	0.0
10	0.0	0.42	-1.9	-0.4	0.0	0.0	0.0
24	0.0	1.00	-2.0	-0.5	0.0	0.0	0.0
48	0.0	2.00	-2.1	-0.8	0.0	0.0	0.0
96	0.0	4.00	-2.2	-0.7	-0.1	0.0	0.0
120	0.0	5.00	-2.2	-0.7	-0.1	0.0	0.0
288	0.0	12.00	-2.4	-0.9	-0.2	0.0	0.0
960	0.1	40.00	-2.5	-1.0	-0.4	0.0	0.0
1632	0.2	68.00	-2.6	-1.1	-0.5	-0.1	0.0
2304	0.3	96.00	-2.6	-1.2	-0.5	-0.1	0.0
2976	0.3	124.00	-2.7	-1.2	-0.5	-0.1	0.0
3648	0.4	152.00	-2.7	-1.2	-0.6	-0.1	0.0
4320	0.5	180.00	-2.7	-1.2	-0.6	-0.2	0.0
4992	0.6	208.00	-2.8	-1.3	-0.6	-0.2	0.0
5664	0.6	236.00	-2.8	-1.3	-0.6	-0.2	0.0
6336	0.7	264.00	-2.8	-1.3	-0.6	-0.2	0.0
7008	0.8	292.00	-2.8	-1.3	-0.7	-0.2	0.0
7680	0.8	320.00	-2.8	-1.3	-0.7	-0.2	0.0
8352	1.0	348.00	-2.8	-1.3	-0.7	-0.2	-0.1
9024	1.0	376.00	-2.8	-1.3	-0.7	-0.2	-0.1
9696	1.1	404.00	-2.8	-1.4	-0.7	-0.3	-0.1
10368	1.2	432.00	-2.9	-1.4	-0.7	-0.3	-0.1
11040	1.3	460.00	-2.9	-1.4	-0.7	-0.3	-0.1
11712	1.3	488.00	-2.9	-1.4	-0.7	-0.3	-0.1
12384	1.4	516.00	-2.9	-1.4	-0.7	-0.3	-0.1
13056	1.5	544.00	-2.9	-1.4	-0.7	-0.3	-0.1
13728	1.6	572.00	-2.9	-1.4	-0.8	-0.3	-0.1
14400	1.6	600.00	-2.9	-1.4	-0.8	-0.3	-0.1
15072	1.7	628.00	-2.9	-1.4	-0.8	-0.3	-0.1
15744	1.8	656.00	-2.9	-1.4	-0.8	-0.3	-0.1
16416	1.9	684.00	-2.9	-1.4	-0.8	-0.3	-0.1
17088	1.9	712.00	-2.9	-1.4	-0.8	-0.3	-0.1
17760	2.0	740.00	-2.93	-1.44	-0.79	-0.33	-0.12

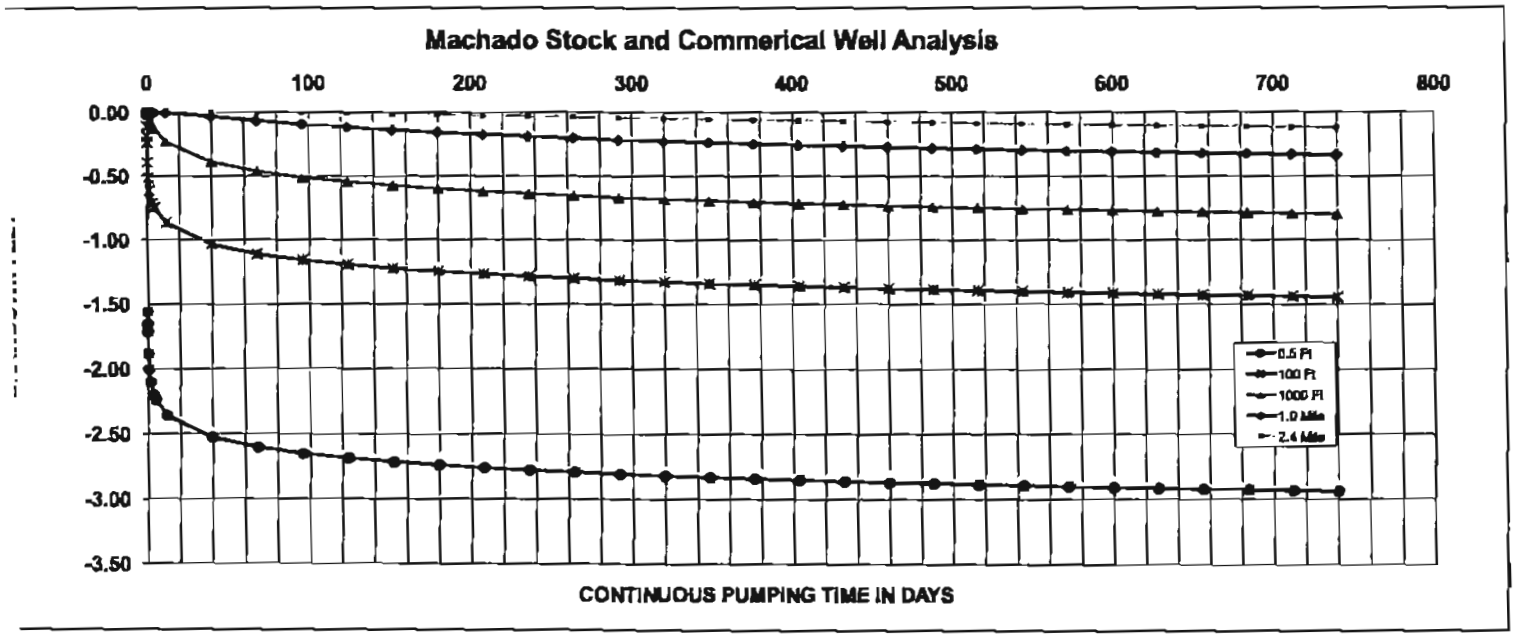


Table 3

Machado Stock and Commerical Well Analysis

Well Interference Analysis

Brockway Engr, PLLC

Greg Sullivan 4/11/11

Allowed Pumping Volume (afa)= 24.8

Pumping Rate (cfs)= 0.034 Proposed Diversion

Pumping Rate (gpm)= 15.4 Proposed Diversion

AQUIFER PROPERTIES BASED ON WELL LOGS AND CALCULATED AQUIFER CHARACTERISTICS

USING THEIS FORMULA S=114.6*Q/T*W(U)

Q= PUMPING RATE GPM
T= COEFFICIENT OF TRANSMISSIBILITY GPD/FT
W(U)= WELL FUNCTION OF 'U'

W(U)=-.5772-LOG(U)+U-U^2/(2*2!)+U^3/(3*3!)-U^4/(4*4!) .....
U=1.87*r^2*S/(T*t)
r=DISTANCE IN FT. FROM CENTER OF PUMPED WELL TO DRAWDOWN POINT
S=COEFFICIENT OF STORAGE
T=COEFFICIENT OF TRANSMISSIBILITY, GPD/FT
t= TIME SINCE PUMPING STARTED, DAYS

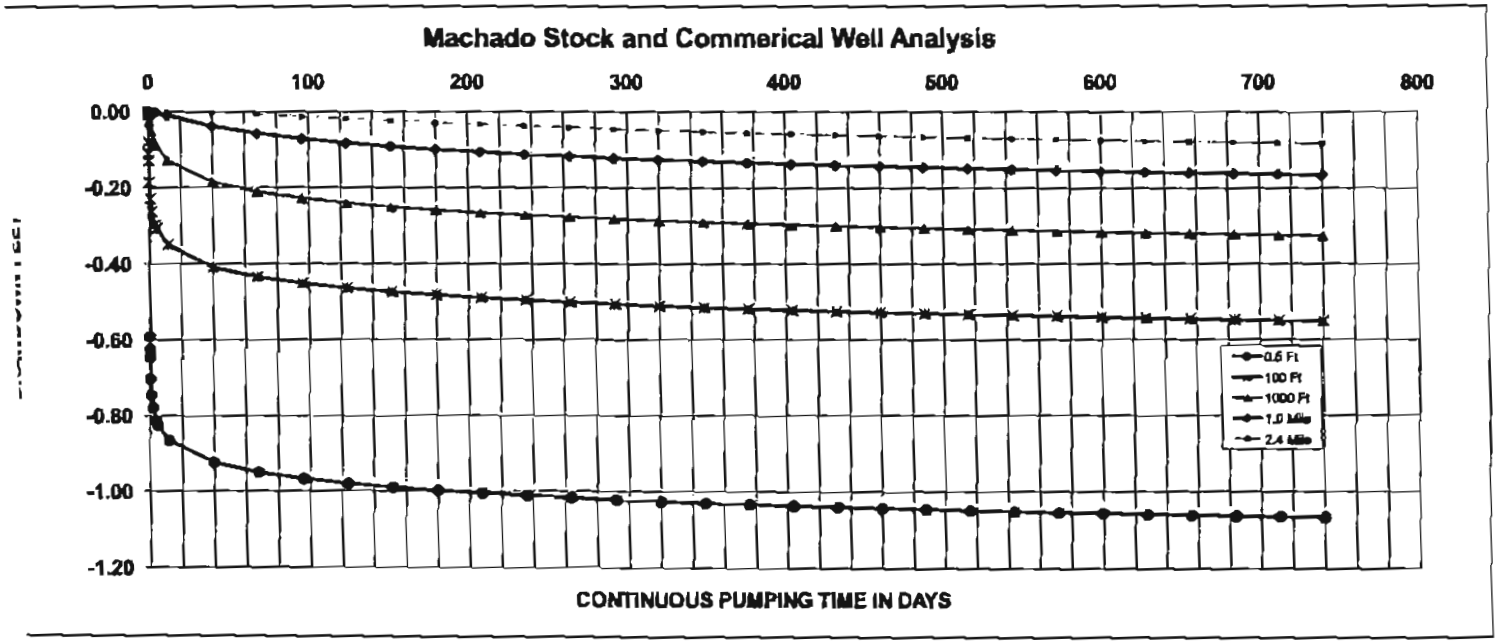
INPUT

r=	0.500 FT	0.5 Ft	K=	35.00	FT/DAY
r=	100 Ft	100 Ft	K=	0.0004051	CFS/FT^2
r=	1000 FT	1000 Ft	K=	2.81E+02	GPD/FT^2
r=	5280 FT	1.0 Mile	SAT. DEPTH EST.=	138.48	FT
r=	12672 FT	2.4 Mile	TRANSMISSIVITY=	38138	GPD/FT
S=	0.01		TRANSMISSIVITY=	5.59E-02	FT^2/SEC
T=	38138 GPD/FT		TRANSMISSIVITY=	4831.0	FT^2/DAY
WELL	15.4 GPM =	0.034CFS			

		Radius 1				Radius 2			Radius 3			Radius 4			Radius 5		
TIME	TIME	U	WELL	DRAW	SPEC.	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW	U	WELL	DRAW
	t	W/r1	FUNCT.	DOWN	CAP	W/r2	FUNCT.	DOWN @	W/r3	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @	W/r4	FUNCT.	DOWN @
HOURS	DAYS	0.500	W(U)1	1	1	100	W(U)2	100	1000	W(U)3	1000	5280	W(U)4	5280	12672	W(U)5	12672
1	0.04	3.10E-06	12.11	0.59	28	1.24E-01	1.83	0.08	1.24E+01	0.00	0.00	3.48E+02	0.00	0.00	1.99E+03	0.00	0.00
2	0.08	1.55E-06	12.80	0.62	25	6.21E-02	2.26	0.11	6.21E+00	0.00	0.00	1.73E+02	0.00	0.00	9.97E+02	0.00	0.00
3	0.13	1.03E-06	13.20	0.64	24	4.14E-02	2.65	0.13	4.14E+00	0.00	0.00	1.15E+02	0.00	0.00	6.65E+02	0.00	0.00
18	0.42	3.10E-07	14.41	0.70	22	1.24E-02	3.82	0.19	1.24E+00	0.18	0.01	3.48E+01	0.00	0.00	1.99E+02	0.00	0.00
24	1.00	1.29E-07	15.28	0.74	21	5.17E-03	4.89	0.23	5.17E-01	0.54	0.03	1.44E+01	0.00	0.00	8.31E+01	0.00	0.00
48	2.00	6.47E-08	15.98	0.78	20	2.59E-03	5.38	0.26	2.59E-01	1.02	0.05	7.21E+00	0.00	0.00	4.15E+01	0.00	0.00
96	4.00	3.23E-08	16.67	0.81	19	1.29E-03	6.07	0.30	1.29E-01	1.59	0.08	3.61E+00	0.00	0.00	2.08E+01	0.00	0.00
120	5.00	2.59E-08	16.89	0.82	19	1.03E-03	6.30	0.31	1.03E-01	1.79	0.09	2.89E+00	0.01	0.00	1.66E+01	0.00	0.00
288	12.00	1.08E-08	17.77	0.87	18	4.31E-04	7.17	0.35	4.31E-02	2.81	0.13	1.20E+00	0.16	0.01	6.92E+00	0.00	0.00
960	40.00	3.23E-09	18.97	0.92	17	1.29E-04	8.38	0.41	1.29E-02	3.78	0.18	3.61E-01	0.77	0.04	2.08E+00	0.04	0.00
1632	68.00	1.90E-09	19.50	0.95	16	7.61E-05	8.91	0.43	7.61E-03	4.31	0.21	2.12E-01	1.17	0.06	1.22E+00	0.15	0.01
2304	96.00	1.35E-09	19.85	0.97	16	5.39E-05	9.25	0.45	5.39E-03	4.65	0.23	1.50E-01	1.46	0.07	8.66E-01	0.28	0.01
2976	124.00	1.04E-09	20.10	0.98	16	4.17E-05	9.51	0.46	4.17E-03	4.91	0.24	1.16E-01	1.68	0.08	6.70E-01	0.40	0.02
3648	152.00	8.51E-10	20.31	0.99	16	3.40E-05	9.71	0.47	3.40E-03	5.11	0.25	9.49E-02	1.87	0.09	5.47E-01	0.51	0.02
4320	180.00	7.19E-10	20.48	1.00	15	2.87E-05	9.88	0.48	2.87E-03	5.28	0.26	8.01E-02	2.03	0.10	4.62E-01	0.61	0.03
4992	208.00	6.22E-10	20.62	1.00	15	2.49E-05	10.02	0.49	2.49E-03	5.42	0.26	6.94E-02	2.18	0.11	4.00E-01	0.70	0.03
5664	236.00	5.48E-10	20.75	1.01	15	2.19E-05	10.15	0.49	2.19E-03	5.55	0.27	6.11E-02	2.28	0.11	3.52E-01	0.79	0.04
6336	264.00	4.90E-10	20.86	1.02	15	1.96E-05	10.28	0.50	1.96E-03	5.66	0.28	5.48E-02	2.38	0.12	3.16E-01	0.87	0.04
7008	292.00	4.43E-10	20.96	1.02	15	1.77E-05	10.36	0.50	1.77E-03	5.78	0.28	4.94E-02	2.48	0.12	2.85E-01	0.95	0.05
7680	320.00	4.04E-10	21.05	1.03	15	1.62E-05	10.46	0.51	1.62E-03	5.85	0.29	4.51E-02	2.57	0.13	2.60E-01	1.01	0.05
8352	348.00	3.72E-10	21.14	1.03	15	1.49E-05	10.54	0.51	1.49E-03	5.94	0.29	4.15E-02	2.65	0.13	2.39E-01	1.06	0.05
9024	376.00	3.44E-10	21.21	1.03	15	1.38E-05	10.62	0.52	1.38E-03	6.01	0.29	3.84E-02	2.72	0.13	2.21E-01	1.14	0.06
9696	404.00	3.20E-10	21.28	1.04	15	1.28E-05	10.69	0.52	1.28E-03	6.06	0.30	3.57E-02	2.79	0.14	2.06E-01	1.20	0.06
10368	432.00	2.99E-10	21.35	1.04	15	1.20E-05	10.76	0.52	1.20E-03	6.15	0.30	3.34E-02	2.88	0.14	1.92E-01	1.26	0.06
11040	460.00	2.81E-10	21.41	1.04	15	1.12E-05	10.82	0.53	1.12E-03	6.21	0.30	3.14E-02	2.92	0.14	1.81E-01	1.31	0.06
11712	488.00	2.65E-10	21.47	1.05	15	1.06E-05	10.88	0.53	1.06E-03	6.27	0.31	2.96E-02	2.97	0.14	1.70E-01	1.36	0.07
12384	516.00	2.51E-10	21.53	1.05	15	1.00E-05	10.93	0.53	1.00E-03	6.33	0.31	2.80E-02	3.03	0.15	1.61E-01	1.40	0.07
13056	544.00	2.38E-10	21.58	1.05	15	9.51E-06	10.99	0.54	9.51E-04	6.38	0.31	2.65E-02	3.08	0.15	1.53E-01	1.45	0.07
13728	572.00	2.26E-10	21.63	1.06	15	9.05E-06	11.04	0.54	9.05E-04	6.43	0.31	2.52E-02	3.13	0.15	1.45E-01	1.49	0.07
14400	600.00	2.16E-10	21.68	1.06	15	8.62E-06	11.08	0.54	8.62E-04	6.48	0.32	2.40E-02	3.17	0.15	1.38E-01	1.53	0.07
15072	628.00	2.06E-10	21.73	1.06	15	8.24E-06	11.13	0.54	8.24E-04	6.52	0.32	2.30E-02	3.22	0.16	1.32E-01	1.57	0.08
15744	656.00	1.97E-10	21.77	1.06	14	7.89E-06	11.17	0.54	7.89E-04	6.57	0.32	2.20E-02	3.26	0.16	1.27E-01	1.61	0.08
16416	684.00	1.89E-10	21.81	1.06	14	7.57E-06	11.21	0.55	7.57E-04	6.61	0.32	2.11E-02	3.30	0.16	1.21E-01	1.65	0.08
17088	712.00	1.82E-10	21.85	1.06	14	7.27E-06	11.25	0.55	7.27E-04	6.65	0.32	2.03E-02	3.34	0.16	1.17E-01	1.68	0.08
17760	740.00	1.75E-10	21.89	1.07	14	6.99E-06	11.29	0.55	6.99E-04	6.69	0.33	1.95E-02	3.38	0.16	1.12E-01	1.72	0.08

Machado Stock and Commerical Well Analysis
Aquifer Drawdown Anaysis Using Theis Equation

Hours	Years	Days	R= 0.5 ft	R= 100 ft	R= 1000 ft	R= 5280 ft	R= 12672 ft
0	0.0	0.00	0	0	0	0	0
1	0.0	0.04	-0.8	-0.1	0.0	0.0	0.0
2	0.0	0.08	-0.6	-0.1	0.0	0.0	0.0
3	0.0	0.13	-0.8	-0.1	0.0	0.0	0.0
10	0.0	0.42	-0.7	-0.2	0.0	0.0	0.0
24	0.0	1.00	-0.7	-0.2	0.0	0.0	0.0
48	0.0	2.00	-0.8	-0.3	0.0	0.0	0.0
96	0.0	4.00	-0.8	-0.3	-0.1	0.0	0.0
120	0.0	5.00	-0.8	-0.3	-0.1	0.0	0.0
288	0.0	12.00	-0.9	-0.3	-0.1	0.0	0.0
960	0.1	40.00	-0.9	-0.4	-0.2	0.0	0.0
1632	0.2	68.00	-1.0	-0.4	-0.2	-0.1	0.0
2304	0.3	96.00	-1.0	-0.5	-0.2	-0.1	0.0
2976	0.3	124.00	-1.0	-0.5	-0.2	-0.1	0.0
3648	0.4	152.00	-1.0	-0.5	-0.2	-0.1	0.0
4320	0.5	180.00	-1.0	-0.5	-0.3	-0.1	0.0
4992	0.6	208.00	-1.0	-0.5	-0.3	-0.1	0.0
5664	0.6	236.00	-1.0	-0.5	-0.3	-0.1	0.0
6336	0.7	264.00	-1.0	-0.5	-0.3	-0.1	0.0
7008	0.8	292.00	-1.0	-0.5	-0.3	-0.1	0.0
7680	0.9	320.00	-1.0	-0.5	-0.3	-0.1	0.0
8352	1.0	348.00	-1.0	-0.5	-0.3	-0.1	-0.1
9024	1.0	376.00	-1.0	-0.5	-0.3	-0.1	-0.1
9696	1.1	404.00	-1.0	-0.5	-0.3	-0.1	-0.1
10368	1.2	432.00	-1.0	-0.5	-0.3	-0.1	-0.1
11040	1.3	460.00	-1.0	-0.5	-0.3	-0.1	-0.1
11712	1.3	488.00	-1.0	-0.5	-0.3	-0.1	-0.1
12384	1.4	516.00	-1.0	-0.5	-0.3	-0.1	-0.1
13056	1.5	544.00	-1.1	-0.5	-0.3	-0.1	-0.1
13728	1.6	572.00	-1.1	-0.6	-0.3	-0.2	-0.1
14400	1.6	600.00	-1.1	-0.5	-0.3	-0.2	-0.1
15072	1.7	628.00	-1.1	-0.6	-0.3	-0.2	-0.1
15744	1.8	656.00	-1.1	-0.5	-0.3	-0.2	-0.1
16416	1.9	684.00	-1.1	-0.5	-0.3	-0.2	-0.1
17088	1.9	712.00	-1.1	-0.5	-0.3	-0.2	-0.1
17760	2.0	740.00	-1.07	-0.55	-0.33	-0.16	-0.08



Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

USE TYPEWRITER OR BALL POINT PEN

RECEIVED
MAR 1985

5

1. WELL OWNER

Name Hal Sardine
Address RT Buhl Idaho
Owner's Permit No. 47-7513

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
.250 inches	8 inches	+ 1 feet	20 feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

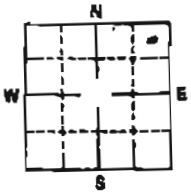
Was casing drive shoe used? ☐ Yes ☒ No
Was a packer or seal used? ☐ Yes ☒ No
Perforated? ☐ Yes ☒ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number		From	To
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet
_____	perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Diameter ___ Slot size ___ Set from ___ feet to ___ feet
Gravel packed? ☐ Yes ☒ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth 19 Material used in seal: ☒ Cement grout ☐ Puddling clay ☒ Well cuttings
Sealing procedure used: ☐ Slurry pit ☒ Temp. surface casing ☒ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Well seal with ¾ Plug

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name _____
Lot No. _____ Block No. _____
County _____
NE ¼ NE ¼ Sec. 5 T. 11 N S R. 14 E W.

7. WATER LEVEL

Department of Water Resources
Southern District Office

Static water level 120 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 57 °F. Quality _____

8. WELL TEST DATA

☐ Pump ☒ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
120	130	2 hrs

9. LITHOLOGIC LOG

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8"	0	1	Top Soil		
	1	6	Shale & Fissile		
	6	37	Grey Rhyolite		
	37	91	Broken Rhyolite		
	91	118	Reddish Brown Rhyolite		
	118	134	Cinders & Ash	✓	
	134	136	Red Rhyolite		
	136	140	Ash		
	140	151	Red Rhyolite		
	151	156	Clay		
	156	178	Rhyolite Seams Clay		
	178	208	Sandy Clay Brown		
	208	210	Decomposed Rock		
	210	218	Clay		
	218	231	Coarse Sand	✓	
	231	257	Brown Clay		
	257	260	Pea Gravel	✓	

002053

RECEIVED
APR 5 1985
Department of Water Resources

MICROFILMED

10.

Work started 2-21-85 Finished 3-23-85

11. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name B & B Drilling Firm No. 171
Address RT Hazelton Date 2-12-85
Signed by (Firm Official) Jon Bishop
and
(Operator) Leon Burkhart

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

USE TYPEWRITER OR BALL POINT PEN

State of Idaho
Department of Water Administration

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Administration within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Ron Smith

Address Rt. 1 Buhl Ida.

Owner's Permit No. _____

2. NATURE OF WORK

☒ New well ☐ Deepened ☐ Replacement

☐ Abandoned (describe method of abandoning)

_____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test

☐ Municipal ☐ Industrial ☐ Stock

4. METHOD DRILLED

☒ Cable ☐ Rotary ☐ Dug ☐ Other

5. WELL CONSTRUCTION

Diameter of hole 6 inches Total depth 200 ft feet

Casing schedule: ☒ Steel ☐ Concrete

Thickness	Diameter	From	To
.250 inches	6 inches	+ 1 feet	21½ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was a packer or seal used? ☐ Yes ☒ No

Perforated? ☐ Yes ☒ No

How perforated? ☐ Factory ☐ Knife ☐ Torch

Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☒ No

Manufacturer's name _____

Type _____ Model No. _____

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Diameter ___ Slot size ___ Set from _____ feet to _____ feet

Gravel packed? ☐ Yes ☒ No Size of gravel _____

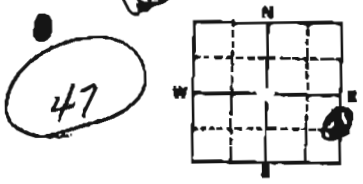
Placed from _____ feet to _____ feet

Surface seal? ☒ Yes ☐ No To what depth 21½ feet

Material used in seal ☒ Cement grout ☐ Puddling clay

6. LOCATION OF WELL

Sketch map location must agree with written location.



County Twin Falls

SE ¼ SE ¼ Sec. 5 T. 11S N/S, R. 14E E/W

7. WATER LEVEL

Static water level 70 feet below land surface

Flowing? ☐ Yes ☒ No G.P.M. flow _____

Temperature _____ ° F. Quality _____

Artesian closed-in pressure _____ p.s.i.

Controlled by ☐ Valve ☐ Cap ☐ Plug

8. WELL TEST DATA

☐ Pump ☒ Bailer ☐ Other

Discharge G.P.M.	Draw Down	Hours Pumped
5	None	12

9. LITHOLOGIC LOG 042471

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
8	0	20			
	0	2	Topsoil		X
	2	25	Shelf Rock Lava		X
6	25	32	Brown hard lava		X
6	32	90	Red lava	X	
6			Interbeds of Tr		
6	90	111	Hard brown rock	X	
6	111	114	Soft brown "	X	
6	114	170	Hard brown "	X	
6	170	179	Soft red clay	X	
6	179	200	Hard brown rock	X	

10. Work started May 26-73 finished June 18-73

11. DRILLER'S CERTIFICATION CC

This well was drilled under my supervision and this report is true to the best of my knowledge.

Harry A. Moore Well Drilling & Driller's or Firm's Name Number

1682 Kimberly Ave. Twin Falls Address

Harry A. Moore June 20-73 Signed By Date

USE ADDITIONAL SHEETS IF NECESSARY FORWARD THE WHITE, BLUE, AND PINK COPIES TO THE DEPARTMENT

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

49510

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 47-94-5-0228.000
Other IDWR No.

2. OWNER:
Name Paul Benko
Address 1166E 3400N
City Burl State ID Zip 83316

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

Twp. 11 North ☐ or South ☒
Rge. 14 East ☒ or West ☐
Sec. 4, 10 acres 1/4 SE 40 acres 1/4 SE 160 acres 1/4
Gov't Lot ____ County

Address of Well Site 3400N 1100E City Burl
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☒ Air Rotary ☐ Cable ☐ Other

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	3	30	2 sacks	mix + pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s)
Was drive shoe seal tested? Y ☐ N ☒ How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	39	250	Steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method
☐ Screens Screen Type

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
95 ft. below ground Artesian pressure 0 lb.
Depth flow encountered N/A ft. Describe access port or control devices: N/A

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
25		150	1 HR

Water Temp. ~85 Bottom hole temp.
Water Quality test or comments: Clear & NO ODOR

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	6	Topsoil		
	6	26	Lava		
	26	39	Lava w/ Clay		
6	39	50	Lava		
	50	51	Clay		
	51	85	Lava		
	85	98	Lava w/ water ~~& rock~~		
	98	114	Lava		
	114	118	Red Clay		
	118	153	Lava	X	
	153	158	Lava w/ Clay	X	
	158	157	Lava	X	

RECEIVED
MAR 30 1995
Department of Water Resources
Southern Region

RECEIVED
APR 19 1995
Department of Water Resources

Completed Depth 157 (Measurable)
Date: Started Feb. 27 Completed Mar. 2, 1995

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Bishop Drilling Firm No. 520
Firm Official Ron Bishop Date 3/29/95
and
Supervisor or Operator Date
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

C

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

093871

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 47-96-S-0075-100
Other IDWR No.

2. OWNER:
Name SCOTT BLICK
Address 1221 E 3600 N
City BUHL State ID Zip 83316

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 10 North ☐ or South ☒
Rge. 14 East ☒ or West ☐
Sec. 34, 1/4 NW 1/4 NW 1/4
Gov't Lot ____ County TWIN FALLS

Address of Well Site 1221E 3600N
City BUHL
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☐ New Well ☒ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☒ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☐ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☐ Screens Screen Type ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
117 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
50	0	117	4 HRS

Water Temp. ~60 Bottom hole temp. ~80
Water Quality test or comments: GOOD

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
6"	200	220	CLAY (BROWN)	X	
6"	220	256	BLACK BASALT	X	
6"	256	300	RED ASH	X	

RECEIVED
JUN 06 1996
Department of Water Resources
Southern Region

RECEIVED
JUN 18 1996
Department of Water Resources

SEP 12 1996

Completed Depth 300' (Measurable)
Date: Started 5/21/96 Completed 5/24/96

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name CENTRAL VALLEY DRILLING Firm No. 501
Firm Official Bernard Taylor Date 5/25/96
and
Supervisor or Operator ____ Date ____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
1/78

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

USE TYPEWRITER OR BALLPOINT PEN.

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER

Name Robert W. Schaer

Address 1076 E. 3300 N Buhl Id 83316

Owner's Permit No. 47-92-5-052 OK

2. NATURE OF WORK

☐ New well ☒ Deepened ☐ Replacement
☐ Abandoned (describe method of abandoning) _____

3. PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Test ☐ Municipal
☐ Industrial ☐ Stock ☐ Waste Disposal or Injection
☐ Other _____ (specify type)

4. METHOD DRILLED

☐ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary
☒ Cable ☐ Dug ☐ Other _____

5. WELL CONSTRUCTION

Casing schedule: ☐ Steel ☐ Concrete ☐ Other _____

Thickness	Diameter	From	To
_____ inches	_____ inches +	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet
_____ inches	_____ inches	_____ feet	_____ feet

Was casing drive shoe used? ☐ Yes ☐ No
Was a packer or seal used? ☐ Yes ☐ No
Perforated? ☐ Yes ☐ No
How perforated? ☐ Factory ☐ Knife ☐ Torch
Size of perforation _____ inches by _____ inches

Number	From	To
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet
_____ perforations	_____ feet	_____ feet

Well screen installed? ☐ Yes ☐ No
Manufacturer's name _____
Type _____ Model No. _____
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Diameter ___ Slot size ___ Set from _____ feet to _____ feet
Gravel packed? ☐ Yes ☐ No ☐ Size of gravel _____
Placed from _____ feet to _____ feet
Surface seal depth _____ Material used in seal: ☐ Cement grout ☐ Puddling clay ☐ Well cuttings
Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☐ Overbore to seal depth
Method of joining casing: ☐ Threaded ☐ Welded ☐ Solvent Weld ☐ Cemented between strata
Describe access port Bar-Well Cap

6. LOCATION OF WELL

Sketch map location must agree with written location.

Subdivision Name _____
Lot No. _____ Block No. _____
County Twin Falls
SW ¼ SW ¼ Sec. 9, T. 11 N., R. 14 E.W.

7. WATER LEVEL

Static water level 115 feet below land surface.
Flowing? ☐ Yes ☒ No G.P.M. flow _____
Artesian closed-in pressure _____ p.s.i.
Controlled by: ☐ Valve ☐ Cap ☐ Plug
Temperature 57 °F. Quality _____

8. WELL TEST DATA

☒ Pump ☐ Bailer ☐ Air ☐ Other _____

Discharge G.P.M.	Pumping Level	Hours Pumped
12	135	1 hr

9. LITHOLOGIC LOG 84205

Hole Diam.	Depth From	Depth To	Material	Water Yes	Water No
5 7/8"	150	160	Clay Soft		
	160	182	Grey Rhyolite		
	182	199	Soft		
	199	204	Brown Rhyolite		
	204	234	Brown Clay		
	234	239	Brown Rhyolite		
	239	260	Brown Clay		
	260	281	Red and Brown Clay Strips Decomposed Rock	X	

RECEIVED
MAY 12 1992
Department of Water Resources
Southern Region Office

RECEIVED
JUN 1 1992
Department of Water Resources

MICROFILMED
DEC 07 1992

10. Work started 4-[illegible]-92 finished 4-29-92

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed. 171

Firm Name S & R Drilling Firm No. [redacted]
Address Kt 1 Buhl Id 83316 Date 5-1-92
Signed by (Firm Official) Lon Burkhart
and
(Operator) Lon Burkhart

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

Form 238-7
11/97

720236

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____ 1/4 ____ 1/4 ____ 1/4
Lat: : : Long: : :

1. WELL TAG NO. D 000 25974
DRILLING PERMIT NO. 47-99-S-0206-200
Other IDWR No. _____

2. OWNER:
Name OTTO STRAUB
Address 3573 N 1200 E
City BUHL State ID Zip 83316

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 11 North ☐ or South ☒
Rge. 14 East ☒ or West ☐
Sec. 4, ____ 1/4 NE (10 acres) 1/4 NE (40 acres) 1/4 (160 acres)
Gov't Lot ____ County _____
Lat: : : Long: : :
Address of Well Site 1199 E 3500 N
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other STOCK

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other /

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
BENTONITE	0	18	4 SAC	POUR

Was drive shoe used? ☐Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6 Lr	+1	19	250	STEEL	☐	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
Perforations Method _____
Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
65 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: _____

11. WELL TESTS:
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
20		75	1HR

Water Temp. 55 Bottom hole temp. _____
Water Quality test or comments: GOOD
Depth first Water Encountered _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	18	WHITE SHALE & CLAY		
6	18	32	SHALE		
	32	65	LAVA & BROKEN		
	65	105	LAVA		
	105	180	LAVA HARD	X	
	180	225	BROKEN LAVA		

RECEIVED
JAN 13 2000
Department of Water Resources
Southern Region

RECEIVED
FEB 18 2000
Department of Water Resources

Completed Depth 225 (Measurable)
Date: Started DEC 15-99 Completed DEC 16-99

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name BISHOP DRILLING Firm No. 540
Firm Official Lon Bishop Date 1-10-00
and
Driller or Operator _____ Date _____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT 62398

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 41 - 96 - C - 0003 - 100
Other IDWR No.

2. OWNER:
Name JACKIE WEST
Address 1397 E 3400 N
City CASTLEFORD State ID Zip 83321

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 11 North ☐ or South ☒
Rge. 14 East ☒ or West ☐
Sec. 2 ____ 1/4 SW 1/4 SW 1/4 SW 1/4
Gov't Lot ____ County TWIN FALLS

Address of Well Site
3/4 MILES W OF MALINS ADDER City CASTLEFORD
(Give at least name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK Deepen
☐ New Well ☒ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☒ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Sacks or Pounds	

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☐ Screens Screen Type ____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
42 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
15	100'	100'	2 HRS

Water Temp. 65° Bottom hole temp. 65°
Water Quality test or comments: GOOD

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water V	Water N
6"	170	205	BLACK BASALT	X	
6"	205	228	BROWN BASALT	X	
6"	228	235	BROWN BASALT WITH SAND TRACE	X	

RECEIVED
JAN
Department of Water Resources
Southern Region

RECEIVED
FEB 13 1996
Department of Water Resources

MAY 06 1996

Completed Depth 235' (Measurable)
Date: Started 1-12-96 Completed 1-15-96

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name CENTRAL VALLEY DRILLING Firm No. 501
Firm Official Bernard Tuggle Date 1-15-96
and
Supervisor or Operator ____ Date ____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
3/93

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Use Typewriter or Ballpoint Pen

061674

Office Use Only
Inspected by _____
Twp ____ Rge ____ Sec ____
____1/4 ____1/4 ____1/4
Lat: : : Long: : :

1. DRILLING PERMIT NO. 47-52-S-0094-000
Other IDWR No. _____

2. OWNER:
Name James Schroeder
Address 1360E 2500N
City Rahl State ID Zip 83316

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 10 North ☐ or South ☒
Rge. 14 East ☐ or West ☐
Sec. 35, SE 1/4 (10 acres) SE 1/4 (40 acres) SW 1/4 (160 acres)
Gov't Lot ____ County _____
Lat: : : Long: : :
Address of Well Site SAME
City _____
(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other _____

5. TYPE OF WORK check all that apply (Replacement etc.)
☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD
☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Sacks or Pounds	METHOD
Bentonite	3	15	100#	Micro Pour

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+1	15	250	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS
☐ Perforations Method _____
☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
150 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: Well Cap

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
25		223	1 hr.

Water Temp. 85° Bottom hole temp. _____
Water Quality test or comments: Clear & Clean
Depth first Water Encountered 200

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8	0	2	Topsoil		
	2	6	White Shale		
	6	15	Lava		
6	15	110	Lava		
	110	114	Clay		
	114	118	Red Clay		
	118	200	Lava		
	200	210	Broken Lava	✓	
	210	265	Lava		✓
	265	280	Lava w/water stain	✓	
	280	285	Lava	✓	

RECEIVED
OCT 30 1997
Department of Water Resources
Southern Region
RECEIVED
NOV 06 1997
Department of Water Resources
MICROFILMED
APR 07 1998

Completed Depth 285 (Measurable)
Date: Started 9-29-97 Completed 9-30-97

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Bishop Well Drilling Firm No. 540
Firm Official Ray Bishop Date 10-27-97
and
Supervisor or Operator _____ Date _____
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Form 238-7
7/94

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT 061741

Use Typewriter or Ball Point Pen

1. DRILLING PERMIT NO. 37-97-S-0124-000
Other IDWR No. Tag 0006 2081

2. OWNER:
Name Brady Youth Ranch
Address Rt 1 Box 1283 Soldier Mtn Rd
City Fairfield State Id Zip 83327

3. LOCATION OF WELL by legal description:
Sketch map location must agree with written location.

N / W / E / S

Twp. 1 North ☐ or South ☒
Rge. 14 East ☒ or West ☐
Sec. 16, NE 1/4 (10 acres) NW 1/4 (40 acres) SE 1/4 (160 acres)
Gov't Lot ____ County Camas

Address of Well Site Brady Youth Ranch City ____
(Give as best name of road + Distance to Road or Landmark)

Lt. ____ Blk. ____ Sub. Name ____

4. PROPOSED USE:
☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other ____

5. TYPE OF WORK
☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD
☐ Mud Rotary ☐ Air Rotary ☒ Cable ☐ Other ____

7. SEALING PROCEDURES

SEAL/FILTER PACK Material	From	To	AMOUNT Backs or Pounds	METHOD
Bentonite grout	18	3'	13 bags	over bore

Was drive shoe used? ☐ Y ☒ N Shoe Depth(s) ____
Was drive shoe seal tested? Y ☐ N ☒ How? ____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
5 10	+2'	64'	258	steel	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe ____ Length of Tailpipe ____

9. PERFORATIONS/SCREENS
☐ Perforations Method ____
☒ Screens Screen Type Stainless Steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
64	89	.0020			S.Steel	☒	☐
						☐	☐
						☐	☐

Screen is welded to bottom of 5" casing

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:
30 ft. below ground Artesian pressure ____ lb.
Depth flow encountered ____ ft. Describe access port or control devices: ____

11. WELL TESTS:
☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
10	30'	60'	4 hrs

Water Temp. 50 Bottom hole temp. Cold
Water Quality test or comments: None

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Water Y	Water N
8"	0	38	Brown clay, gravel + boulders		X
	38	61	Brown clay + fine gravel		X
	61	81	Gravel silty	X	
	81	90	Boulders		X
	90	96	Tan granite		X

RECEIVED
NOV 21 1997
Department of Water Resources
Southern Region

RECEIVED
DEC 22 1997
Department of Water Resources
MICROFILMED

Completed Depth 89' 0" (Measurable)
Date: Started 13 Oct - 1997 Completed 5 Nov 1997

13. DRILLER'S CERTIFICATION
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Boley & Henry Firm No. 86
Firm Official Blaine Boley Date 17 Nov 1997
and
Supervisor or Operator Date 17 Nov 1997
(Sign once if Firm Official & Operator)

FORWARD WHITE COPY TO WATER RESOURCES

Multiple Well Effect Analysis of Transfer 75738 and 75739

Mathew Machado
Brockway Engineering
Project No. 1130-01-2011

Greg Sullivan, Engineer In Training
Bachelors of Science Degree in Environmental Engineering, 2007
Masters of Science Degree in Environmental Engineering, 2007
Employed by Brockway Engineering since April 2008

Machado Transfer

Two POD locations.

Transfer 75738 POD location is approximately 2.4 miles from DuWayne Kimball's house and well.

Transfer 75739 POD location is approximately 2.8 miles from DuWayne Kimball's house and well.

A combined total of 24.8 acre feet annual is be transferred. The Theis Model analysis calculated the maximum affect from the addition 24.8 acre feet annually to be pumped by assuming all 24.8 acre feet annually will be pumped from the POD 2.4 miles from DuWayne Kimball's house.

Theis Multiple Well Model

Model utilizes hydraulic conductivity, transmissivity, storativity of an aquifer and the distance from identified locations to calculate the change in the aquifer static water levels at multiple locations as a result of a change in diversion amount at one or multiple points of diversion (POD).

Hydraulic conductivity

A value of 12.1 ft/day was calculated from pump tests performed by well drillers on nine local wells. This value is considered conservative for the area. All nine wells are shallow wells which do not give a good representation of the aquifer because the wells do not penetrate the entire aquifer.

Cosgrove et al. (1997 and 1998) modeled the aquifer in Twin Falls County from Murtaugh to Castleford. The minimal hydraulic conductivity used in the Castleford area is 35.0 ft/day.

Transmissivity

Calculated is based on saturation depth and hydraulic conductivity. Saturation depth is 138.4 feet based on the nine well logs examined.

EXHIBIT
2

Storativity

Storativity of an unconfined aquifer is 0.01.

Theis Multiple Well Analysis

A two year time period was utilized for analysis

Analysis using the 12.1 ft/day hydraulic conductivity

Expected decrees in static water level at DuWayne Kimball's well of 0.12 feet

Analysis using the 35.0 ft/day hydraulic conductivity

Expected decrees in static water level at DuWayne Kimball's well of 0.08 feet

Public Good Resulting from Water Use on a 1,000 Cow Dairy

Robert M. Ohlensehlen, University of Idaho Extension Professor Emeritus

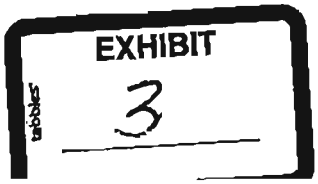
A 1,000 cow dairy is relatively small by today's standards, but is still an economically-viable sized dairy production unit. The method used to evaluate the positive influence this size of dairy would have on the local community can be expressed in two different ways - first is to evaluate the economic impact of the facility on the local community, and second is to compare the use of the proposed transfer of water from its current use of crop production and its intended use after the proposed transfer is granted.

Before discussing the evaluations, it is important to have some background. The proposed water transfer of 30 acre feet represents slightly more than the water allowed for just over two domestic well permits. A domestic well permit is slightly over 14 acre feet per year. To obtain a domestic well permit simply requires the applicant to apply, pay a minimal fee and begin drilling a well. All other uses of ground water are under a great deal of additional regulations and restrictions. The benefit to the larger community of the water used by a home, could be argued, is limited to the tax contribution annually for the home which may be as little as $1,000-2,500. After the home is constructed there would be little if any jobs created by that use of the resources.

Using the **Regional Input/Output Model: Ag Related Impacts** (*Authors William F. Hazen, Robert M. Ohlensehlen, Garth Taylor and Wilson Gray, University of Idaho Extension Faculty*), published in October 2003, an evaluation of the economic impact of a 1,000-cow dairy on the economy of the Magic Valley provided a picture of the economic and job impact of this operation.

First, it is important to understand that the growth of a regional economy occurs when products are exported from the region. The export of the product(s) from the region requires that money from outside the region will flow into the region. When no additional exports are created, then the economy may change but it does not grow.

In this case I examined the value of a 1,000-cow dairy to the community. Essentially the dairy itself does not export any product. The product goes to a processor who, in most cases in the Magic Valley, processes the milk into cheese. The resulting cheese is then exported from the area. Assuming that the 1,000 cows produce 22,000 lbs. of milk annually or about 70 pounds per day (2009 State average production per cow per year was 22,091lbs.), the annual herd production would be 22 million pounds of milk. Typically the conversion of milk to cheese is about 10 pounds of milk to 1 pound of cheese. That being said, the production of our 1,000 cows would be 2.2 million pounds of cheese per year. The value of cheese ranges widely, with lows in 2008-09 near the



$1.10 level while current prices are over $2.10 per pound. For our example I used $1.60 per pound. With production of 2.2 million of per year cheese at $1.6 per pound the result would be $3.52 million dollars of direct impact sales. The indirect impact sales would be $10.5 million for a total sales impact of $14.03 million dollars. Indirect Sales are the sales of products necessary to support the production of the 22 million lbs. of milk. The Direct Job changes that would result from this herd would be 5 jobs and the indirect job change would 56 jobs for a total of 60 jobs. Included in the total of 60 jobs are 9 jobs on the dairy itself.

The second evaluation that can be used for comparison for the use of the proposed water to be transferred of the public good is to compare the gross receipts of the product produced when the water is used for its current usage, which is for crop production, compared to the use for dairy cattle to produce milk.

Alfalfa Hay will require approximately 3 acre feet of water per year to produce a crop of 5.9 Tons per acre. Current hay prices are $225 per ton so the gross receipts per acre foot of water would be $442.50 per acre foot of water. If the same water was used to produce sugarbeets with an annual water requirement of 2.5 acre feet per acre with a yield of 31.6 tons per acre and $42.00 per ton, the gross receipts would be $530.88 income per acre foot of water. Beans would require 1.6 acre feet of water per acre. With a yield of 22 cwt per acre at $30 per cwt., the gross receipts would be $412.5 per acre foot of water. Winter wheat would require 2.48 acre feet of water to produce the crop. With a yield of 150 bushels of wheat at the current value of $7.70 the gross receipts would be $465.73 per acre foot of water used. Finally, if corn were produced with 2.23 acre feet of water per acre, it yielded 175 bushels per acre and was sold at the current $14.00 per cwt., the expected gross receipts would be $615.25 per acre foot of water used.

If the same water was used for dairy cattle, assuming that the dairy cattle would drink 35 gallons per day and that 20 gallons per day would be used for milking and cleanup, the expected production for 16.23 cows that the 325,829 gallons (1 acre foot) would sustain for one year would be $53,559 per acre foot of water used. The value of milk production was 22,000 pounds per cow per year at a value of $15.00 per hundred weight.

When dairy heifers use the water for drinking their consumption would be about 8 gallons per day. An acre foot of water would sustain 111.5 dairy heifers for one year. If the heifers gain 1.75 pounds per day they would gain about 640 pounds in a year. Currently heavy feeder heifers range in value from $98.00-$111.00 per cwt and lightweight feeder heifers range in value from $108.00-128.00 per cwt. Using an

average of $113 per cwt., the gross value of the heifers would be $723.20. This value is still greater than any of the crop production values.

From an economic standpoint the value to the community of a 1,000-cow dairy operation is significant and the greatest benefit to the community is the indirect income (over $10 million) and jobs produced (56 jobs). The indirect impacts include the grocer, the car dealer, the lumber yard, the farm supply store, etc., that are needed to service the industry. There is no question the dairy industry provides a lot of the fuel to the local economy.

In addition, comparing the ability of the water resource being used after the transfer to its current use, it is obvious that using the water in the dairy industry provides a much greater capacity to generate revenue than when it is used to produce crops. Obviously we have the need for a balance; without crops there is no feed for livestock.

Another benefit of livestock in the total agricultural economy to the community is the use of by-products by livestock. Food processing waste such as the corn waste from Seneca, the use of potato waste from Con Agra Lamb Weston Foods and beet pulp from Amalgamated Sugar would pose a huge problem if it were not for livestock that consume these waste products. These products fit well in the dairy rations. In addition, the production of distillers grains from alcohol production are also a mainstay of dairy rations. Other by-products include canola meal, soybean meal, cottonseed meal and whole cottonseed.

References:

Regional Input/Output Models: Ag Related Impacts, *University of Idaho College of Agriculture and Life Sciences, October 2003*

2010 Idaho Agriculture Statistics, *Idaho State Department of Agriculture, USDS National Agricultural Statistics Idaho Field Office*

Times News, *June 14, 2011.*

Rabo AgriFinance

Dave Stout
Sr. Relationship Manager
Office Address 1411 Falls Ave. E.
Suite 815
Twin Falls, ID 83301
Postal Address 1411 Falls Ave. E.
Suite 815
Twin Falls, ID 83301
Tel (208) 733-0044
Fax (208) 736-8707
Email dave.stout@raboag.com
www.RaboAg.com

June 22, 2011

Gary D. Slette
Robertson & Slette, pllc
Attorneys at Law
P.O. Box 1906
Twin Falls, ID 83303-1906

To Whom It May Concern:

This letter is to advise you that Matt Machado possesses the wherewithal to accomplish any needed work if the transfer is approved.

Please feel free to contact me if you have any questions.

Thank You,

Dave Stout

Sr. Relationship Manager

Rabo AgriFinance
1411 Falls Avenue East, Suite 815, Twin Falls, ID 83301
Telephone: (208)733-0044 / Fax: (208)736-8707 / Cell: (208) 420-7736
E-mail: Dave.stout@raboag.com
Website: www.raboag.com

pc: Matthew Machado

EXHIBIT
4

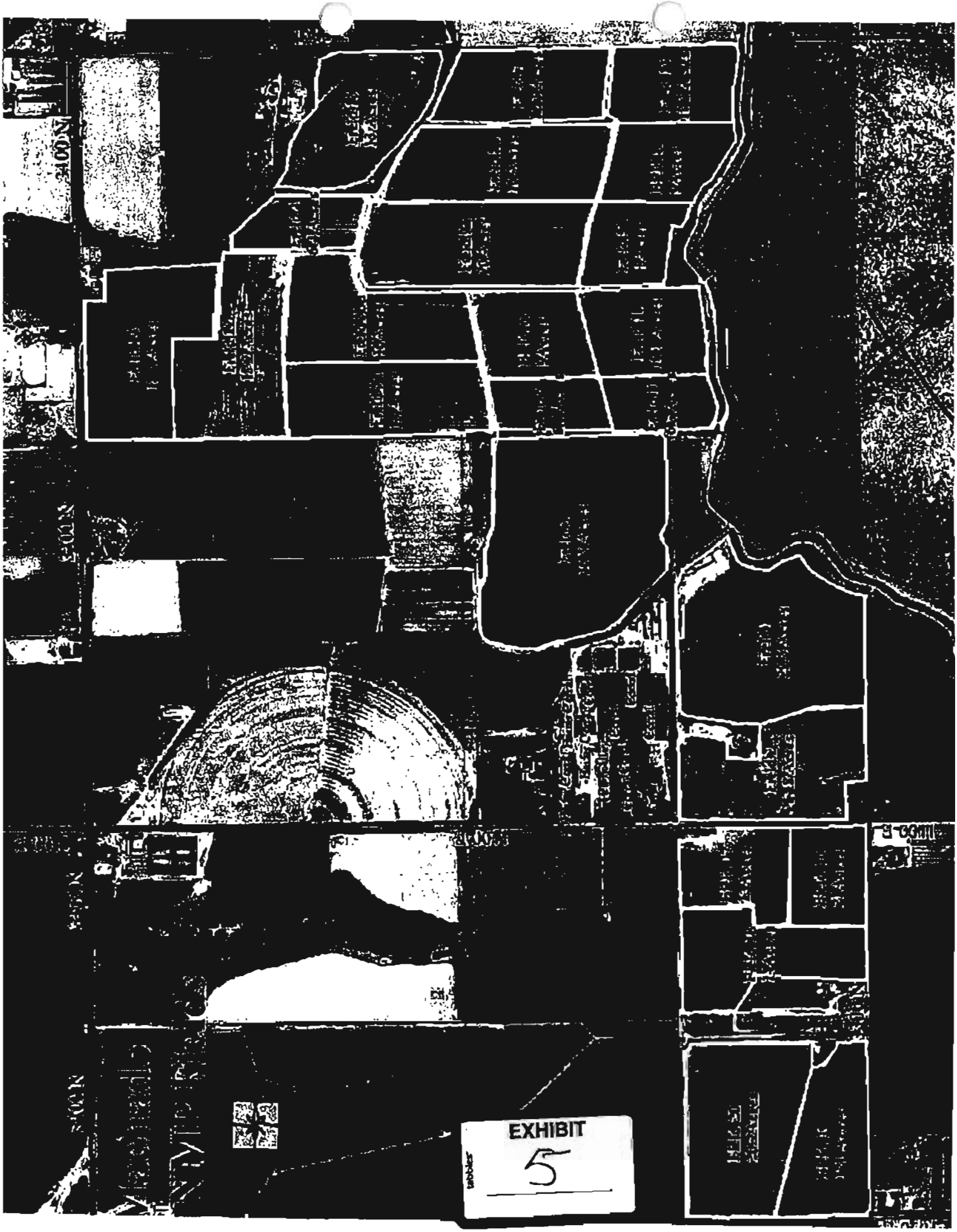


EXHIBIT
5

Twin Falls County Planning and Zoning Administration

246 Third Avenue East, Twin Falls, Idaho 83301
Phone: (208) 734-9490 Fax: (208) 733-9645

January 25, 2008

Bob Ohlensehlen
Nutrient Management Solutions LLC
1247 Filer Avenue East
Twin Falls, Idaho 83301

Re: Machado Dairy Operation – sixty-six (66) acres
Section 9, Township 11 East, Range 14 East, B. M.
3340 North 1100 East, Buhl Idaho

Machado Heifer Operation - eighty (80) acres
Section 8, Township 11 South, Range 14 East, B. M.
1075 East 3300 North, Buhl, Idaho

Dear Mr. Ohlensehlen:

The Machado Dairy Operation was approved under Ordinance 107. The existing permit is for six hundred thirty five (635) milking and dry dairy animals, and two hundred (200) replacement heifers. The animal unit equivalents are as follows: a mature dairy cow equals one point four (1.4) animal units, and a dairy heifer equals one (1) animal unit regardless of size. Based on these equivalents, the total is one thousand thirty-two (1,032) animal units.

The Machado Heifer Operation was approved under the 1997 Livestock Operation Ordinance. The existing permit is for five hundred sixty (560) animal units.

Should you have any questions or need further information please contact this office.

Respectfully,

Richard D. Dunn
Planning and Zoning Administrator
Twin Falls County

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY
M+S Machado Dairy
3340 N 1100 E.
Buhl ID

DATE: 8-18-06
TIME: 10:00 AM
OF ANIMALS: 575/570
PLANT/PERMIT #: NDA 35568

INSPECTION TYPE:
- [x] ROUTINE
- [ ] FOLLOW-UP
- [ ] PRE-QUALIFYING
- [ ] QUALIFYING
- [ ] OTHER
- [ ] COMPLAINT:

REPEAT NON-COMPLIANCE
TIME FRAME:
DISCHARGE INSPECTION
REVOKE MILK PERMIT
ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

Lagoon 1 & 2 75% Full. Will need to be pumped this Fall. Where water enter Lagoon Needs to be Fixed to prevent erosion of banks. Maybe Rip rap under pipes.

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE
Matt Machado

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY
M & S Machado
3340 N 1100 E
Buhl ID

DATE: 12/19/06
TIME: 2PM
OF ANIMALS:
Fresh & Dry: 9500
Replacements: 120 est

PLANT/PERMIT #: NIDA 35568

INSPECTION TYPE:
- [X] ROUTINE
- [ ] FOLLOW-UP
- [ ] PRE-QUALIFYING
- [ ] QUALIFYING
- [ ] OTHER
- [ ] COMPLAINT:

REPEAT NON-COMPLIANCE
TIME FRAME:
DISCHARGE INSPECTION
REVOKE MILK PERMIT
ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained		X	
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

1A North Lagoon at capacity with in six inches of Top. Must Maintain 1 Foot of Freeboard at the top of lagoon.

South Lagoon Empty.

1F Erosion by Inlet pipe Must be prevented. Use longer Pipe big rocks or rip raft to prevent. Was wrote up on inspection dated 8-18-06.

* Make sure that all parts of dead animals are removed when dead animals are picked up. including Pigeons

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

Please contact Me for a NMP P...

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY
M & J Machado
3340 N 1100 E
Buhl ID

DATE: 8/30/07
TIME: Noon
OF ANIMALS:
Fresh & Dry: 600 est
Replacements: 210
PLANT/PERMIT #: NDH 35568

INSPECTION TYPE:
- [x] ROUTINE
- [ ] FOLLOW-UP
- [ ] PRE-QUALIFYING
- [ ] QUALIFYING
- [ ] OTHER
- [ ] COMPLAINT:

REPEAT NON-COMPLIANCE
TIME FRAME:
DISCHARGE INSPECTION
REVOKE MILK PERMIT
ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Compliant	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment	X		
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan	X		
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

1A
East Lagoons, South Lagoon empty & cleaned. North Lagoon approximately 70% of capacity.

West Lagoons empty except for small amount of solids accumulated in bottom of Lagoons.

2A
- Be sure to keep records as outlined in NMP

Note: IF Dead animals are to be Buried must be covered with 3ft of dirt & be 3ft below the Natural surface of the Ground.

731-0496

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 12/15/07 TIME: 1pm # OF ANIMALS: Fresh & Dry: 550 Replacements: 200	INSPECTION TYPE: ☒ ROUTINE ☐ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	REPEAT NON-COMPLIANCE TIME FRAME: DISCHARGE INSPECTION REVOKE MILK PERMIT ADMINISTRATIVE HEARING
A&S Mahdo 3340 N 1100 E Buhl ID	PLANT/PERMIT #: NDA 35568		

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

North Lagoon approximately 60% of capacity.

South Lagoon empty & Dry.

- Produce is working with Bob Ohlensehlen to simplify NMP record keeping.

Left NMP record keeping Booklet with Producer.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

Spoke with Prior to Inspection

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 4/16/08 TIME: Spm # OF ANIMALS: Fresh & Dry: 650 Replacements: 200 ±5 PLANT/PERMIT #: NOM 35568	INSPECTION TYPE: ☑ ROUTINE ☐ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	REPEAT NON-COMPLIANCE ☐ TIME FRAME: DISCHARGE INSPECTION ☐ REVOKE MILK PERMIT ☐ ADMINISTRATIVE HEARING ☐
M&J Machado 3340 N 1100 E Buhl ID			

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

Lagoon approximately 20% of capacity.

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY
M & S Mackay
3340 N 1100 E
Buhl ID

DATE: 8/19/08
TIME: 4pm
OF ANIMALS:
Fresh & Dry: 565
Replacements: 120
PLANT/PERMIT #: NDA 3556

INSPECTION TYPE:
- [x] ROUTINE
- [ ] FOLLOW-UP
- [ ] PRE-QUALIFYING
- [ ] QUALIFYING
- [ ] OTHER
- [ ] COMPLAINT:

REPEAT NON-COMPLIANCE
TIME FRAME:
DISCHARGE INSPECTION
REVOKE MILK PERMIT
ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Compliant	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

North Lagoon recently cleaned of Solids.

South Lagoon approximately 80% of capacity.

Collection Cells on West Side of Facility 1 of 3 Full of Solids

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE
Spoke With

Idaho Department Of Agriculture
Animal Industries Division
P.O. Box 7249, Boise ID 83707-9985
(208) 332-8560

Livestock Facility Waste Inspection Report

Facility Name: Matt Machado	Date: 12/22/09	Inspection Type: ☑ Routine ☐ Follow-up ☐ Pre-Qualifying ☐ Qualifying ☐ Other ☐ Complaint:	Repeat Non-Compliance ☐
Owner:	Time: 10:30 am		Time Frame:
Physical Address: 10786 3300N	Number of Animals: 500		Discharge Violation ☐
Mailing Address: 3320N 11006	Capacity: 800		GPS Coordinates North: 42.97760 West: 114.83409
City/State/Zip: Buhl ID 83316			
Phone Number: 731-6889			

A livestock waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with State Rules are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for regulatory action.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Waste Containment Pond	☑	☐	☐
Type: Earth			
Freeboard: 3' of 3'			
b. Corral Containment	☐	☐	☐
Adequate Berming			
c. Separation System	☐	☐	☐
d. Construction Approved	☐	☐	
e. Adequate Liquid Storage	☐	☐	
f. Waste Facilities Well Maintained	☐	☐	
g. Evidence of Past Discharge	☐	☐	
h. Animals Confined From Waterways	☑	☐	☐
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan	☑	☐	
1. Crop Rotation and Yield	☐	☐	
2. Animal Numbers	☐	☐	
3. Barn Water Use	☐	☐	
4. Waste Export	☐	☐	
b. Record Keeping Current	☐	☐	
c. Liquid Application	☐	☐	☐
d. Solid Application	☐	☐	☐

Remarks:
1a The facility has pond waste containment

1h Animals are confined away from waterways.

2a This facility has a NMP. manure is applied to Machado property.

INSPECTOR SIGNATURE: John Blair

PRODUCER SIGNATURE: Matt Machado

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 4-16-09 TIME: 4p- # OF ANIMALS: Fresh & Dry: 600 Replacements: 440 PLANT/PERMIT #: NDA 35568	INSPECTION TYPE: ☒ ROUTINE ☐ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	REPEAT NON-COMPLIANCE TIME FRAME: DISCHARGE INSPECTION REVOKE MILK PERMIT ADMINISTRATIVE HEARING
M & J Meats 3340 N 1100 E Buhl ID			

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

- Feed collection area / Lagoons one full one approximately 20% of capacity.

Lagoons approximately 70% of capacity.

- Need to insure that Feed & manure are not blown into Laterals / Ditches.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 6-20-09 TIME: 3:40PM # OF ANIMALS: Fresh & Dry: 580 Replacements: 442 PLANT/PERMIT #: DM 35568	INSPECTION TYPE: ☑ ROUTINE ☐ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	REPEAT NON-COMPLIANCE TIME FRAME: DISCHARGE INSPECTION REVOKE MILK PERMIT ADMINISTRATIVE HEARING
M & J 3340 N 1100 E Buhl ID			

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Part Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

Lagoons approximately 50% of capacity.

- Some stacked silage in alfalfa field south of facility does not get runoff into lagoons on east side of silage pits.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY
MEJ
3340 N 1100 E
BUHL ID

DATE: 12-15-09
TIME: 11:30AM
OF ANIMALS:
Fresh & Dry: 570
Replacements: 120

PLANT/PERMIT #: ND4 35568

INSPECTION TYPE:
- [x] ROUTINE
- [ ] FOLLOW-UP
- [ ] PRE-QUALIFYING
- [ ] QUALIFYING
- [ ] OTHER
- [ ] COMPLAINT:

REPEAT NON-COMPLIANCE
TIME FRAME:
DISCHARGE INSPECTION
REVOKE MILK PERMIT
ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:
Lagoons approximately
end of capacity

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 7-2-10	INSPECTION TYPE:	REPEAT NON-COMPLIANCE	
MJ Machado	TIME: 2pm	☐ ROUTINE	TIME FRAME:	
3340 N 1100 E	# OF ANIMALS:	☒ FOLLOW-UP	DISCHARGE INSPECTION	
Burl ID	Fresh & Dry:	☐ PRE-QUALIFYING	REVOKE MILK PERMIT	
	Replacements:	☐ QUALIFYING	ADMINISTRATIVE HEARING	
	PLANT/PERMIT #: NDA 35568	☐ OTHER		
		☐ COMPLAINT:		

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use.			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

This is a follow up to inspection dated 4-20-10.

Bedding has been provided on west side of Heifer facility. Animals have been confined from tubing directly west of corrals. Must take measures to confine animals from irrigation tubing when animals are given access to alley that leads to pasture.

NMP must be updated to include Heifer facility & fields west of 1100 E.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 8-12-10	INSPECTION TYPE:	REPEAT NON-COMPLIANCE
M&S Idaho	TIME: 3:50PM	☑ ROUTINE	TIME FRAME:
3340 W 1100 S	# OF ANIMALS: Fresh & Dry: 575-8	☐ FOLLOW-UP	DISCHARGE INSPECTION
Buhl ID	Replacements: 300	☐ PRE-QUALIFYING	REVOKE MILK PERMIT
	PLANT/PERMIT #: NDA 35568	☐ QUALIFYING	ADMINISTRATIVE HEARING
		☐ OTHER	
		☐ COMPLAINT:	

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways		X	
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

2 sets of main Facility approximately 6a of capacity

2H

Must take measures to confine animals from irrigation lateral at Heifer facility. Fence will need to be completed by 10-15-10

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 12-22-10	INSPECTION TYPE:	REPEAT NON-COMPLIANCE
M & J Machado	TIME: 3pm	☒ ROUTINE	TIME FRAME:
3340 N 1100 E	# OF ANIMALS: Fresh & Dry: 510	☐ FOLLOW-UP	DISCHARGE INSPECTION
Buhl ID	Replacements: 300 est	☐ PRE-QUALIFYING	REVOKE MILK PERMIT
	PLANT/PERMIT #: NDA 35568	☐ QUALIFYING	ADMINISTRATIVE HEARING
		☐ OTHER	
		☐ COMPLAINT:	

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways		X	
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

Lagoons approximately 50% of capacity.

- North East corral runoff has flowed west & north out of corral - Depending on where property line is west water may have left dairy owned property. Measures must be taken to ensure waste water is contained on dairy owned property.

2H Heifer facility.

Animals have not been confined from Irrigation water. Item was to be corrected by 10-15-10. Item must be corrected by 4-5-10.

Runoff from west corral is free flowing into field. Ensure runoff is contained & does not flow through field to Federal

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE 337-0198

PRODUCER SIGNATURE

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 4-20-11 TIME: 4:30PM # OF ANIMALS: Fresh & Dry: 580 Replacements: 700 PLANT/PERMIT #: NDA 35568	INSPECTION TYPE: ☒ ROUTINE ☐ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	REPEAT NON-COMPLIANCE ☐ TIME FRAME: DISCHARGE INSPECTION ☐ REVOKE MILK PERMIT ☐ ADMINISTRATIVE HEARING ☐
M&J Machado 3340 N 1100 E Buhl ID			

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

Lagoons at approximately 60% of capacity.

Producer has started to create other 1 lane to keep animals confined from Irrigation lateral at Heifer facility. Producer states Fence will be completed by 5-10-11. Follow up will occur at this time

- Directly North of office / runoff / wastewater from corrals has collected in ditch West of corrals. Measures must be taken this Summer to contain runoff from lateral.

- Ensure runoff from South Silage pit is contained from Irrigation laterals.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE
Matt Machado

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 5-6-11	INSPECTION TYPE:	REPEAT NON-COMPLIANCE
M&J Machado 3340 N 1100 E Buhl ID	TIME: 10:30AM # OF ANIMALS: Fresh & Dry: _____ Replacements: _____	☐ ROUTINE ☒ FOLLOW-UP ☐ PRE-QUALIFYING ☐ QUALIFYING ☐ OTHER ☐ COMPLAINT:	TIME FRAME: DISCHARGE INSPECTION REVOKE MILK PERMIT ADMINISTRATIVE HEARING
	PLANT/PERMIT #: NDA 35568		

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Remarks:

This is a follow up to inspection dated 4-20-11. Animals have been confined from waterways at heifer facility.

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

INSPECTOR SIGNATURE	PRODUCER SIGNATURE
[signature]	[signature]

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 5-5-10	INSPECTION TYPE:	REPEAT NON-COMPLIANCE
MJ Mahle	TIME: 2pm	☐ ROUTINE	TIME FRAME:
3340 W 1100 S	# OF ANIMALS:	☐ FOLLOW-UP	DISCHARGE INSPECTION
Buhl ID	Fresh & Dry: ____	☐ PRE-QUALIFYING	REVOKE MILK PERMIT
	Replacements: ____	☐ QUALIFYING	ADMINISTRATIVE HEARING
	PLANT/PERMIT #: IDA 35568	☑ OTHER	
		☐ COMPLAINT:	

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment			
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrient Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

NMP Review

Produce provided crop yields, soil samples, manure applications & exports.

Soil samples show all fields are above phosphorous threshold all fields soil samples are very similar to 2008 except for Field 8 which increased. Nutrients need to be applied at crop uptake levels to maintain levels like for 08 to 09.

Producer is going to have Heifer facility & additional fields included on Dairy NMP

INSPECTOR SIGNATURE

PRODUCER SIGNATURE
Matt Mahle

IDAHO DEPARTMENT OF AGRICULTURE
BUREAU OF DAIRYING
PO BOX 790, BOISE ID 83701-0790
(208)332-8550

DAIRY FARM WASTE FACILITY INSPECTION REPORT

DAIRY NAME/OWNER/ADDRESS/CITY	DATE: 4-20-10	INSPECTION TYPE:	REPEAT NON-COMPLIANCE
MEJ Machado	TIME: 1:30PM	☑ ROUTINE	TIME FRAME:
3340 N 1100 E	# OF ANIMALS:	☐ FOLLOW-UP	
Buhl ID	Fresh & Dry: 550	☐ PRE-QUALIFYING	DISCHARGE INSPECTION
	Replacements: 120	☐ QUALIFYING	
	PLANT/PERMIT #: NDA 35568	☐ OTHER	REVOKE MILK PERMIT
		☐ COMPLAINT:	ADMINISTRATIVE HEARING

A dairy farm waste facility inspection was conducted at your facility on this date. Items found to be in non-compliance with IDAPA 02.04.14 are identified below. Please be aware that repeat non-compliance items found to exist on the next inspection may be cause for revocation of your permit to sell milk.

ITEM/DESCRIPTION	Comment	Non-Compliance	Discharge
1. WASTE SYSTEM			
a. Barn Waste Containment			
Type:			
Freeboard:			
b. Corral/Facility Containment	X		
☐ In-Corral ☐ Pond			
c. Separation System			
d. Construction Approved			
e. Adequate Liquid Storage			
f. Waste Facilities Well Maintained			
g. Evidence of Past Discharge			
h. Animals Confined From Waterways			
2. NUTRIENT MANAGEMENT			
a. Nutrients Management Plan			
1. Crop Rotation and Yield			
2. Animal Numbers			
3. Barn Water Use			
4. Waste Export			
b. Record Keeping Current			
c. Liquid Application			
d. Solid Application			

Idaho Rules Governing Dairy Waste, IDAPA 02.04.14 state that should a repeat item(s) on non-compliance or if a significant item(s) is found to exist on an inspection, a reinspection shall be required after the time deemed necessary to remedy the item(s) of non-compliance. Any significant or repeat item(s) of non-compliance found still existing at the time of the reinspection may call for revocation of your permit to sell milk. If the permit has been revoked a reinspection will be made when the department has been notified that the problem(s) has been corrected.

Remarks:

Main Facility

Lagoons approximately 40% of capacity.

4B

Heifer Facility. Facility inspected by John Klimes 12-22-09. Southeast of Main Facility. Measure must be taken to contain manure & ensure runoff does not flow into Irrigation Lateral on West side of the Facility by 7-1-10. If Field between Heifer Facility & Dairy is owned Heifer Facility Must to be included on Dairy NMP & Not on a beef NMP

At time of Inspection animals were confined from Waterways.

INSPECTOR SIGNATURE

PRODUCER SIGNATURE

41

Close

IDAHO DEPARTMENT OF WATER RESOURCES
Water Right Report

7/19/2011

WATER RIGHT NO. 47-10987

Owner Type	Name and Address
Current Owner	DU WAYNE L KIMBALL
Current Owner	KATHY L KIMBALL 1333 E 3500 N BUHL, ID 83316 (208)543-8993
Directors Report Owner	C F WURSTER 1420 9TH AVE E TWIN FALLS, ID 83301 (208)733-0158

Priority Date: 10/01/1945
Basis: Decreed
Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
STOCKWATER	1/01	12/31	0.04 CFS	
DOMESTIC	1/01	12/31	0.06 CFS	
Total Diversion			0.06 CFS	

EXHIBIT
Exhibit 6

Location of Point(s) of Diversion:

GROUND WATER	SWNESW	Sec. 02	Township 11S	Range 14E	TWIN FALLS County

Place(s) of use:

Place of Use Legal Description: STOCKWATER TWIN FALLS County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
11S	14E	2		SESW										

Place of Use Legal Description: DOMESTIC TWIN FALLS County

Township	Range	Section	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres	Lot	Tract	Acres
11S	14E	2		SESW										

Conditions of Approval:

1.	N13	THE QUANTITY OF WATER UNDER THIS RIGHT SHALL NOT EXCEED 13,000 GALLONS PER DAY.
2.	C18	THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
3.	N11	THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.
4.		STOCKWATER 300 HOGS RP 11S14E022400

Dates:
Licensed Date:
Decreed Date: 05/14/1999
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
Water Supply Bank Enrollment Date Accepted:
Water Supply Bank Enrollment Date Removed:
Application Received Date:
Protest Deadline Date:
Number of Protests: 0

Other Information:
State or Federal: S
Owner Name Connector: OR

Water District Number:
Generic Max Rate per Acre:
Generic Max Volume per Acre:
Civil Case Number:
Old Case Number:
Decree Plantiff:
Decree Defendant:
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Cary Act Number:
Mitigation Plan: False

Close

Exhibit 6

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 47-10987

WATER RIGHT NUMBER: 47-10987

Owner Type	Name and Address
Current Owner	DU WAYNE L KIMBALL 1333 E 3500 N BUHL, ID 83316 (208)543-8993
Current Owner	KATHY L KIMBALL 1333 E 3500 N BUHL, ID 83316 (208)543-8993
Directors Report Owner	C F WURSTER 1420 9TH AVE E TWIN FALLS, ID 83301 (208)733-0158

Protestant

Priority Date: 10/01/1945

Basis: Decreed

Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Annual Volume
STOCKWATER	1/01	12/31	0.040 CFS	
DOMESTIC	1/01	12/31	0.060 CFS	
		Total Diversion:	0.060 CFS	

Location of Point(s) of Diversion

GROUND WATER SW1/4NE1/4SW1/4 Sec. 2, Twp 11S, Rge 14E, B.M.

TWIN FALLS County

Place of Use

STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
11S	14E	2												X					

DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
11S	14E	2												X					

IDAHO DEPARTMENT OF WATER RESOURCES

Water Right Report 47-10987

Conditions of Approval:

1. C18 THIS PARTIAL DECREE IS SUBJECT TO SUCH GENERAL PROVISIONS NECESSARY FOR THE DEFINITION OF THE RIGHTS OR FOR THE EFFICIENT ADMINISTRATION OF THE WATER RIGHTS AS MAY BE ULTIMATELY DETERMINED BY THE COURT AT A POINT IN TIME NO LATER THAN THE ENTRY OF A FINAL UNIFIED DECREE. SECTION 42-1412(6), IDAHO CODE.
2. N11 THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.
3. N13 THE QUANTITY OF WATER UNDER THIS RIGHT SHALL NOT EXCEED 13,000 GALLONS PER DAY.
4. STOCKWATER 300 HOGS RP 11S14E022400

Remarks:

Comments:

1. TFAWCETT 9/8/1998 OWNERSHIP CHANGE
Comment: OWNERSHIP CHANGED FROM WURSTER TO KIMBALL PER 1409(6) AND DEEDS REC'D 8/31/98.

2. AJU10-DS 2/24/2000 AJU10 CONDITION UPDATE
Comment: CONDITION CODE(S) C18 ADDED IF NOT ALREADY PART OF RECORD THRU AJU10.

Dates and Other Information:

Licensed Date:
Decreed Date: 5/14/1999
Enlargement Use Priority Date:
Enlargement Statute Priority Date:
State or Federal: S
Owner Name Connector: OR
Water District Number:
Generic Max Rate Per Acre:
Generic Max Volume Per Acre:
Decree Defendant:
Decree Plaintiff:
Civil Case Number: 39576
Judicial District: FIFTH
Swan Falls Trust or Nontrust:
Swan Falls Dismissed:
DLE Act Number:
Carey Act Number:
Mitigation Plan: False

Combined Use Limits.

Water Supply Bank:

RECEIVED
JUL 0 1 2011
DEPARTMENT OF
WATER RESOURCES

Gary D. Slette
ROBERTSON & SLETTE, PLLC
P.O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 933-0700
Facsimile: (208) 933-0701
ISB #3198
frlm\IDWR\machado\disclsr info

Attorneys for Applicantss

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

* * * * * *

In the Matter of Applications for Transfer No. 75738 and 75379 in the name of Matthew and Jacqueline Machado	**INFORMATION DISCLOSURES**
DuWayne Kimball, Protestant.	

COME NOW Matthew M. Machado and Jacqueline C. Machado (hereinafter "Applicants"), by and through their attorney of record, Gary D. Slette, and provide the following information disclosures pursuant to the Pre-Hearing Order entered in this matter by Allen D. Merritt, P.E., Southern Regional Manager, dated May 18, 2011:

1. Persons Having Specific Knowledge Regarding Material Facts Related To The Application, And A Brief Summary Of Expected Testimony:

(a) Matthew M. Machado, one of the Applicants, is expected to provide testimony concerning his financial capability to construct all necessary improvements as set forth in the Applications, and his intent to diligently pursue such completion in good faith without any intention of delay or speculation. Mr. Machado may also testify concerning his opinions that the approval of the requested transfers will not conflict with

the local public interest; and that such transfers would not adversely affect the local economy of the area; and that such transfers are not contrary to the conservation of water resources within the state of Idaho.

2. Expert Witnesses With Specific Opinions Related to the Applications, Together With a Brief Summary of Their Opinions:

(a) Charles E. Brockway, P.E., Ph.D., whose Vitae is attached, may provide expert testimony concerning the following:

(i) Explanation and augmentation of all information and narrative reports he previously prepared or filed in connection with the Applications at issue.

(ii) The absence of any negative effect which granting of the Applications will have on conservation and water resources within the state of Idaho or the local public interest.

(iii) The effects, if any, that the project for which the Applications are sought would have on water quality or quantity, including a comparative analysis of water expected to be diverted pursuant to Water Right Nos. 47-17510, 47-17512 and 47-17514 in comparison to water diversions and consumption currently allowed. Dr. Brockway is also expected to testify concerning the adequacy of the water supply to fulfill the diversion sought by Transfer Nos. 75738 and 75739; the absence of any negative impacts which such diversions will have on existing water rights in the immediate area; and other components comprising "Local Public Interest". Dr. Brockway's testimony will be supplemented and enhanced by the information previously submitted to the Idaho Department of Water Resources in connection with the Applications, together with one (1) report prepared by him, a copy of which is attached hereto:

- "Multiple Well Effect Analysis of Transfer 75738 and 75739 dated April 25, 2011."

(b) Greg Sullivan, M.S., E.I.T., whose Vitae is attached, may provide expert testimony concerning the following:

(i) Explanation and augmentation of all information and narrative reports previously filed in connection with the Applications at issue.

(ii) The absence of any negative effect which granting of the Applications will have on conservation and water resources within the state of Idaho or the local public interest.

(iii) The effects, if any, that the project for which the Applications are sought would have on water quality or quantity, including a comparative analysis of water expected to be diverted pursuant to Water Right Nos. 47-17510, 47-17512 and 47-17514 in comparison to water diversions and consumption currently allowed. Dr. Brockway is also expected to testify concerning the adequacy of the water supply to fulfill the diversion sought by Transfer Nos. 75738 and 75739; the absence of any negative impacts which such diversions will have on existing water rights in the immediate area; and other components comprising "Local Public Interest". Dr. Brockway's testimony will be supplemented and enhanced by the information previously submitted to the Idaho Department of Water Resources in connection with the Applications, together with one (1) report prepared by him, a copy of which is attached hereto:

- "Multiple Well Effect Analysis of Transfer 75738 and 75739 dated April 25, 2011."

(c) Robert M. Ohlensehlen, Extension Professor Emeritus, whose Vitae is attached, may provide expert testimony concerning the following:

(i) That granting the Applications will not be in conflict with the local public interest.

(ii) That granting the Applications will not be contrary to the conservation of water resources within the state of Idaho.

(iii) That granting the Applications will not adversely affect the local economy of the area.

Mr. Ohlensehlen's testimony will be supplemented and enhanced by the report prepared by him, a copy of which is attached hereto:

➢ "Public Good Resulting from Water Use on a 1,000 Cow Dairy"

3. A List and Copy of All Documents, Audio Recordings, Pictures and Other Items Containing Information Directly Relevant to the Applications.

(a) Please see Exhibits 1 through 5 attached hereto.

4. Subject to approval by the Hearing Officer, Applicants reserve the right to supplement the information disclosures contained herein.

DATED this 30 day of June, 2011.

ROBERTSON & SLETTE, PLLC

By _____
Gary D. Slette

CERTIFICATE OF MAILING

I hereby certify that on this 30 day of June, 2011, I served a copy of the foregoing instrument, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Original:

Shelley Keen, Hearing Officer
Idaho Department of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098
Via U.S. Mail.

Copies to:

DuWayne Kimball
1333 E. 3500 N.
Buhl, ID 83316

[ ] Hand Deliver
[✓] U.S. Mail
[ ] Overnight Courier
[ ] Email kimball64@gmail.com

Matthew Machado	[ ]	Hand Deliver
Jacqueline Machado	[✓]	U.S. Mail
3340 N 1100 E	[ ]	Overnight Courier
Buhl, ID 83316	[ ]	Email

Stan Haye	[ ]	Hand Deliver
Snake River Management	[✓]	U.S. Mail
3539 E 3000 N	[ ]	Overnight Courier
Kimberly, ID 83341	[ ]	Email

Gary D. Slette

Charles E. Brockway, P.E., Ph.D.

Brockway Engineering
2016 North Washington St. Suite 4
Twin Falls, ID 83301
(208) 736-8543
(208) 736-8506 FAX
E-mail: charles.e.brockway@brockwayeng.com

Present title:

Senior Member – Brockway Engineering P.L.L.C
Formerly-Research Professor – Civil and Agricultural Engineering: Supervision of research conducted by the University Water Resources Research Institute and the College of Engineering at Kimberly, Idaho. Graduate student supervision and directed studies instruction in Water Management and Water Resources related subjects.
Associate Director – Idaho Water Resources Research Institute

Summary of education beyond high school:

Institution, Degree, Year
University of Idaho 1955-1959, B.S.-Civil Engineering, 1959
California Institute of Technology 1959-1960, M.S. – Civil Engineering, 1960
University of Colorado, Denver, Colorado, Management, 1963
University of Denver; Denver, Colorado, Civil Engineering, 1964
Utah State University, Ph.D.-Water Resources Engineering, 1977

Number of years service on U of I faculty: 32

Date of original appointment: 1965
Dates of advancement in rank:
Associate Research Professor: 1974
Professor – 50% Agricultural Engineering, 50% Civil Engineering: 1978

Subjects and courses taught:

CE 500, CE 600, CE 502

Summary of academic experience:

University of Idaho – Research Professor–Civil and Agricultural Engineering, 1978
University of Idaho – Associate Research Professor, Civil Engineering, 1974-1978
University of Idaho – Assistant Research Professor, Civil Engineering, 1965-1974
Boise College – Instructor in Engineering, 1961-1963

Summary of other experience:

Senior Member, Brockway Engineering P.L.L.C. Water Resources Engineering
University of Idaho – USAID Pakistan Project on Irrigation Systems Management Research, 1984
U.S. Bureau of Reclamation – Hydraulic Research Laboratory, Denver, Colorado – Hydraulic Research Engineer, 1963-1965
U.S. Bureau of Reclamation – Boise, Idaho – Hydraulic Engineer, 1961-1963
Converse Foundation Engineering, Inc. – Pasadena, California – Foundation Engineer, 1960-1961

California Institute of Technology – Pasadena, California – Assistant Project Engineer, U.S. Public Health Services Research Project, 1959-1960

Partial Client List:

Twin Falls Canal Company – Twin Falls, Idaho – Hydrology and water use
North Side Canal Company – Jerome, Idaho – Hydrology and water use
Micron Technology – Ground water and water supply
J.R. Simplot Company – Land disposal of processing waste, water supply, water rights
City of Twin Falls – Water supply and hydrology
Idaho Trout Processors – Hydraulics and water supply
Cedar Mesa Reservoir and Canal Co– Water Management Consultant
Clear Springs Trout Company, Buhl, Idaho – Water supply and distribution systems
Idaho Power Company, Boise, Idaho – Relationships of groundwater and surface water – Upper Snake River Basin – water right adjudication
Idaho Department of Fish and Game – Evaluation of groundwater stream relationship for litigation – Parma vicinity
Blaine County, Idaho – Waste disposal systems for high-density rural subdivisions
City of Mountain Home, ID. Water Rights, hydrologic analysis
Rinker Company, Long Beach, CA Hydrology, water rights
U.S. Bureau of Reclamation (was Maricopa County Water District) – Arizona Flood Study
Office of Technology Assessment – U.S. Congress – Irrigation Distribution Systems
U.S. Department of Justice – Indian Water Rights
Montgomery Engineers – Ground water quality evaluations
J.U.B. Engineers, Twin Falls, Idaho – Groundwater and hydraulics
Amalgamated Sugar Company, Idaho – Hydrology and waste disposal
Pioneer Irrigation District, Idaho Water rights and hydrology
Aries Development Co. Subdivision water rights
Eagle View Farms, Castleford ID-Water rights and irrigation system
Rim View Trout Company, Wendell ID- Hydraulics

Registered Professional Engineer:

Idaho, Colorado and Washington

Special Awards or Honors:

Honorary Membership ASTM, 1959
U.S. Army National Defense Transportation Award, 1958
Distinguished Military Graduate – University of Idaho
Top Ten Graduating Senior – University of Idaho, 1959
No. 2 in graduating class of 889, University of Idaho, 1959
Representative of USBR Division of Research at 1963 Intergovernmental Training Program, Denver, 1964
Scholarship – University of Denver, Graduate School of Management, 1964
National Science Foundation Fellowship – Utah State University, 1967-1968
Outstanding Young Engineer Award for Idaho, National Society of Professional Engineers, 1968
Engineer of the Year, 1997 American Society of Agricultural Engineers
Idaho Water Users Hall of Fame - 1998

Membership in professional and scholarly organizations:

National Society of Professional Engineers, 1967- present
Idaho Society of Professional Engineers, 1967- present: President 1978
American Society of Civil Engineers – Irrigation & Drainage Division Committee Chairman:

1.) Operation and Maintenance of Irrigation and Drainage Systems, 1975-1981
2.) Water Quality Committee, 1980-1984, Chairman
3.) Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1980-1983, Chairman
4.) Publications Committee, 1985-1992

Research Society of America
National Council of Examiners for Engineering and Surveying, 1981-1991
Idaho Board of Professional Engineers and Professional Land Surveyors, 1981-1991, Chairman
American Water Resources Association

Offices held in such organizations:

National Society of Professional Engineers
- Member – Young Engineers Committee, 1973-1974
- Chairman – Young Engineers Committee, 1975-1977
- Member – President's Committee on Board of Directors Organization, 1977
- Member – Registration and Qualification for Practice Committee, 1979-1981
- Chairman – Registration and Qualification for Practice Committee, 1982-1984
- Member – Participating Organizations Liaison Committee to NCEE, 1982-1984

Idaho Society of Professional Engineers, President 1978
- President - Magic Valley Chapter, 1970-1971
- Member – State Ethical Practices Committee, 1966-1977
- Member – State Intersociety Relations Committee, 1968
- Member – State Nominating Committee, 1975-1976
- Member – Board of Directors, 1972-1973
- Member – Board of Directors, Past President Chairman – Nominating Committee 1979
- State Director – Representative for Idaho NSPE, 1982-1983
- Nominating Committee for Idaho Board of Professional Engineers & Land Surveyors Member

American Society of Civil Engineers
- Member – Operation and Maintenance of Distribution Systems Committee Irrigation and Drainage Division, 1975-1981
- Chairman – Irrigation and Drainage Division, Operations and Maintenance Committee, 1977-1979
- Member – Water Quality Committee, Irrigation and Drainage Division, 1980-1984
- Chairman – Water Quality Committee, Irrigation and Drainage Division, 1982-1984
- Member – Task Committee on Water Measurement, 1980-1983
- Chairman – Task Committee on Guidelines for Erosion and Sediment Control in Irrigated Agriculture, 1984 – Present
- Member – Publications Committee, 1985 – Present
- Corresponding Member – ASCE irrigation and Drainage Division Committee on Operation and Maintenance of Irrigation Systems

Reviewer – ASCE Irrigation and Drainage Division Committee on Publications
Idaho Board of Professional Engineers and Land Surveyors Member, 1981
Vice Chairman, 1983-1984
Chairman, 1984-1986, 11990-1992
National Council of Engineering Examiners
Assistant Vice President, Western Zone
Member, Professional Examinations Advisory Committee
Member, Committee on Uniform Procedure and Legislative Guidelines, 1984
Member, Communications and Publications Committee, 1983
Member, Uniform Examinations and Qualifications Committee, 1984 – 1986
Member, Committee on Examination Policies and Procedures, 1987 – 1989
Member, Advisory Committee on Council Activities, 1986-1987
Assistant Vice President – Western Zone, 1986-1987
Member, Fundamentals Examination Review Committee, 1986 1988

Scholarly and creative activity:

Research:

Development of systems analysis procedures for optimization of irrigation system designs with environmental, physical, and social constrains.
Evaluation of crop consumptive use, irrigation requirements, and methods of determining basin depletion from agricultural development
Systems analysis of water use to develop mathematical methods for studying complex ground water-surface water systems – mathematical modeling of aquifers,
Ground water quality and river system water quality evaluations for nutrient load determination and river system modeling.
Development of guidelines for design of sediment removal facilities for on-farm and irrigation distribution system waste ways
Evaluation of attainable impacts on water quality of irrigation return flows due to implementation of best management practices for sediment and nutrient control.
Evaluation of alternate energy sources for irrigation and municipal needs in Idaho.
Analysis of operation and maintenance cost of water distribution systems and determination of the relationship of costs to known physical and organizational parameters and water use efficiency.
Evaluation of the economic potential for use of geothermal hot water and steam in Idaho,
Study of the movement of water from canals to local water tables under saturated and partially saturated conditions.
Studies of the mechanisms of microbial action, sedimentation and soil-water-chemical interactions involved in natural sealing phenomenon in canals and reservoirs,
Evaluation of irrigation management practices for sustained land disposal of geothermal fluids.
Evaluation of practices and systems for controlling sediment and other pollutant losses from irrigated lands.
Investigation of the response of aquifer systems to changes in recharge or withdrawal due to change in land use.
Evaluation of procedures for estimating crop water requirements,

Development of cost effective procedures and equipment for measurement of irrigation diversions and power use in open and closed systems

Community services and other relevant activities:

Member – Intermountain District Church of the Nazarene; Camps Board – 1976-1984, Board of Church Properties – 1976-1979
Member and Vice President, Twin Falls Reformed Church Consistory 2000-Present
Member – Twin Falls City Planning and Zoning Commission 12/1978-9/1979
Member – College of Southern Idaho Geothermal Energy Commission
Member – Governor's Committee on Energy Use – 1980-1981
Member – Idaho Technical Advisory Committee for Sediment in Surface Water
Chairman – Snake River Technical Advisory Committee – Idaho Legislative Council, 1983-1985
Advisor – Governor's Snake River Advisory Committee – 1985
Member – Water Resources Foundation Board of Directors – 1985
Chairman – Idaho Technical Committee of Hydrology
Member – Idaho Department of Health & Welfare Sediment Citeria Committee
Member – Snake Plain Advisory Committee of Idaho Department of Health & Welfare
Member – Idaho Water Users Water Quality Committee – 1980
Member – INEL Dose Evaluation and Risk Assessment Committee
Member – Columbia River System Operations Review
Member – Mid Snake River Nutrient Management Advisory Committee
Member - Mid Snake River Irrigation Water Quality Coordination Committee
Technical Advisor – Middle Snake River Committee
Member – Liaison Committee, U.S. Geological Survey National Water Quality Assessment Program, Snake River Basin
Member – Snake River Studies Committee, Idaho Department of Water Resources
Member – City of Twin Falls Wellhead Protection Committee
Member-Eastern Snake River Plain Groundwater Modeling Committee

Publications:

Brockway, C.E. 1964. Progress Report – Investigation of a Seepage Meter Designed by the Agricultural Research Service – Lower Cost Canal Lining Program, Bureau of Reclamation Hydraulic Branch HYD-529

Brockway, C.E. 1964. Flow Resistance Coefficients of Three Sizes of Cast-in-Place Concrete Pipe. Bureau of Reclamation Hydraulic Branch, HYD-533, 1964

Brockway, C.E. 1965. Investigation of the Effect of Turnout Geometry on the Registration Accuracy of a Propeller-Type Open Flowmeter Bureau of Reclamation, HYD-545, 1965

Brockway, C.E. 1966. Groundwater Investigations and Canal Seepage Studies. Engineering Experiment Station, University of Idaho, Progress Report No. 1, 1966.

Schuster, J.C. and C.E. Brockway. 1967. Investigation of a 4-Inch Magnetic Flowmeter. Bureau of Reclamation, HYD-574

Worstell, R.V. and C.E. Brockway. 1967. Estimating Seasonal Changes in Irrigation Canal Seepage. Presented at Spokane, Washington October 20, 1967.

Worstell, R.V. and C.E. Brockway. 1967 Groundwater Investigations and Canal Seepage Studies. Engineering Experiment Station, University of Idaho, Progress Report No. 2

Bloomsburg, G.L. and C.E. Brockway. 1968. Movement of Water from Canals to Groundwater Tables. Research Technical Completion Report, Idaho Water Resources Institute.

Worstell, R.V. and C.E. Brockway. 1968. Field Evaluation of Seepage Measurement Methods. Presented at 2nd Seepage Symposium, Phoenix, Arizona February 1968.

Bondurant, J.A., C.E. Brockway, and R.V. Worstell. 1968. Plastic Casings for Soil Cores. Soil Science, Vol. 107 No. 1

Herbig, A.E. and C.E. Brockway. 1970. Operations and Maintenance Costs of Irrigation Distribution Systems. Proceedings, National Irrigation Symposium, Lincoln, Nebraska

Bondurant, J.A., C.E. Brockway and R.V. Worstell. 1971. Systems Analysis of Irrigation Water Management in Eastern Idaho. Progress Report No. 1, University of Idaho Engineering Experiment Station

Brockway, C.E. 1971. What Does It Cost to Operate an Irrigation District?. Proceedings, Fifth Regional Water Users' Conference, Bakersfield, California

Bondurant, J.A., R.V. Worstell, and C.E. Brockway. 1972. Water Resources Management in the Upper Snake River Valley. Proceedings, Irrigation & Drainage Division, Specialty Conference, ASCE, Spokane, Washington

Nicholas, C.R., Warnick, and C.E. Brockway. 1972. Geothermal Water and Power Resources Exploration and Development for Idaho. Research Technical Completion Report, University of Idaho, Idaho Water Resources Research Institute, Moscow, ID

Brockway, C.E. 1972. Estimating Irrigation Distribution System Operation and Maintenance Costs. Paper presented and the Annual Meeting, Pacific Northwest Region ASAE, Calgary, Alberta, Canada, October 10-12, 1972.

Bondurant, J.A., R.V. Worstell, and C.E. Brockway. 1973. Implications of Changes in Water Management in the Upper Snake River Basin. Paper presented at the ASCE Water Resources Conference, Washington, D.C., January, 1973

Brockway, C.E. 1973. Investigation of Natural Sealing Effects in Irrigation Canals, Research Technical Completion Report, Project A-023-IDA, Idaho Water Resources Research Institute

Reese, D.L. and C.E. Brokcway. Operation and Maintenance Cost on Irrigation, Distribution Systems, Progress Report, University of Idaho, College of Engineering

De Sonneville, Jos L.J. and C.E. Brockway. 1973. Systems Analysis of Irrigation Water Management in Eastern Idaho. Research Technical Completion Report, Project B-018-IDA, University of Idaho, Idaho Water Resources Research Institute, Moscow, ID.

Reese, David L., H.F. Mayland, and C.E. Brockway. 1973. Alternative Methods of Estimating Snow Water Parameters. Water Resources Research, Vol. 9 No. 5

Bondurant, J.A. and C.E. Brockway. 1974. Operation and Maintenance Cost on Irrigation Distribution Systems. Proceedings, VIIIth International Congress of Agricultural Engineering, Flevohof, Netherlands

Bondurant, J.A. and C.E. Brockway. 1974. Sediment Ponds Clean Irrigation Runoff Water. Idaho Farmer.

Brockway, C.E. 1974. Water Resources of the Upper Snake River Basin, Proceedings, National Environmental Research Park Symposium, Idaho Falls, Idaho.

Watts, F.J., C.E. Brockway, and A.E. Oliver. 1974. Analyses and Design of Settling Basins for Irrigation Return Flow. Research Technical Completion Report, Project A-042-IDA, University of Idaho, Idaho Water Resources Research Institute, Moscow, ID

Warnick, C. and C.E. Brockway. 1974 Hydrology Support Study, A Case Study of Federal Expenditures on a water and Related Land Resource Project. Boise Project, Idaho and Oregon Project C-4202. University of Idaho, Idaho Water Resources Research Institute, Moscow, ID.

Brockway, C.E. 1975. Energy Plant Siting Position Paper, Idaho Society of Professional Engineers February, 1975 (Member of Committee on Energy Plant Siting).

Bondurant, J.A., M.J. Brown, and C.E. Brockway. 1975 Some Aspects of Sedimentation Pond Design. Proceedings, National Symposium on Urban Hydrology and Sediment Control, Lexington, Kentucky

Brockway, C.E. 1975. Issues Involved in Peoples Choices in Resources-Water. Idaho Academy of Science, Caldwell, ID.

Brockway, C.E. 1975. Science in Idaho's Future, Idaho Academy of Science, Panel Symposium

Claiborn, B.A. and C.E. Brockway. 1975. Impact of Changes in Irrigation Water Management in Eastern Idaho. Research Technical Completion Report, Project A-040-IDA, University of Idaho, Idaho Water Resources Research Institute, Moscow, ID.

Bondurant J.A., C.E. Brockway, and M.J. Borwn. 1976. Characterizing Irrigation Return Flow Streams. 7th U.S. Technical Conference and 10th ICID Congress.

Brockway, C.E. 1977. Vegetative Buffer Strips for Sediment Retention in Irrigation Runoff. Proceedings, ASCE irrigation and Drainage Division Specialty Conference on Water Management for Irrigation and Drainage, Reno, Nevada

Brockway, C.E. 1977. Sediment Ponds for Irrigation Return Flow and Potato Fresh Pack Effluent. Research Technical Completion Report, Project A-042-IDA. University of Idaho, Idaho Water Resources Research Institute, Moscow, ID.

Fitzsimmons, D.W., G.C. Lewis, J.R. Busch, G.M. McMaster and C.W. Berg. 1977. On-Farm Methods for Controlling Sediment and Nutrient Losses. Proceedings, National Conference on Irrigation Return Flow Quality Management, Fort Collins, Colorado.

Brockway, C.E. 1977. Investigation of Natural Sealing Effects in Irrigation Canals. Ph.D. Dissertation, Utah State University.

Brockway, C.E. and K.P. Grover. 1977. Water Management and Groundwater in the Henry's Fork-Upper Snake River Basin of Idaho. Research Technical Completion Report, ASCE Henry's Fork Project, Idaho Water Resources Research Institute.

Bondurant, J.A., M.J. Brown and C.E. Brockway. 1977. Predicting Irrigation Return Flow Rates. ASAE-SW-192.

Claiborn, Brent and C.E. Brockway. 1977. Predicting Attainable Irrigation Efficiencies. ASCE.

Grover, K.P. and C.E. Brockway. 1978. Evaluation of Urbanization and Changes in Land Use on the Water Resources of Mountain Valleys. Research Technical Completion Report. Project B-038-IDA. University of Idaho, Idaho Water Resources Research Institute, Moscow, ID.

Robbins, C.W. and C.E. Brockway. 1978. Irrigation Water Salt concentration Influences on Sediment Removal by Ponds. Soil Sci. Soc. Am. J. 42:478-481.

Longley, T.S., C.E. Brockway, and E.C. Larsen. 1978. Low Energy Sprinkler Equipment. ASAE Annual Meeting, Spokane, Washington. PN-78-406.

Brockway, C.E. 1978. Systems Analysis of Irrigation Water Use in Eastern Idaho. OWRT.

Brockway, C.E. 1978. Alternative Irrigation Systems for Flood Damaged Irrigation Lands Below Teton Dam. Research Technical Completion Report, Idaho Water Resources Research Institute.

Busch, J.R., R.G. Allen and C.E. Brockway. 1978. Irrigation Rehabilitation Plans in the Teton Flood Area. ASCE Convention and Exposition, Chicago, Illinois.

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Present Title

Engineer in Training- Brockway Engineering, P.L.L.C.

Education

Bachelors of Science, Master of Science
Utah State University- Environmental Engineering (2003-2007)
Associate of Mechanical and Agricultural Engineering
College of Southern Idaho- General Studies (2001-2003)
Associate of Science in Physics and Natural Resources
College of Southern Idaho- General Studies (2001-2003)
Associate of Science in Agricultural Science
College of Southern Idaho- General Studies (1999-2001)

Graduate Student Research

Environmental and Biological Irrigation Engineering Departments
Utilizing biogas produced by an anaerobic induced blanket reactor digester to provide the fuel for light duty pickup truck

Lab Technician Research and Training

Performed bio-methane potential tests on industrial organic waste products
Analyzed phosphorus accumulating organism

Professional Presentations

Session Presentation: Phosphorus Removal for Logan Waste Water Treatment Facility
Nov. 2006 Water Environment Association of Utah (WEAU) mid-year conference
Poster Presentation: Bioplastics: Sustainable Production through Wastewater Treatment
March 2006 Institute of Biological Engineering 2006 Annual Meeting
Poster Presentation: Bioplastics Production from Municipal Wastewater: A Plan for Logan City, Utah, Sept. 2005 Inland Northwest Research Alliance (INRA) annual conference

Community Service and Volunteer Work

Scout Master, Boy Scouts of America 2008-present
Society of Environmental Engineers and Scientists (SEES) Club Member 2004-2007
Scout Leader, Boy Scouts of America 2003-2005
Engineering Club member at College of Southern Idaho 2001-2003
Volunteer Church Representative, Nova Scotia, Canada 1997-1999

Education and Work Experience for
Robert Ohlensehlen
450 Falls Avenue Suite 106
Twin Falls, ID 83301

Formal Education

University of Idaho Agricultural Education M.S. Ag Date - May 30 1986
University of Idaho Agricultural Education B.S. Ag Date Jun 1 1971

Relevant Accreditations / Licenses

State Government
Nutrient Management State Certification # 1023 Expires Sep 27, 2020 State Idaho
American Registry of Professional Animal Scientists
Registered Professional Animal Scientist # 2437 Expires Feb 1, 2012 State Idaho

In-service Trainings

Agriculture and Water Quality in the Pacific Northwest
Nutrient Management and Water Quality Date - Oct 18, 2004
Certified Nutrient Management Training Course
Nutrient Management Planner Course Date - Nov 15, 1998
Certified Soil Sampler Training
Nutrient Management Date - Nov 13, 2007
Comprehensive Nutrient Management Plan Development
National - Nutrient Management Planner Course Date - Nov 18, 2004
Far West Ag Meeting
Nutrient Management Date - Jan 8, 2008
Feed Management Workshop
Nutrient Management Date - Aug 3, 2005
Idaho Nutrient Management Conference
Nutrient Management Date - Mar 7, 2006
Idaho Nutrient Management Conference
Nutrient Management Date - Mar 4 2008
NRCS Professional Development Course
Water Quality Date - Feb 15 2005
Nutrient Management - U of I, WSU and OSU
Nutrient Management Planning Date - Mar 4 2005
Odor Assessment Workshop
Livestock Odors Date - Oct 14 2004
On-Farm Odor/Environmental Assistance Program OFOEAP

Certified Assessor Training Course Date - Oct 15 1998
Phosphorus Workshop - U of I WSU and OSU
Phosphorus in Crop Production and Soils Date - Mar 3 2004
USDA SARE Professional Development Project
Intro to Feed Mgmt in the Context of Nut Mgmt Date - Oct 15, 2004
Western Dairy Management Conference
Waste Management Date - Mar 1, 2005
Western Dairy Management Conference
Waste Management Mar 9, 2007
Western Nutrient Management Conference
Nutrient Management Planning Mar 7, 2003
Western Nutrient Management Conference
Nutrient Management Mar 4, 2005
Western Dairy Management Conference
Waste Management Mar 16, 2009

Work Experience

Worked for the University of Idaho Cooperative Extension System for 27 years. During that time I served as an advisor to crop and livestock producers, consulting on production, crop and livestock nutrition and pest control issues.

I was instructor for the Farm Service Agency Farm Borrower Training Program for several years. The program was a financial management and production management training program that was required for farmers who had loans with the FSA.

I worked with livestock producers to develop waste management systems. I was involved in the sizing of waste containment structures on many of the dairy and livestock facilities in an eight county are in south central Idaho.

I co-authored 4 chapters of the Confined Animal Feeding Operation Guidelines that have been adopted as the basis for confined livestock regulations in the State of Idaho.

I served as a technical advisor on the development of the Idaho One Plan Nutrient Management Module primarily in the design of the animal manure and process water criteria and data entry and on the OnePlan steering committee which was responsible to oversee the entire OnePlan project.

I was an instructor for the training of nutrient management planners who were taking the Idaho State Department of Agriculture training program for using the OnePlan Nutrient Management Module.

I was also an instructor and developed many of the materials for the complete certification course.

I was the lead county faculty member in development of the Magic Valley Economic Modeling Project when the original I-O Model for the Agricultural Economy in the Magic Valley was developed. Three other Extension Educators worked on developing the information that was used in conjunction with the EB/I-O multipliers required to run the model. The multipliers were derived from the US Department of Commerce's "Twin Falls BEA Economic Area" data. The model was updated in October of 2003.

Since leaving the University of Idaho Extension System, I have been in business for myself doing nutrient management planning and site planning and permitting for dairy and livestock operations. I also have been doing On Site Assessments as a part of the National Pork Quality Assurance Plus Program. In past four years I have done over 60 nutrient management plans for dairy and livestock operations. I have also been doing the on site assessments that are a part of the Pork Quality Assurance Plus Program.

Additional Experience
Have done CNMP for NRCS in Twin Falls - Used their guidelines Have used eFOTG as reference in past as well as familiar with AG Waste Field Manual

Completed and passed testing for the Comprehensive Nutrient Management Plan Development Training 2004 at the National "Comprehensive Nutrient Management Plan Development Course" November 16-18 in Indianapolis, IN (Joint NRCS, EPA and Extension Training Program)

Have completed plans that were approved by NRCS here in Idaho. Have working familiarity with EFOTG. Completed and passed the Comprehensive Nutrient Management Plan Development Course. Have been a TSP since 2006 (TSP Number TSP-05-5142).

Have been a certified Nutrient Management Planner in the state of Idaho for ten years and in the State of Utah for two years. Have been a certified soil sampler in the State of Idaho for 2 years.

Have been a Registered Professional Animal Scientist for 17 years.