

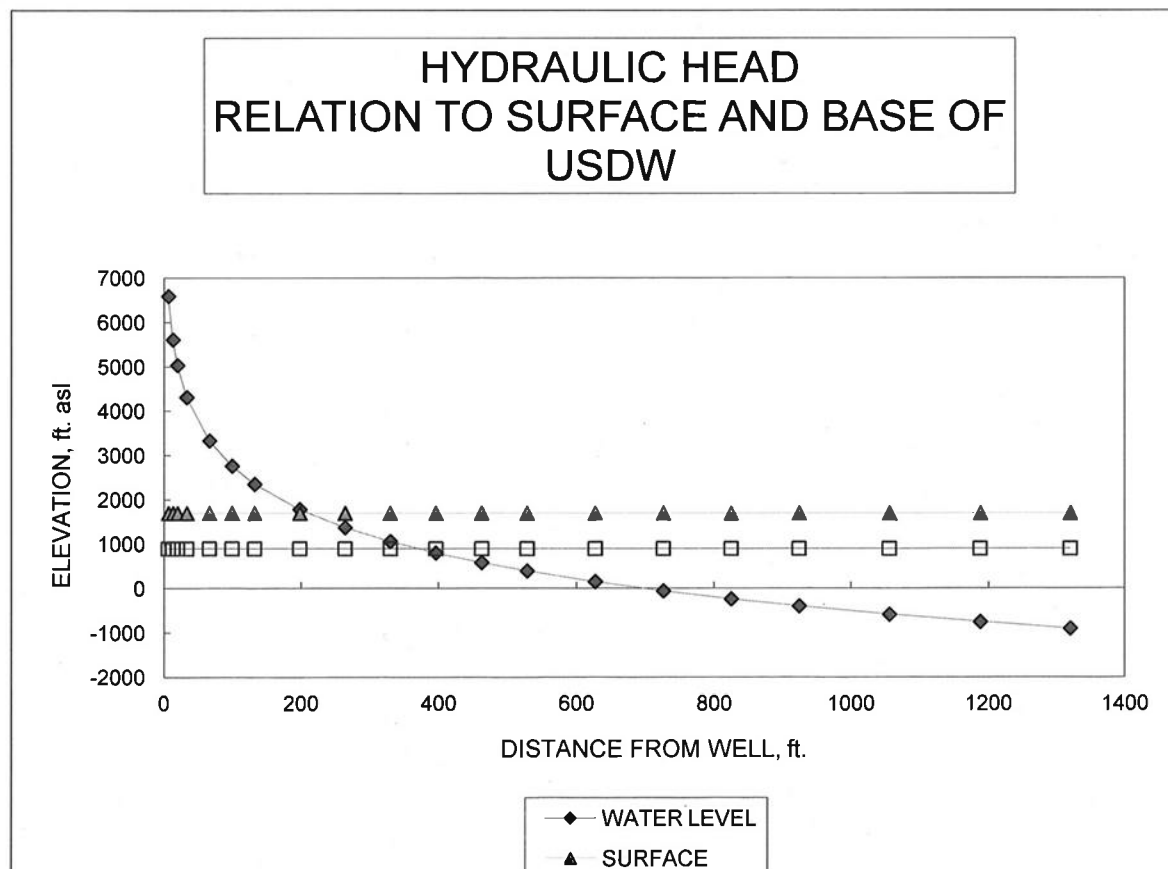
WELL NAME ----- Zelman 1
 OPERATOR ----- Windfall
 PERMIT NUMBER ----- PAS2D020BCLE
 DATE OF ANALYSIS ----- 10/1/2012
 ANALYST ----- Platt

WELL AND FORMATION PARAMETERS

initial pressure at the top of the injection formation, p(i) (psia) ----- 100
 injection rate, q (bwpd) ----- -1000
 length of injection time, (months) ----- 120
 viscosity, mu (cp.) ----- 1
 specific gravity of liquid ----- 1.26
 formation volume factor, beta (1 for aqueous liquids) ----- 1
 permeability, k (md.) ----- 6.1
 reservoir thickness, h (ft.) ----- 30
 compressibility, c(t) 1/psi ----- 3.00E-06
 porosity, phi, ratio ----- 0.1
 surface elevation KB, (ft.) ----- 1697
 depth to injection zone, (ft) ----- 7300
 end of cross-section, (ft.) ----- 1320

CALCULATION OF CRITICAL PRESSURE RISE

depth of concern, feet below KB (ft.) ----- 800
 critical pressure rise to lift liquid to depth of concern, (psi) ----- 3446.27



DISTANCE	pressure	WATER LE SURFACE	BASE	USD'
6.6	6654.166	6593.499	1697	897
13.2	6119.3442	5613.218	1697	897
19.8	5806.4935	5039.7903	1697	897
33	5412.3483	4317.3568	1697	897
66	4877.5265	3337.0757	1697	897
99	4564.6758	2763.6481	1697	897
132	4342.7048	2356.7946	1697	897
198	4029.8541	1783.367	1697	897
264	3807.883	1376.5136	1697	897
330	3635.7089	1060.9335	1697	897
396	3495.0323	803.08588	1697	897
462	3376.092	585.07879	1697	897
528	3273.0612	396.23246	1697	897
627	3140.4642	153.19381	1697	897
726	3027.3472	-54.13967	1697	897
825	2928.7129	-234.9276	1697	897
924	2841.2703	-395.2023	1697	897
1056	2738.2395	-584.0486	1697	897
1188	2647.3599	-750.6229	1697	897
1320	2566.0653	-899.6287	1697	897

Note: add 14.7 to psig for psia
Note: injection is negative

RADIAL DISTRIBUTION OF PRESSURE AROUND WELL (

linear term ----- -385.7923
E(i) term ----- 5.396E-10

INJECTION ZONE

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OF CONCERN

