

Table OP-A9-1 Best Fit Drawdown Calculations for Estimating Aquifer Transmissivity and Storativity Using Image Well Theory

		Observation Well Distance (feet)							
		LCM19-HJMP111	Image - HJMP111	LCM19-HJMP104	Image - HJMP104	LCM19 - Image	LCM19		
		473	1024	637	867	964	1		
Pump	Pump								
Time	Time	Drawdown	Drawdown	Drawdown	Drawdown	Drawdown	Drawdown		
(hours)	(days)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)		
137.5	5.73	21.78	14.82	19.08	16.31	15.36	77.91		
Combined ddn from pumped well and image well			36.60	feet					
Observed ddn			35.56	feet					
Residual			1.04	feet					
Combined ddn from pumped well and image well					35.39	feet			
Observed ddn					36.44	feet			
Residual					-1.05	feet			
Combined ddn from pumped well and image well							93.26	feet	
Observed ddn							93.32	feet	
Residual							-0.06	feet	
$w(u) = s^4 \pi^* T / (Q)$									
$u = (0.25 * r^2 * S) / (Tt) \quad s = \text{ft}, Q = \text{gpm}, T = \text{ft}^2/\text{d}, r = \text{ft}, t = \text{days}$									
$s = (\text{drawdown}) = 15.3 * Q * W(u) / T$									
$K = (\text{hydraulic conductivity}) =$				1.2	ft/d				
$h = (\text{saturated thickness}) =$				120	ft				
$S = (\text{storativity}) =$				0.00007					
$T = (\text{transmissivity}) =$				144	ft ² /d				
$Q = (\text{pump rate}) =$				42.9	gpm				
$t = (\text{time}) =$									
$r = (\text{radius})$				1	ft	Pred.			
LCM 19	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	2.12121E-08	17.0914771	77.91	5.73				
HJMP-111	r =	473	ft						
	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	0.004745767	4.77802643	21.78	5.73				
HJMP104	r =	637	ft						
	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	0.008607221	4.18652649	19.08	5.73				
Image - HJMP104	r =	867	ft						
	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	0.015944918	3.57728069	16.31	5.73				
Image - HJMP111	r =	1024	ft						
	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	0.022242521	3.2506529	14.82	5.73				
LCM19 - Image	r =	964	ft						
	t(hours)	u	W(u)	s(ft)	t (days)				
	137.5	0.019712339	3.36891009	15.36	5.73				