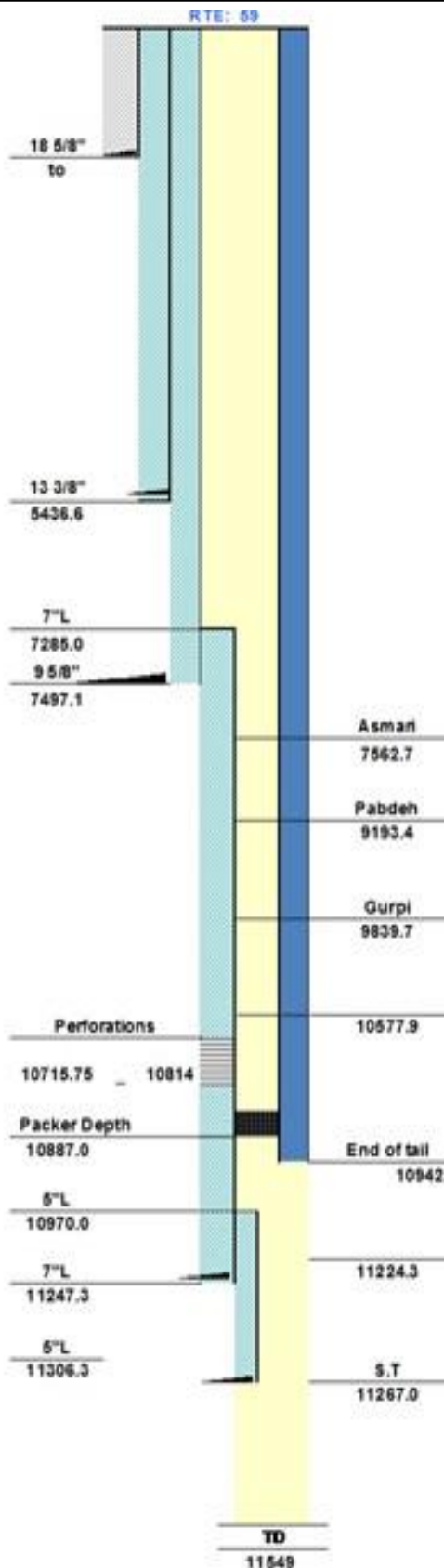


Stimulation Teacher Assistant Class

By: Hamidreza Asaadian

Homework #1

Hw: An oil well with following details is to be acidized with an acid solutions treatment which is described in following tables. The well's drilling and completion has finished recently and facing to partial damage. Simulate the operation with StimCADE software and report that.



Reservoir Fluid Parameters	
GOR (Scf/bbl)	420
Bubble Point (psi)	1719
Reservoir Temperature (F)	220
Oil Gravity (g/cc)	0.92
Bo (bbl/stb)	1.33
Compressibility (psi ⁻¹)	9.08 E-6
Viscosity (cp)	4.36
Gas Gravity	0.68
Reservoir Parameters	
Pressure (psi)	4400
Fluid Type	Oil
Spacing (acres)	150
Gas Saturation (%)	30
Zones Parameters	
Formation Name	Sarvak
Top (ft)	10577.9
Down (ft)	10936
Permeability (md)	6.47
Porosity (%)	16.5
Permeability Ratio	10
Fracture Gradient (psi/ft)	1
Lithology	Limestone Pure
Damage Type	Completion
Skin	0.8
Damage Penetration (in)	8
Treatment Fluids	
Diesel (gal)	Max 22800
HCL 15% (gal)	Max 8000
Emulsion Acid (gal)	Max 20000
Operation Limitation	
Time (hr)	8
Surface Pressure (psi)	3000
Pumping Rate (bbl/min)	10
DO NOT BREAK THE FORMATION	

Optimize the operation. Find the best way to stimulate that formation which means find the optimum injection rate, volume, number of operation stages and reach to the most reduction in skin factor.

Send your reports (word-type file and cfw file) with your name and student number to Hamidreza.asaadian@hotmail.com.

The deadline for each homework is every FRIDAY before next class. BE AWARE!!! The deadline will not be extended.

Good Luck