### **Groundwater Transfer Review Summary Form**

### Transfer/PA # T- <u>13908</u>

GW Reviewer <u>Gerald H. Grondin</u>

Date Review Completed: <u>17 June 2022</u>

#### Summary of Same Source Review:

The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

#### Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

#### Summary of GW-SW Transfer Similarity Review:

□ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

### None of the Above

### **Note**: The proposed transfer is within the Fort Rock groundwater limited area.

**Note**: The proposed POA well change will redistribute groundwater pumping among 7 wells allowing a maximum pumping rate up to 7.86 cfs to occur at any single well to being distributed in various ways at all 7 wells. Depending how the proposed post-transfer pumping is distributed, there is a potential for reduced to minimal increase in seasonal interference.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.

U L	OREGON WATER RESOURCES DE PARTMENT	725 Sale (503	gon Water Reso Summer Street N m, Oregon 9730 ) 986-0900 v.wrd.state.or.us		🛛 Water Ri	ater Review Form: ight Transfer Amendment ification	
App	olication: T- <u>1</u>	<u>3908</u>	<u>8</u>	Aj	oplicant Name: <u>JI</u>	R Simplot / JRS Properties	
Proj	posed Chang	es:	□ POA □ USE	⊠ APOA ⊠ POU	$\Box SW \rightarrow GW$ $\Box OTHER$	$\Box$ RA	
Rev	iewer(s): <u>G</u>	eral	d H. Grondi	in	Da	te of Review: <u>17 June 2022</u>	<u>(</u>
				Date Reviewed	by GW Mgr. and	l Returned to WRSD: _jti 2/	16/23
	sfer may be a The water w affected by t The applicat	vell r the tr tion o	oved because eports provic ransfer. does not incl	ed with the appl ded water well r	lication do not cor eports or a descrip	ate whether the proposed rrespond to the water rights ption of the well construction or proposed to be developed	
1.	Basic descri	ptior	n of the chang	ges proposed in	this transfer:		_
	adjoining see are from 1,3 1. Movin 2. Additi certificates ( 3. Transf The prop- POA/POD w differ (see a	ction 00 to g 632 ional curro ferrin ferrin osed vell fo uttac	s within T28 5,550 feet fro 2.19 of 1,100. points of ap ently each cer ing 7.77 of 13. changes are s or each certifi hed table).	S/R15E-section 1 om the center of 19 authorized PC propriation (AP rtificate authoriz 75 cfs authorized summarized in th ficate identified i The currently a	3 & 14 and T285 section 13 (see map OU acres total and OA) that authoriz es a single well onl maximum pumpi he attached table. I in the application authorized POA/F	zes use of all 7 wells for all 1 ly) and	<u>lls</u> .: 12       

Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
 ☑ Yes □ No Comments: \_\_\_\_\_\_

Essentially yes, the "same aquifer" (source) given the same groundwater system will likely be tapped despite the authorized and proposed APOA wells are constructed to varying depths and tap varying geologic units (see attached well logs). Long term groundwater level data indicates groundwater levels at wells in the vicinity of the currently authorized and proposed POA locations have similar elevations, seasonally fluctuate similarly, and show the same longterm trends (see attached hydrograph) despite being completed at varying depths and different geologic units.

Additionally, groundwater in the Fort Rock Valley-Christmas Valley area (Fort Rock Classified Area) is identified as a single groundwater system. Groundwater is found in both a shallower predominantly basin-fill sediment unit and a deeper predominantly volcanic rocks and sediments unit below. The predominantly basin fill sediment unit and the predominantly volcanic rocks and sediment unit both readily yield groundwater and the two units are hydraulically connected.

Miller (1984 and 1986) describes the groundwater source as the main groundwater reservoir. That reservoir includes groundwater in different geologic units. The reservoir has three characteristics. First, the "natural" groundwater level changes less than 1.5 feet annually, indicating the system is highly modulated. Second, the 1980s potentiometric surface was approximately 4292 feet elevation amsl basin-wide with Silver Lake an exception. Third, the reservoir consists of numerous water producing zones in several formations, all having an essentially common potentiometric level, and all being very transmissive in general.

3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)? □ Yes ⊠ No

Essentially no. Single hydraulically connected groundwater system. See discussion in part 2 above.

b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.):

No estimate made and no limitation recommended. Single groundwater system. See item 2 and 3a above.

4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?

 $\boxtimes$  Yes  $\square$  No Comments: \_\_\_\_\_

Currently each of the 12 certificates assign a maximum pumping rate to a single POA well (6 wells total). The proposed POA well change will redistribute groundwater pumping among 7 wells allowing a maximum pumping rate up to 7.86 cfs to occur at any single well to being distributed in various ways at all 7 wells. The calculated minimum and maximum additional seasonal groundwater level drawdown at the well closest to the proposed 7 wells is from a decrease in drawdown of 0.68 feet to an increase of drawdown of 7.50 feet. That closest well should be able to accommodate the seasonal drawdown change. The change in seasonal groundwater level drawdown change at other wells further away will be less.

The long-term impact on the groundwater system should be the same. That impact is to continue contributing to the ongoing annual Fort Rock Classified Area groundwater level decline (see the attached hydrograph...it shows an annual decline rate of about 0.30 feet per year).

b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

See discussion in part 4a above.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

 $\boxtimes$  Yes  $\square$  No Comments:

Yes. The proposed POA well change would allow redistributing groundwater pumping among 7 wells. The proposed change could result in an increased or decreased seasonal interference with Silver Lake, Paulina Marsh, and Silver Creek. The increase or decrease depends on how pumping is distributed among the 7 wells.

The proposed POA well change would allow a maximum pumping rate up to 7.86 cfs to occur at any single well or to be distributed in various ways from 2 to 7 wells. The calculated minimum and maximum additional seasonal groundwater level drawdown at Silver Lake (closest shore) is from a decrease in drawdown of 1.60 feet to an increase of drawdown of 7.03 feet. The calculated minimum and maximum additional seasonal groundwater level drawdown at Paulina Marsh (closest shore) is from a decrease in drawdown of 1.27 feet to an increase of drawdown of 3.24 feet. The calculated minimum and maximum additional seasonal groundwater level drawdown of at Silver Creek (closest reach) is from a decrease in drawdown of 1.23 feet to an increase of drawdown of 3.38 feet.

The pumping and calculated drawdowns noted above are determined to occur within a highly permeable, high well yield "main groundwater reservoir" as defined by Miller (1986). There is local evidence that saturated lower permeability, lower well yield deposits up to 150 feet thick locally occurs between the land and water surfaces and the "main groundwater reservoir" below. Some domestic and stock wells access groundwater from the lower permeability deposits. The few static groundwater levels representing the lower permeability deposits can be 20 to 30 feet above the static groundwater levels representing the "main groundwater reservoir" indicating a downward hydraulic gradient and downward component of groundwater flow through the lower permeability deposits to the "main groundwater reservoir."

The Darcy equation was used to calculate a potential maximum increase in seasonal vertical volumetric downward flow below Silver Lake and Paulina Marsh respectively. The calculation used a Theis equation derived maximum additional seasonal groundwater level drawdown below the respective surface area centers. The assumption is the increased drawdown at the surface area center approximates the averaged increased drawdown below the entire surface area of the lake and marsh respectively from which an averaged change in vertical volumetric downward flow below Silver Lake and Paulina Marsh can be calculated using the Darcy equation. The Darcy equation results reported here used a vertical hydraulic conductivity ( $K_{y}$ ) of 0.30 ft/day which is the median horizontal hydraulic conductivity ( $K_{xy}$ ) for the lower permeability deposits determined from specific capacity data.

Silver Lake (full surface area): The calculated downward groundwater flow rate when all well pumps are off is 624.16 ac-ft/day. The calculated downward flow rate as a result seasonal drawdown by pre-transfer well pumping for 30 days is 726.94 ac-ft/day (102.78 ac-ft/day, 16.47% increase from no pumping) and for 245 days pumping is 873.62 ac-ft/day (249.46 ac-ft/day, 39.97% increase from no pumping). The calculated downward flow rate as a result seasonal drawdown by proposed post-transfer well pumping for 30 days is 741.92 ac-ft/day (117.76 ac-ft/day, 18.87% increase from no pumping) and for 245 days pumping is 891.09 ac-ft/day (266.93 ac-ft/day, 42.77% increase from no pumping).

Silver Lake (2017 surface area): The calculated downward groundwater flow rate below the smaller surface area when all well pumps are off is 133.98 ac-ft/day. The calculated downward flow rate as a result seasonal drawdown by pre-transfer well pumping for 30 days is 159.21 ac-

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ft/day (25.23 ac-ft/day, 18.83% increase from no pumping) and for 245 days pumping is 191.19 ac-ft/day (57.21 ac-ft/day, 42.70% increase from no pumping). The calculated downward flow rate as a result seasonal drawdown by proposed post-transfer well pumping for 30 days is 166.36 ac-ft/day (32.38 ac-ft/day, 24.17% increase from no pumping) and for 245 days pumping is 199.05 ac-ft/day (65.07 ac-ft/day, 48.57% increase from no pumping).

Paulina Marsh (mapped surface area): The calculated downward groundwater flow rate when all well pumps are off is 699.34 ac-ft/day. The calculated downward flow rate as a result seasonal drawdown by pre-transfer well pumping for 30 days is 724.52 ac-ft/day (25.18 ac-ft/day, 3.60% increase from no pumping) and for 245 days pumping is 850.87 ac-ft/day (151.52 acft/day, 21.67% increase from no pumping). The calculated downward flow rate as a result seasonal drawdown by proposed post-transfer well pumping for 30 days is 734.08 ac-ft/day (34.73 ac-ft/day, 4.97% increase from no pumping) and for 245 days pumping is 870.22 ac-ft/day (170.87 ac-ft/day, 24.43% increase from no pumping).

The Hunt (2003) groundwater depletion model was used to calculate the potential change in seasonal groundwater interference with Silver Creek. The calculated interference under existing (pre-transfer) pumping is 0.0005 cfs and 0.0037 cfs at the end of 30 and 240 days of groundwater pumping respectively. The calculated interference under proposed post-transfer pumping with all pumping occurring at the most distant well (LAKE 1405) is 0.0002 cfs and 0.0017 cfs at the end of 30 and 240 days of groundwater pumping respectively, a decrease in seasonal interference. The calculated interference under proposed post-transfer pumping with all pumping occurring at the closest well (LAKE 1336) is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping with all pumping occurring at the closest well (LAKE 1336) is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of groundwater pumping is 0.0026 cfs and 0.0122 cfs at the end of 30 and 240 days of grou

The ongoing long-term groundwater level decline at Silver Lake, Paulina Marsh, and Silver Creek should be the same. The proposed POA changes will continue contributing to the ongoing annual Fort Rock Classified Area groundwater level decline at Silver Lake, Paulina Marsh, and Silver Creek (see the attached hydrograph...it shows an annual decline rate of about 0.30 feet per year).

b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: Silver Lake

Stream: Paulina Marsh

Stream: Silver Creek

U	□ Significant
🛛 Minimal	□ Significant

🛛 Minimal 🛛 Significant

Provide context for minimal/significant impact:

Silver Lake: the calculated downward groundwater flow increase under pumping conditions (pre-transfer and worst case post-transfer) divided by the calculated downward groundwater flow with no pumping expressed as a percent are different by less than 3 percent (full lake) and by less than 6 percent (2017 lake surface).

Paulina Marsh: the calculated downward groundwater flow increase under pumping conditions (pre-transfer and worst case post-transfer) divided by the calculated downward groundwater flow with no pumping expressed as a percent is different by less than 3 percent.

Silver Creek: the groundwater pumping interference with the creek is calculated to increase from 1.67 gpm (0.0037 cfs) pre-transfer pumping to 5.50 gpm (0.012 cfs) worst case post-transfer pumping after 240 days pumping.

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

 $\Box$  Yes  $\boxtimes$  No Comments:

### Not Applicable. No SW-GW transfer.

7. What conditions or other changes in the application are necessary to address any potential issues identified above:

Note: the proposed transfer is within the Fort Rock groundwater limited area.

The following are technical groundwater review recommendations. It is recognized that one or more technically recommended conditions may or may not be allowed under the transfer process rules and statutes. This technical groundwater review relies on other appropriate and authorized Department staff to make that determination.

"Large" flow meter condition for any proposed "To" POA and/or APOA well. Require the flow meter for any POA and/or APOA well to be properly installed and maintained. Each meter shall be either within 50 feet of the well head with a clearly visible monument adjacent to the meter or a surveyed location shall be provided and a clearly visible monument adjacent to the meter shall be installed for each meter more than 50 feet from the well head.

Condition 7P (well tag condition) for all the "To" and "From" POA wells.

Condition 7T (modified) for all "To" POA wells: "Prior to use, all POA wells shall be configured to allow a strictly clean water (no oil) static water level measurements with an electric-tape. That can include measurement access via an unobstructed vertical discharge pipe that allows the groundwater level to fluctuate freely within the discharge pipe (no valves, etc.). Otherwise, a dedicated measuring tube must be installed prior to use. The tube must be unobstructed, have a diameter of <sup>3</sup>/<sub>4</sub> inch (0.75 inch) or greater, and pursuant to figure 200-5 in OAR 690-200."

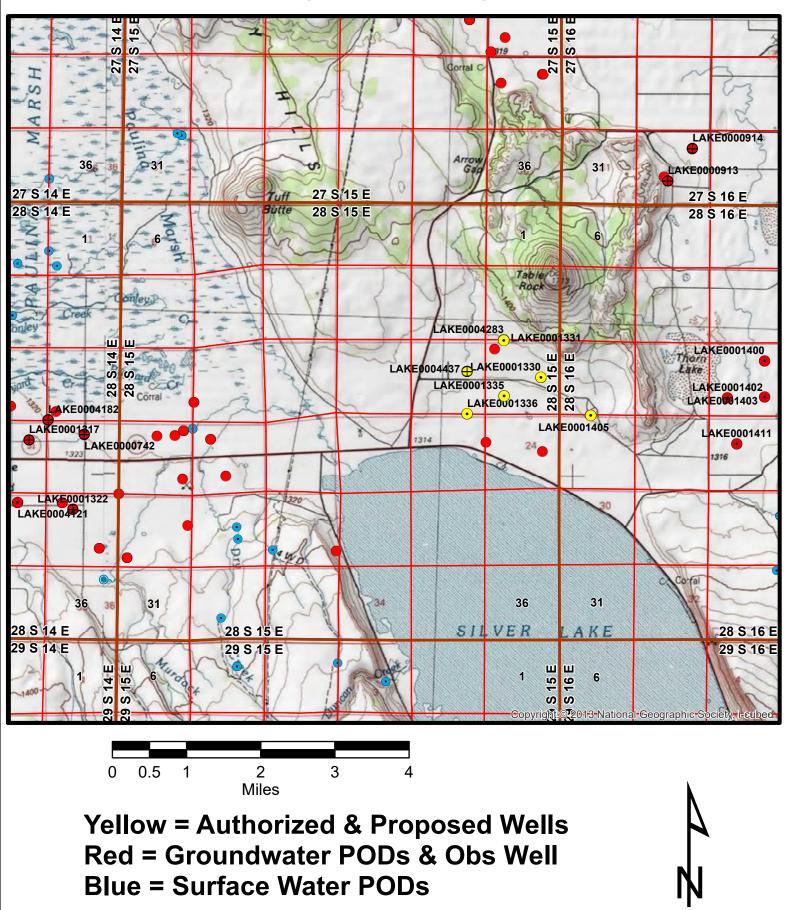
8. Any additional comments:

No additional comments.

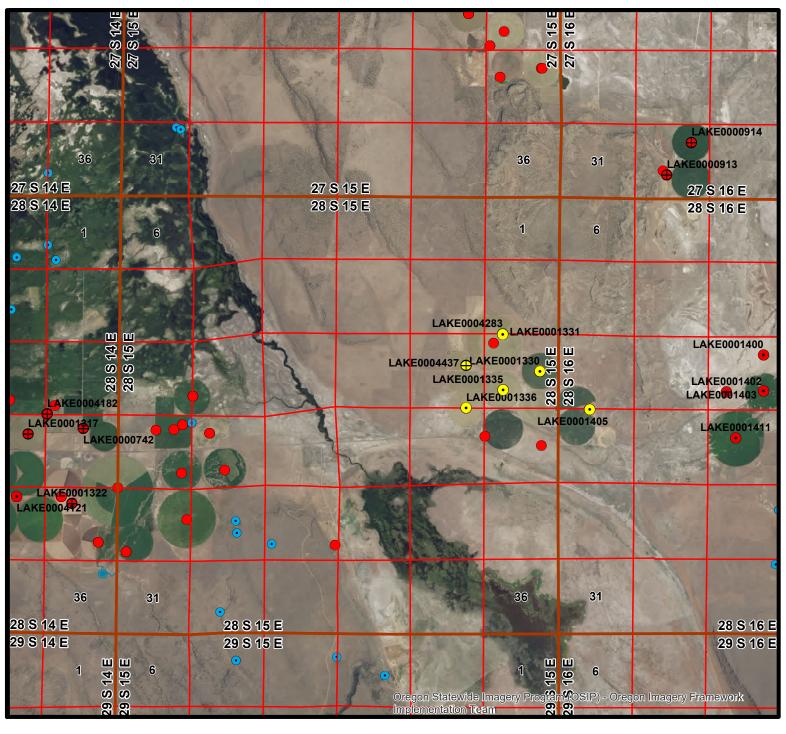
#### **References:**

- Hunt, B., 2003, Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering, January/February, 2003.
- Miller, D.W., 1986, Appraisal of ground-water conditions in the Fort Rock Basin, Lake County, Oregon: Oregon Water Resources Department, Ground Water Report No. 31, 196 p and plates.

## Groundwater Transfer Application T-13908 JR Simplot / JRS Properties



## Groundwater Transfer Application T-13908 JR Simplot / JRS Properties





Yellow = Authorized & Proposed Wells Red = Groundwater PODs & Obs Well Blue = Surface Water PODs

Item																	(	Certi	ficat	es																	Totals
Wells		2699	1		2701	.3	4	4619	8	4	1888	9	4	4889	0		5075	8		6575	7		6576	0		7603	6		7603	37		7604	3		9105	7	
(OWRD LogID)	$T_A$	$M_A$	WR	$T_A$	$M_A$	WR	T <sub>A</sub>	$M_A$	WR	T <sub>A</sub>	$M_A$	WR	$T_A$	$M_A$	WR	T <sub>A</sub>	$M_A$	WR	T <sub>A</sub>	$M_A$	WR	$T_A$	$M_A$	WR	$T_A$	$M_A$	WR	$T_A$	$M_A$	WR	R T <sub>A</sub>	M <sub>A</sub>	WR	$T_A$	MA	WR	
LAKE 1330 (original) LAKE 1333 (deepen)	Ρ			Ρ			Ρ			Ρ			Ρ	А	А	Ρ			Р			Р			Ρ			Р			Ρ			Р			
LAKE 4283	Р			Р			Р			Ρ			Ρ			Р			Р	Α	Α	Р			Р	Α	Α	Р	Α	Α	Р	Α	Α	Р	Α	Α	
LAKE 1335	Α	Α	Α	А			Α			Α			Α			Α			Α			Α			Α			Α			Α			Α			
LAKE 1336	Ρ			Ρ			Р			Ρ			Ρ			Ρ	Α	Α	Р			Ρ			Р			Ρ			Ρ			Ρ			
LAKE 4437	Ρ			Ρ			Р	Α	Α	Р			Ρ			Ρ			Ρ			Ρ	Α	Α	Р			Ρ			Ρ			Ρ			
LAKE 1331 (original) LAKE 4279 (alteration)	Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			Ρ			
LAKE 1405	Р			Ρ	Α	Α	Р			Ρ	Α	Α	Ρ			Ρ			Р			Р			Р			Ρ			Р			Р			
POU Acres																																					
Authorized		156.9	90		128.8	30	1	127.2	0	1	.36.2	0	1	125.0	00		134.4	10		115.0	00		8.00	)		10.3	0		20.2	0		60.0	0		78.1	9	1,100.
Proposed Transfer		39.9	0		128.8	30		23.20	)	1	.36.2	0		5.00	)		7.40	)		115.0	00		8.00	)		10.3	0		20.2	0		60.0	0		78.1	9	632.1
Maximum Rate (cfs)																																					
Authorized		1.96	5		1.61	L		1.59			1.70			1.56	5		1.68	3		1.44	1		0.10	)		0.13			0.25	5		0.75	5		0.98	3	13.75
Proposed Transfer		0.46	5		1.61	L		0.29			1.70			0.06	5		0.21	а		1.44	Ļ		0.10	)		0.13	}		0.25	5		0.75	5		0.9	3	7.77
$T_{1} = as$ found in T-13908	annl	icatio	on to	v+																																	

 $T_A$  = as found in T-13908 application text

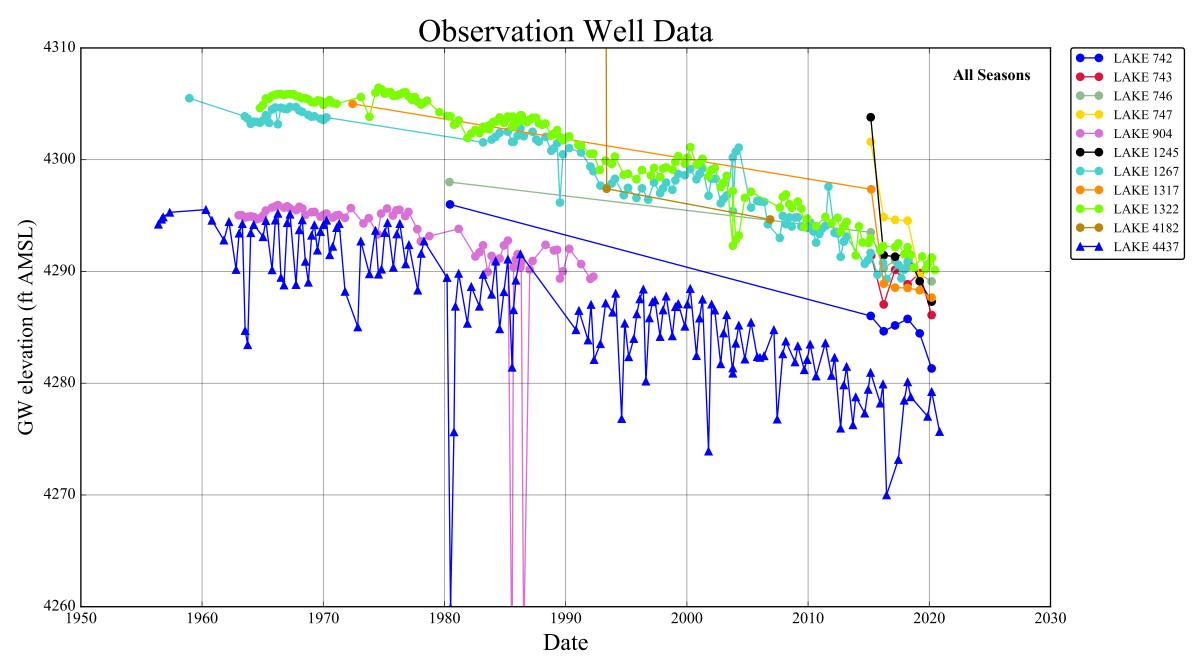
 $M_A$  = as found in T-13908 application maps

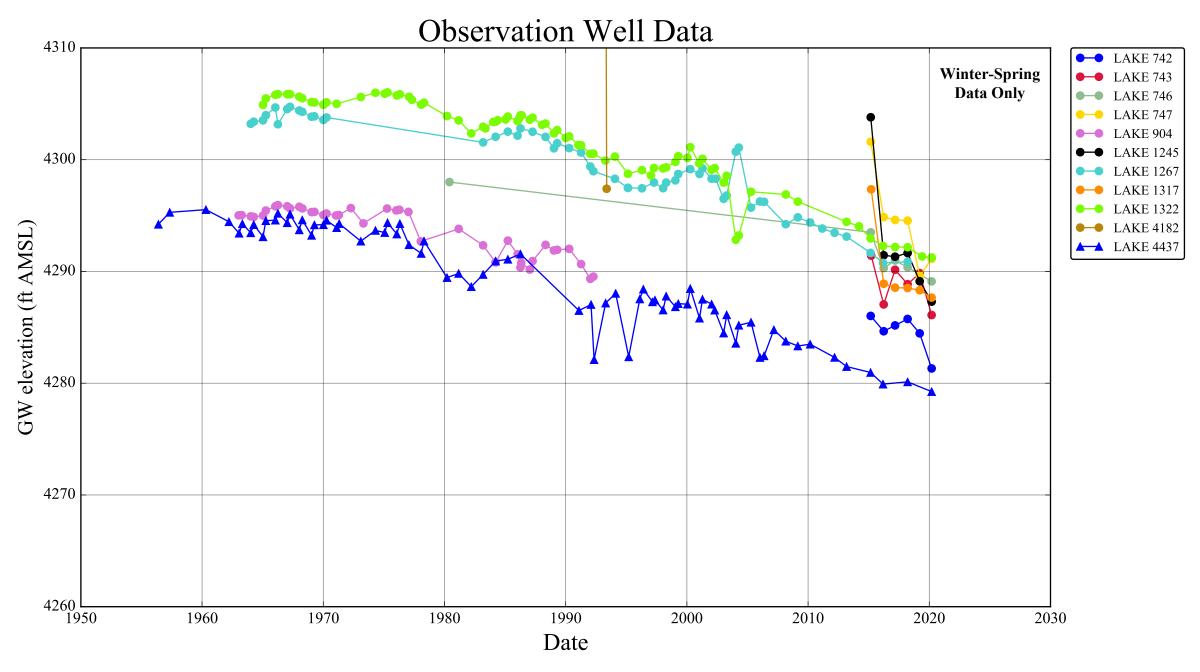
WR = as found in OWRD wtaer right database (WRIS)

A = current authorized well for the certificate (note: the authorized well found in the application text ( $T_A$ ) does not always match the authorized well found in the application maps ( $M_A$ ) or the OWRD water right database (WR). It appears the application text (TA) is incorrect for many certificates. The application maps agree with the OWRD water right database (WR).) P = proposed well for additional point of appropriation (APOA)

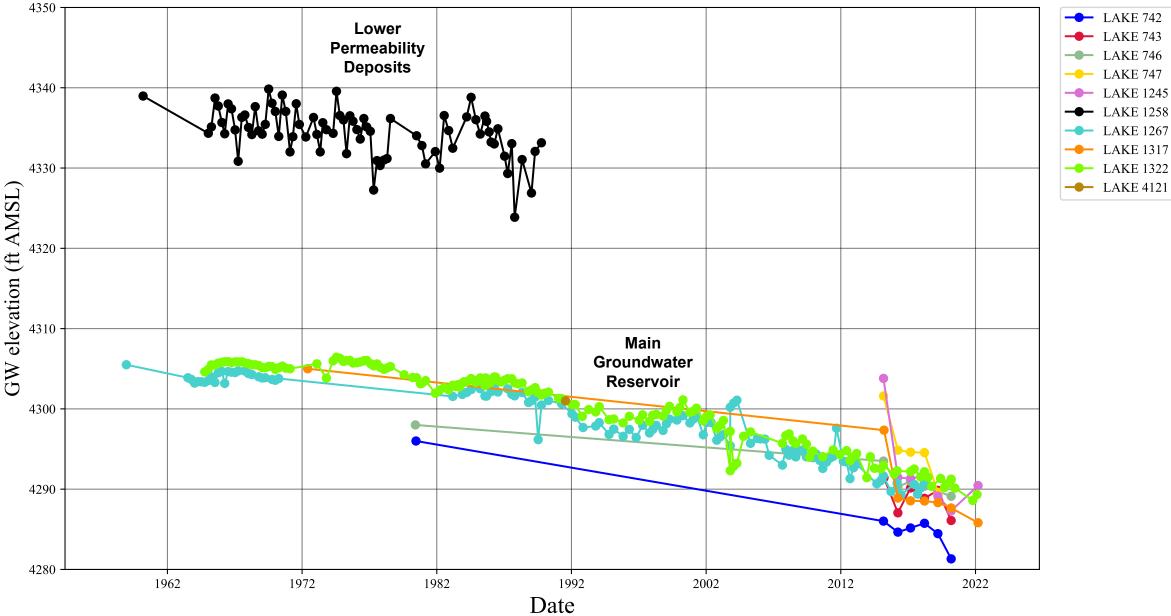
<sup>a</sup>The proposed maximum rate for the proposed transfer related to this certificate is greater than generally allowed for the POU acreage proposed to be transferred

Wells	Land Elevation	GW Level	GW Level	GW Level
(OWRD LogID)	(feet)	(ft blsd)	(ft elev.)	Date
LAKE 1330 (original)	4 246 02	F1 00	4 205 02	
LAKE 1333 (deepen)	4,346.92	51.00	4,295.92	05/09/1974
LAKE 4283	4,394.96	101.00	4,293.96	07/28/1993
LAKE 1335	4,315.94	20.00	4,295.94	11/21/1957
LAKE 1336	4,311.67	17.00	4,294.67	05/30/1978
LAKE 4437	4,341.57	47.35	4,294.22	05/25/1956
LAKE 1331 (original)	4 20 4 20	06.00	4 200 20	01/21/1070
LAKE 4279 (alteration)	4,394.20	96.00	4,298.20	01/31/1976
LAKE 1405	4,333.91	41.00	4,292.91	12/07/1953





## Observation Well Data



heis Equation:	s = [Q/(4*T*pi)][W( u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.5		-(u*u/2*2!)+(u*u*u/;	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dis	stance (L)							
	T = transmissivity	(L*L/T)			t = time (T)	( )							
	S = storage coeffic	ient (dimensionle	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well	function							
Transmissivity T		Storage Coefficient	Pumping Rate Q	Pumping Rate Q	Time	Distance	рі	u	W(u)	Drawdown	Drawdown	Pumping Well	Comments
(gpd/ft)	T (ft2/day)	S	(gal/min)	(ft3/sec)	(days)	r (feet)				s (feet)	Change s (feet)	vven	
(900.11)	(		(9)	(110/000)	(44)	(				(1001)	(1001)		
								Note : W(u	i) calculation	valid when u <	7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authoriz	ed POA wells to clo	sest Water Righ	nt Well (T26S/R15	E-sec 24 bc) (Trar	smissivity fi	rom Morgan (	1988) and M	cFarland an	d Ryals (1991	)): Used S = 0.	.001		
112,207.80	15,000.00	0.00100	1,593.35	3.55	30.00	7,425.00	3.14	0.0306	2.9390	4.7824		LAKE 4283	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	7,370.00	3.14	0.0302	2.9534	0.0000		LAKE 1331	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	5,220.00	3.14	0.0151	3.6284	0.6486		LAKE 4437	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	26.93	0.06	30.00	6,065.00	3.14	0.0204	3.3336	0.0917		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	3,560.00	3.14	0.0070	4.3858	0.9247		LAKE 1335	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	2,465.00	3.14	0.0034	5.1173	0.2170		LAKE 1336	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	1,485.63	3.31	30.00	7,680.00	3.14	0.0328	2.8736	4.3598		LAKE 1405	Continuous Pumping at Full Rat
			3,528.93	7.86						11.02			
										11.02			
To" Proposed P	OA well LAKE 1405	5 furthest from V	Vater Right Well (	T26S/R15E-sec 24	1 bc) (Transn	nissivity from	Morgan (198	88) and McF	arland and R		sed S = 0.001		
										yals (1991)): U	sed S = 0.001		
To" Proposed P 112,207.80	POA well LAKE 1405 15,000.00	5 furthest from V 0.00100	3,528.93	7.86	<b>4 bc) (Transn</b> 30.00	nissivity from 7,680.00	<b>Morgan (19</b> 3.14	88) and McF	arland and R	yals (1991)): U 10.3561		LAKE 1405	Continuous Pumping at Full Rat
										yals (1991)): U	sed S = 0.001 -0.6680		Continuous Pumping at Full Rat
112,207.80		0.00100	3,528.93 3,528.93	7.86 7.86	30.00	7,680.00	3.14	0.0328	2.8736	yals (1991)): U 10.3561 10.36	-0.6680		Continuous Pumping at Full Rat
112,207.80 To" Proposed P	15,000.00 POA well LAKE 1336	0.00100	3,528.93 3,528.93 er Right Well (T26	7.86 7.86 S/R15E-sec 24 bo	30.00	7,680.00	3.14 organ (1988)	0.0328 and McFarla	2.8736 and and Ryals	yals (1991)): U 10.3561 10.36 (1991)): Used	-0.6680	LAKE 1405	
112,207.80	15,000.00	0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93	7.86 7.86 S/R15E-sec 24 bo 7.86	30.00	7,680.00	3.14	0.0328	2.8736	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423	-0.6680 1 S = 0.001		
112,207.80 To" Proposed P	15,000.00 POA well LAKE 1336	0.00100	3,528.93 3,528.93 er Right Well (T26	7.86 7.86 S/R15E-sec 24 bo	30.00	7,680.00	3.14 organ (1988)	0.0328 and McFarla	2.8736 and and Ryals	yals (1991)): U 10.3561 10.36 (1991)): Used	-0.6680	LAKE 1405	
112,207.80 To" Proposed P 112,207.80	15,000.00 POA well LAKE 1336	0.00100 closest to Wate 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93	7.86 7.86 S/R15E-sec 24 bo 7.86 7.86	30.00 (Transmiss 30.00	7,680.00 sivity from Mc 2,465.00	3.14 organ (1988) 3.14	0.0328 and McFarla	2.8736 and and Ryals 5.1173	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44	-0.6680 1 S = 0.001 7.4181	LAKE 1405	
112,207.80 To" Proposed P 112,207.80 From" Authorize	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo	0.00100 6 closest to Wate 0.00100 sest Water Righ	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 1,528.93 nt Well (T26S/R151	7.86 7.86 S/R15E-sec 24 bo 7.86 7.86 E-sec 24 bc) (Trar	30.00 (Transmiss 30.00 smissivity fr	7,680.00 sivity from Mc 2,465.00	3.14 rgan (1988) 3.14 1988) and Mo	0.0328 and McFarla 0.0034 CFarland an	2.8736 and and Ryals 5.1173 d Ryals (1991	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44 )): Used S = 0	-0.6680 1 S = 0.001 7.4181	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 nt Well (T26S/R151 786.06	7.86 7.86 S/R15E-sec 24 bd 7.86 7.86 E-sec 24 bc) (Trar 1.75	30.00 (Transmiss 30.00 semissivity fr 30.00	7,680.00 sivity from Mo 2,465.00 com Morgan ( 7,425.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14	0.0328 and McFarla 0.0034 cFarland and 0.0306	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44 )): Used S = 0. 2.3593	-0.6680 1 S = 0.001 7.4181	LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00	0.00100 closest to Water 0.00100 sest Water Righ 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 1,528.93 1,528.93 1,528.93 1,528.93 1,528.93 1,528.93 1,528.93 1,528.93 1,528.93 3,528.93 1,	7.86 7.86 S/R15E-sec 24 bo 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00	7,680.00 sivity from Mo 2,465.00 com Morgan ( 7,425.00 7,370.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland an 0.0306 0.0302	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44 )): Used S = 0 2.3593 0.0000	-0.6680 1 S = 0.001 7.4181	LAKE 1405	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 nt Well (T26S/R15I 786.06 0.00 86.45	7.86 7.86 S/R15E-sec 24 bd 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19	30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 rom Morgan ( 7,425.00 7,370.00 5,220.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland and 0.0306 0.0302 0.0151	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9534 3.6284	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.4423 ): Used S = 0. 2.3593 0.0000 0.3203	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	20A well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 tt Well (T265/R151 786.06 0.00 86.45 13.85	7.86 7.86 S/R15E-sec 24 bd 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	20A well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 t Well (T26S/R151 786.06 0.00 86.45 13.85 110.56	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland an 0.0306 0.0302 0.0151 0.0204 0.0070	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.44 )): Used S = 0 2.3593 0.0000 0.3203 0.0472 0.4952	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00	0.00100 closest to Water 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 tt Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50	7.86 7.86 S/R15E-sec 24 bo 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mo 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland and cFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173	yals (1991)): U 10.3561 10.36 (1991)): Used (1991)): Used 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	20A well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 nt Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27	7.86 7.86 S/R15E-sec 24 bd 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland an 0.0306 0.0302 0.0151 0.0204 0.0070	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.4423 18.44 )): Used S = 0 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00	0.00100 closest to Water 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 tt Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50	7.86 7.86 S/R15E-sec 24 bo 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mo 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 cFarland and cFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173	yals (1991)): U 10.3561 10.36 (1991)): Used (1991)): Used 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071	-0.6680 1 S = 0.001 7.4181	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00	0.00100 6 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 tt Well (T26S/R15i 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.0328	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173 2.8736	2.3593 0.0000 0.3203 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48	-0.6680 1 S = 0.001 7.4181 .001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 20 xell LAKE 1405	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 nt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well (	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 T26S/R15E-sec 2	30.00 (Transmiss 30.00 smissivity fr 30.00 30.	7,680.00 sivity from Mo 2,465.00 com Morgan ( 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00 	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.1	0.0328 and McFarla 0.0034 cFarland and cFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.00328 0.0328 38) and McF	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.6284 3.3336 4.3858 5.1173 2.8736	yals (1991)): U 10.3561 10.36 (1991)): Used (1991)): Used 18.4423 18.4423 18.44 )): Used S = 0 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48 yals (1991)): U	-0.6680 1 S = 0.001 7.4181 .001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	200 well LAKE 1336 20A well LAKE 1336 215,000.00 215,000.00 215,000.00 215,000.00 215,000.00 215,000.00 215,000.00 215,000.00	0.00100 6 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 tt Well (T26S/R15i 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	30.00 (Transmiss 30.00 smissivity fr 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	7,680.00 sivity from Mc 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.0328	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173 2.8736	2.3593 0.0000 0.3203 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48	-0.6680 1 S = 0.001 7.4181 .001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Ra Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 20A well LAKE 1405 15,000.00 15,	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 1t Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well ( 1,751.69 1,751.69	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 T26S/R15E-sec 24 3.90 3.90	30.00 30.00 30.00 smissivity fr 30.00 3	7,680.00 ivity from Mc 2,465.00 7,425.00 7,370.00 7,370.00 6,065.00 3,560.00 2,465.00 7,680.00 7,680.00 7,680.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.1	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.00328 0.0328 0.0328	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173 2.8736 arland and R 2.8736	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48 yals (1991)): U 5.1406 5.14	-0.6680 I S = 0.001 7.4181 .001 	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 POA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 20 xell LAKE 1405	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 1t Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well ( 1,751.69 1,751.69	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 T26S/R15E-sec 24 3.90 3.90	30.00 30.00 30.00 smissivity fr 30.00 3	7,680.00 ivity from Mc 2,465.00 7,425.00 7,370.00 7,370.00 6,065.00 3,560.00 2,465.00 7,680.00 7,680.00 7,680.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.1	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.00328 0.0328 0.0328	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173 2.8736 arland and R 2.8736	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48 yals (1991)): U 5.1406 5.14	-0.6680 I S = 0.001 7.4181 .001 	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Ra Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin
112,207.80 To" Proposed P 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 20A well LAKE 1405 15,000.00 15,	0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 1t Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well ( 1,751.69 1,751.69	7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 T26S/R15E-sec 24 3.90 3.90	30.00 30.00 30.00 smissivity fr 30.00 3	7,680.00 ivity from Mc 2,465.00 7,425.00 7,370.00 7,370.00 6,065.00 3,560.00 2,465.00 7,680.00 7,680.00 7,680.00	3.14 rgan (1988) 3.14 1988) and Mo 3.14 3.1	0.0328 and McFarla 0.0034 CFarland and 0.0306 0.0302 0.0151 0.0204 0.0070 0.0034 0.00328 0.0328 0.0328	2.8736 and and Ryals 5.1173 d Ryals (1991 2.9390 2.9534 3.6284 3.3336 4.3858 5.1173 2.8736 arland and R 2.8736	yals (1991)): U 10.3561 10.36 (1991)): Used 18.4423 18.4423 18.44 )): Used S = 0. 2.3593 0.0000 0.3203 0.0472 0.4952 0.1071 2.1548 5.48 yals (1991)): U 5.1406 5.14	-0.6680 I S = 0.001 7.4181 .001 	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Ra Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin

heis Equation:	s = [Q/(4*T*pi)][W( u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.5		-(u*u/2*2!)+(u*u*u/3	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)	(1 *1 /丁)			r = radial dis	tance (L)							
	T = transmissivity S = storage coeffic		255)		t = time (T) u = dimensio	onless							
	pi = 3.141592654		,,		W(u) = well								
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
T	T (ft2/day)	Coefficient	Q	Q (#2/2.2.2)	t (dava)	r (fact)				S (fa at)	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u	) calculation	valid when u <	7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
-								_					
rrom" Authoriz	ed POA wells to clo	sest water Righ	it well (1265/R151	=-sec 24 bc) (Trar	ismissivity fr	om worgan (1	988) and Mo	rariand and	a kyais (1991	)): Used S = 0.	.001		
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	7,425.00	3.14	0.0038	5.0124	8.1562		LAKE 4283	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	7,370.00	3.14	0.0037	5.0272	0.0000		LAKE 1331	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.39	245.00	5,220.00	3.14	0.0019	5.7152	1.0216		LAKE 4437	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	6,065.00	3.14	0.0025	5.4158	0.1489		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	3,560.00	3.14	0.0009	6.4797	1.3662		LAKE 1335	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	2,465.00	3.14	0.0004	7.2144	0.3059		LAKE 1336	Continuous Pumping at Full Rat
	45 000 00	0.00400											
112,207.80	15,000.00	0.00100	1,485.63	3.31 7.86	245.00	7,680.00	3.14	0.0040	4.9452	7.5027 18 50		LAKE 1405	Continuous Pumping at Full Rate
	15,000.00	0.00100	1,485.63 <b>3,528.93</b>	3.31 7.86	245.00	7,680.00	3.14	0.0040	4.9452	7.5027 18.50		LAKE 1405	Continuous Pumping at Full Rat
112,207.80	15,000.00		3,528.93	7.86						18.50	sed S = 0.001		Continuous Pumping at Full Rat
112,207.80	OA well LAKE 1405	furthest from W	3,528.93 Vater Right Well (	7.86 T26S/R15E-sec 24	bc) (Transn	nissivity from	Morgan (198	8) and McFa	arland and Ry	18.50 /als (1991)):  U	lsed S = 0.001		
112,207.80			3,528.93	7.86						18.50	sed S = 0.001 -0.6798		
112,207.80 To" Proposed F 112,207.80	OA well LAKE 1405 15,000.00	i furthest from W	3,528.93 Vater Right Well ( 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86	<b>bc) (Transn</b> 245.00	nissivity from 7,680.00	<b>Morgan (198</b> 3.14	8) and McFa	arland and Ry	18.50 yals (1991)): U 17.8218 17.82	-0.6798		
112,207.80	OA well LAKE 1405	i furthest from W	3,528.93 Vater Right Well ( 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86	<b>bc) (Transn</b> 245.00	nissivity from 7,680.00	<b>Morgan (198</b> 3.14	8) and McFa	arland and Ry	18.50 yals (1991)): U 17.8218 17.82	-0.6798		
112,207.80	OA well LAKE 1405 15,000.00	i furthest from W	3,528.93 Vater Right Well ( 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86	<b>bc) (Transn</b> 245.00	nissivity from 7,680.00	<b>Morgan (198</b> 3.14	8) and McFa	arland and Ry	18.50 yals (1991)): U 17.8218 17.82	-0.6798		Continuous Pumping at Full Rat
112,207.80 <b>To" Proposed F</b> 112,207.80 <b>To" Proposed F</b>	OA well LAKE 1405 15,000.00 OA well LAKE 1336	i furthest from W 0.00100 closest to Wate	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26	7.86 T26S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bo	bc) (Transn 245.00	nissivity from 7,680.00 ivity from Mo	Morgan (198 3.14 rgan (1988) a	8) and McFa 0.0040 and McFarla	arland and Ry 4.9452 and and Ryals	18.50 /als (1991)): U 17.8218 17.82 (1991)): Used	-0.6798	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed F</b> 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00	6 closest to Wate	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bo 7.86 7.86	<b>bc) (Transn</b> 245.00 ) (Transmiss 245.00	nissivity from 7,680.00 ivity from Mo 2,465.00	Morgan (198 3.14 rgan (1988) a 3.14	8) and McFa 0.0040 and McFarla 0.0004	4.9452 4.9452 Ind and Ryals	18.50 yals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.00	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed F 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336	6 closest to Wate	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bo 7.86 7.86	<b>bc) (Transn</b> 245.00 ) (Transmiss 245.00	nissivity from 7,680.00 ivity from Mo 2,465.00	Morgan (198 3.14 rgan (1988) a 3.14	8) and McFa 0.0040 and McFarla 0.0004	4.9452 4.9452 Ind and Ryals	18.50 yals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.00	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed F</b> 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00	6 closest to Wate	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93	7.86 T26S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bo 7.86 7.86	<b>bc) (Transn</b> 245.00 ) (Transmiss 245.00	nissivity from 7,680.00 ivity from Mo 2,465.00	Morgan (198 3.14 rgan (1988) a 3.14	8) and McFa 0.0040 and McFarla 0.0004	4.9452 4.9452 Ind and Ryals	18.50 yals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.00	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 From" Authoriz	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo	5 furthest from W 0.00100 5 closest to Wate 0.00100 sest Water Righ	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 it Well (T26S/R151	7.86 T26S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 E-sec 24 bc) (Trar	bc) (Transm 245.00 c) (Transmiss 245.00 smissivity fr	nissivity from 7,680.00 ivity from Mo 2,465.00 om Morgan (1	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo	8) and McFa 0.0040 and McFarla 0.0004 Farland and	arland and Ry 4.9452 and and Ryals 7.2144 d Ryals (1991	18.50 /als (1991)): U 17.8218 17.82 (1991)): Used 26.000 26.00 )): Used S = 0	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 From" Authoriz 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00	furthest from W 0.00100 closest to Wate 0.00100 sest Water Righ 0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 it Well (T26S/R156 786.06	7.86 7.86 7.86 7.86 S/R15E-sec 24 bc 7.86 7.86 7.86 7.86 5-sec 24 bc) (Trar 1.75	245.00 (Transmiss 245.00 (Transmiss 245.00 smissivity fr 245.00	nissivity from 7,680.00 2,465.00 om Morgan (1 7,425.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038	4.9452 arland and Ry 4.9452 nd and Ryals 7.2144 a Ryals (1991 5.0124	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used 26.000 26.00 )): Used S = 0. 4.0238	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 From" Authoriz 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00	5 furthest from W 0.00100 5 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 it Well (T26S/R151 786.06 0.00	7.86 7.86 7.86 7.86 S/R15E-sec 24 bc 7.86	245.00 (Transmiss ) (Transmiss 245.00 (Ismissivity fr 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 com Morgan (1 7,425.00 7,370.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037	arland and Ry 4.9452 Ind and Ryals 7.2144 d Ryals (1991 5.0124 5.0272	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used 26.000 26.00 )): Used S = 0 4.0238 0.0000	-0.6798 1 S = 0.001 7.4983	LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 From" Authoriz 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	5 furthest from W 0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 it Well (T26S/R151 786.06 0.00 86.45 13.85 110.56	7.86 726S/R15E-sec 24 7.86 7.86 S/R15E-sec 24 bc 7.86 7.90	245.00 (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009	arland and Ry 4.9452 and and Ryals 7.2144 d Ryals (1991 5.0124 5.0272 5.4158 6.4797	18.50 (als (1991)): U 17.8218 17.82 (1991)): Used 26.000 26.00 26.00 )): Used S = 0. 4.0238 0.0000 0.5046 0.7316	-0.6798 1 S = 0.001 7.4983	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 tt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50	7.86 7.86 7.86 7.86 5/R15E-sec 24 bc 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05	245.00 (Transmiss (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 0 Morgan (1 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004	arland and Ry 4.9452 	18.50 (als (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.000 26.00 )): Used S = 0. 4.0238 0.0000 0.5046 0.7316 0.7316 0.1510	-0.6798 1 S = 0.001 7.4983	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	5 furthest from W 0.00100 closest to Wate 0.00100 sest Water Righ 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 tt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50 734.27	7.86 7.86 7.86 7.86 S/R15E-sec 24 bc 7.86	245.00 (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009	arland and Ry 4.9452 and and Ryals 7.2144 d Ryals (1991 5.0124 5.0272 5.4158 6.4797	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used (1991)): Used 26.0000 26.00 26.00 0.0000 0.5046 0.0766 0.7316 0.1510 3.7082	-0.6798 1 S = 0.001 7.4983	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 tt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50	7.86 7.86 7.86 7.86 5/R15E-sec 24 bc 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05	245.00 (Transmiss (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 0 Morgan (1 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004	arland and Ry 4.9452 	18.50 (als (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.000 26.00 )): Used S = 0. 4.0238 0.0000 0.5046 0.7316 0.7316 0.1510	-0.6798 1 S = 0.001 7.4983	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to clo 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	intrest from W           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 it Well (T265/R151 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 7.86 7.86 7.86 8/R15E-sec 24 bc 7.86 7.86 7.86 E-sec 24 bc) (Trar 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	245.00 245.00 (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004 0.0004	arland and Ry 4.9452 ind and Ryals 7.2144 5.0272 5.7152 5.4158 6.4797 7.2144 4.9452	18.50 /als (1991)): U 17.8218 17.82 (1991)): Used 26.000 26.00 26.00 )): Used S = 0. 4.0238 0.0000 0.5046 0.7316 0.1510 3.7082 9.20	-0.6798 d S = 0.001 7.4983 001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 'To" Proposed F 112,207.80 'To" Proposed F 112,207.80 'From" Authoriz 112,207.80 112	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 015,000.00 15,00	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         furthest from W	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 tt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well (	7.86 7.86	245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	issivity from 7,680.00 2,465.00 7,425.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004 0.0004 0.0040	4.9452 arland and Ry 4.9452 7.2144 7.2144 1 Ryals (1991 5.0124 5.0272 5.7152 5.7152 5.4158 6.4797 7.2144 4.9452 arland and Ry	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.000 26.00 0.5046 0.0766 0.7316 0.1510 3.7082 9.20 vals (1991)): U	-0.6798 d S = 0.001 7.4983 001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	intrest from W           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100           0.00100	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 1,528.93 1,528.93 3,528.93 1	7.86 7.86	245.00 245.00 (Transmiss) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004 0.0004	arland and Ry 4.9452 ind and Ryals 7.2144 5.0272 5.7152 5.4158 6.4797 7.2144 4.9452	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.00 26.00 0.0000 0.5046 0.0766 0.7316 0.1510 3.7082 9.20 vals (1991)): U 8.8464	-0.6798 1 S = 0.001 7.4983 .001 	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 0A well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 00A well LAKE 1405	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         furthest from W	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 tt Well (T26S/R151 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well (	7.86 7.86	245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	issivity from 7,680.00 2,465.00 7,425.00 7,425.00 7,370.00 5,220.00 6,065.00 3,560.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0004 0.0004 0.0040	4.9452 arland and Ry 4.9452 7.2144 7.2144 1 Ryals (1991 5.0124 5.0272 5.7152 5.7152 5.4158 6.4797 7.2144 4.9452 arland and Ry	18.50 vals (1991)): U 17.8218 17.82 (1991)): Used 26.0000 26.000 26.00 0.5046 0.0766 0.7316 0.1510 3.7082 9.20 vals (1991)): U	-0.6798 d S = 0.001 7.4983 001	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 0A well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 05,000.00 00A well LAKE 1405	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 it Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well ( 1,751.69	7.86 7.86	245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 6,065.00 3,560.00 2,465.00 7,680.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0025 0.0009 0.0004 0.0040 8) and McFa	arland and Ry arland and Ry and and Ryals 7.2144 5.0124 5.0124 5.0124 5.0272 5.4158 6.4797 7.2144 4.9452 arland and Ry	18.50         (als (1991)): U         17.8218         17.82         (1991)): Used         26.0000         26.00         27.01         9.20         yals (1991)): U         8.8464         8.85	-0.6798 d S = 0.001 7.4983 001 sed S = 0.001 -0.3494	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed F 112,207.80 To" Proposed F 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	OA well LAKE 1405 15,000.00 0A well LAKE 1336 15,000.00	furthest from W         0.00100         closest to Wate         0.00100         sest Water Righ         0.00100         0	3,528.93 Vater Right Well ( 3,528.93 3,528.93 er Right Well (T26 3,528.93 3,528.93 3,528.93 3,528.93 it Well (T26S/R15I 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Vater Right Well ( 1,751.69	7.86 7.86	245.00 245.00	nissivity from 7,680.00 2,465.00 2,465.00 7,425.00 7,370.00 6,065.00 3,560.00 2,465.00 7,680.00 2,465.00 7,680.00	Morgan (198 3.14 rgan (1988) a 3.14 988) and Mo 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	8) and McFa 0.0040 and McFarla 0.0004 Farland and 0.0038 0.0037 0.0019 0.0025 0.0009 0.0025 0.0009 0.0004 0.0040 8) and McFa	arland and Ry arland and Ry and and Ryals 7.2144 5.0124 5.0124 5.0124 5.0272 5.4158 6.4797 7.2144 4.9452 arland and Ry	18.50         (als (1991)): U         17.8218         17.82         (1991)): Used         26.0000         26.00         27.01         9.20         yals (1991)): U         8.8464         8.85	-0.6798 d S = 0.001 7.4983 001 sed S = 0.001 -0.3494	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping

Theis Equation:	s = [Q/(4*T*pi)][Wi u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.5		-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dis	stance (L)							
	T = transmissivity				t = time (T)								
	S = storage coeffic	cient (dimensionle	ess)		u = dimensi								
	pi = 3.141592654				W(u) = well	function							
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	Т	Coefficient	Q	Q	t	r				S	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
										L			
								Note : W(u)	calculation	valid when u <	< 7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authorize	ed POA wells to Sil	ver Lake (Transı	missivity from Mo	rgan (1988) and M	IcFarland ar	nd Ryals (1991)	): Used S =	0.001					
440.007.00	45,000,00	0.00100	4 502 25	2.55	20.00	0.055.00	2.44	0.0070	0.7040	4 4404			Continuous Duraning of Full Dat
112,207.80 112,207.80	15,000.00 15,000.00	0.00100	1,593.35 0.00	3.55 0.00	<u>30.00</u> 30.00	8,255.00 8,225.00	3.14 3.14	0.0379 0.0376	2.7342 2.7412	4.4491 0.0000		LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	5,440.00	3.14	0.0370	3.5471	0.6341		LAKE 4437	Continuous Pumping at Full Rat
112,207.80	15.000.00	0.00100	26.93	0.06	30.00	7,055.00	3.14	0.0277	3.0383	0.0836		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	4,780.00	3.14	0.0277	3.8021	0.8017		LAKE 1335	Continuous Pumping at Full Rat
		0.00100	200.40	0.40									
			11 52	0.00	30.00	2 /00 00	3 1/	0.0034	5 0072				
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	2,490.00	3.14	0.0034	5.0972	0.2161		LAKE 1336	
			1,485.63	3.31	30.00 30.00	2,490.00 5,725.00	3.14 3.14	0.0034 0.0182	5.0972 3.4468	5.2294		LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100											
112,207.80 112,207.80	15,000.00	0.00100 0.00100	1,485.63 <b>3,528.93</b>	3.31 7.86	30.00	5,725.00	3.14	0.0182	3.4468	5.2294			
112,207.80 112,207.80 To" Proposed P	OA well LAKE 4283	0.00100 0.00100 3 furthest from S	1,485.63 <b>3,528.93</b> Silver Lake (Trans	3.31 7.86 missivity from Mo	30.00 rgan (1988)	5,725.00 and McFarlanc	3.14 I and Ryals	0.0182 (1991)): Use	3.4468 ed S = 0.001	5.2294 11.41		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80	15,000.00 15,000.00	0.00100 0.00100	1,485.63 <b>3,528.93</b> Silver Lake (Trans 3,528.93	3.31 7.86 missivity from Mo 7.86	30.00	5,725.00	3.14	0.0182	3.4468	5.2294 11.41 9.8537			
112,207.80 112,207.80 To" Proposed P	OA well LAKE 4283	0.00100 0.00100 3 furthest from S	1,485.63 <b>3,528.93</b> Silver Lake (Trans	3.31 7.86 missivity from Mo	30.00 rgan (1988)	5,725.00 and McFarlanc	3.14 I and Ryals	0.0182 (1991)): Use	3.4468 ed S = 0.001	5.2294 11.41	-1.5602	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80	OA well LAKE 4283	0.00100 0.00100 3 furthest from S 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93	3.31 7.86 missivity from Mo 7.86 7.86	30.00 rgan (1988) 30.00	5,725.00 and McFarlanc 8,255.00	3.14 I and Ryals 3.14	0.0182 (1991)): Use 0.0379	3.4468 ed S = 0.001 2.7342	5.2294 11.41 9.8537	-1.5602	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80	OA well LAKE 4283	0.00100 0.00100 3 furthest from S 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93	3.31 7.86 missivity from Mo 7.86 7.86	30.00 rgan (1988) 30.00	5,725.00 and McFarlanc 8,255.00	3.14 I and Ryals 3.14	0.0182 (1991)): Use 0.0379	3.4468 ed S = 0.001 2.7342	5.2294 11.41 9.8537	-1.5602	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P	0A well LAKE 4283 15,000.00 0A well LAKE 4283 15,000.00 0A well LAKE 1336	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga	30.00 rgan (1988) 30.00 n (1988) and	5,725.00 and McFarlanc 8,255.00 I McFarland an	3.14 I and Ryals 3.14 Id Ryals (19	0.0182 (1991)): Use 0.0379 91)): Used S	3.4468 ed S = 0.001 2.7342 5 = 0.001	5.2294 11.41 9.8537 9.85	-1.5602	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80	OA well LAKE 4283	0.00100 0.00100 3 furthest from S 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86	30.00 rgan (1988) 30.00	5,725.00 and McFarlanc 8,255.00	3.14 I and Ryals 3.14	0.0182 (1991)): Use 0.0379	3.4468 ed S = 0.001 2.7342	5.2294 11.41 9.8537 9.85 9.85 18.3698		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P	0A well LAKE 4283 15,000.00 0A well LAKE 4283 15,000.00 0A well LAKE 1336	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga	30.00 rgan (1988) 30.00 n (1988) and	5,725.00 and McFarlanc 8,255.00 I McFarland an	3.14 I and Ryals 3.14 Id Ryals (19	0.0182 (1991)): Use 0.0379 91)): Used S	3.4468 ed S = 0.001 2.7342 5 = 0.001	5.2294 11.41 9.8537 9.85	-1.5602 6.9559	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80	0A well LAKE 4283 15,000.00 0A well LAKE 4283 15,000.00 0A well LAKE 1336	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100	1,485.63 3,528.93 Bilver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86	30.00 rgan (1988) 30.00 n (1988) and 30.00	5,725.00 and McFarlanc 8,255.00 i McFarland an 2,490.00	3.14 I and Ryals 3.14 Id Ryals (19 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034	3.4468 ed S = 0.001 2.7342 5 = 0.001	5.2294 11.41 9.8537 9.85 9.85 18.3698		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize	OA well LAKE 4283 15,000.00 0A well LAKE 4283 15,000.00 0A well LAKE 1336 15,000.00 15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 ver Lake (Transu	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86 7.86 rgan (1988) and M	30.00 rgan (1988) 30.00 n (1988) and 30.00 CFarland ar	5,725.00 and McFarland 8,255.00 d McFarland an 2,490.00 d Ryals (1991)	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S =	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034	3.4468 d S = 0.001 2.7342 5 = 0.001 5.0972	5.2294 11.41 9.8537 9.85 18.3698 18.37		LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>From" Authorize</b> 112,207.80	15,000.00         15,000.00         0A well LAKE 4283         15,000.00         0A well LAKE 1336         15,000.00         15,000.00         0A well LAKE 1336         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 ver Lake (Transu 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86 7.86 rgan (1988) and N 1.75	30.00 rgan (1988) 30.00 n (1988) and 30.00 IcFarland ar 30.00	5,725.00 and McFarland 8,255.00 i McFarland an 2,490.00 d Ryals (1991) 8,255.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 = 0.001	3.4468 ed S = 0.001 2.7342 5 = 0.001 5.0972 2.7342	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949		LAKE 1405 LAKE 4283 LAKE 1336 LAKE 4283	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>From" Authorize</b> 112,207.80 112,207.80	OA well LAKE 4283 15,000.00 00 well LAKE 4283 15,000.00 00 well LAKE 1336 00 well LAKE 1336 00 wells to Sil 15,000.00 15,000.00 15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 ver Lake (Transi 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00	3.31 7.86 missivity from Mo 7.86 7.86 5ivity from Morga 7.86 7.86 7.86 7.86 7.86 1.75 0.00	30.00 rgan (1988) 30.00 n (1988) and 30.00 ICFarland ar 30.00 30.00	5,725.00 and McFarland 8,255.00 d McFarland an 2,490.00 d Ryals (1991) 8,255.00 8,225.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 • 0.001 • 0.0379 0.0379	3.4468 ed S = 0.001 2.7342 = 0.001 5.0972 2.7342 2.7342 2.7342 2.7412	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000		LAKE 1405 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           15,000.00           OA well LAKE 4283           15,000.00           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 3 closest to Silve 0.00100 ver Lake (Transi 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 786.06 0.00 86.45	3.31 7.86 missivity from Mo 7.86 7.86 5ivity from Morga 7.86 7.86 7.86 7.86 1.75 0.00 0.19	30.00 rgan (1988) 30.00 n (1988) and 30.00 1cFarland ar 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 d McFarland an 2,490.00 d Ryals (1991) 8,255.00 8,225.00 8,225.00 5,440.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.00379 0.0376 0.0376 0.0376	3.4468 d S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7342 2.7342 2.7412 3.5471	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132		LAKE 1405 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           0A well LAKE 4283           15,000.00           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 3 closest to Silve 0.00100 ver Lake (Transı 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 786.06 0.00 86.45 13.85	3.31 7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03	30.00 rgan (1988) 30.00 n (1988) and 30.00 ICFarland ar 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 d McFarland an 2,490.00 8,225.00 8,225.00 5,440.00 7,055.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.00379 0.0379 0.0376 0.0164 0.0277	3.4468 dd S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7412 3.5471 3.0383	5.2294 11.41 9.8537 9.85 18.3698 18.3698 18.37 2.1949 0.0000 0.3132 0.0430		LAKE 1405 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           0A well LAKE 4283           15,000.00           0A well LAKE 1336           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 ver Lake (Transı 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56	3.31 7.86 missivity from Mo 7.86 7.86 5ivity from Morga 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25	30.00 rgan (1988) 30.00 n (1988) and 30.00 CFarland ar 30.00 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 2,490.00 2,490.00 4 Ryals (1991) 8,255.00 8,225.00 8,225.00 5,440.00 7,055.00 4,780.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.00379 0.0376 0.0164 0.0164 0.0277 0.0127	3.4468 dd S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7342 2.7412 3.0383 3.8021	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132 0.0430 0.4293		LAKE 1405 LAKE 4283 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>Trom" Authorize</b> 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           15,000.00           OA well LAKE 4283           15,000.00           0A well LAKE 1336           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05	30.00 rgan (1988) 30.00 n (1988) and 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 i McFarland an 2,490.00 d Ryals (1991) 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00	3.14 and Ryals 3.14 ad Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.0379 0.0376 0.0164 0.0277 0.0127 0.0034	3.4468 d S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7342 2.7412 3.5471 3.0383 3.8021 5.0972	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132 0.0430 0.4293 0.1067		LAKE 1405 LAKE 4283 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>Trom" Authorize</b> 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           0A well LAKE 4283           15,000.00           0A well LAKE 1336           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 ver Lake (Transı 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 786.06 0.00 86.45 13.85 110.56 20.50 734.27	3.31 7.86 missivity from Mo 7.86 7.86 5ivity from Morga 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05 1.64	30.00 rgan (1988) 30.00 n (1988) and 30.00 CFarland ar 30.00 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 2,490.00 2,490.00 4 Ryals (1991) 8,255.00 8,225.00 8,225.00 5,440.00 7,055.00 4,780.00	3.14 i and Ryals 3.14 id Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.00379 0.0376 0.0164 0.0164 0.0277 0.0127	3.4468 dd S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7342 2.7412 3.0383 3.8021	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132 0.0430 0.4293 0.1067 2.5846		LAKE 1405 LAKE 4283 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>Trom" Authorize</b> 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00           15,000.00           15,000.00           OA well LAKE 4283           15,000.00           0A well LAKE 1336           0A well LAKE 1336           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00           15,000.00	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50	3.31 7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05	30.00 rgan (1988) 30.00 n (1988) and 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	5,725.00 and McFarland 8,255.00 i McFarland an 2,490.00 d Ryals (1991) 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00	3.14 and Ryals 3.14 ad Ryals (19 3.14 ): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.0379 0.0376 0.0164 0.0277 0.0127 0.0034	3.4468 d S = 0.001 2.7342 5 = 0.001 5.0972 2.7342 2.7342 2.7412 3.5471 3.0383 3.8021 5.0972	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132 0.0430 0.4293 0.1067		LAKE 1405 LAKE 4283 LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
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112,207.80 112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b> 112,207.80 12,207	15,000.00         15,000.00         0A well LAKE 4283         15,000.00         0A well LAKE 1336         0A well LAKE 1336         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         15,000.00         0A well LAKE 4283	0.00100 0.00100 3 furthest from S 0.00100 5 closest to Silve 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans	3.31 7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 missivity from Mo	30.00 rgan (1988) 30.00 n (1988) and 30.00 30.	5,725.00 and McFarland 8,255.00 i McFarland an 2,490.00 d Ryals (1991) 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00 5,725.00 and McFarland	3.14 and Ryals 3.14 ad Ryals (19 3.14 ): Used S = 3.14	0.0182 (1991)): Use 0.0379 91)): Used S 0.0034 0.0034 0.0379 0.0376 0.0164 0.0277 0.0127 0.0127 0.0127 0.0127 0.0034 0.0182 (1991)): Use	3.4468 d S = 0.001 2.7342 5.0972 2.7342 2.7342 2.7342 2.7412 3.5471 3.0383 3.8021 5.0972 3.4468 d S = 0.001	5.2294 11.41 9.8537 9.85 18.3698 18.37 2.1949 0.0000 0.3132 0.0430 0.4293 0.1067 2.5846 5.67		LAKE 1405 LAKE 4283 LAKE 4283 LAKE 1336 LAKE 1331 LAKE 4437 LAKE 1335 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
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heis Equation:	s = [Q/(4*T*pi)][W(u u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.57		)-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!)	)+								
	s = drawdown (L)				r = radial dis	ance (L)							
	T = transmissivity (				t = time (T)								
	S = storage coeffic	ent (dimensionl	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well f	unction							
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	рі	u	W(u)	Drawdown	Drawdown	Pumping	Comments
T (and/ft)	T (#2/davi)	Coefficient	Q (gal/min)	Q (#2/202)	t (dava)	r (feet)				S (feet)	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gai/min)	(ft3/sec)	(days)	(teet)		1		(feet)	(feet)		
								Note: W(u	u) calculation v	valid when u <	< 7.1		
Note	yellow grid areas	aro whoro valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
Note	, jonow gna areas							1.0000	1.10402 04				
From" Authorize	d POA wells to Silv	er Lake (Trans	missivity from Mo	rgan (1988) and M	IcFarland and	d Ryals (1991	)): Used S =	0.001					
440.007.00		0.00100	1 500.05	0.55	0.15.05	0.055.05		0.00/5		7.0400	L		
112,207.80 112,207.80	15,000.00 15,000.00	0.00100	1,593.35 0.00	3.55 0.00	245.00	8,255.00	<u>3.14</u> 3.14	0.0046	4.8014 4.8086	7.8128 0.0000		LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.39	245.00 245.00	8,225.00 5,440.00	3.14	0.0046	4.8086 5.6328	1.0069		LAKE 1331	Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	7,055.00	3.14	0.0020	5.1143	0.1407		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	4,780.00	3.14	0.0016	5.8911	1.2421		LAKE 1335	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	2,490.00	3.14	0.0004	7.1942	0.3051		LAKE 1336	Continuous Pumping at Full Rat
							-				-		
	15,000.00	0.00100	1,485.63	3.31	245.00	5,725.00	3.14	0.0022	5.5309	8.3915		LAKE 1405	Continuous Pumping at Full Rate
112,207.80	15,000.00		1,485.63 3,528.93	3.31 7.86		5,725.00				8.3915 18.90		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P	15,000.00	furthest from \$	3,528.93 Silver Lake (Trans	7.86 missivity from Mo	rgan (1988) a	nd McFarlan	d and Ryals	(1991)): Us	sed S = 0.001	18.90			
112,207.80	15,000.00		3,528.93	7.86							-1.5953	LAKE 1405	Continuous Pumping at Full Rate
112,207.80 To" Proposed Pr 112,207.80	15,000.00	furthest from \$	3,528.93 Silver Lake (Trans 3,528.93 3,528.93	7.86 missivity from Mo 7.86 7.86	rgan (1988) a 245.00	nd McFarlan 8,255.00	d and Ryals 3.14	(1991)): Us 0.0046	ed S = 0.001 4.8014	18.90 17.3037	-1.5953		
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336	furthest from S 0.00100 closest to Silv	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis	7.86 missivity from Mo 7.86 7.86 sivity from Morga	rgan (1988) a 245.00 n (1988) and	nd McFarlan 8,255.00 McFarland a	d and Ryals 3.14 nd Ryals (19	(1991)): Us 0.0046 991)): Used	sed S = 0.001 4.8014 S = 0.001	18.90 17.3037 17.30	-1.5953	LAKE 4283	Continuous Pumping at Full Rate
112,207.80 To" Proposed Pr 112,207.80	0A well LAKE 4283	furthest from \$	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93	7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86	rgan (1988) a 245.00	nd McFarlan 8,255.00	d and Ryals 3.14	(1991)): Us 0.0046	ed S = 0.001 4.8014	18.90 17.3037 17.30 25.9273			
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336	furthest from S 0.00100 closest to Silv	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis	7.86 missivity from Mo 7.86 7.86 sivity from Morga	rgan (1988) a 245.00 n (1988) and	nd McFarlan 8,255.00 McFarland a	d and Ryals 3.14 nd Ryals (19	(1991)): Us 0.0046 991)): Used	sed S = 0.001 4.8014 S = 0.001	18.90 17.3037 17.30	-1.5953	LAKE 4283	Continuous Pumping at Full Rat
112,207.80 <b>To" Proposed Pr</b> 112,207.80 <b>To" Proposed Pr</b> 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336	furthest from \$ 0.00100 closest to Silv 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93	7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00	d and Ryals 3.14 nd Ryals (19 3.14	(1991)): Us 0.0046 (91)): Used 0.0004	sed S = 0.001 4.8014 S = 0.001	18.90 17.3037 17.30 25.9273		LAKE 4283	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 dt POA wells to Silv	furthest from S 0.00100 closest to Silv 0.00100 er Lake (Trans	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo	7.86 missivity from Mo 7.86 7.86 sivity from Morga 7.86 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00 IcFarland and	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991	d and Ryals 3.14 nd Ryals (19 3.14 )): Used S =	(1991)): Us 0.0046 91)): Used 0.0004 = 0.001	sed S = 0.001 4.8014 S = 0.001 7.1942	18.90 17.3037 17.30 25.9273 25.93		LAKE 4283	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Silv	furthest from S 0.00100 closest to Silv 0.00100 rer Lake (Trans 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06	7.86 missivity from Mo 7.86 7.86 5.85 7.86 7.86 7.86 7.86 7.86 7.86 1.75	rgan (1988) a 245.00 n (1988) and 245.00 IcFarland and 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00	d and Ryals 3.14 nd Ryals (19 3.14 )): Used S = 3.14	(1991)): Used 0.0046 91)): Used 0.0004 = 0.001 0.0046	sed S = 0.001 4.8014 S = 0.001 7.1942 4.8014	18.90 17.3037 17.30 25.9273 25.93 3.8544		LAKE 4283 LAKE 1336 LAKE 4283	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 id POA wells to Silv 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 rer Lake (Trans 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00	7.86 missivity from Mo 7.86 7.86 5.81 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00	rgan (1988) a 245.00 n (1988) and 245.00 IcFarland an 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 = 0.001 0.0046 0.0046	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8014 4.8086	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000		LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 d POA wells to Silv 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45	7.86 missivity from Mo 7.86 7.86 35ivity from Morga 7.86 7.86 7.86 7.86 1.75 0.00 0.19	rgan (1988) a 245.00 n (1988) and 245.00 cFarland and 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00	d and Ryals 3.14 nd Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 = 0.0004 0.0046 0.0046 0.0046 0.0046	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8014 4.8086 5.6328	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973		LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 id POA wells to Silv 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 rer Lake (Trans 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00	7.86 missivity from Mo 7.86 7.86 5.81 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00	rgan (1988) a 245.00 n (1988) and 245.00 IcFarland an 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 = 0.001 0.0046 0.0046	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8014 4.8086	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000		LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 missivity from Mc 786.06 0.00 86.45 13.85	7.86 missivity from Mo 7.86 7.86 5.00 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00 7,055.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 = 0.001 = 0.0046 0.0046 0.0020 0.0034	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.0723		LAKE 4283 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from 5 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 0.0004 0.0046 0.0046 0.0046 0.0020 0.0034 0.0034	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911	18.90 17.3037 17.30 25.9273 25.93 25.93 3.8544 0.0000 0.4973 0.0723 0.6652		LAKE 4283 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00 86.45 13.85 110.56 20.50	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	McFarland a 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Us 0.0046 91)): Used 0.0004 0.0004 0.0046 0.0020 0.0034 0.0016 0.0004	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.6652 0.1506		LAKE 4283 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.0000 0.00100 0.00100 0.0000 0	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 Missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 4 Ryals (1991 8,255.00 8,225.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00 5,725.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 0.0004 0.0046 0.0046 0.0020 0.0034 0.0016 0.0022	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.0723 0.6652 0.1506 4.1475		LAKE 4283 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 4283	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 furthest from \$	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	McFarland a 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00 5,725.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14	(1991)): Used 0.0046 91)): Used 0.0004 	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309 5.5309 5.64 S = 0.001	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.6652 0.1506 4.1475 9.39		LAKE 4283 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 0A well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.0000 0.00100 0.00100 0.0000 0	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans 1,751.69	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 4 Ryals (1991 8,255.00 8,225.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00 5,725.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Used 0.0046 91)): Used 0.0004 0.0004 0.0046 0.0046 0.0020 0.0034 0.0016 0.0022	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.0723 0.6652 0.1506 4.1475 9.39 8.5892	7.0283	LAKE 4283 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 To" Proposed Pr 112,207.80 112,207.	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 4283	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 furthest from \$	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 3,528.93 missivity from Mc 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 n (1988) and 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	McFarland a 8,255.00 McFarland a 2,490.00 d Ryals (1991 8,255.00 8,225.00 5,440.00 7,055.00 4,780.00 2,490.00 5,725.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14	(1991)): Used 0.0046 91)): Used 0.0004 	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309 5.5309 5.64 S = 0.001	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.6652 0.1506 4.1475 9.39		LAKE 4283 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1346	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80  To" Proposed Pr 112,207.80  To" Proposed Pr 112,207.80  112,207.80  112,207.80 112,207.	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 4283	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 furthest from \$ 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans 1,751.69 1,751.69	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 4 Ryals (1991 8,255.00 8,225.00 8,225.00 5,440.00 5,725.00 4,780.00 2,490.00 5,725.00 md McFarlan 8,255.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Us 0.0046 91)): Used 0.0004 0.0046 0.0046 0.0046 0.0034 0.0016 0.0034 0.0016 0.0004 0.0022 (1991)): Us	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309 eed S = 0.001 4.8014	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.0723 0.6652 0.1506 4.1475 9.39 8.5892	7.0283	LAKE 4283 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1346	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80  To" Proposed Pr 112,207.80  To" Proposed Pr 112,207.80  112,207.80  112,207.80 112,207.	15,000.00 OA well LAKE 4283 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from \$ 0.00100 closest to Silv 0.00100 er Lake (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 furthest from \$ 0.00100 0.00100	3,528.93 Silver Lake (Trans 3,528.93 3,528.93 er Lake (Transmis 3,528.93 3,528.93 3,528.93 missivity from Mo 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Lake (Trans 1,751.69 1,751.69	7.86 missivity from Mo 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	rgan (1988) a 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	nd McFarlan 8,255.00 McFarland a 2,490.00 4 Ryals (1991 8,255.00 8,225.00 8,225.00 5,440.00 5,725.00 4,780.00 2,490.00 5,725.00 md McFarlan 8,255.00	d and Ryals 3.14 and Ryals (19 3.14 )): Used S = 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): Us 0.0046 91)): Used 0.0004 0.0046 0.0046 0.0046 0.0034 0.0016 0.0034 0.0016 0.0004 0.0022 (1991)): Us	4.8014 4.8014 5 = 0.001 7.1942 4.8014 4.8086 5.6328 5.1143 5.8911 7.1942 5.5309 eed S = 0.001 4.8014	18.90 17.3037 17.30 25.9273 25.93 3.8544 0.0000 0.4973 0.0723 0.6652 0.1506 4.1475 9.39 8.5892	7.0283	LAKE 4283 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1346	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping

	s = [Q/(4*T*pi)][W u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.5		-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dist	ance (L)							
	T = transmissivity				t = time (T) u = dimensio								
	S = storage coeffic pi = 3.141592654	sent (dimensionie	:55)		W(u) = well f								
	pi = 0.141002004												
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	Т	Coefficient	Q	Q	t	r	μ.	-	()	S	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
									adaulation	/alid when u <	. 7.4		
								Note: w(u)		aliu when u s	. 7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authorize	ed POA wells to Pa	ulina Marsh (Tra	insmissivity from	Morgan (1988) an	d McFarland	and Ryals (19	91)): Used	S = 0.001					
440.007.00	45 000 00	0.00100	4 500 05	0.55	20.00	44.005.00	2.4.4	0.4000	4 7070	0.0070			
112,207.80 112,207.80	15,000.00 15,000.00	0.00100	1,593.35 0.00	3.55 0.00	30.00 30.00	14,065.00 14,035.00	3.14 3.14	0.1099 0.1094	1.7379 1.7417	2.8279 0.0000		LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.00	30.00	10,775.00	3.14	0.1094	2.2273	0.0000		LAKE 1331	Continuous Pumping at Full Rat
	15,000.00				30.00			0.0645					
112,207.80		0.00100	26.93 206.46	0.06		15,590.00	3.14		1.5557	0.0428 0.4062		LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100		0.46	30.00	12,675.00	3.14	0.0893	1.9264				Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	9,775.00	3.14	0.0531	2.4111	0.1022		LAKE 1336	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	1,485.63 3,528.93	3.31 7.86	30.00	18,420.00	3.14	0.1885	1.2714	1.9290 5.71		LAKE 1405	Continuous Pumping at Full Rat
To" Proposed P	OA well LAKE 140	5 furthest from P	Paulina Marsh (Tr	ansmissivity from	n Morgan (198	8) and McFarl	and and Ry	als (1991)):	Used S = 0.0	01			
112,207.80	15,000.00	0.00100	3,528.93	7.86	30.00	18,420.00	3.14	0.1885	1.2714	4.5821		LAKE 1405	Continuous Pumping at Full Rat
			3,528.93	7.86						4.58	-1.1242		1 0
To" Proposed P	OA well LAKE 133	closest to Paul	ina Marsh (Trans	missivity from M	organ (1988) a	and McFarland	d and Ryals	(1991)): Us	ed S = 0.001				
	15,000.00	0.00100	3.528.93	7.86	30.00	9,775.00	3.14	0.0531	2.4111	8.6892		LAKE 1336	Continuous Pumping at Full Rat
112 207 80	10,000.00	0.00100			00.00	0,110.00	0.14	0.0001	1	8.69	2.9830	EARLE 1000	Continuous F amping at F an Rat
112,207.80			3.528.93	7.86									
112,207.80			3,528.93	7.86						0.00			
,	ed POA wells to Pa	ulina Marsh (Tra	·		d McFarland	and Ryals (19	91)): Used	S = 0.001		0.00			
From" Authorize			nsmissivity from	Morgan (1988) an					1.7379			LAKE 4283	Continuous Pro-Rated Pumping
From" Authorize	15,000.00	0.00100	nsmissivity from 786.06	Morgan (1988) an 1.75	30.00	14,065.00	3.14	0.1099	1.7379	1.3951		LAKE 4283 LAKE 1331	
From" Authorize	15,000.00 15,000.00	0.00100	786.06 0.00	Morgan (1988) an 1.75 0.00	30.00 30.00	14,065.00 14,035.00	3.14 3.14	0.1099 0.1094	1.7417	1.3951 0.0000		LAKE 1331	Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100	786.06 0.00 86.45	Morgan (1988) an 1.75 0.00 0.19	30.00 30.00 30.00	14,065.00 14,035.00 10,775.00	3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645	1.7417 2.2273	1.3951 0.0000 0.1966		LAKE 1331 LAKE 4437	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85	Morgan (1988) an 1.75 0.00 0.19 0.03	30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00	3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350	1.7417 2.2273 1.5557	1.3951 0.0000 0.1966 0.0220		LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85 110.56	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25	30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893	1.7417 2.2273 1.5557 1.9264	1.3951 0.0000 0.1966 0.0220 0.2175		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85 110.56 20.50	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05	30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531	1.7417 2.2273 1.5557 1.9264 2.4111	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85 110.56	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25	30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893	1.7417 2.2273 1.5557 1.9264	1.3951 0.0000 0.1966 0.0220 0.2175		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 <b>To" Proposed P</b>	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 5 furthest from P	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885 als (1991)):	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90	30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84		LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 <b>To" Proposed P</b>	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1409	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 5 furthest from P	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 ansmissivity from	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 4 Morgan (198	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885 als (1991)):	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714 Used S = 0.0	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84 01	-0.5607	LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 To" Proposed P 112,207.80	CA well LAKE 1405	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 5 furthest from P	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 2aulina Marsh (Tr 1,751.69 1,751.69	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 ansmissivity from 3.90 3.90	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00 <b>18,420.00</b>	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885 als (1991)): 0.1885	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714 Used S = 0.0	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84 01 2.2745	-0.5607	LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 To" Proposed P 112,207.80	15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1409	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 5 furthest from P	786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 2aulina Marsh (Tr 1,751.69 1,751.69	Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 ansmissivity from 3.90 3.90	30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00 <b>18,420.00</b>	3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1099 0.1094 0.0645 0.1350 0.0893 0.0531 0.1885 als (1991)): 0.1885	1.7417 2.2273 1.5557 1.9264 2.4111 1.2714 Used S = 0.0	1.3951 0.0000 0.1966 0.0220 0.2175 0.0505 0.9534 2.84 01 2.2745	-0.5607	LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336 LAKE 1405	Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin

Theis Equation:	s = [Q/(4*T*pi)][W( u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.57		-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dis	tance (L)							
	T = transmissivity (				t = time (T)								
	S = storage coeffic	ient (dimensionle	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well	function							
Transmissivity	Transmissivity	Storage	Pumping Rate		Time	Distance	pi	u	W(u)	Drawdown		Pumping	Comments
T (and/ft)	T (#2/dov)	Coefficient S	Q (gal/min)	Q (ft3/sec)	t (dava)	r (feet)				s (feet)	Change s (feet)	Well	
(gpd/ft)	(ft2/day)	3	(gai/min)	(IIS/Sec)	(days)	(leet)				(leet)	(leet)		
								Note : W(u	I) calculation	valid when u <	< 7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authorize	ed POA wells to Pau	ulina Marsh (Tra	ansmissivity from	Morgan (1988) an	d McFarland	and Rvals (1	991)): Used	S = 0.001					
				line (1000) al								<u></u>	
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	14,065.00	3.14	0.0135	3.7444	6.0929		LAKE 4283	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	14,035.00	3.14	0.0134	3.7486	0.0000		LAKE 1331	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	175.04	0.39	245.00	10,775.00	3.14	0.0079	4.2718	0.7636		LAKE 4437	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	15,590.00	3.14	0.0165	3.5416	0.0974		LAKE 1330	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	12,675.00	3.14	0.0109	3.9500	0.8328		LAKE 1335	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	9,775.00	3.14	0.0065	4.4652 3.2145	0.1893		LAKE 1336	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	1,485.63	3.31	245.00	18,420.00	3.14	0.0231		4.8770		LAKE 1405	Continuous Pumping at Full Rate
						10,120.00	5.14	0.0231	3.2 143	1		LAILE 1400	Continuouo r uniping ut r un rtut
			3,528.93	7.86		10,120.00	5.14	0.0201	5.2145	12.85			
To" Proposed P			3,528.93	7.86						12.85			
To" Proposed P	OA well LAKE 1405		3,528.93	7.86						12.85			
To" Proposed P 112,207.80	OA well LAKE 1405		3,528.93	7.86						12.85		LAKE 1405	
•		furthest from F	3,528.93 Paulina Marsh (Tr	7.86 ansmissivity from	n Morgan (19	88) and McFa	rland and Ry	als (1991)):	Used S = 0.0	12.85 01	-1.2685		Continuous Pumping at Full Rate
112,207.80	15,000.00	6 furthest from F	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93	7.86 ansmissivity from 7.86 7.86	<b>Morgan (19</b>	88) and McFa	rland and Ry 3.14	als (1991)): 0.0231	Used S = 0.0	12.85 01 11.5846	-1.2685		
112,207.80		6 furthest from F	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93	7.86 ansmissivity from 7.86 7.86	<b>Morgan (19</b>	88) and McFa	rland and Ry 3.14	als (1991)): 0.0231	Used S = 0.0	12.85 01 11.5846	-1.2685		
112,207.80 To" Proposed P	0A well LAKE 1336	6 furthest from F 0.00100 6 closest to Pau	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans	7.86 ansmissivity from 7.86 7.86 smissivity from Mo	1 Morgan (19 245.00 organ (1988)	88) and McFa 18,420.00 and McFarlar	rland and Ry 3.14 Id and Ryals	als (1991)): 0.0231 (1991)): Us	Used S = 0.0	12.85 01 11.5846 11.58	-1.2685	LAKE 1405	Continuous Pumping at Full Rate
112,207.80	15,000.00	6 furthest from F	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93	7.86 ansmissivity from 7.86 7.86	<b>Morgan (19</b>	88) and McFa	rland and Ry 3.14	als (1991)): 0.0231	Used S = 0.0	12.85 01 11.5846	-1.2685		
112,207.80 To" Proposed P	0A well LAKE 1336	6 furthest from F 0.00100 6 closest to Pau	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93	7.86 ansmissivity from 7.86 7.86 missivity from Mo 7.86	1 Morgan (19 245.00 organ (1988)	88) and McFa 18,420.00 and McFarlar	rland and Ry 3.14 Id and Ryals	als (1991)): 0.0231 (1991)): Us	Used S = 0.0	12.85 01 11.5846 11.58		LAKE 1405	Continuous Pumping at Full Rate
112,207.80 To" Proposed P 112,207.80	0A well LAKE 1336	6 closest to Pau 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93	7.86 ansmissivity from 7.86 7.86 missivity from Mo 7.86 7.86	Morgan (19 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00	rland and Ry 3.14 Id and Ryals 3.14	als (1991)): 0.0231 (1991)): Us 0.0065	Used S = 0.0	12.85 01 11.5846 11.58		LAKE 1405	Continuous Pumping at Full Rate
112,207.80 To" Proposed P 112,207.80 From" Authorize	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pau	i furthest from F 0.00100 i closest to Pau 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 ansmissivity from	7.86 ansmissivity from 7.86 7.86 missivity from Mo 7.86 7.86 Morgan (1988) an	Morgan (19 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1	rland and Ry 3.14 Ind and Ryals 3.14 991)): Used	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001	Used S = 0.0 3.2145 sed S = 0.001 4.4652	12.85 01 11.5846 11.58 16.0922 16.09		LAKE 1405	Continuous Pumping at Full Rate Continuous Pumping at Full Rate
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ded POA wells to Pat	i furthest from F 0.00100 c closest to Pau 0.00100 ulina Marsh (Tra 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75	Morgan (19) 245.00 245.00 245.00 d McFarland 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00	rland and Ry 3.14 id and Ryals 3.14 991)): Used 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135	Used S = 0.0 3.2145 sed S = 0.001 4.4652 3.7444	12.85 01 11.5846 11.58 16.0922 16.09 3.0059		LAKE 1405	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pat 15,000.00 15,000.00	0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 iina Marsh (Trans 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00	245.00 245.00 245.00 245.00 d McFarland 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134	Used S = 0.0 3.2145 sed S = 0.001 4.4652 3.7444 3.7486	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pat 15,000.00 15,000.00 15,000.00	furthest from F         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 786.06 0.00 86.45	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00 0.19	Morgan (19 245.00 245.00 245.00 d McFarland 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079	Used S = 0.0 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pau 15,000.00 15,000.00 15,000.00	furthest from F         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100         0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 iina Marsh (Trans 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00 15,590.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165	Used S = 0.0 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pau 15,000.00 15,000.00 15,000.00 15,000.00	i furthest from F 0.00100 closest to Pau 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00 0.19 0.03 0.25	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 20 POA wells to Pau 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	i furthest from F 0.00100 i closest to Pau 0.00100 ulina Marsh (Tra 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05	Morgan (19 245.00 245.00 245.00 d McFarland 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00 12,675.00 9,775.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.5416 3.9500 4.4652	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Pau 15,000.00 15,000.00 15,000.00 15,000.00	i furthest from F 0.00100 closest to Pau 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 iina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 786.06 0.00 86.45 13.85 110.56 20.50 734.27	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00 0.19 0.03 0.25	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 20 POA wells to Pau 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	i furthest from F 0.00100 i closest to Pau 0.00100 ulina Marsh (Tra 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 lina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 Morgan (1988) an 1.75 0.00 0.19 0.03 0.25 0.05 1.64	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00 12,675.00 9,775.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.5416 3.9500 4.4652	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 20 POA wells to Pau 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from F         0.00100         0	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065 0.0231	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 04 well LAKE 1405	furthest from F         0.00100         0	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ilina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 10.56 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00 12,675.00 9,775.00 12,675.00 9,775.00 18,420.00 88) and McFa	rland and Ry 3.14 d and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065 0.0231 als (1991)):	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145 Used S = 0.0	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01		LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ad POA wells to Pat 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	furthest from F         0.00100         0	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 1,528.93 3,528.93 7,859.93 7,859.93 7,859.93 7,859.93 7,759.56 7,759.5757.56 7,759.5757.57575	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05 1.64 3.90	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065 0.0231	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01	3.2391	LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rate Continuous Pumping at Full Rate Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 12	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 04 well LAKE 1405	furthest from F         0.00100         0	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ilina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 10.56 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	Morgan (19 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,035.00 10,775.00 12,675.00 9,775.00 12,675.00 9,775.00 18,420.00 88) and McFa	rland and Ry 3.14 d and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): Us 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0065 0.0231 als (1991)):	3.2145 3.2145 sed S = 0.001 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145 Used S = 0.0	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01		LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1405 15,000.00	i furthest from F 0.00100 i closest to Pau 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr 1,751.69 1,751.69	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Morgan (19) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00 88) and McFa	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0165 0.0109 0.0065 0.0231 als (1991)): 0.0231	3.2145 3.2145 3.2145 3.2145 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145 Used S = 0.00	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01	3.2391	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 04 well LAKE 1405	i furthest from F 0.00100 i closest to Pau 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr 1,751.69 1,751.69	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Morgan (19) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00 88) and McFa	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0165 0.0109 0.0065 0.0231 als (1991)): 0.0231	3.2145 3.2145 3.2145 3.2145 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145 Used S = 0.00	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01	3.2391	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1405 15,000.00	i furthest from F 0.00100 i closest to Pau 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Paulina Marsh (Tr 3,528.93 3,528.93 ina Marsh (Trans 3,528.93 3,528.93 3,528.93 3,528.93 ansmissivity from 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Paulina Marsh (Tr 1,751.69 1,751.69	7.86 ansmissivity from 7.86 7.86 7.86 7.86 7.86 7.86 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Morgan (19) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	88) and McFa 18,420.00 and McFarlar 9,775.00 and Ryals (1 14,065.00 14,065.00 14,035.00 10,775.00 15,590.00 12,675.00 9,775.00 18,420.00 88) and McFa	rland and Ry 3.14 ad and Ryals 3.14 991)): Used 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	als (1991)): 0.0231 (1991)): U: 0.0065 S = 0.001 0.0135 0.0134 0.0079 0.0165 0.0109 0.0165 0.0109 0.0065 0.0231 als (1991)): 0.0231	3.2145 3.2145 3.2145 3.2145 4.4652 3.7444 3.7486 4.2718 3.5416 3.9500 4.4652 3.2145 Used S = 0.00	12.85 01 11.5846 11.58 16.0922 16.09 3.0059 0.0000 0.3771 0.0501 0.4460 0.0935 2.4104 6.38 01	3.2391	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1306 LAKE 1405	Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping

heis Equation:	s = [Q/(4*T*pi)][Wi u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.5		-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dis	stance (L)							
	T = transmissivity				t = time (T)								
	S = storage coeffic	cient (dimensionle	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well	function							
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	рі	u	W(u)	Drawdown	Drawdown	Pumping	Comments
T (mm d/ft)	T (#2/dau)	Coefficient S	Q	Q (#2/222)	t (dava)	r		-		S (fact)	Change s	Well	
(gpd/ft)	(ft2/day)	5	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u)	calculation	valid when u <	< 7.1		
Note	: yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authoriz	ed POA wells to Sil	vor Crook (Trop	miccivity from M	organ (1999) and	McEarland a	nd Byole (1991		- 0.001					
Authorize	TOA WEIIS LO SII	ver Greek (Trans	SINSSIVILY ITOIN W	organ (1900) and	merananu a	110 Kyais (1991	II. Useu S	- 0.001					
112,207.80	15,000.00	0.00100	1,593.35	3.55	30.00	13,255.00	3.14	0.0976	1.8449	3.0019	L	LAKE 4283	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	14,145.00	3.14	0.1112	1.7277	0.0000		LAKE 1331	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	10,725.00	3.14	0.0639	2.2361	0.3997		LAKE 4437	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	26.93	0.06	30.00	14,900.00	3.14	0.1233	1.6352	0.0450		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	11,965.00	3.14	0.0795	2.0323	0.4285		LAKE 1335	Continuous Pumping at Full Rat
						0.040.00			0 5500	0 4005		LAKE 1336	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	9,040.00	3.14	0.0454	2.5599	0.1085		LARE 1000	Continuous r uniping at r un rat
112,207.80 112,207.80	15,000.00 15,000.00	0.00100	41.52 1,485.63	0.09 3.31	30.00 30.00	9,040.00	3.14 3.14	0.0454 0.1659	2.5599 1.3785	0.1085 2.0914		LAKE 1330	
													Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	1,485.63 <b>3,528.93</b>	3.31 7.86	30.00	17,280.00	3.14	0.1659	1.3785	2.0914 6.08			
112,207.80		0.00100	1,485.63 <b>3,528.93</b>	3.31 7.86	30.00	17,280.00	3.14	0.1659	1.3785	2.0914 6.08			
112,207.80 To" Proposed P	0A well LAKE 1405	0.00100 5 furthest from S	1,485.63 <b>3,528.93</b> Silver Creek (Tran	3.31 7.86 smissivity from M	30.00 Iorgan (1988	17,280.00	3.14 Id and Ryal	0.1659 s (1991)): U	1.3785 sed S = 0.001	2.0914 6.08		LAKE 1405	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93	3.31 7.86	30.00	17,280.00	3.14	0.1659	1.3785	2.0914 6.08 4.9679	-1.1072		Continuous Pumping at Full Rat
112,207.80 To" Proposed P	0A well LAKE 1405	0.00100 5 furthest from S	1,485.63 <b>3,528.93</b> Silver Creek (Tran	3.31 7.86 smissivity from M 7.86	30.00 Iorgan (1988	17,280.00	3.14 Id and Ryal	0.1659 s (1991)): U	1.3785 sed S = 0.001	2.0914 6.08	-1.1072	LAKE 1405	
112,207.80 <b>To" Proposed P</b> 112,207.80	0A well LAKE 1405	0.00100 5 furthest from S 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93	3.31 7.86 smissivity from M 7.86 7.86	30.00 Iorgan (1988 30.00	17,280.00 and McFarlar 17,280.00	3.14 ad and Ryal 3.14	0.1659 s (1991)): U 0.1659	1.3785 sed S = 0.001 1.3785	2.0914 6.08 4.9679	-1.1072	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 <b>To" Proposed P</b> 112,207.80 <b>To" Proposed P</b>	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336	0.00100 5 furthest from S 0.00100 6 closest to Silve	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm	3.31 7.86 smissivity from N 7.86 7.86 issivity from More	30.00 lorgan (1988 30.00 gan (1988) ar	17,280.00 ) and McFarlar 17,280.00 d McFarland a	3.14 ad and Ryal 3.14 nd Ryals (1	0.1659 s (1991)): U 0.1659 991)): Used	1.3785 sed S = 0.001 1.3785 S = 0.001	2.0914 6.08 4.9679 4.97	-1.1072	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80	0A well LAKE 1409	0.00100 5 furthest from S 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93	3.31 7.86 ssmissivity from N 7.86 7.86 issivity from More 7.86	30.00 Iorgan (1988 30.00	17,280.00 and McFarlar 17,280.00	3.14 ad and Ryal 3.14	0.1659 s (1991)): U 0.1659	1.3785 sed S = 0.001 1.3785	2.0914 6.08 4.9679 4.97 9.2256		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336	0.00100 5 furthest from S 0.00100 6 closest to Silve	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm	3.31 7.86 smissivity from N 7.86 7.86 issivity from More	30.00 lorgan (1988 30.00 gan (1988) ar	17,280.00 ) and McFarlar 17,280.00 d McFarland a	3.14 ad and Ryal 3.14 nd Ryals (1	0.1659 s (1991)): U 0.1659 991)): Used	1.3785 sed S = 0.001 1.3785 S = 0.001	2.0914 6.08 4.9679 4.97	-1.1072	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80	OA well LAKE 1405 15,000.00 OA well LAKE 1336 0A well LAKE 1336	0.00100 5 furthest from S 0.00100 5 closest to Silve 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	3.31 7.86 smissivity from M 7.86 7.86 issivity from More 7.86 7.86	30.00 lorgan (1988 30.00 gan (1988) au 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454	1.3785 sed S = 0.001 1.3785 S = 0.001	2.0914 6.08 4.9679 4.97 9.2256		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336	0.00100 5 furthest from S 0.00100 5 closest to Silve 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	3.31 7.86 smissivity from M 7.86 7.86 issivity from More 7.86 7.86	30.00 lorgan (1988 30.00 gan (1988) au 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454	1.3785 sed S = 0.001 1.3785 S = 0.001	2.0914 6.08 4.9679 4.97 9.2256		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Sil	0.00100 5 furthest from S 0.00100 5 closest to Silve 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	3.31 7.86 ssmissivity from M 7.86 7.86 issivity from Morg 7.86 7.86 7.86 organ (1988) and 1.75	30.00 lorgan (1988 30.00 gan (1988) au 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454	1.3785 sed S = 0.001 1.3785 S = 0.001	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 4283	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80	CA well LAKE 1405 15,000.00 CA well LAKE 1336 15,000.00 cd POA wells to Sil 15,000.00 cd POA wells to Sil	0.00100 5 furthest from S 0.00100 3 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00	3.31 7.86 5500000000000000000000000000000000000	30.00 lorgan (1988) 30.00 gan (1988) ar 30.00 McFarland a 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 nd Ryals (1991 13,255.00 14,145.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Sil 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 3 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45	3.31 7.86 5500000000000000000000000000000000000	30.00 lorgan (1988) 30.00 30.00 McFarland a 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 10,725.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14	0.1659 s (1991)): U 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rat
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 6 closest to Silve 0.00100 9 closest (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85	3.31 7.86 smissivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00	17,280.00 ) and McFarlar 17,280.00 d McFarland a 9,040.00 nd Ryals (1991 13,255.00 14,145.00 10,725.00 14,900.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352	2.0914 6.08 4.9679 4.97 9.2256 9.23 9.23 1.4810 0.0000 0.1974 0.0231		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 4283 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 5 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 5missivity from M 786.06 0.00 86.45 13.85 110.56	3.31 7.86 smissivity from N 7.86 7.86 issivity from More 7.86 7.86 7.86 0.00 0.03 0.03 0.25	30.00 lorgan (1988) 30.00 gan (1988) au 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 ) and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 14,900.00 11,965.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974 0.0231 0.2295		LAKE 1405 LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 6 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50	3.31 7.86 smissivity from N 7.86 7.86 issivity from More 7.86 7.86 7.86 0.00 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.1	0.1659 s (1991)): Used 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 5 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 1,528.93 3,528.93 3,528.93 1,528.93 3,528.93 3,528.93 1,528.93 3,5	3.31 7.86 550 57.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	30.00 lorgan (1988) 30.00 gan (1988) au 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 ) and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 14,900.00 11,965.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536 1.0337		LAKE 1405 LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 5 furthest from S 0.00100 6 closest to Silve 0.00100 ver Creek (Trans 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50	3.31 7.86 smissivity from N 7.86 7.86 issivity from More 7.86 7.86 7.86 0.00 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.1	0.1659 s (1991)): Used 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1405 15,000.00 OA well LAKE 1336 0A well LAKE 1336 15,000.00 15	0.00100  5 furthest from S  0.00100  5 closest to Silve 0.00100  ver Creek (Trans 0.00100 0.0000000 0.00000000	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 5missivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	3.31 7.86 smissivity from N 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.09 0.03 0.19 0.03 0.25 0.05 1.64 3.90	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454 0.1659	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.3785 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599 1.3785	2.0914 6.08 4.9679 4.97 9.2256 9.23 9.23 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536 1.0337 3.02		LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
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112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 122,207.80	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0 A well LAKE 1409	0.00100 5 furthest from S 0.00100 6 closest to Silve 0.00100 0.000000 0.0000000000	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Tran	3.31 7.86 5missivity from N 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0rgan (1988) and 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 smissivity from N	30.00 lorgan (1988) an 30.00 gan (1988) an 30.00 30.0	17,280.00 ) and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.1	0.1659 s (1991)): Used 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454 0.1659 s (1991)): Used s (1991)): Used	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599 1.3785 Sed S = 0.001	2.0914 6.08 4.9679 4.97 9.2256 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536 1.0337 3.02		LAKE 1405 LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1335 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P 112,207.80 To" Proposed P 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336 15,000.00	0.00100 5 furthest from S 6 closest to Silve 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 5missivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Tran 1,751.69 1,751.69	3.31 7.86 smissivity from N 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 17,280.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454 0.1659 s (1991)): U:	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599 1.3785 sed S = 0.001 1.3785	2.0914 6.08 4.9679 4.97 9.2256 9.23 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536 1.0337 3.02	3.1505	LAKE 1405 LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1335 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
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112,207.80  To" Proposed P  112,207.80  To" Proposed P  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80  112,207.80	15,000.00 OA well LAKE 1409 15,000.00 OA well LAKE 1336 15,000.00	0.00100 5 furthest from S 6 closest to Silve 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	1,485.63 3,528.93 Silver Creek (Tran 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 3,528.93 5missivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Tran 1,751.69 1,751.69	3.31 7.86 smissivity from N 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	30.00 lorgan (1988) 30.00 gan (1988) an 30.00 McFarland a 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00 30.00	17,280.00 and McFarlar 17,280.00 d McFarland a 9,040.00 13,255.00 14,145.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 17,280.00	3.14 ad and Ryal 3.14 and Ryals (1 3.14 )): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	0.1659 s (1991)): U: 0.1659 991)): Used 0.0454 = 0.001 0.0976 0.1112 0.0639 0.1233 0.0795 0.0454 0.1659 s (1991)): U:	1.3785 sed S = 0.001 1.3785 S = 0.001 2.5599 1.8449 1.7277 2.2361 1.6352 2.0323 2.5599 1.3785 sed S = 0.001 1.3785	2.0914 6.08 4.9679 4.97 9.2256 9.23 9.23 1.4810 0.0000 0.1974 0.0231 0.2295 0.0536 1.0337 3.02	3.1505	LAKE 1405 LAKE 1405 LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1335 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin Continuous Pro-Rated Pumpin

heis Equation:	s = [Q/(4*T*pi)][W( u = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.57		)-(u*u/2*2!)+(u*u*u/	'3*3!)-(u*u*u*u/4*4!	)+								
	s = drawdown (L)				r = radial dis	tance (L)							
	T = transmissivity (	(L*L/T)			t = time (T)								
	S = storage coeffic	ient (dimensionl	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well	function							
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	Т	Coefficient	Q	Q	t	r				S	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note · W(	u) calculation	valid when u	< 7 1		
								1010 . 11(1					
Note	: yellow grid areas	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authorize	ed POA wells to Silv	ver Creek (Tran	smissivity from M	organ (1988) and	McFarland a	nd Ryals (199	1)): Used S	= 0.001					
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	13,255.00	3.14	0.0120	3.8616	6.2835		LAKE 4283	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	14,145.00	3.14	0.0120	3.7332	0.0000		LAKE 1331	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	175.04	0.39	245.00	10,725.00	3.14	0.0078	4.2810	0.7653		LAKE 4437	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	14,900.00	3.14	0.0151	3.6307	0.0999		LAKE 1330	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	11,965.00	3.14	0.0097	4.0641	0.8569		LAKE 1335	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	9,040.00	3.14	0.0056	4.6206	0.1959		LAKE 1336	Continuous Pumping at Full Rat
112,207.80	15,000.00	0.00100	1,485.63	3.31	245.00	17,280.00	3.14	0.0203	3.3395	5.0667		LAKE 1405	Continuous Pumping at Full Rat
						,	0.14	0.0200	0.0000			2, 112 1100	oonanaoao r amping atr an rat
			3,528.93	7.86		,	0.14	0.0200	0.0000	13.27		2.1.12 1100	Continuouo r amping at r am r at
T			3,528.93	7.86						13.27			
To" Proposed P	OA well LAKE 1405	i furthest from \$	3,528.93	7.86						13.27			
•			3,528.93 Silver Creek (Trar	7.86 nsmissivity from M	lorgan (1988	) and McFarla	ind and Rya	Is (1991)): I	Used S = 0.001	13.27			
To" Proposed Po 112,207.80	OA well LAKE 1405	furthest from \$	3,528.93 Silver Creek (Trar 3,528.93	7.86 Insmissivity from M 7.86						13.27 12.0352	-1.2329	LAKE 1405	Continuous Pumping at Full Rate
•			3,528.93 Silver Creek (Trar	7.86 nsmissivity from M	lorgan (1988	) and McFarla	ind and Rya	Is (1991)): I	Used S = 0.001	13.27	-1.2329		
112,207.80		0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93	7.86 Ismissivity from M 7.86 7.86	lorgan (1988 245.00	) and McFarla	and and Rya	ls (1991)): I 0.0203	Used S = 0.001	13.27 12.0352	-1.2329		
112,207.80 To" Proposed Po	0A well LAKE 1336	0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm	7.86 Insmissivity from M 7.86 7.86 Inssivity from More	lorgan (1988 245.00 gan (1988) ar	) and McFarla 17,280.00 d McFarland	and and Rya 3.14 and Ryals (*	ls (1991)): 1 0.0203 1991)): Use	Used S = 0.001	13.27 12.0352 12.04	-1.2329	LAKE 1405	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93	7.86 Ismissivity from M 7.86 7.86 Issivity from More 7.86	lorgan (1988 245.00	) and McFarla	and and Rya	ls (1991)): I 0.0203	Used S = 0.001	13.27 12.0352 12.04 16.6522			
112,207.80 To" Proposed Po	0A well LAKE 1336	0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm	7.86 Insmissivity from M 7.86 7.86 Inssivity from More	lorgan (1988 245.00 gan (1988) ar	) and McFarla 17,280.00 d McFarland	and and Rya 3.14 and Ryals (*	ls (1991)): 1 0.0203 1991)): Use	Used S = 0.001	13.27 12.0352 12.04	-1.2329	LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pt 112,207.80	15,000.00 OA well LAKE 1336 15,000.00	0.00100 closest to Silv 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	7.86 Ismissivity from M 7.86 7.86 issivity from More 7.86 7.86	lorgan (1988 245.00 gan (1988) ar 245.00	) and McFarla 17,280.00 d McFarland 9,040.00	and and Rya 3.14 and Ryals (* 3.14	s (1991)): I 0.0203 1991)): Use 0.0056	Used S = 0.001	13.27 12.0352 12.04 16.6522		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pt 112,207.80	0A well LAKE 1336	0.00100 closest to Silv 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	7.86 Ismissivity from M 7.86 7.86 issivity from More 7.86 7.86	lorgan (1988 245.00 gan (1988) ar 245.00	) and McFarla 17,280.00 d McFarland 9,040.00	and and Rya 3.14 and Ryals (* 3.14	s (1991)): I 0.0203 1991)): Use 0.0056	Used S = 0.001	13.27 12.0352 12.04 16.6522		LAKE 1405	Continuous Pumping at Full Rat
112,207.80	15,000.00 OA well LAKE 1336 15,000.00	0.00100 closest to Silv 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93	7.86 Ismissivity from M 7.86 7.86 issivity from More 7.86 7.86	lorgan (1988 245.00 gan (1988) ar 245.00	) and McFarla 17,280.00 d McFarland 9,040.00	and and Rya 3.14 and Ryals (* 3.14	s (1991)): I 0.0203 1991)): Use 0.0056	Used S = 0.001	13.27 12.0352 12.04 16.6522		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pr 112,207.80 From" Authorize	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Silv	0.00100 closest to Silv 0.00100 ver Creek (Tran	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 smissivity from M	7.86 Ismissivity from M 7.86 7.86 issivity from Morg 7.86 7.86 0rgan (1988) and	lorgan (1988 245.00 gan (1988) ar 245.00 McFarland a	) and McFarla 17,280.00 d McFarland 9,040.00 nd Ryals (199	and and Rya 3.14 and Ryals (* 3.14 1)): Used S	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001	Used S = 0.001	13.27 12.0352 12.04 16.6522 16.65		LAKE 1405	Continuous Pumping at Full Rat
112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 ed POA wells to Silv 15,000.00 15,000.00 15,000.00	0.00100 colosest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 smissivity from M 786.06	7.86 15missivity from M 7.86 7.86 15sivity from More 7.86 7.86 7.86 0 rgan (1988) and 1.75 0.00 0.19	lorgan (1988 245.00 245.00 245.00 McFarland a 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 nd Ryals (199 13,255.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14	(1991)): Use 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 20 POA wells to Silv 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85	7.86 7.86 7.86 7.86 15551000000000000000000000000000000000	lorgan (1988) 245.00 245.00 245.00 McFarland a 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00	and and Rya 3.14 and Ryals (' 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): 1 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Proposed Proposed Prom" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 of POA wells to Silv 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56	7.86 rsmissivity from M 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.03 0.25	lorgan (1988) 245.00 245.00 245.00 McFarland a 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0078	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589		LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P( 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50	7.86 15missivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05	lorgan (1988 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): U 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151 0.0097 0.0056	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Proposed Proposed Prom' Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 of POA wells to Silv 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 Smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27	7.86 15missivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 000 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05 1.64	lorgan (1988) 245.00 245.00 245.00 McFarland a 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0078	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042		LAKE 1405 LAKE 1336 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed P( 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50	7.86 15missivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05	lorgan (1988 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	(1991)): U 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151 0.0097 0.0056	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	lorgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 13,255.00 14,145.00 14,145.00 14,900.00 14,900.00 11,965.00 9,040.00 17,280.00	and and Rya 3.14 and Ryals (' 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): U 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151 0.0097 0.0056 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000 0.00000000	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69	7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86	lorgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 1,255.00 1,40.00 1,280.00	and and Rya 3.14 and Ryals (' 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): U 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151 0.0097 0.0056 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395 Used S = 0.001	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59		LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Pr 112,207.80 From" Authorize 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Trar 1,751.69	7.86 15missivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.19 0.03 0.25 0.05 1.64 3.90	lorgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 13,255.00 14,145.00 14,145.00 14,900.00 14,900.00 11,965.00 9,040.00 17,280.00	and and Rya 3.14 and Ryals (' 3.14 1)): Used S 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14 3.14	s (1991)): U 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0151 0.0097 0.0056 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59 	3.3841	LAKE 1405 LAKE 1336 LAKE 4283 LAKE 1331 LAKE 4437 LAKE 1330 LAKE 1335 LAKE 1336	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Proposed Promoved Proposed Promoved Proposed Promoved Promoved Proposed Promoved Proposed Promoved Proposed Promoved Proposed Promoved Proposed Promoved Proposed Promoved Promo	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 04 well LAKE 1405	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.000000 0.00000000	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Trar	7.86 	lorgan (1988 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	) and McFarla 17,280.00 d McFarland 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 1,255.00 1,40.00 1,280.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.	s (1991)): 1 0.0203 (1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0056 0.0203 s (1991)): 1	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395 Used S = 0.001	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59		LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Propo	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1405	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Trar 1,751.69 1,751.69	7.86 smissivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Corgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	and McFarland 17,280.00 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 17,280.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0078 0.0056 0.0203 s (1991)): 1 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395 Used S = 0.001 3.3395	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59 	3.3841	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Proposed Promised Promised Program Authorized Program (12,207.80) 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80 112,207.80	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 04 well LAKE 1405	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Trar 1,751.69 1,751.69	7.86 smissivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Corgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	and McFarland 17,280.00 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 17,280.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0078 0.0056 0.0203 s (1991)): 1 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395 Used S = 0.001 3.3395	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59 	3.3841	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Rat Continuous Pumping at Full Rat Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80 To" Proposed Propo	15,000.00 OA well LAKE 1336 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 15,000.00 0A well LAKE 1405	0.00100 closest to Silv 0.00100 ver Creek (Tran 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100 0.00100	3,528.93 Silver Creek (Trar 3,528.93 3,528.93 er Creek (Transm 3,528.93 3,528.93 smissivity from M 786.06 0.00 86.45 13.85 110.56 20.50 734.27 1,751.69 Silver Creek (Trar 1,751.69 1,751.69	7.86 smissivity from M 7.86 7.86 7.86 7.86 7.86 7.86 7.86 0.00 0.1988) and 1.75 0.00 0.19 0.03 0.25 0.05 1.64 3.90 3.90 3.90	Corgan (1988) 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00 245.00	and McFarland 17,280.00 9,040.00 9,040.00 13,255.00 14,145.00 10,725.00 14,900.00 11,965.00 9,040.00 17,280.00 17,280.00 17,280.00	and and Rya 3.14 and Ryals (* 3.14 1)): Used S 3.14 3.	s (1991)): 1 0.0203 1991)): Use 0.0056 = 0.001 0.0120 0.0136 0.0078 0.0078 0.0056 0.0203 s (1991)): 1 0.0203	Used S = 0.001 3.3395 d S = 0.001 4.6206 3.8616 3.7332 4.2810 3.6307 4.0641 4.6206 3.3395 Used S = 0.001 3.3395	13.27 12.0352 12.04 16.6522 16.65 3.0999 0.0000 0.3780 0.0514 0.4589 0.0967 2.5042 6.59 	3.3841	LAKE 1405 LAKE 1336 LAKE 1336 LAKE 1331 LAKE 1331 LAKE 1330 LAKE 1336 LAKE 1336 LAKE 1405	Continuous Pumping at Full Ra Continuous Pumping at Full Ra Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping

heis Equation:	s = [Q/(4*T*pi)][W(u u = (r*r*S)/(4*T*t)	1)]											
	$W(u) = (-\ln u) - (0.57)$	72157)+(u/1*1!	)-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!)	+								
	s = drawdown (L)				r = radial dis	stance (L)							
	T = transmissivity (I				t = time (T)								
	S = storage coeffici	ent (dimensionl	ess)		u = dimensio								
	pi = 3.141592654				W(u) = well	function							
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	T	Coefficient	Q	Q	t	r	•			S	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u)	calculation v	alid when u <	7.1		
Note	yellow grid areas a	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authorize	d POA wells to Silv	er Lake center	when full (Transn	nissivity from Mor	gan (1988) a	nd McFarland	and Ryals	(1991)): Use	d S = 0.001				
112,207.80	15,000.00	0.00100	1,593.35	3.55	30.00	19,600.00	3.14	0.2134	1.1698	1.9035		LAKE 4283	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	20,145.00	3.14	0.2255	1.1258	0.0000		LAKE 1331	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	18,370.00	3.14	0.2255	1.1258	0.0000		LAKE 4437	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	26.93	0.06	30.00	17,500.00	3.14	0.1701	1.3571	0.0373		LAKE 1330	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	16,220.00	3.14	0.1462	1.4868	0.3135		LAKE 1335	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	15,450.00	3.14	0.1326	1.5715	0.0666		LAKE 1336	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	1,485.63	3.31	30.00	15,430.00	3.14	0.1323	1.5737	2.3876		LAKE 1405	Continuous Pumping at Full Ra
			3,528.93	7.86						4.94			1.0
To" Proposed P	DA well LAKE 1336	closest to Silv	er Lake center wh	en full (Transmiss	ivity from M	organ (1988) a	nd McFarla	and and Ryals	s (1991)): Us	ed S = 0.001			
112,207.80	15,000.00	0.00100	3,528.93	7.86	30.00	15,450.00	3.14	0.1326	1.5715	5.6633		LAKE 1336	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	3,528.93 3,528.93	7.86	30.00	15,450.00	3.14	0.1320	1.5715	5.66	0.7267	LAKE 1330	Continuous Pumping at Full Ra
			0,020.00	7.00						0.00	0.7207		
From" Authorize	d POA wells to Silv	er Lake center	when full (Transn	nissivity from Mor	gan (1988) a	nd McFarland	and Ryals	(1991)): Used	d S = 0.001				
112,207.80	15,000.00	0.00100	786.06	1.75	30.00	19,600.00	3.14	0.2134	1.1698	0.9391		LAKE 4283	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	20,145.00	3.14	0.2255	1.1258	0.0000		LAKE 1331	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	86.45	0.19	30.00	18,370.00	3.14	0.1875	1.2759	0.1126		LAKE 4437	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	13.85	0.03	30.00	17,500.00	3.14	0.1701	1.3571	0.0192		LAKE 1330	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	110.56	0.25	30.00	16,220.00	3.14	0.1462	1.4868	0.1679		LAKE 1335	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	20.50	0.05	30.00	15,450.00	3.14	0.1326	1.5715	0.0329		LAKE 1336	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	734.27 1,751.69	1.64 3.90	30.00	15,430.00	3.14	0.1323	1.5737	1.1801 2.45		LAKE 1405	Continuous Pro-Rated Pumpin
			1,/51.09	3.90						2.45			
o" Proposed P	DA well LAKE 1336	closest to Silv	er Lake center wh	en full (Transmiss	sivity from M	organ (1988) a	nd McFarls	and and Rvale	s (1991)): Llev	ed S = 0.001			
e . ropodou i v		0.0000000000000000000000000000000000000					mor and						
112,207.80	15,000.00	0.00100	1,751.69	3.90	30.00	15,450.00	3.14	0.1326	1.5715	2.8112		LAKE 1336	Continuous Pro-Rated Pumpir
			1,751.69	3.90						2.81	0.3594		-

Theis Equation:	s = [Q/(4*T*pi)][W(u	01											
neis Equation.	$u = (r^{*}r^{*}S)/(4^{*}T^{*}t)$	1)]											
	W(u) = (-ln u)-(0.57	72157)+(u/1*1!	)-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!)	+								
	s = drawdown (L)				r = radial dis	tance (L)							
	T = transmissivity (I	*I /T)			t = time (T)	stance (L)							
	S = storage coeffici		ess)		u = dimensio	onless							
	pi = 3.141592654				W(u) = well								
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	рі	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	Т	Coefficient	Q	Q	t	r				s	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u)	calculation v	valid when u <	7.1		
Note	yellow grid areas a	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
From" Authoriza	d POA wells to Silv	or Lako contor	whon full (Transn	nissivity from Mor	gan (1988) a	nd McEarland	and Dvale	(1991)): [[eo	d S = 0.001				
Tom Authorize	U FOA wells to Silv	er Lake Ceriter	when full (frails)	issivity non wor	yan (1900) a		aliu kyais	(1991)). Use	u 3 – 0.001				
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	19,600.00	3.14	0.0261	3.0933	5.0334		LAKE 4283	Continuous Pumping at Full Ra
112.207.80	15,000.00	0.00100	0.00	0.00	245.00	20,145.00	3.14	0.0276	3.0399	0.0000		LAKE 1331	Continuous Pumping at Full Ra
112.207.80	15,000.00	0.00100	175.04	0.39	245.00	18,370.00	3.14	0.0230	3.2198	0.5756		LAKE 4437	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	17,500.00	3.14	0.0208	3.3147	0.0912		LAKE 1330	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	16,220.00	3.14	0.0179	3.4637	0.7303		LAKE 1335	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	15,450.00	3.14	0.0162	3.5593	0.1509		LAKE 1336	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	1,485.63	3.31	245.00	15,430.00	3.14	0.0162	3.5619	5.4041		LAKE 1405	Continuous Pumping at Full Ra
,			3,528.93	7.86						11.99			
Fo" Proposed P	OA well LAKE 1336	closest to Silv	er Lake center wh	en full (Transmiss	ivity from M	organ (1988) a	nd McFarla	and and Ryal	s (1991)): Use	ed S = 0.001			
112,207.80	15,000.00	0.00100	3,528.93	7.86	245.00	15,450.00	3.14	0.0162	3.5593	12.8275		LAKE 1336	Continuous Pumping at Full Ra
			3,528.93	7.86						12.83	0.8421		
rom" Authoriza	d POA wells to Silv	or Lako contor	when full (Trance	aissivity from Mor	aan (1099) a	nd McEarland	and Byala	(1991)); Цсо	d S = 0.001				
rom Authorize	a POA wells to Silv	er Lake center	when full (Transi	issivity from wor	gan (1900) a		anu kyais	(1991)): Use	u 5 - 0.001				
112,207.80	15,000.00	0.00100	786.06	1.75	245.00	19,600.00	3.14	0.0261	3.0933	2.4832		LAKE 4283	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	20,145.00	3.14	0.0201	3.0399	0.0000		LAKE 1331	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	86.45	0.19	245.00	18,370.00	3.14	0.0230	3.2198	0.2843		LAKE 4437	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	13.85	0.03	245.00	17,500.00	3.14	0.0208	3.3147	0.0469		LAKE 1330	Continuous Pro-Rated Pumpir
112,207.80	15.000.00	0.00100	110.56	0.25	245.00	16.220.00	3.14	0.0179	3.4637	0.3911		LAKE 1335	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	20.50	0.05	245.00	15,450.00	3.14	0.0162	3.5593	0.0745		LAKE 1336	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	734.27	1.64	245.00	15,430.00	3.14	0.0162	3.5619	2.6710		LAKE 1405	Continuous Pro-Rated Pumpir
	]		1,751.69	3.90						5.95			
o" Proposed P	DA well LAKE 1336	closest to Silv	er Lake center wh	en full (Transmiss	ivity from M	organ (1988) a	nd McFarla	and and Ryal	s (1991)): Use	ed S = 0.001			
112,207.80	15,000.00	0.00100	1,751.69	3.90	245.00	15,450.00	3.14	0.0162	3.5593	6.3673		LAKE 1336	Continuous Pro-Rated Pumpi
	1		1,751.69	3.90	1	1		1	1	6.37	0.4165		

#### Vertical GW Flow Using Darcy Equation

**Darcy Equation:**  $Q = K A [(h_1 - h_2) / (L_1 - L_2)]$ 

Q = volumetric GW flow K = hydraulic conductivity

A = area

$$\begin{split} h_1 \cdot h_2 = \text{change in head at lake center (head at lake vs. head of "main GW reservoir" potentiometric surface below lake) \\ L_1 \cdot L_2 = \text{distance for change in head (distance from lake bed to "main GW reservoir" deposits below) \\ [(h_1 - h_2) / (L_1 - L_2)] = \text{hydraulic gradient} \end{split}$$

Vertical	GW Flow	Vertical GW	Flow Change	Flow Change	Flow Change	Hydraulic Conductivity	Lake A	rea	Change in Head	Head Change Distance	Comments
Q	Q	Q	Q	Percent	Increase	$K_{y} = K_{xy} / 100$	Α	Α	h <sub>1</sub> - h <sub>2</sub>	L <sub>1</sub> - L <sub>2</sub>	
(ft <sup>3</sup> /day)	(acre-ft/day)	(ft <sup>3</sup> /day)	(acre-ft/day)	%		(ft/day)	(ft <sup>2</sup> )	(acre)	(feet)	(feet)	
								. ,			
Vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher per	meability "main G	W reservoir"					
57,700,297	1,324.62					0.63	455,265,086	10,451.45	30.00	150.00	Full lake, pre-transfer, wells = off, K = mean
27,188,431	624.16					0.30	455,265,086	10,451.45	30.00	150.00	Full lake, pre-transfer, wells = off, K = median
67,201,613	1,542.74	9,501,316	218.12	16.47%		0.63	455,265,086	10,451.45	34.94	150.00	Full lake, pre-transfer, wells = on 30 day full rate, K = mean
31,665,459	726.94	4,477,028	102.78	16.47%		0.30	455,265,086	10,451.45	34.94	150.00	Full lake, pre-transfer, wells = on 30 day full rate, K = median
00 110 100	1 100 70	1 710 101	100.10	0.470/		0.00	155 005 000	10 151 15	00.45	150.00	
62,412,488 29,408,819	1,432.79 675.13	4,712,191 2,220,389	108.18 50.97	8.17% 8.17%		0.63 0.30	455,265,086	10,451.45 10,451.45	32.45 32.45	150.00 150.00	Full lake, pre-transfer, wells = on 30 day pro-rated, K = mean Full lake, pre-transfer, wells = on 30 day pro-rated, K = median
29,408,819	675.13	2,220,389	50.97	8.17%		0.30	455,265,086	10,451.45	32.45	150.00	Full lake, pre-transfer, wells = on 30 day pro-rated, K = median
Vertical GW flow	from Silver Lake be	d through lower p	ermeability denosi	ts to the higher po	meability "main G	W reservoir"				1	
ventical Gvv now	ITOITI OIIVET Lake be	a unough lower p	ermeability deposi	to the higher per	meability main o	i leselvoli					
57,700,297	1,324.62					0.63	455,265,086	10,451.45	30.00	150.00	Full lake, post-transfer, wells = off, K = mean
27,188,431	624.16					0.30	455,265,086	10,451.45	30.00	150.00	Full lake, post-transfer, wells = off, K = median
											·
68,586,420	1,574.53	10,886,123	249.91	18.87%	1.15	0.63	455,265,086	10,451.45	35.66	150.00	Full lake, post-transfer, wells = on 30 day full rate, K = mean
32,317,982	741.92	5,129,551	117.76	18.87%	1.15	0.30	455,265,086	10,451.45	35.66	150.00	Full lake, post-transfer, wells = on 30 day full rate, K = median
63,104,892	1,448.69	5,404,594	124.07	9.37%	1.15	0.63	455,265,086	10,451.45	32.81	150.00	Full lake, post-transfer, wells = on 30 day pro-rated, K = mean
29,735,081	682.62	2,546,650	58.46	9.37%	1.15	0.30	455,265,086	10,451.45	32.81	150.00	Full lake, post-transfer, wells = on 30 day pro-rated, K = median
Vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher per	meability "main G	W reservoir"					
57,700,297 27,188,431	1,324.62 624.16					0.63 0.30	455,265,086 455,265,086	10,451.45 10,451.45	30.00 30.00	150.00 150.00	Full lake, pre-transfer, wells = off, K = mean Full lake, pre-transfer, wells = off, K = median
27,188,431	024.10					0.30	455,265,086	10,451.45	30.00	150.00	Full lake, pre-transfer, wells = off, K = median
80,761,182	1.854.02	23,060,885	529.41	39.97%		0.63	455,265,086	10,451.45	41.99	150.00	Full lake, pre-transfer, wells = on 245 day full rate, K = mean
38,054,741	873.62	10,866,310	249.46	39.97%		0.83	455,265,086	10,451.45	41.99	150.00	Full lake, pre-transfer, wells = on 245 day full rate, K = median
30,034,741	073.02	10,000,310	243.40	33.3170		0.30	433,203,000	10,431.43	41.33	150.00	i dii lake, pre-transier, weils - on 240 day fuir late, K - median
69,144,189	1,587.33	11,443,892	262.72	19.83%		0.63	455,265,086	10,451.45	35.95	150.00	Full lake, pre-transfer, wells = on 245 day pro-rated, K = mean
32,580,803	747.95	5,392,372	123.79	19.83%		0.30	455,265,086	10,451.45	35.95	150.00	Full lake, pre-transfer, wells = on 245 day pro-rated, K = median
,,		-,									· ····································
Vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher per	meability "main G	W reservoir"					
					-						
57,700,297	1,324.62					0.63	455,265,086	10,451.45	30.00	150.00	Full lake, post-transfer, wells = off, K = mean
27,188,431	624.16					0.30	455,265,086	10,451.45	30.00	150.00	Full lake, post-transfer, wells = off, K = median
82,376,791	1,891.11	24,676,494	566.49	42.77%	1.07	0.63	455,265,086	10,451.45	42.83	150.00	Full lake, post-transfer, wells = on 245 day full rate, K = mean
38,816,017	891.09	11,627,586	266.93	42.77%	1.07	0.30	455,265,086	10,451.45	42.83	150.00	Full lake, post-transfer, wells = on 245 day full rate, K = median
69,951,993	1,605.88	12,251,696	281.26	21.23%	1.07 1.07	0.63	455,265,086	10,451.45	36.37 36.37	150.00	Full lake, post-transfer, wells = on 245 day pro-rated, K = mean
32,961,441	756.69	5,773,010	132.53	21.23%	1.07	0.30	455,265,086	10,451.45	36.37	150.00	Full lake, post-transfer, wells = on 245 day pro-rated, K = median
	1										

Prawdown Calcul	ations Using Theis	Equation											
neis Equation:	s = [Q/(4*T*pi)][W(u)]	J)]											
	$u = (r^{*}r^{*}S)/(4^{*}T^{*}t)$												
	W(u) = (-ln u)-(0.57	72157)+(u/1^1!	)-(u^u/2^2!)+(u^u^u/	3^3!)-(u^u^u^u/4^4!)	)+								
	s = drawdown (L)				r = radial dis	stance (L)							
	T = transmissivity (I	_*L/T)			t = time(T)								
	S = storage coeffici		ess)		u = dimensio	onless							
	pi = 3.141592654	,	,		W(u) = well								
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	pi	u	W(u)	Drawdown	Drawdown	Pumping	Comments
Т	Т	Coefficient	Q	Q	t	r				s	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u)	calculation v	valid when u <	7.1		
Note:	yellow grid areas a	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
	d POA wells to OSI	D 2047 Silver	aka wat area aant	or (Tronomiccivity	from Mora	on (1099) and I	A-Forland (	and Buolo (10	04)); Llood S	- 0.001			
TOTT AUTIONZE	u FOA wells to OSI	F 2017 Sliver L	ake wet alea cell	er (Transmissivity	/ ITOIII WOLG	an (1900) and 1	VICFAIIAIIU	anu kyais (13	Join Useu S	- 0.001			
112,207.80	15,000.00	0.00100	1,593.35	3.55	30.00	16,780.00	3.14	0.1564	1.4285	2.3244		LAKE 4283	Continuous Pumping at Full Ra
112.207.80	15,000.00	0.00100	0.00	0.00	30.00	17,460.00	3.14	0.1694	1.3610	0.0000		LAKE 1331	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	15,100.00	3.14	0.1267	1.6117	0.2881		LAKE 4437	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	26.93	0.06	30.00	15,500.00	3.14	0.1335	1.5658	0.0431		LAKE 1330	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	13,565.00	3.14	0.1022	1.8030	0.3802		LAKE 1335	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	12,100.00	3.14	0.0813	2.0116	0.0853		LAKE 1336	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	1,485.63	3.31	30.00	14,640.00	3.14	0.1191	1.6664	2.5283		LAKE 1405	Continuous Pumping at Full Ra
			3,528.93	7.86						5.65			
o" Proposed PC	DA well LAKE 1336	closest to OSI	P 2017 Silver Lake	e wet area center (	Transmissiv	vity from Morga	an (1988) ai	nd McFarland	and Ryals (1	991)): Used \$	5 = 0.001		
112,207.80	15,000.00	0.00100	3,528.93 3,528.93	7.86 7.86	30.00	12,100.00	3.14	0.0813	2.0116	7.2497 7.25	1.6004	LAKE 1336	Continuous Pumping at Full Ra
			3,528.93	7.80						1.25	1.6004		
rom" Authorize	d POA wells to OSI	P 2017 Silver I	ake wet area cent	er (Transmissivity	from Mora	an (1988) and I	McFarland a	and Ryals (19	91)): Used S	= 0.001			
					,		inor arrana						
112,207.80	15,000.00	0.00100	786.06	1.75	30.00	16,780.00	3.14	0.1564	1.4285	1.1467		LAKE 4283	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	17,460.00	3.14	0.1694	1.3610	0.0000		LAKE 1331	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	86.45	0.19	30.00	15,100.00	3.14	0.1267	1.6117	0.1423		LAKE 4437	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	13.85	0.03	30.00	15,500.00	3.14	0.1335	1.5658	0.0221		LAKE 1330	Continuous Pro-Rated Pumpi
112,207.80	15,000.00	0.00100	110.56	0.25	30.00	13,565.00	3.14	0.1022	1.8030	0.2036		LAKE 1335	Continuous Pro-Rated Pumpi
112,207.80	15,000.00	0.00100	20.50	0.05	30.00	12,100.00	3.14	0.0813	2.0116	0.0421		LAKE 1336	Continuous Pro-Rated Pumpi
112,207.80	15,000.00	0.00100	734.27	1.64	30.00	14,640.00	3.14	0.1191	1.6664	1.2496		LAKE 1405	Continuous Pro-Rated Pumpi
			1,751.69	3.90						2.81			
								I					
o" Proposed PC	DA well LAKE 1336	closest to OSI	P 2017 Silver Lake	e wet area center (	Transmissiv	vity from Morga	an (1988) ai	nd McFarland	and Ryals (1	991)): Used \$	5 = 0.001		
112,207.80	15 000 00	0.00100	1 751 60	2.00	30.00	12 100 00	3.14	0.0912	2.0116	2 5096			Captinuous Dro Datad Durrati
	15,000.00	0.00100	1,751.69	3.90	30.00	12,100.00	3.14	0.0813	2.0116	3.5986		LAKE 1336	Continuous Pro-Rated Pumpir

heis Equation:	s = [Q/(4*T*pi)][W(u	ı)]											
-	$u = (r^{*}r^{*}S)/(4^{*}T^{*}t)$												
	W(u) = (-ln u)-(0.57	72157)+(u/1*1!)	)-(u*u/2*2!)+(u*u*u/3	3*3!)-(u*u*u*u/4*4!)	+								
	s = drawdown (L) T = transmissivity (I	*I /T)			r = radial dis t = time (T)	stance (L)							
	S = storage coeffici		000)		u = dimensional dimensi dimensional dimensional dimensional dimensional dimensional dime	oploss							
	pi = 3.141592654		655)		W(u) = well								
	pi 0.141002004				m(u) mon	lanoton							
								1					
Transmissivity	Transmissivity	Storage	Pumping Rate	Pumping Rate	Time	Distance	рі	u	W(u)	Drawdown	Drawdown	Pumping	Comments
T (	T	Coefficient	Q	Q	t	r				S	Change s	Well	
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)		
								Note : W(u)	) calculation v	alid when u <	7.1		
Note:	yellow grid areas a	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
	d POA wells to OSI	D 0047 Cilver I		an (Teananda ali da	fuere Menne	(1000) and 1	I - Fourier d	and Duale (40		- 0.001			
rom Authorize	d PUA wells to USI	P 2017 Sliver L	ake wet area cent	er (Transmissivity	from worga	an (1988) and M	Acrariand	and Ryais (15	991)): Used 5	= 0.001			
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	16,780.00	3.14	0.0192	3.3971	5.5277		LAKE 4283	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	17,460.00	3.14	0.0207	3.3192	0.0000		LAKE 1331	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	175.04	0.39	245.00	15,100.00	3.14	0.0155	3.6044	0.6443		LAKE 4437	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	15,500.00	3.14	0.0163	3.5530	0.0977		LAKE 1330	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	13,565.00	3.14	0.0125	3.8159	0.8046		LAKE 1335	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	12,100.00	3.14	0.0100	4.0419	0.1714		LAKE 1336	Continuous Pumping at Full Ra
112,207.80	15,000.00	0.00100	1,485.63	3.31	245.00	14,640.00	3.14	0.0146	3.6654	5.5611		LAKE 1405	Continuous Pumping at Full Ra
			3,528.93	7.86						12.81			
			D 0047 O'han haha		<b>.</b>		(4000)			004))			
o" Proposed Po	DA well LAKE 1336	closest to OSI	P 2017 Silver Lake	e wet area center (	Iransmissiv	vity from Morga	in (1988) a	nd McFarland	d and Ryals (1	991)): Used (	5 = 0.001		
112,207.80	15,000.00	0.00100	3.528.93	7.86	245.00	12,100.00	3.14	0.0100	4.0419	14.5666		LAKE 1336	Continuous Pumping at Full Ra
112,207.00	10,000.00	0.00100	3,528.93	7.86	240.00	12,100.00	0.14	0.0100	4.0413	14.57	1.7598	LARE 1000	
			-,										
rom" Authorize	d POA wells to OSI	P 2017 Silver L	ake wet area cent	er (Transmissivity	from Morga	an (1988) and M	IcFarland a	and Ryals (19	991)): Used S	= 0.001			
112,207.80	15,000.00	0.00100	786.06	1.75	245.00	16,780.00	3.14	0.0192	3.3971	2.7270		LAKE 4283	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	17,460.00	3.14	0.0207	3.3192	0.0000		LAKE 1331	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	86.45	0.19	245.00	15,100.00	3.14	0.0155	3.6044	0.3182		LAKE 4437	Continuous Pro-Rated Pumpin
112,207.80	15,000.00	0.00100	13.85	0.03	245.00	15,500.00	3.14	0.0163	3.5530	0.0503		LAKE 1330	Continuous Pro-Rated Pumpir
112,207.80	15,000.00	0.00100	110.56	0.25	245.00	13,565.00	3.14	0.0125	3.8159	0.4308		LAKE 1335	Continuous Pro-Rated Pumpir
112,207.80	15,000.00 15,000.00	0.00100	20.50 734.27	0.05 1.64	245.00 245.00	12,100.00	3.14 3.14	0.0100	4.0419 3.6654	0.0846 2.7486		LAKE 1336 LAKE 1405	Continuous Pro-Rated Pumpir Continuous Pro-Rated Pumpir
112,207.00	15,000.00	0.00100	1,751.69	3.90	240.00	14,040.00	3.14	0.0140	3.0034	6.36		LANE 1405	Continuous FIO-reated Pullipil
			1,751.03	5.50		+ +				0.00			
o" Proposed Po	DA well LAKE 1336	closest to OSI	P 2017 Silver Lake	e wet area center (	Transmissiv	vity from Morga	an (1988) ai	nd McFarland	and Rvals (1	991)): Used \$	S = 0.001		
										,. coou (			
440.007.00	15,000.00	0.00100	1,751.69	3.90	245.00	12,100.00	3.14	0.0100	4.0419	7.2306		LAKE 1336	Continuous Pro-Rated Pumpir
112,207.80	13,000.00		1,101.00	0.00	240.00	12,100.00	3.14	0.0100	4.0419	1.2000			

#### Vertical GW Flow Using Darcy Equation

**Darcy Equation:**  $Q = K A [(h_1 - h_2) / (L_1 - L_2)]$ 

Q = volumetric GW flow K = hydraulic conductivity

A = area

$$\begin{split} h_1 \cdot h_2 = \text{change in head at lake center (head at lake vs. head of "main GW reservoir" potentiometric surface below lake) \\ L_1 \cdot L_2 = \text{distance for change in head (distance from lake bed to "main GW reservoir" deposits below) \\ [(h_1 - h_2) / (L_1 - L_2)] = \text{hydraulic gradient} \end{split}$$

Vertical	GW Flow	Vertical GW	Flow Change	Flow Change	Flow Change	Hydraulic Conductivity	Lake A	Area	Change in Head	Head Change Distance	Comments
Q	Q	Q	Q	Percent	Increase	$K_{y} = K_{xy} / 100$	Α	Α	h <sub>1</sub> - h <sub>2</sub>	L <sub>1</sub> - L <sub>2</sub>	
(ft <sup>3</sup> /day)	(acre-ft/day)	(ft³/day)	(acre-ft/day)	%		(ft/day)	(ft <sup>2</sup> )	(acre)	(feet)	(feet)	
vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher per	rmeability "main G	w reservoir"					
12,385,510	284.33					0.63	97,723,765	2,243.43	30.00	150.00	2017 lake, pre-transfer, wells = off, K = mean
5,836,063	133.98					0.30	97,723,765	2,243.43	30.00	150.00	2017 lake, pre-transfer, wells = off, K = median
0,000,000	100.00					0.00	01,120,100	2,210.10	00.00	100.00	2011 lake, pro transfer, field on, it moduli
14,718,114	337.88	2,332,604	53.55	18.83%		0.63	97,723,765	2,243.43	35.65	150.00	2017 lake, pre-transfer, wells = on 30 day full rate, K = mean
6,935,189	159.21	1,099,125	25.23	18.83%		0.30	97,723,765	2,243.43	35.65	150.00	2017 lake, pre-transfer, wells = on 30 day full rate, K = median
13,545,619	310.96	1,160,109	26.63	9.37%		0.63	97,723,765	2,243.43	32.81	150.00	2017 lake, pre-transfer, wells = on 30 day pro-rated, K = mean
6,382,708	146.53	546,645	12.55	9.37%		0.30	97,723,765	2,243.43	32.81	150.00	2017 lake, pre-transfer, wells = on 30 day pro-rated, K = median
Vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher pe	rmeability "main G	W reservoir"					
	Line on the Lane be	a anough lonor p		to to the higher po							
12,385,510	284.33					0.63	97,723,765	2,243.43	30.00	150.00	2017 lake, post-transfer, wells = off, K = mean
5,836,063	133.98					0.30	97,723,765	2,243.43	30.00	150.00	2017 lake, post-transfer, wells = off, K = median
15,378,675	353.05	2,993,165	68.71	24.17%	1.28	0.63	97,723,765	2,243.43	37.25	150.00	2017 lake, post-transfer, wells = on 30 day full rate, K = mean
7,246,445	166.36	1,410,382	32.38	24.17%	1.28	0.30	97,723,765	2,243.43	37.25	150.00	2017 lake, post-transfer, wells = on 30 day full rate, K = median
13,871,771	318.45	1,486,261	34.12	12.00%	1.28	0.63	97,723,765	2,243.43	33.60	150.00	2017 lake, post-transfer, wells = on 30 day pro-rated, K = mean
6,536,391	150.05	700,328	16.08	12.00%	1.28	0.83	97,723,765	2,243.43	33.60	150.00	2017 lake, post-transfer, wells = on 30 day pro-rated, K = median
0,000,001	150.05	100,320	10.00	12.0070	1.20	0.30	31,123,103	2,243.43	55.00	150.00	2017 lake, post-transier, weils - on 50 day pro-rated, it - median
Vertical GW flow	from Silver Lake be	d through lower p	ermeability deposi	ts to the higher pe	rmeability "main G	W reservoir"					
12,385,510	284.33					0.63	97,723,765	2,243.43	30.00	150.00	2017 lake, pre-transfer, wells = off, K = mean
5,836,063	133.98					0.30	97,723,765	2,243.43	30.00	150.00	2017 lake, pre-transfer, wells = off, K = median
17,674,123	405.74	5,288,613	121.41	42.70%		0.63	97,723,765	2,243.43	42.81	150.00	2017 lake, pre-transfer, wells = on 245 day full rate, K = mean
8,328,062	191.19	2,491,999	57.21	42.70%		0.30	97,723,765	2,243.43	42.81	150.00	2017 lake, pre-transfer, wells = on 245 day full rate, K = median
.,,		, . ,					. , .,	,			
15,011,238	344.61	2,625,728	60.28	21.20%		0.63	97,723,765	2,243.43	36.36	150.00	2017 lake, pre-transfer, wells = on 245 day pro-rated, K = mean
7,073,309	162.38	1,237,245	28.40	21.20%		0.30	97,723,765	2,243.43	36.36	150.00	2017 lake, pre-transfer, wells = on 245 day pro-rated, K = median
Vertical CW/ flow	from Cilver Labor bo	d through low	anna ability dan	ta ta tha highs	maability "master O	W recenceir"					
vertical Gw flow	from Silver Lake be	a urrougn iower p	ermeability deposi	is to the higher per	meability main G	W reservoir					
12,385,510	284.33					0.63	97,723,765	2,243.43	30.00	150.00	2017 lake, post-transfer, wells = off, K = mean
5,836,063	133.98					0.30	97,723,765	2,243.43	30.00	150.00	2017 lake, post-transfer, wells = off, K = median
18,400,739	422.42	6,015,229	138.09	48.57%	1.14	0.63	97,723,765	2,243.43	44.57	150.00	2017 lake, post-transfer, wells = on 245 day full rate, K = mean
8,670,445	199.05	2,834,381	65.07	48.57%	1.14	0.30	97,723,765	2,243.43	44.57	150.00	2017 lake, post-transfer, wells = on 245 day full rate, K = median
15,370,418	352.86	2,984,908	68.52	24.10%	1.14	0.63	97,723,765	2,243.43	37.23	150.00	2017 lake, post-transfer, wells = on 245 day pro-rated, K = mean
7,242,555	166.27	1,406,491	32.29	24.10%	1.14	0.30	97,723,765	2,243.43	37.23	150.00	2017 lake, post-transfer, wells = on 245 day pro-rated, K = median
L	1		1		L						

Drawdown Calcu	lations Using Theis	Equation											
Theis Equation:	s = [Q/(4*T*pi)][W(u) = (r*r*S)/(4*T*t) W(u) = (-In u)-(0.57		)-(u*u/2*2!)+(u*u*u/;	3*3!)-(u*u*u*u/4*4!)	)+								
	s = drawdown (L) T = transmissivity (	L*L/T)			r = radial dis t = time (T)	stance (L)							
	S = storage coeffici pi = 3.141592654	ent (dimension)	ess)		u = dimensio W(u) = well								
Transmissivity T	Transmissivity T	Storage Coefficient	Pumping Rate Q	Pumping Rate Q	Time t	Distance r	рі	u	W(u)	Drawdown s	Drawdown Change s	Pumping Well	Comments
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)	wen	
								Note : W(u)	) calculation v	valid when u <	7.1		
Note	yellow grid areas	are where value	es are calculated					7.0000	1.1545E-04				W(u) calculation test
"From" Authorize	d POA wells to Pau	ılina Marsh cer	iter when full (Trai	nsmissivity from I	Morgan (198	8) and McFarla	and and Ry	als (1991)): U	lsed S = 0.001				
112,207.80	15,000.00	0.00100	1,593.35	3.55	30.00	35,635.00	3.14	0.7055	0.3699	0.6019		LAKE 4283	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	36,125.00	3.14	0.7250	0.3566	0.0000		LAKE 1331	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	175.04	0.39	30.00	34,150.00	3.14	0.6479	0.4132	0.0739		LAKE 4437	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	26.93	0.06	30.00	39,320.00	3.14	0.8589	0.2796	0.0077		LAKE 1330	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	206.46	0.46	30.00	37,185.00	3.14	0.7682	0.3291	0.0694		LAKE 1335	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	41.52	0.09	30.00	35,130.00	3.14	0.6856	0.3842	0.0163		LAKE 1336	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	1,485.63	3.31	30.00	43,490.00	3.14	1.0508	0.2016	0.3059		LAKE 1405	Continuous Pumping at Full Rate
,			3,528.93	7.86		.,				1.08			
"To" Proposed P	DA well LAKE 4437	closest to Pau	lina Marsh center	when full (Transn	nissivity fror	n Morgan (198	8) and McF	arland and R	yals (1991)): I	Used S = 0.00	1		
112,207.80	15,000.00	0.00100	3,528.93	7.86	30.00	34,150.00	3.14	0.6479	0.4132	1.4892		LAKE 4437	Continuous Pumping at Full Rate
1			3,528.93	7.86						1.49	0.4141		
"From" Authorize	d POA wells to Pau	ilina Marsh cen	iter when full (Trai	nsmissivity from I	Morgan (198	8) and McFarla	and and Rya	als (1991)): U	lsed S = 0.001				
112,207.80	15,000.00	0.00100	786.06	1.75	30.00	35,635.00	3.14	0.7055	0.3699	0.2969		LAKE 4283	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	0.00	0.00	30.00	36,125.00	3.14	0.7250	0.3566	0.2909		LAKE 1331	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	86.45	0.19	30.00	34,150.00	3.14	0.6479	0.4132	0.0365		LAKE 4437	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	13.85	0.03	30.00	39,320.00	3.14	0.8589	0.2796	0.0040		LAKE 1330	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	110.56	0.25	30.00	37,185.00	3.14	0.7682	0.3291	0.0372		LAKE 1335	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	20.50	0.05	30.00	35,130.00	3.14	0.6856	0.3842	0.0080		LAKE 1336	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	734.27	1.64	30.00	43,490.00	3.14	1.0508	0.2016	0.1512		LAKE 1405	Continuous Pro-Rated Pumping
			1,751.69	3.90						0.53			
"To" Proposed P	OA well LAKE 4437	closest to Pau	lina Marsh center	when full (Transn	nissivity fror	n Morgan (198	8) and McF	arland and R	tyals (1991)): I	Used S = 0.00	1		
112,207.80	15,000.00	0.00100	1,751.69	3.90	30.00	34,150.00	3.14	0.6479	0.4132	0.7392		LAKE 4437	Continuous Pro-Rated Pumping
112,207.00	10,000.00	0.00100	1,751.69	3.90	30.00	34,100.00	3.14	0.0479	0.4132	0.7392	0.2054	LANE 4431	Continuous FIO-reated Fullipling
	1	1	1,751.05	3.30	1	1		1	1	0.74	0.2034		1

Drawdown Calcu	ations Using Theis	Equation											
Theis Equation:	$\begin{split} s &= [Q/(4^*T^*pi)][W(u \\ u &= (r^*r^*S)/(4^*T^*t) \\ W(u) &= (-ln \ u) - (0.57) \end{split}$		)-(u*u/2*2!)+(u*u*u/	3*3!)-(u*u*u*u/4*4!)	+								
	s = drawdown (L) T = transmissivity (				r = radial dis t = time (T)	tance (L)							
	S = storage coeffici pi = 3.141592654	ient (dimensionl	ess)		u = dimensio W(u) = well								
Transmissivity T	Transmissivity T	Storage Coefficient	Pumping Rate Q	Pumping Rate Q	Time	Distance r	pi	u	W(u)	Drawdown s	Drawdown Change s	Pumping Well	Comments
(gpd/ft)	(ft2/day)	S	(gal/min)	(ft3/sec)	(days)	(feet)				(feet)	(feet)	Woll	
								Noto : W/.	) colouistion	valid when u <	7.4		
Noto	vellow grid erece							7.0000	1.1545E-04				W(u) coloulation toot
NOLE	yellow grid areas	are where valu	es are calculated					7.0000	1.1545E-04				W(u) calculation test
"From" Authorize	d POA wells to Pau	ılina Marsh cer	nter when full (Tra	nsmissivity from N	Morgan (198	8) and McFarla	and and Rya	als (1991)): L	Jsed S = 0.00				
112,207.80	15,000.00	0.00100	1,593.35	3.55	245.00	35,635.00	3.14	0.0864	1.9563	3.1833		LAKE 4283	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	0.00	0.00	245.00	36,125.00	3.14	0.0888	1.9313	0.0000		LAKE 1331	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	175.04	0.39	245.00	34,150.00	3.14	0.0793	2.0347	0.3637		LAKE 4437	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	26.93	0.06	245.00	39,320.00	3.14	0.1052	1.7774	0.0489		LAKE 1330	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	206.46	0.46	245.00	37,185.00	3.14	0.0941	1.8785	0.3961		LAKE 1335	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	41.52	0.09	245.00	35,130.00	3.14	0.0840	1.9825	0.0841		LAKE 1336	Continuous Pumping at Full Rate
112,207.80	15,000.00	0.00100	1,485.63	3.31	245.00	43,490.00	3.14	0.1287	1.5980	2.4244		LAKE 1405	Continuous Pumping at Full Rate
,			3,528.93	7.86		,				6.50			
"To" Proposed P	DA well LAKE 4437	closest to Pau	lina Marsh center	when full (Transm	nissivity fron	n Morgan (198	8) and McF	arland and F	Rvals (1991)):	Used S = 0.00	1		
							,		1				
112,207.80	15,000.00	0.00100	3,528.93	7.86	245.00	34,150.00	3.14	0.0793	2.0347	7.3327		LAKE 4437	Continuous Pumping at Full Rate
			3,528.93	7.86						7.33	0.8323		
"From" Authorize	d POA wells to Pau	ulina Marsh cer	nter when full (Tra	nsmissivity from N	Norgan (1988	8) and McFarla	and and Rya	als (1991)): L	Jsed S = 0.00	1			
112,207.80	15 000 00	0.00100	786.06	1 75	245.00	35,635.00	3.14	0.0864	1.0562	1 5704		LAKE 4283	Continuous Pro Potod Pumping
112,207.80	15,000.00 15,000.00	0.00100	0.00	1.75 0.00	245.00	35,635.00	3.14	0.0864	1.9563 1.9313	1.5704 0.0000		LAKE 4283 LAKE 1331	Continuous Pro-Rated Pumping Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	86.45	0.00	245.00	36,125.00	3.14	0.0888	2.0347	0.0000		LAKE 1331 LAKE 4437	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	13.85	0.03	245.00	39,320.00	3.14	0.0793	2.0347	0.0251		LAKE 1330	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	110.56	0.03	245.00	39,320.00	3.14	0.1052	1.8785	0.0251		LAKE 1330	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	20.50	0.25	245.00	35,130.00	3.14	0.0941	1.9825	0.2121		LAKE 1336	Continuous Pro-Rated Pumping
112,207.80	15,000.00	0.00100	734.27	1.64	245.00	43,490.00	3.14	0.1287	1.5980	1.1983		LAKE 1405	Continuous Pro-Rated Pumping
112,201.00		0.00100	1,751.69	3.90	210.00	10, 100.00	0.17	0.1207	1.5500	3.23			continuous rio-reated r uniping
"To" Proposed D	DA well LAKE 4437	closet to Bou	lina Marsh conter	when full (Transm	niecivity from	n Morgon (109	(8) and McE	arland and F	Quale (1001).		1		
To Proposed P	JA WEII LANE 4437	ciosest to Pau	inna warsh center		inssivity if of	n worgan (198	o anu wich		(1991)):	useu 5 - 0.00	1		
112,207.80	15,000.00	0.00100	1,751.69	3.90	245.00	34,150.00	3.14	0.0793	2.0347	3.6398		LAKE 4437	Continuous Pro-Rated Pumping
			1,751.69	3.90						3.64	0.4127		1 0

#### Vertical GW Flow Using Darcy Equation

**Darcy Equation:**  $Q = K A [(h_1 - h_2) / (L_1 - L_2)]$ 

Q = volumetric GW flow K = hydraulic conductivity

A = area

$$\begin{split} h_1 \cdot h_2 = \text{change in head at lake center (head at lake vs. head of "main GW reservoir" potentiometric surface below lake) \\ L_1 \cdot L_2 = \text{distance for change in head (distance from lake bed to "main GW reservoir" deposits below) \\ [(h_1 - h_2) / (L_1 - L_2)] = \text{hydraulic gradient} \end{split}$$

Vertical	GW Flow	Vertical GW	Flow Change	Flow Change	Flow Change	Hydraulic Conductivity	Marsh	Area	Change in Head	Head Change Distance	Comments
Q	Q	Q	Q	Percent	Increase	$K_{y} = K_{xy} / 100$	Α	Α	h <sub>1</sub> - h <sub>2</sub>	L <sub>1</sub> - L <sub>2</sub>	
(ft <sup>3</sup> /day)	(acre-ft/day)	(ft <sup>3</sup> /day)	(acre-ft/day)	%		(ft/day)	(ft <sup>2</sup> )	(acre)	(feet)	(feet)	
			(1111)				. ,	( /	(,	( · · · · ·	
Vertical GW flow	from Paulina Marsh	through lower per	meability deposits	to the higher perm	neability "main GV	/ reservoir"					
		• .									
64,650,699	1,484.18					0.63	510,104,933	11,710.40	30.00	150.00	all marsh, pre-transfer, wells = off, K = mean
30,463,467	699.34					0.30	510,104,933	11,710.40	30.00	150.00	all marsh, pre-transfer, wells = off, K = median
66,978,124	1,537.61	2,327,425	53.43	3.60%		0.63	510,104,933	11,710.40	31.08	150.00	all marsh, pre-transfer, wells = on 30 day full rate, K = mean
31,560,151	724.52	1,096,685	25.18	3.60%		0.30	510,104,933	11,710.40	31.08	150.00	all marsh, pre-transfer, wells = on 30 day full rate, K = median
											· · ·
65,792,862	1,510.40	1,142,162	26.22	1.77%		0.63	510,104,933	11,710.40	30.53	150.00	all marsh, pre-transfer, wells = on 30 day pro-rated, K = mean
31,001,655	711.70	538,188	12.36	1.77%		0.30	510,104,933	11,710.40	30.53	150.00	all marsh, pre-transfer, wells = on 30 day pro-rated, K = median
Vertical GW flow	from Paulina Marsh	through lower per	meability deposits	to the higher pern	neability "main GV	/ reservoir"					
64,650,699	1,484.18					0.63	510,104,933	11,710.40	30.00	150.00	all marsh, post-transfer, wells = off, K = mean
30,463,467	699.34					0.30	510,104,933	11,710.40	30.00	150.00	all marsh, post-transfer, wells = off, K = median
67,861,684	1,557.89	3,210,985	73.71	4.97%	1.38	0.63	510,104,933	11,710.40	31.49	150.00	all marsh, post-transfer, wells = on 30 day full rate, K = mean
31,976,485	734.08	1,513,019	34.73	4.97%	1.38	0.30	510,104,933	11,710.40	31.49	150.00	all marsh, post-transfer, wells = on 30 day full rate, K = median
00.045.447	1 500 70	1 501 717	00.01	0.470/	4.40	0.00	540 404 000	11 710 10	00.74	450.00	
66,245,417	1,520.79	1,594,717	36.61	2.47%	1.40	0.63	510,104,933	11,710.40	30.74	150.00	all marsh, post-transfer, wells = on 30 day pro-rated, K = mean
31,214,899	716.60	751,432	17.25	2.47%	1.40	0.30	510,104,933	11,710.40	30.74	150.00	all marsh, post-transfer, wells = on 30 day pro-rated, K = median
Vartical CW flow	from Paulina Marsh	through lower no	meehilitu deneeite	to the higher new	aaahilitu "main CM	/ *****					
ventical Gvv now		i tillougil lower per	meaning deposits	s to the higher peri	leading main GV	reservoir					
64,650,699	1,484.18					0.63	510,104,933	11,710.40	30.00	150.00	all marsh, pre-transfer, wells = off, K = mean
30,463,467	699.34					0.30	510,104,933	11,710.40	30.00	150.00	all marsh, pre-transfer, wells = off, K = median
00,400,401	000.04					0.00	010,104,000	11,710.40	00.00	100.00	air marsh, pro transfor, wono – on, re – modali
78,658,351	1.805.75	14,007,652	321.57	21.67%		0.63	510,104,933	11,710.40	36.50	150.00	all marsh, pre-transfer, wells = on 245 day full rate, K = mean
37,063,884	850.87	6,600,418	151.52	21.67%		0.30	510,104,933	11,710.40	36.50	150.00	all marsh, pre-transfer, wells = on 245 day full rate, K = median
		-,,									,,,,,,,,,,,,,
71,611,425	1,643.97	6,960,725	159.80	10.77%		0.63	510,104,933	11,710.40	33.23	150.00	all marsh, pre-transfer, wells = on 245 day pro-rated, K = mean
33,743,367	774.64	3,279,900	75.30	10.77%		0.30	510,104,933	11,710.40	33.23	150.00	all marsh, pre-transfer, wells = on 245 day pro-rated, K = median
	1										
Vertical GW flow	from Paulina Marsh	through lower per	meability deposits	to the higher perm	neability "main GV	/ reservoir"					
64,650,699	1,484.18					0.63	510,104,933	11,710.40	30.00	150.00	all marsh, post-transfer, wells = off, K = mean
30,463,467	699.34					0.30	510,104,933	11,710.40	30.00	150.00	all marsh, post-transfer, wells = off, K = median
80,447,020	1,846.81	15,796,321	362.63	24.43%	1.13	0.63	510,104,933	11,710.40	37.33	150.00	all marsh, post-transfer, wells = on 245 day full rate, K = mean
37,906,707	870.22	7,443,240	170.87	24.43%	1.13	0.30	510,104,933	11,710.40	37.33	150.00	all marsh, post-transfer, wells = on 245 day full rate, K = median
72,494,984	1,664.26	7,844,285	180.08	12.13%	1.13	0.63	510,104,933	11,710.40	33.64	150.00	all marsh, post-transfer, wells = on 245 day pro-rated, K = mean
34,159,701	784.20	3,696,234	84.85	12.13%	1.13	0.30	510,104,933	11,710.40	33.64	150.00	all marsh, post-transfer, wells = on 245 day pro-rated, K = median
1											

Transient Stream Depletion Calculation (Hunt, 2003) for T-13908	
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Well	Depth	Distance	Discha	arge					Silver Cre	ek Deplet	ion (pre-tr	ansfer dis	tribution)				
	(feet)	(feet)	gpm	cfs	30	60	90	120	150	180	210	240	270	300	330	360	Unit
LAKE 4283	671	13,255	1,593.35	3.5500	0.000293	0.000468	0.000671	0.000901	0.001155	0.001434	0.001735	0.002058	0.002133	0.002323	0.002503	0.002672	cfs
LAKE 1331	648	14,145	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 4437	520	10,725	175.04	0.3900	0.000074	0.000112	0.000154	0.000199	0.000248	0.000300	0.000354	0.000411	0.000403	0.000427	0.000449	0.000469	cfs
LAKE 1330	525	14,900	26.93	0.0600	0.000003	0.000005	0.000007	0.000010	0.000013	0.000016	0.000019	0.000023	0.000025	0.000028	0.000030	0.000033	cfs
LAKE 1335	646	11,965	206.46	0.4600	0.000058	0.000090	0.000127	0.000167	0.000211	0.000258	0.000309	0.000363	0.000366	0.000393	0.000418	0.000441	cfs
LAKE 1336	522	9,040	41.52	0.0925	0.000031	0.000044	0.000059	0.000075	0.000091	0.000108	0.000126	0.000144	0.000134	0.000140	0.000144	0.000149	cfs
LAKE 1405	411	17,280	1,485.63	3.3100	0.000072	0.000125	0.000191	0.000270	0.000363	0.000468	0.000586	0.000717	0.000797	0.000902	0.001007	0.001110	cfs
Pre	KE 1405         411         17,280           Pre-transfer Totals		3,528.93	7.8625	0.000531	0.000844	0.001209	0.001622	0.002081	0.002584	0.003129	0.003716	0.003858	0.004213	0.004551	0.004874	cfs

Well	Depth	Distance	Discha	arge		Silver Cr	eek Deple	etion (post	-transfer:	pump ma	ximum all	owed at cl	osest wel	I only sce	nario, LAł	(E 1336)	
	(feet)	(feet)	gpm	cfs	30	60	90	120	150	180	210	240	270	300	330	360	Unit
LAKE 4283	671	13,255	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1331	648	14,145	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 4437	520	10,725	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1330	525	14,900	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1335	646	11,965	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1336	522	9,040	3,528.93	7.8625	0.002601	0.003763	0.005014	0.006342	0.007738	0.009192	0.010696	0.012244	0.011410	0.011879	0.012282	0.012627	cfs
LAKE 1405	411	17,280	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
Post	-transfer To	otals	3,528.93	7.8625	0.002601	0.003763	0.005014	0.006342	0.007738	0.009192	0.010696	0.012244	0.011410	0.011879	0.012282	0.012627	cfs
Post-tran	sfer Totals	Increase	0.00	0.0000	0.002070	0.002919	0.003805	0.004720	0.005657	0.006608	0.007567	0.008528	0.007552	0.007666	0.007731	0.007753	cfs
Post v	s. Pre Total	s ratio	1.00	1.0000	4.898305	4.458531	4.147229	3.909988	3.718405	3.557276	3.418345	3.294941	2.957491	2.819606	2.698748	2.590685	ratio

Well	Well Depth Distance Discharge					Silver Creek Depletion (post-transfer: pump maximum allowed at furthest well only scenario, LAKE 1405)											
	(feet)	(feet)	gpm	cfs	30	60	90	120	150	180	210	240	270	300	330	360	Unit
LAKE 4283	671	13,255	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1331	648	14,145	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 4437	520	10,725	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1330	525	14,900	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1335	646	11,965	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1336	522	9,040	0.00	0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	cfs
LAKE 1405	411	17,280	3,528.93	7.8625	0.000170	0.000298	0.000455	0.000642	0.000861	0.001111	0.001392	0.001704	0.001894	0.002143	0.002392	0.002638	cfs
Post-transfer Totals 3,528.93 7.8625			7.8625	0.000170	0.000298	0.000455	0.000642	0.000861	0.001111	0.001392	0.001704	0.001894	0.002143	0.002392	0.002638	cfs	
Post-transfer Totals Increase 0.00 0.		0.0000	-0.000361	-0.000546	-0.000754	-0.000980	-0.001220	-0.001473	-0.001737	-0.002012	-0.001964	-0.002070	-0.002159	-0.002236	cfs		
Post vs	s. Pre Total	s ratio	1.00	1.0000	0.320151	0.353081	0.376344	0.395808	0.413743	0.429954	0.444871	0.458558	0.490928	0.508664	0.525599	0.541239	ratio

Theis_Equation_s	pecific_capa	acity_to_trans	smissivity									
Basin_Fill												
Well County	Well Num	Total Depth	Rate		Drawdown	Diameter	GW	Transmissivity	Open Interval	Conductivity	Data	
		feet	gpm	hours	feet	inches	Source	ft2/day	feet	ft/day	Source	
LAKE	1255	110	25	2	5	6	Basin Fill	1,153.09	30	38.44	Well Log	
LAKE	1258	155	15	4	10	20	Basin Fill	273.46	135	2.03	Well Log	
LAKE	1271	130	20	1	3	6	Basin Fill	1,493.05	50	29.86	Well Log	
LAKE	1276	130	100	3	20	6	Basin Fill	1,186.32	54	21.97	Well Log	
LAKE	1281	110	12	4	15	6	Basin Fill	169.49	40.5	4.18	Well Log	No total time recorded, used 4-hr default
LAKE	1290	108	30	4	10	6	Basin Fill	700.83	58	12.08	Well Log	
LAKE	1306	132	70	3	5	6	Basin Fill	3,557.21	50	71.14	Well Log	
LAKE	1307	132	60	3	5	6	Basin Fill	3,018.87	64	47.17	Well Log	
LAKE	1310	130	50	3	5	6	Basin Fill	2,485.97	47	52.89	Well Log	
LAKE	1312	119	25	1	5	6	Basin Fill	1,096.12	47	23.32	Well Log	
LAKE	1334	137	12	4	10	8	Basin Fill	250.87	110	2.28	Well Log	No total time recorded, used 4-hr default
LAKE	1346	77	200	3	10	6	Basin Fill	5,197.93	16	324.87	Well Log	
LAKE	1357	55	12	4	5	8	Basin Fill	529.18	2	264.59	Well Log	No total time recorded, used 4-hr default
LAKE	4033	100	25	1	6	6	Basin Fill	900.91	20	45.05	Well Log	
LAKE	5009	105	9	1	6	6	Basin Fill	298.98	28	10.68	Well Log	
							Min	169.49	2.00	2.03		
							Max	5.197.93	135.00	324.87		
							Mean	1.487.49	50.10	63.37		
							Median	1,096.12	47.00	29.86		
							25 percentile	298.98	28.00	10.68		
							50 percentile	1,096.12	47.00	29.86		
							75 percentile	2,485.97	58.00	52.89		

	1330 RECEIVED LL REPORT MAY 2 4 1974	~ ~ ~	ارو	db
filed with the JAN3 1 19/5	OREGON MAY 2 4 1974 State Well No.	382	115	E-13
STATE ENGINEER, SALEM, OREGON 9700ATE FNGINEEPlease type	e or print) STATE ENGINEER bove this line SALEM. OREGON State Permit N	0	1	
(1) OWNER: (123b)	(10) LOCATION OF WELL:			
(I) OWNER:	County $\angle A \not K \not =$ Driller's well no	umber	う	
Name View Poort Banches. Address P.D. Box 240	N(4) 1/2 5 E 1/2 Section 13 T. 285		مير <u>يم المر</u>	W. <b>M</b> .
Chrismas Valley Oregon	Bearing and distance from section or subdivisi		<u>13</u>	
(2) TYPE OF WORK (check):				
New Well 🔀 Deepening 🗌 Reconditioning 🗌 Abandon 🗌 If abandonment, describe material and procedure in Item 12.				
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(11) WATER LEVEL: Completed w Depth at which water was first found	en. 651	7. 70	5 <sup></sup> ft.
Rotary Driven D Domestic D Industrial D Municipal D	Static level $53$ ft. below land			-14-74
Cable     Jetted     Difference       Dug     Bored     Intrigation     Test Well     Other	Artesian pressure Monre Ibs. per square			_ <u></u> (
CASING INSTALLED: Threaded D Welded				1/1 •
	(12) WELL LOG: Diameter of well Depth drilled $\mathcal{I} \subset \mathcal{I}$ ft. Depth of comp			off.
	Formation: Describe color, texture, grain size			<u></u>
	and show thickness and nature of each stratu with at least one entry for each change of forma	m and ac	quifer pe	netrated,
PERFORATIONS: Perforated? [] Yes No.	position of Static Water Level and indicate prin			
Type of perforator used	MATERIAL	From	То	SWL
Size of perforations in. by in.	Brown Sandy CLAY	0	10	
perforations from ft. to ft.	Small Gray Graube	10	14	
perforations from	Small Grovel Carring Water	14	65-	57
	Small Genuel BLACK	75	135	
(7) SCREENS: Well screen installed?  Ves X No	BLACK LAVA.	135	137.	
Manufacturer's Name	Vellow Chay	137	170	·
Diam	BLACK Sprid Stone	170	181	
Diam Slot size Set from ft. to ft.	CLAY + Gravel Green	205	250	
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	Hard Brown Shale BLACK HEAVING SAND.	25:5-	270	51
Was a pump test made? 🗌 Yes 🙀 No If yes, by whom?	wanter for any statistic			
Vield: gal./min. with ft. drawdown after hrs.	Stopped Well, To be			
, , , , , , , , , , , , , , , , , , ,	deepened At Later Date	•		
<u>,, , , , , , , , , , , , , , , , , , ,</u>				
Bailer test [1] gal./min. with [9] ft. drawdown after / hrs.				
Artesian flow g.p.m.				
perature of water Depth artesian flow encountered ft.	Work started 4 - 10 19 74 Complet	ed .5	9	19 74
(9) CONSTRUCTION:	Date well drilling machine moved off of well	5-	15	19 74
Well seal-Material used <u>Cagment</u>	Drilling Machine Operator's Certification			
Well sealed from land surface to/30 ft.	This well was constructed under my Materials used and information reported	direct	super are true	vision. e to my
Diameter of well bore to bottom of seal	hest knowladge and helief			-
Diameter of well bore below seal	[Signed] [DrillingMachine Operator)	Date M	ry 13	., 19/.7.
Number of sacks of cement used in well seal	Drilling Machine Operator's License No.	107		
Brand name of bentonite	Water Well Contractor's Certification:			
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.	This well was drilled under my jurisd true to the best of my knowledge and be		nd this r	report is
Was a drive shoe used? 🗌 Yes 💢 No Plugs Size: location ft.	Name Denay M. McClan. (Person, firm or corporation)			
Did any strata contain unusable water? 🗌 Yes 🕱 No				nt)
Type of water? depth of strata	Address 1607 Austin Them	nTh 1-	<u>A/I.5</u>	
Method of sealing strata off	[Signed] Menny Mc (Water Well Cont	lon	l_	
Was well gravel packed? 🗌 Yes 📈 No Size of gravel:	(Water Well Cont Contractor's License No. 4.7.4 Date 2		2	7d
Gravel placed from ft. to ft.			1	

•

(USE ADDITIONAL SHEETS IF NECESSARY)



Oregon Water Resources Department 725 Summer Street NE, Suite A Salem Oregon 97301 (503) 986-0900 www.wrd.state.or.us

# Application for Well ID Number

**RECEIVED BY OWRD** 

Mail Well ID Tag to:       SAME AS ABOVE       In Care Of (C/O)         Name & Address:		LEM, OR
Mailing Address: PO Box 7 City, State, Zip: Paisley, OR 97636 Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O) Name & Address:		
City, State, Zip: Paisley, OR 97636 Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O) Name & Address:		
Mail Well ID Tag to:       SAME AS ABOVE       In Care Of (C/O)         Name & Address:		
City, State, Zip:		
II. WELL LOCATION INFORMATION (Please fill out as completely as possible) Township: 28 (North / South Range: 15 (East / West) Section: 13 Tax Lot (usually last 3-5 numbers of Tax Map #): County GPS Coordinates:	NW 1/4 of the Lake	
Street Address of Well, City: Silver Lake, Oregon		
If the property had a different street address in the past:		
III. <u>GENERAL WELL INFORMATION</u> (Please fill out as completely as possible, AND attack Use of Well (domestic, irrigation, commercial, industrial, monitoring): Irrigation	h copy of Well Log, ij	f available)
Date Well Constructed (or property built): <u>1974</u> Total Well Depth: <u>270</u>	Casing Diamete	er:
Owner at time the well was constructed (if known): View Point Ranch Well Log #	(if known): LA	KE_1330
Other Information:		
SUBMITTED BY (class with) Daphne Story		
SUBMITTED BY (please print):       Daphne Story         PHONE:       541-943-3105         EMAIL &/or FAX:       daphne.story@simple	ot com	

Send application to: Oregon Water Resources Department 725 Summer St NE, Suite A, Salem, Oregon 97301; or fax to (503) 986-0902. Applications are processed in the order they are received, and Well ID Numbers are mailed within 4-5 business days.

For Of	ficial Use Only by the Oregon Water Resources Depa	rtment:
Received Date:	Well Log Number:	Well Identification #:
3-28-16	LAKE 1330	L - 122406

NOTICE TO WATER WELL CONTRACTOR LAKE The original and first copy of this report are to be WATER WEL				
filed with the STATE ENGINEER, SALEM, OREGON (7310 within 30 days from the date (Please type	OREGON E C E I V ESTRE Well No. or printing E C E I V ESTRE Well No. State Permit N	. 28	s /15k	
of well completion. $0.23$ (Do not write ab	AUG231976		/	
(1) OWNED.	(10) LOCATHON LONG BUEDEPT.			
(1) OWNER: Name View Point Banch	County LARM, CRECOHriller's well m	umber	Vaugi	31
Name VICW Point Banch Address Christmas Valley, Ore.	7 w 1/4 m 1/4 Section 13 T. 28 S	P 15	- <u>-</u>	W.M.
Address CMFISIMAS VAILEY, UNE.	Bearing and distance from section or subdivisi			
(2) TYPE OF WORK (check):	Bearing and distance from section of subdivisi	on corne		• •
New Well X. Deepening D Reconditioning D Abandon D				* .
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w			
(3) TYPE OF WELL: (4) PROPOSED USE (check):		2 <i>%</i>		ft.
Rotary Driven D Domestic D Industrial Municipal	Static level <b>96</b> ft. below land s		Data /	
Cable     X     Jetted     Image       Durg     Bored     Image     Image       Image     Bored     Image	Artesian pressure lbs. per squar			<u></u>
(5) CASING INSTALLED: Threaded	(12) WELL LOG: Diameter of well			14
14 " Diam. from 0 ft. to 116 ft. Gage . 250	(12) WELL LUG: Diameter of well 1 Depth drilled $648$ ft. Depth of compl		sing	
10 " Diam. from 165 ft. to 333 ft. Gage 188	Formation: Describe color, texture, grain size			· ·
" Diam. from ft. to ft. Gage	and show thickness and nature of each stratu	m and a	quifer pe	netrated,
(6) PERFORATIONS: Perforated? X Yes I No.	with at least one entry for each change of forma position of Static Water Level and indicate prin			
(6) PERFORATIONS: Perforated? ∑ Yes □ No. Type of perforator used <i>mills</i>	MATERIAL	From	То	SWL
	Top Spil	0	3	
Size of perforations $2^{\prime}/2$ in. by $3/8$ in. 7/0 perforations from $180$ ft. to $330$ ft.	Sand Med. Brown	3	11	
perforations from ft. to ft.	Clay Soft Brown	11	50	
perforations from	Rock Decomposed	50	57	
	Clay Soft Grey	57	72	
(7) SCREENS: Well screen installed?  Yes X No	Clay Hand Yellow	72	86	
Manufacturer's Name	Chevasse	86	86 1/2	·
Type         Model No.           Diam.         Slot size         ft. to	Rock have Hand	86 /2 88	<b>8</b> 8 118	
Diam. Slot size	Clay Cong. of Cindets	118	178	
	Sand Med. Black W/B	128	129	96
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	Clay Hard Brown,	129	146	
Was a pump test made? 🗌 Yes 🔲 No If yes, by whom?	Sand Black W/ Pumice	146	149	96
teld: gal./min. with ft. drawdown after hrs.	Packed Sand Black	149	184	
<u> </u>	Sand Stone Blown	184	235	96
<u>n n n n n</u>	Sand Stone Grey WB Clay Cong, Grey+Green WB	759	125	98
Bailer test 20 gal./min. with 0 ft. drawdown after 3 hrs.	Sand Coarse Black WB	625	640	99
rtesian flow g.p.m.	ROCK Broken Lava + Cinders	646	648	99
erature of water 5/ Depth artesian flow encountered ft.	Work started /-// 1976 Complet	ed 7-	22	1976
	Date well drilling machine moved off of well	8-1	7	1976
(9) CONSTRUCTION: Well seal-Material used Cement	Drilling Machine Operator's Certification			
Well seal-Material used <u>Cemen</u> Well sealed from land surface to <u>116</u> ft.	This well was constructed under my	direc	t super	vision.
Well sealed from land surface toft. Diameter of well bore to bottom of sealf.	Materials used and information reported best knowledge and belief.	above	are tru	e to my
Diameter of well bore below seal	[Signed] Ceen Blends	Date &	3-18	19 76
Number of sacks of cement used in well seal 10 sacks	(Drilling Machine Operator)			,
Number of sacks of bentonite used in well seal sacks	Drilling Machine Operator's License No.			
Brand name of bentonite	Water Well Contractor's Certification:			
Number of pounds of bentonite per 100 gallons	This well was drilled under my jurisd		nd this :	report is
of water	true to the best of my knowledge and be	liof		-
Was a drive shoe used? $\bowtie$ Yes $\square$ No Plugs Size; location ft. Did any strata contain unusable water? $\square$ Yes $\bowtie$ No	Name $\frac{B/3 + Acck + Wands}{(Person, firm or corporation)}$	/e//	DHI/	122
	Address P.O. Box 2 Silver	haka	Dr	e.
	Uilan RYAMAA	n	·····	
Method of sealing strata off Was well gravel packed? [] Yes 🛛 No Size of gravel:	[Signed] [Signed]	rector)	••••••	
	Contractor's License No. 4.25 Pate	• • •	8	1976
Gravel placed from ft. to ft.	1 COMMENSION & LICENSE ITO, A.R.M. Bale			

(USE ADDITIONAL SHEETS IF NECESSARY)

SP\*45658-119



# Application for Well ID Number

RECEIVED BY OWRD

Do not complete if th	he well already has	s a Well Identification	Number.
-----------------------	---------------------	-------------------------	---------

MAR 2 8 2016

SALEM, OR

I. <u>OWNER INFORMATION</u>
Current Owner Name (please print): ZX Ranch / View Point Ranch
Mailing Address: PO Box 7
City, State, Zip: Paisley, OR 97636
Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O)
Name & Address:
City, State, Zip:
II. WELL LOCATION INFORMATION (Please fill out as completely as possible)
Township:
Tax Lot (usually last 3-5 numbers of Tax Map #): County Lake
GPS Coordinates:
Street Address of Well, City: Silver Lake, Oregon
If the property had a different street address in the past:
III. GENERAL WELL INFORMATION (Please fill out as completely as possible, AND attach copy of Well Log, if available)
Use of Well (domestic, irrigation, commercial, industrial, monitoring): Irrigation
Date Well Constructed (or property built):1976Total Well Depth:648 Casing Diameter:
Owner at time the well was constructed (if known): View Point Ranch Well Log # (if known): LAKE_1331
Other Information: LĂKE 4274
SUBMITTED BY (please print): Daphne Story
PHONE: 541-943-3105 EMAIL &/or FAX: daphne.story@simplot.com

	For Official Use Only by the Oregon Water Resources Department:	
Received Date: 3-28-16	Well Log Number: LAKE 1331 (original) LAKE 4279 (add liner-alt only)	Well Identification #: L-122414

	1335
STATE ENGINEER, 332	VELL REPORT State Well No. $\frac{28}{15-13}$ B(1) OF OREGON (-50) State Permit No. $64/0$
SALEM, OREGON / / ILD J 1990	G SU State Fermit No
(1) OWNER: STATE ENCINEER	(11) WELL TESTS: Drawdown is amount water level is lowered below static level of tern
Name Ed Albertsen SALEM, CREGON Address Philomath Oregon	Was a pump test made? Wes INO If yes, by whom? Pump Co.
Address IIIIIOIIIa CII OF egon	Yield: 1600 gal./min. with 35 ft. drawdown after 4 hrs.
	$= \begin{bmatrix} \frac{n}{2} & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$
(2) LOCATION OF WELL:	
County Lake Owner's number, if any- 3	Bailer test         gal./min. with         ft. drawdown after         hrs.           Artesian flow         g.n.m.         Date
SE 14 SW 14 Section 13 T. 285 R. 15 E W.M	
Bearing and distance from section or subdivision corner	
	(12) WELL LOG: Diameter of well <u>12"</u> inches.
	Depth drilled 340 ft. Depth of completed well 346 ft.
	Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each structum memetrated with at least or are the first of the material in each
	stratum penetrated, with at least one entry for each change of formation.
2	MATERIAL FROM TO
TYPE OF WORK (check):	Sand and Clay 0 18
New Well Deepening Reconditioning Abandon	
If abandonment, describe material and procedure in Item 11.	Sand and Clay 24 76
(5) TYPE OF WELL:	Shale 76 89
	Sand and Clay89218Fine Sand218312
ition 🕷 Test Well 🗆 Other 🗖 🗌 Cable 🗃 Jetted 🗌	
(6) CASING INSTALLED: Threaded  Welded	Black Basalt 613 627
12" Diam. from	Red Cinders 627 634
	Lava Rock 634 642
	Gray Rock 642 646
(7) PERFORATIONS: Perforated? 1 Yes D No	
Type of perforator used Fabricated Type	
SIZE of perforations $\frac{1}{4}$ in. by $3$ in.	
ft. to ft.	
ft. to ft.	
ft. to ft. to	W.L. 17,5' below T.C.
ft. to ft.	
(8) SCREENS: Well screen installed □ Yes 🏄 No	- 5/9/59 Field Crew
anufacturer's Name	
Type Model No	
m	
saud Slot size Set from ft. to ft.	Work started Oct 16 19 57 Completed Nov 21 19 57
<sup>19</sup> ) CONSTRUCTION:	(13) PUMP:
Was well gravel packed? 🗌 Yes 📩 No Size of gravel: Gravel placed from ft. to ft.	Manufacturer's Name
Was a surface seal provided? $\Box$ Yes $\Box$ No To what depth? ft.	Type:
Mas a surface scal provided: [] Tes [] No To what depth?	Well Driller's Statement:
Did any strata contain unusable water? 🗌 Yes 🗌 No	This well was drilled under my jurisdiction and this report is
Type of water? Depth of strata	true to the best of my knowledge and belief.
Method of sealing strata off	NAME Frank Skillings
(10) WATER LEVELS:	(Person, firm, or corporation) (Type or print)
Static level 20' ft. below land surface Date 11/21/5	Address Rt. 1 Box 243 gorvallis Oregon
Artesian pressure lbs. per square inch Date	
	Driller's well number
Log Accepted by:	[Signed] Chank Skill into
[Signed CLE CUCHAMDate 4/58 19	(Well Driller)
(Owner)	License No

(USE ADDITIONAL SHEETS IF NECESSARY)

P. O. BC	AKE. OREGON			TESSING TIME SHEET		28/15-	13 P(1) - 時間(1)	AKE
CUSTOMER A. E	ALBERT	TSEN	LOCATION //	Feel #3 SILV	ER LAKE	DATE //-	20-5-7	7
Well Size 12"	C	Depth			2	r Line	o í	, 
Started Pump at	: <u>ЗО</u> Ам.			Standing Water Level	at Start of Test	20	Feet	
DEV. & TESTING (Time) 11:30 AM	PUMPING LEVEL (Ft.)	G.P.M.	CONDITION (Time) M.	DEV. & TESTING (Time)M.	PUMPING LEVEL (Ft.)	G.P.M.	SURGED WE (Time)	
11:30 P.H	40'	1000	CLEAR					
12:45 PM	60'	1500	thiery	<u></u>			r	
_1:15 P.H	63'	1600	CLEARING					
_2; 15 PM	63	1600	CLEARING					
3:30 P.H	63	1600	CLEAR.					
					-		·	
	,							
					1			
BACK DOWN TEST			5.P.M	GRAVEL MOVED				
	· P.L.	G	.P.M	GRAVEL MOVED				
			5.P.M	GRAVEL MOVED				
· · ·	P.L.	G	9.P.M.				·	
				WATER LEVEL:	43	I MINUTE	20	Feet
STOPPED TESTING AT 3:45 PM.		WATER LEVEL:						
DATE 11-2	20-50			WATER LEVEL:	へ	30 MINUTES	43	Feet
	·			STANDING LEVEL	20	//	Feet	
Tako Doadinas Evens		Western "~-9. BOX	) Pum <b>p &amp; Ir</b> rigati X 54	on Go.		t. l. l	Ital	.~
Take Readings Every	<b>4 FIGUIS</b>	ER L	A , Oregon	$\langle \rangle$	gineer A	ee na lag	/ June -	•••••

STATE ENGINEER Salem, Oregon

#### **LAKE 1335**

State Well No. 28/15-13 P(1)

County Lake

Application No. <u>G-410</u>

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## Water Level Record

OWNER:	Ed	Albertser	. OWNER'S NO	#3	
• • • • • • • • • • • • • • • • • • • •		-	 		

Description of measuring point: <u>Top of well port on west side of pump base</u> which is 0.60

Date	Water Level Feet (above) (below) Land Surface	Remarks	Date	Water Level Feet (above) (below) Land Surface	Remarks
1/24/58	16,80	WSB -New well			
10/15/58	16.90	WSB - Rumpinst. wet Tape - can't measure -			
5/11/59		Pump operating 75. H.P. Turb			
10/14/59	17,82	WSB. static			
4-26-60	16.70	JES-WSB			
10-24-60	/8,12	5/3			
5-2-41	Pumping	work			
10-19-61	18.14	WSB & RD - OIL			
			l		
REMARKS	S:				
-					

State Printing 89314





# Application for Well ID Number

### RECEIVED

Do not complete if the well already has a Well Identification Number.

MAY 1 1 2016

I. OWNER INFORMATION	WATER RESOURCES DEPT SALEM, OREGON
Current Owner Name (please print): ZX Ranch	SALEM, ONEGON
Mailing Address: PO Box 7	
City, State, Zip: Paisley, OR 97636	
Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O)	
Name & Address:	
City, State, Zip:	
II. <u>WELL LOCATION INFORMATION</u> (Please fill out as completely as possible	le)
Township: <u>28</u> (North / South) Range: <u>15</u> (East) West) Section:	
Tax Lot (usually last 3-5 numbers of Tax Map #): 500 C	
GPS Coordinates: <u>43.14014</u> -120, 89440	5umy
Street Address of Well, City: SILVER LAKE, OREGON	
If the property had a different street address in the past:	
III. <u>GENERAL WELL INFORMATION</u> (Please fill out as completely as possible Use of Well (domestic, irrigation, commercial, industrial, monitoring):	
Date Well Constructed (or property built): 11/21/1957 Total Well Depth:	346' Casing Diameter: 12
Owner at time the well was constructed (if known): ED ALBERTSEN	
Other Information:	
SUBMITTED BY (please print): DAPHNE STORY	·····
PHONE: 541-943-3105 EMAIL &/or FAX: dephne.st	ory@simplot.com

For Off	ficial Use Only by the Oregon Water Resources Depar	tment:
Received Date:	Well Log Number:	Well Identification #:
5-11-16	LAKE 1335	L - 1229/4

NOTICE TO WATER WELL CONTRACTOR The original and first copy	
os this report are to be WATER WEL	L REPORT PUPP
filed with the STATE OF	OREGON LAKE State Well No. 28515E-14dd
STATE ENGINEER, SALEM, OREGON 97310 (Please type within 30 days from the date	
of well completion. (Do not write ab	ove this line)
MEa	
(1) OWNER:	(10) LOCATION OF WELL:
Name View Point Randh	County Lake Driller's well number
Address Chnistmas Varley - 270-2	5 PE4 SE 1/4 Section 14 T. 285 R. 15 E W.M.
000000 071.38400 018	
(2) TYPE OF WORK (check):	Bearing and distance from section or subdivision corner
New Well Deepening C Reconditioning Abandon	7
If abandonment, describe material and procedure in Item 12.	
	(11) WATER LEVEL: Completed well.
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found 85 ft.
Rotary     D     Driven     D       Cable     Industrial     Municipal	Static level 4 11-744 11, ft. below land surface. Date 5-30-78
Dug 🔲 Bored 🔲 Irrigation 🗙 Test Well 🗌 Other 🗌	Artesian pressure lbs. per square inch. Date
CASING INSTALLED: Threaded Welded	(12) WELL LOG: Diameter of well below casing 14 18.
74 " Diam. from 0 ft. to 13.5 ft. Gage 350	Depth drilled 522 ft. Depth of completed well 522 ft.
	Formation: Describe color, texture, grain size and structure of materials;
	and show thickness and nature of each stratum and aquifer penetrated,
PERFORATIONS: Perforated? [] Yes X No.	with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.
Type of perforator used	MATERIAL From To SWL
Size of perforations in. by in.	Top Soil 0 2
ft. to ft.	<u>Cryey C/2y</u> 27
perforations from ft. to ft. to	Hand Grey Lava 7 30
perforations from ft. to ft.	Soft Grey Clay 30 80
(7) SCREENS: Well screen installed?	Coarse Grey Sand 80 82 30
	Soft Blue Clay 82/10
Manufacturer's Name	Grey Lava ///0/172
Type         Model No.           Diam.         Slot size         ft. to	SOTT Blue Clay 1421.35
Diam. Slot size	rine Sinders 155 100
	Decamore ad Lawb 125 210
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	Have Ghave ave 910 All
Was a pump test made? XYes I No If yes, by whom? Def Hand	Fine Red Sinders 246248
	Hard Grev Clav 248 267
Yield: 14 60 gal./min. with 34 ft. drawdown after 4 hrs.	Fine White pumpice Sand 267 269
" " " "	Soft Grey Clay 269 288
<u>, , , , , , , , , , , , , , , , , , , </u>	Coarse Grev Sand 288 289
Bailer test gal./min. with ft. drawdown after hrs.	Satt Grev Clay 289 337
Artesian flow g.p.m.	Fine Black Sand 332 334
more ature of water # Depth artesian flow encountered ft.	Work started 1 - 2,5 1978 Completed 5 - 29 1978
	Date well drilling machine moved off of well 5-30 1978
(9) CONSTRUCTION:	
Well seal-Material used <u>CemenT</u>	Drilling Machine Operator's Certification: This well was constructed under my direct supervision.
Well sealed from land surface to 60	Materials used and information reported above are true to my
Diameter of well bore to bottom of seal	best knowledge and belief
Diameter of well bore below seal in.	[Signed] Machine Oferator)
Number of sacks of cement used in well seal	Drilling Machine Operator's License No. 38.3
Number of sacks of bentonite used in well seal	
Brand name of bentonite	Water Well Contractor's Certification:
Number of pounds of bentonite per 100 gallons	This well was drilled under my jurisdiction and this report is
of water	true to the best of my knowledge and belief.
Was a drive shoe used? XYes I No Plugs X Size: location 2.5. ft.	Name Silas Blay OCK
Did any strata contain unusable water? 🗍 Yes X No	(Person, firm or confortion) (Type or print)
Type of water? depth of strata	Address Silver Lake Or. 976.38
Method of sealing strata off	[Signed] LILAN BLA MUNON
Was well gravel packed?  Ves No Size of gravel:	(Water Vell Contractor)
Gravel placed from ft. to ft.	Contractor's License No. 4.3.5 Date 6 7, 1978
(USE ADDITIONAL SH	IEETS IF NECESSARY) SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy
* of this report are to be
filed with the

# STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

#### WATER WELL REPORT

STATE OF OREGON (Please type or print) (Do not write above this line) State Well No.

State Permit No.

(1) OWNER:	(10) LOCATION OF WELL:
Name	County Driller's well number
Address	14 14 Section T. R. W.M
	Bearing and distance from section or subdivision corner
(2) TYPE OF WORK (check):	
New Well 📋 Deepening 🗌 Reconditioning 🔲 Abandon 🗌	
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed well.
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found ft
Rotary Diven Diven Domestic Industrial Municipal	
Cable     Jetted     Jetted     Jetted     Industrial     Multiplated       Dug     Bored     Irrigation     Test Well     Other	
	Artesian pressure lbs. per square inch. Date
CASING INSTALLED: Threaded  Welded	(12) WELL LOG: Diameter of well below casing
" Diam, from ft. to ft. Gage	Depth drilled ft. Depth of completed well ft
	Formation: Describe color, texture, grain size and structure of materials
	and show thickness and nature of each stratum and aquifer penetrated
PERFORATIONS: Perforated?	with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata
Type of perforator used	MATERIAL From To SWL
	- 2+ DI Class 22/ 200
Size of perforations in. by in.	
	Fine pumice Gravel 348 349 Hard Blue Clay 399 445
perforations from	Hand Brown Clar 445472
perforations from ft. to ft.	Coarse Brown 39 nd 472 474
(7) SCREENS: Well screen installed?  Yes No	Hard Brown Clay 474520
Manufacturer's Name	Fine Black Sand 520 522
Type Model No.	
Diam Slot size Set from ft. to ft.	
Diam Slot size Set from ft. to ft.	
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	
Was a pump test made? [] Yes [] No If yes, by whom?	
Yield: gal./min. with ft. drawdown after hrs.	· · · · · · · · · · · · · · · · · · ·
<i>"" "" ""</i>	
Bailer test gal./min. with ft. drawdown after hrs.	
Artesian flow g.p.m.	
Temperature of water Depth artesian flow encountered ft.	Work started 19 Completed 19
	Date well drilling machine moved off of well 19
(9) CONSTRUCTION:	
Well seal-Material used	Drilling Machine Operator's Certification:
Well sealed from land surface to ft.	This well was constructed under my direct supervision Materials used and information reported above are true to my
Diameter of well bore to bottom of seal in.	best knowledge and belief.
Diameter of well bore below seal in.	[Signed], 19, 19
Number of sacks of cement used in well seal sacks	Drilling Machine Operator's License No.
Number of sacks of bentonite used in well seal sacks	
Brand name of bentonite	Water Well Contractor's Certification:
Number of pounds of bentonite per 100 gallons	This well was drilled under my jurisdiction and this report i
of water lbs./100 gals.	true to the best of my knowledge and belief.
Was a drive shoe used? [] Yes [] No Plugs Size: location ft.	(Person, firm or corporation) (Type or print)
Did any strata contain unusable water? 🔲 Yes 🗌 No	
Type of water? depth of strata	Address
Method of sealing strata off	[Signed]
Was well gravel packed? [] Yes [] No Size of gravel:	(Water Well Contractor)
Gravel placed from ft. to ft.	Contractor's License No Date, 19

STATE ENGINEER Salem, Oregon	Joka W	ell Record		ELL NO. 28/1 Lake ION NO. U-	
OWNER: <u>A. E. A</u>	lbertsen	ADDRESS: CITY AND			
	: Owner's No	STATE:			
<u>NE 1/4 NW 1/4 Sec.</u>	<u>19 T. 28 S. R. 16</u>	E. W.M.	С I		
	om section or subdivisio . 471 ft. from N <sup>1</sup> / <sub>4</sub> co				
	Lled Date Constructe		Section 1	9	
FINISH:		<u> </u>	<u></u>		<u></u>
AQUIFERS:				<u></u>	
WATER LEVEL: 4	l ft. on 12-7-53				
PUMPING EQUIPME Capacity	CNT: Type G.P.M.			H.P	
WELL TESTS: Drawdown	ft. after	hours			G.P.N
Drawdown	ft. after	hours			G.P.N
SOURCE OF INFORI	rrigation MATION R				
ADDITIONAL DATA					

**REMARKS**:

#### STATE ENGINEER Salem, Oregon

State-Well No. 28/16-190(1) County Lake Application No. U-656

## Well Log

Owner: A. E. Albertson	Owner's No.			
Driller: Pat McGinley	Date Drille	d		
CHARACTER OF MATERIAL	(Feet below 12 From	ind surface) To	Thickness (feet)	
Soil	0	15	15	
Hardpan or cemented gravel	15	30	15	
Chalk		65	35	
Lava, black, small amount of water	65	68	3	
Lava, soft black more water at 75' to 80'	68	80	12	
Lava, firm black	80		7	
Lava, soft, black		105	18	
Chalk, brown	105		240	
Shale, black	345	352	7	
Lava, black	352	375	23	
Lava, varigated, some sand	375	381	6	
Lava, soft, red, and sand	381	405	24	
Lava, red, firm	405	408	3	
Lava, black firm	408	411	3	
· ·				

LA	Κ	Ε	1	4	0	5	
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State Well No. 28/16-19 C ()

Application No. 11-656

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## Water Level Record

STATE ENGINEER Salem, Oregon

OWNER: A.E. Albertson OWNER'S NO.

Description of measuring point: Top of port on East side of Pump base at LSD

Date	Water Level Feet (above) Land Surface	Remarks	Date	Water Level (above) Feet (below) Land Surface	Remarks
-26-60	37.53	JES-WSB			
-26-60	37,68	WSB			
5-4-61	Pumping	wsB			
0/19/61	Pumping 38.03	WSB \$ RD			

State Printing 89314





Do not complete if the well already has a Well Identification Number.

## Application for Well ID Number

RECEIVED

MAY 1 1 2016

I. OWNER INFORMATION	WATER RESOURCES DEPT
Current Owner Name (please print): ZX Ranch	SALEM, OREGON
Mailing Address: PO Box 7	
City, State, Zip: Paisley, OR 97636	- 1 11 511
Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O)	
Name & Address:	
City, State, Zip:	
II. WELL LOCATION INFORMATION (Please fill out as completely as possible)         Township:       28         (North South)       Range:         16       (East)         West)       Section:         19       Tax Lot (usually last 3-5 numbers of Tax Map #):	<u>NE</u> 1/4 of the <u>NW</u> 1/4 LAKE
GPS Coordinates: 43.13645 - 120.87143	
Street Address of Well, City: SILVER LAKE, OREGON	······································
If the property had a different street address in the past:	
III. <u>GENERAL WELL INFORMATION</u> (Please fill out as completely as possible, AND att Use of Well (domestic, irrigation, commercial, industrial, monitoring): IRRIGATION	
Date Well Constructed (or property built):1953 Total Well Depth;411	Casing Diameter: 16
Owner at time the well was constructed (if known): A.E. ALBERTSEN Well Log	; # (if known):LAKE_1405
Other Information:	

For Offi	cial Use Only by the Oregon Water Resources Depart	tment:
Received Date:	Well Log Number:	Well Identification #
5-11-16	LAKE 1405	L ~122913

(as required by	ORS 537.765)	<del>.</del>	WATER R	SOURCES DEPT.	(START CARD) # 4/3	
(1) OWNER:		Well Number	SAL	(9) LOCATION O	F WELL by legal de	escription:
Name Jell	Point	RANCH	1	County LAKE	Latitude	Longitude
Address Chall	Stones Val	State U	Zip 976H1	Township <u>28</u> Section <u>13</u>	_ N or S. Range	E or W.
$\frac{\text{City}}{\textbf{(2)}  \textbf{X}  \textbf{YPE OF W}}$	VORK:	State	210 7 / 6 7 1	Tox Lat 511	LotBlock	Subdivision
New Well		condition	Abandon	Street Address of We	ell (or nearest address)	Vangen 40
(3) DRILL MET		<b></b>				
C Rotary Air	Rotary Mud	☐ Cable	· · · · · ·	$\begin{array}{c c} \hline \hline (10) \text{ STATIC WAT} \\ \hline \hline \partial / & ft. be \end{array}$	elow land surface.	Date 7-38
(4) PROPOSED	USE:	1		Artesian pressure	lb. per square	
	Community 🗌 Inc		igation	(11) WATER BEA	RING ZONES:	
	Injection Ot			Donth of which water w	vas first found <u>135</u>	4
	proval $\Box$ res $\Box$ No		inleted Well 671 ft	Depth at which water w		F1
	Yes No Type_		Amount	From	То	Estimated Flow Rate
HOLE		FAL	Amount	1313 At		20 G1-M
Diameter From		From To		,		
1811 28 19	10		248000			
14" 190 3	20			(12) WELL LOG:		-
12" 3206	<u>// </u>			• • • • •	Ground elevation	. <u></u>
How was seal placed	: Method 🗌 A	в Ис 🗆	DLE		Material	From To
•	ft. to	ft. Material		CLAY4-SA	NDGRAVEL	0 11
	ft. to	ft. Size of grav	el		Contra el F	11 20
(6) CASING/LI				BROWN	STONE AVA PACK	
Casing: 18/1	From To Gauge $1 + 18$ $3 < 3 < 5$	e Steel Plastic	Welded Threaded	BLACK S	ANDSTONE	130 135
1411	0 190 25			BLACK :	3AND	135 176
	<u>80 320</u>			BROWNS	AND STEAL	176 330
Liner:				GRAZ ST	TONE	285 576
				RIACK SA	NDSTONE	5.76 6.46
Final location of sho				BLARK+B	ROWNAC INDER	3 640 671
	S Method	S: .				
Perforation:	Type	Mate	erial		Ereiven	
	Slot	Tele/pipe		<b>"</b>	VECTAEN	PECHINI
From To	size Number Di	ameter size	Casing Liner	· ]	NOV - 1 1993	IAN 26 199
	<u> </u>	y1		"MATE	R RESOURCES DE	JAN NO.00
					ALEM, OREGON	NATER RESOURCE
10-						SALEM, ORE
				-		
(8) WELL TES	TS: Minimum te	sung time is I	<b>hour</b> Flowing	Date started <u>631</u>	<u>P.3</u> _Compl	ieted <u>7-289</u>
🗌 Pump	Bailer I	Air	Artesian	· · · ·	Il Constructor Certification or the construction on the construction of the constructi	
Yield gal/min	Drawdown	Drill stem at	Time	ment of this well is in c	ompliance with Oregon wel	ll construction standards.
2000		671	(1 hr.)	used and information r	eported above are true to r	my best knowledge and b
		-	+	-		WWC Number _
				_ Signed		Date
Temperature of Wate	er 53 De	epth Artesian Flow	v Found		Constructor Certification lity for the construction, alt	
		y whom		formed on this well dur	ing the construction dates rempliance with Oregon well	eported above. All work r



# Application for Well ID Number

**RECEIVED BY OWRD** 

Do not complete if the well already has a Well Identification Number.		MAR 2	8 2016	
I. OWNER INFORMATION		SALEN	/I, OR	
Current Owner Name (please print): ZX Ranch / View Point Ranch				
Mailing Address: PO Box 7				
City, State, Zip: Paisley, OR 97636				
Mail Well ID Tag to: SAME AS ABOVE In Care Of (C/O)				
Name & Address:				
City, State, Zip:				
II. WELL LOCATION INFORMATION (Please fill out as completely as possible)				
Township: (North (South) Range: Township: Section: Township: Township: Rest North (South) Range: Township: Rest North (South) Range: Township: Rest North (South) Range: Rest North (South) Rest North (South) Range: Rest North (South) Rest North (So	NW	_ 1/4 of the _	NW	1/4
Tax Lot (usually last 3-5 numbers of Tax Map #): County	Lak	(e		
GPS Coordinates:			_	
Street Address of Well, City: Silver Lake, Oregon				
If the property had a different street address in the past:				

III. <u>GENERAL WELL INFORMATION</u> (Please fill out as completely as possible, AND attach copy of Well Log, if available)

Use of Well (domestic, irrigation, commercial, industria	l, monitoring):	····	
Date Well Constructed (or property built): 1993	Total Well Depth:	671 Casing I	Diameter:
Owner at time the well was constructed (if known):	View Point Ranch	Well Log # (if known):	LAKE_4283
Other Information:			

SUBMITTED BY (please print): Daphne Sto	ıry	
PHONE: 541-943-3105	EMAIL &/or FAX:	daphne.story@simplot.com

For Q	official Use Only by the Oregon Water Resources Depa	artment:
Received Date: 3-28-16	Well Log Number: LAKE 4283	Well Identification #: $4 - 122416$

ORIGINAL UU File Original, and Duplicate with the OF OF OF	LERS REPORT Do Not State Well No.
Duplicate with the STATE ENGINEERSTATE ENGINEER STATE OF OR SALEM, OREGON	EGON APP G-51 Fill In State Permit No. 14 H (3)
(1) OWNER: VIEW FOINTRAGON INC. (1) Name -Buster Vaugha A E. Albertson (12)	(10) WELL TESTS: Valley Was a pump test made?  Ves K No If yes, by whom? Fump Co
Address Faieley, Oregon (X)	Yield: gal./min. with ft. draw down after hrs
Address Falcicy, or open	<u> </u>
	" OBSERVATION WELL " "
(2) LOCATION OF WELL: near Silver Lake,	Artesian flow
County Lake Owner's number, if any 2 Ore.	Shut-in pressure lbs, per square inch.
R. F. D. or Street No.	Bailer test g.p.m. with ft. drawdown
Bearing and distance from section or subdivision corner $N.29^{\circ}$ 10 E.	Temperature of water Was a chemical analysis made? 🗌 Yes 🔲 N
134.ª ft. from the JW cor. of the SE NE.	Was electric log made of well? 🗌 Yes 🗌 No
Apparently Within SENE, Sec. 14, T. 283, R. 15 E.W.H.	(11) WELL LOG:
(3) TYPE OF WORK (check):	Diameter of well,
New well X Deepening Reconditioning Abandon	Total depth 520 ft. Depth of completed well 520 f
abandonment, describe material and procedure in Item 11.	Formation: Describe by color, character, size of material and structure, an show thickness of aquifers and the kind and nature of the material in eac
(A) THORE AND A CALL A	stratum penetratea, with at least one entry for each change of formation
	<u>ft. to</u> ft. O " 7 " Soil & Gravel
Domestic 🔲 Industrial 🗌 Municipal 🗌 Rotary 🗌 Cable 🏹	7 " 28 " Hard Dark Lava
Irrigation 🕅 Test Well 🗌 Other 🔲 Dug Well	28 " 245 " SandFirst Water 67'
	$\frac{26}{245} \times \frac{245}{452} \times \frac{5245}{7} \times $
(c) CASING INSTALLED: If gravel packed	$\frac{243}{452} = \frac{477}{277} = \frac{1000000}{1000000} = \frac{100000}{1000000}$
Gage	$\frac{432}{477 \text{ " } 495 \text{ " Red Lava}}$
FROM ft. to ft. Diam. Wall of Bore ft. ft.	495 " 499 " Red Soft Lava-4' more
<u>" 0 " 342 " " 16 " " "</u>	"" " Water
<u> </u>	499 " 508 " Red Firm Lava
1) )) 11 (1) (1) (1) (1) (1) (1) (1) (1)	508 " 510 " Dark Cinders
······································	510 " 520 " Hard Black Lava
	······································
Type and size of shoe or well ring <u>T6</u> Size of gravel:	
Describe joint	1) ))
(7) PERFORATIONS:	1) ))
Type of perforator used	11 29
SIZE of perforations in., length, by in.	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,
FROM ft. to ft. perf per foot No. of rows	
	11 11 11 11 12
SCREENS: Give Manufacturer's Name, Model No. and Size	
) CONSTRUCTION:	11 11
Was a surface sanitary seal provided? $\Box$ Yes $\Box$ No To what depth ft.	
Were any strata sealed against pollution? 🗌 Yes 📋 No	Ground elevation at well site feet above mean sea lev
If yes, note depth of strata	Work started NOV. 19 54 Completed Feb. 19
	Well Driller's Statement:
,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	This well was drilled under my jurisdiction and this report true to the best of my knowledge and belief.
METHOD OF SEALING	
(9) WATER LEVELS:	<u>NAME</u> <u>Pat McGinley</u> (Person, firm, or corporation) (Typed or printed)
Depth at which water was first found 67 ft.	
Standing level before perforating	
Standing level after perforating ft	
Log Accepted by:	[Signed] L. M. Successed (Well Driller)
[Signed], 19, Dated, 19,	License No. 154. Dated Nov. 29. 19.5
Apr. 6-50 & 51	na

STATE ENGINEER Salem, Oregon

14 月(2) State Well No. 28/15 - 46 ()

County Lake

Application No.

OWNER: W.W. Woughn OWNER'S NO.	A.E. Albertson	Water Level Record
Description of measuring point: Top of clasing at 4 1.3 Feet above LSD	OWNER:	owner's no.
	Description of measuring point:	Top of casing at + 1.3 feet above 150
Change to bettom of rectangular slot cut in west side of Casing		, –
at L.S.D.		

Date	Water Level Feet ( <del>showe</del> ) (below) Land Surface	Remarks	Date -	Water Level (above) Feet (below) Land Surface	Remarks
5/25/56	47.35	N.S.B.			
8-29-56	46,90	wsB.			
10-17-56	46.70	w 5B.			
5-2-57	46,28	WSB.		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
8-21-57		WSB Runping (wet Tape)			······································
4-26-60	46.04	SES-WSB			
10-26-60	47.00	WSB			ļ
5-3-61	Pumping	WSB			L
10-19-61	48.77	WSB & RD			
			-		
			4		
					,

REMARKS: New well See hydrograph.

State Printing 89314

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