



Project Information

No.	Parameter	Data
1	Project	KG17-Mechanistic-SXE
2	Field	Dorood
3	Well	KG-17
4	Platform/Cluster	NA
5	Rig	Sahar-2



Well and Reservoir Data

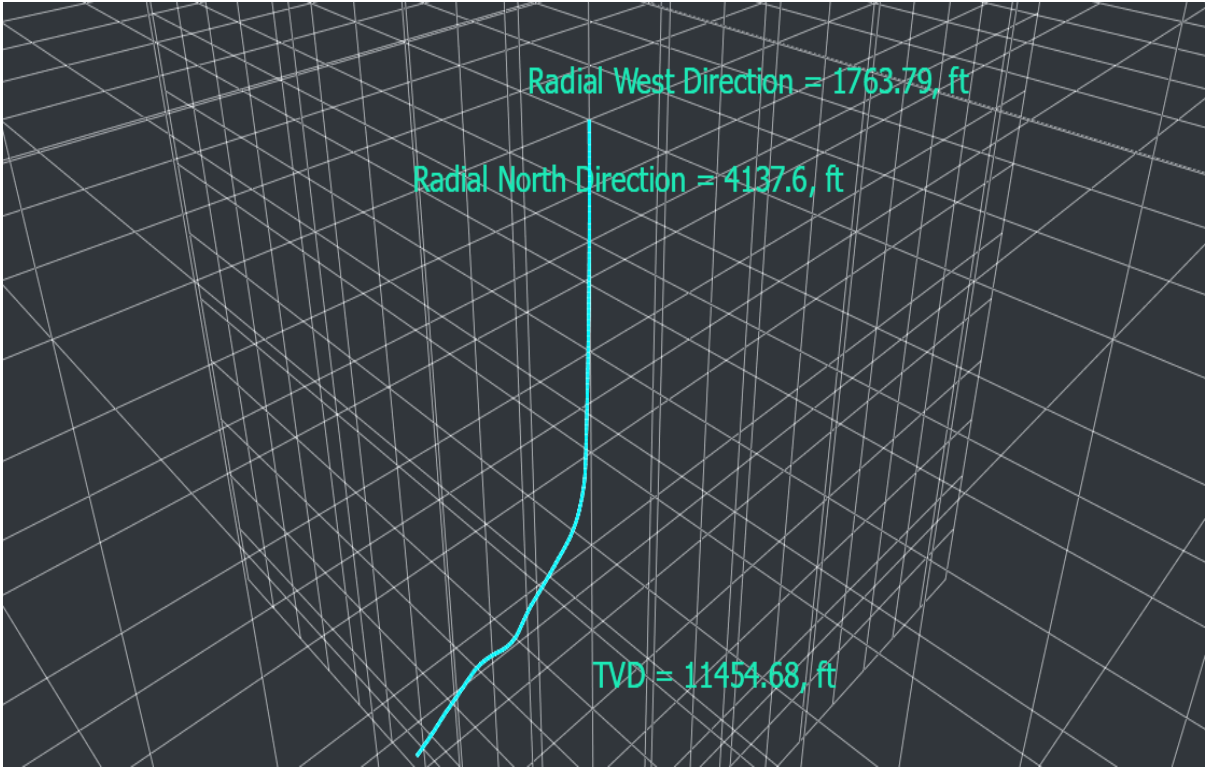
No.	Parameter	Data
1	Well Status	Re-Entry
2	Well Type	Oil Producer
3	Formation	Yamama
4	Well Geometry	Deviated
5	Completion Type	Perforated
6	Top of Perf/Openhole MD (ft)	12549.825
7	Top of Perf/Openhole TVD (ft)	10925.7
8	Max Pumping Pressure (psi)	2750.1
9	Fracture Gradient (psi/ft)	0.73
10	H2S Content (%)	6.7
11	Formation Pressure (psi)	3500
12	Reservoir Temperature (°F)	213.0
13	Wellhead Temperature (°F)	80.0
14	Reservoir Type	Carbonate
15	Reservoir Fluid API	34.0



Casing and Tubing Data

Type	Bottom MD (ft)	Top MD (ft)	OD (in)	ID (in)	Grade	Roughness (ft)
Casing	2007.02051	0	20.0	18.73	K-55	0.00015
Casing	5826.99038	0	13.375	12.347	N-80	0.00015
Casing	10615.93798	0	9.625	8.535	C-75	0.00015
Casing	11539.277	0	7.0	6.366	C-75	0.00015
Casing	13206.025	11539.277	5.0	4.276	L-80	0.00015
Tubing	10608.68697	0	4.5	3.958	L-80	0.00015

Well Trajectory





Coiled Tubing Data

OD(in)	Thickness(in)	ID(in)	Segment Length(ft)	Roughness(ft)
1.5	0.125	1.25	16207	0.00015

Displacement Volume

Displacement Volume = 24.598 (bbl) or 1033.1 (gal)

Completion Data

Perforation Intervals

Bottom MD (ft)	Top MD (ft)
12661.379	12549.825
12825.429	12661.379
12986.198	12825.429
13176.496	12986.198
13206.025	13176.496

Perforation Data

Shot Density (spf)	Tunnel Dia. (in)	Tunnel Length (in)	Phasing °
6	0.3	20	60
6	0.3	20	60
6	0.3	20	60
6	0.3	20	60
6	0.3	20	60



Reservoir Rock Data

Layers Physical Properties

Layer Name	Top MD (ft)	Bottom MD (ft)	Perm. (md)	Poro.(%)	Layer Pressure (psi)	Total Comp. (1/psi)	Kh/kv
Layer1	12549.825	12661.379	1.6	13.1	3500	1e-05	1
Layer2	12661.379	12825.429	1.9	14.3	3515.014734	1e-05	1
Layer3	12825.429	12986.198	2	14.5	3537.840772	1e-05	1
Layer4	12986.198	13176.496	1.8	14.3	3562.002617	1e-05	1
Layer5	13176.496	13206.025	1.7	13.3	3588.954894	1e-05	1

Layers Mineralogy

Layer Name	Calcite.(%)	Limestone.(%)	Dolomite.(%)
Layer1	0	100	0
Layer2	0	100	0
Layer3	0	100	0
Layer4	0	100	0
Layer5	0	100	0

Reservoir Fluid Data

Layer Name	Reservoir Fluid Type	Viscosity (cP)	Specific Gravity	B (rb/stb)
Layer1	oil	3.56	0.855	1
Layer2	oil	3.56	0.855	1
Layer3	oil	3.56	0.855	1
Layer4	oil	3.56	0.855	1
Layer5	oil	3.56	0.855	1

Formation Damage Data

Layer Name	Damage Type	Skin for Openhole (-)	Damage Radii. (in)
Layer1	Filter Cake	10	12
Layer2	Filter Cake	10	12
Layer3	Filter Cake	10	12
Layer4	Filter Cake	10	12
Layer5	Filter Cake	10	12



Pumping Fluid Coverage

Openhole or Perforated Interval = 656.2 ft

Stage Type	Fluid Label	Liquid Volume (gal)	Coverage (gal/ft)
Preflush	pre_w	1344	2.0
Main Flush	HCl15	8000	12.2
Main Flush	em15	8000	12.2
Overflush	over_w	1344	2.0



Raw Materials

Base Fluid

Fluid Type	Fluid Label	Total Vol. (gal)	Mixing Water Vol. (gal)
Fresh Water	pre_w	1344.0	1223.1

Additives

Material Type	Material Code	Supplier	Liquid Conc. (V/V%)	Solid Conc. (lbm/bbl)	Total Quantity
Mutual Solvent	MES 924	MEHRAN	6	0	80.6
H2S Scavenger	MES 532	MEHRAN	2	0	26.9
Surfactant	MES 112	MEHRAN	1	0	13.4

Base Fluid

Fluid Type	Fluid Label	Total Vol. (gal)	Mixing Water Vol. (gal)	Strong HCl Vol. (gal)
HCl	HCl15	8000.0	3072.5	4039.5

Additives

Material Type	Material Code	Supplier	Liquid Conc. (V/V%)	Solid Conc. (lbm/bbl)	Total Quantity
Corrosion Inhibitor	MES 701	MEHRAN	1.2	0	96.0
Intensifier	MES 801	MEHRAN	1.2	0	96.0
Non-Emulsifier	MES 324	MEHRAN	2	0	160.0
Iron Control	MES 985	MEHRAN	1.5	0	120.0
Surfactant	MES 112	MEHRAN	1.2	0	96.0
H2S Scavenger	MES 532	MEHRAN	2	0	160.0
Anti-Sludge	MES 124	MEHRAN	2	0	160.0



Base Fluid

Fluid Type	Fluid Label	Total Vol. (gal)	Mixing Water Vol. (gal)
Fresh Water	over_w	1344.0	1202.9

Additives

Material Type	Material Code	Supplier	Liquid Conc. (V/V%)	Solid Conc. (lbm/bbl)	Total Quantity
Mutual Solvent	MES 924	MEHRAN	6	0	80.6
Methanol	MES 916	MEHRAN	4.5	0	60.5

Base Fluid

Fluid Type	Fluid Label	Total Vol. (gal)	Mixing Water Vol. (gal)
Seawater	disp_w	1033.2	1033.2

Additives

Material Type	Material Code	Supplier	Liquid Conc. (V/V%)	Solid Conc. (lbm/bbl)	Total Quantity
					nan
					nan
					nan



Base Fluid

Fluid Type	Fluid Label	Total Vol. (gal)	Solvent Vol. (gal)	Mixing Water Vol. (gal)	Strong HCl Vol. (gal)
Emulsified Acid	em15	8000.0	2320.0	2504.4	2827.6

Additives

Material Type	Material Code	Supplier	Liquid Conc. (V/V%)	Solid Conc. (lbm/bbl)	Total Quantity
Emulsifier	NA	NA	1	0	80.0
Corrosion Inhinitor	CI-CA-01	Colloid Artiman	0.85	0	68.0
Intensifier	CIA-CA-01	Colloid Artiman	1.5	0	120.0
Iron Control	IC-CA-03	Colloid Artiman	1	0	80.0





Downhole Pumping Schedule

Stage Type	Fluid Label	Liquid Volume (gal)	Liquid Rate (bbl/min)
Initial Circulation	disp_w	1033.116	0.0
Preflush	pre_w	1344	0.5
Main Flush	HCl15	8000	0.65
Main Flush	em15	8000	0.85
Overflush	over_w	1344	1



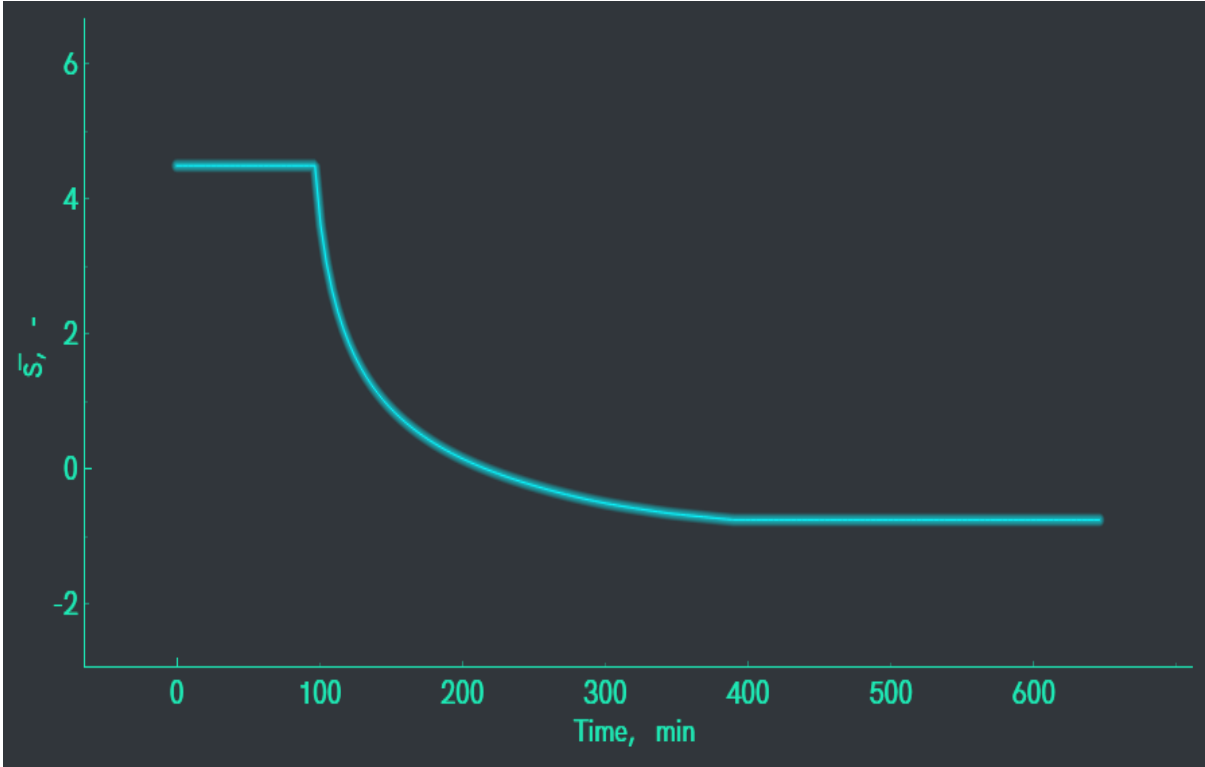
Surface Pumping Schedule

Stage	Surface Label	Downhole Label	Pumping Volume [gal]	Injection Rate [bbl/min]
Preflush	pre_w	disp_w	1033.116	0.75
Preflush	pre_w	pre_w	310.884	0.5
Main Flush	HCl15	pre_w	1033.116	0.5
Main Flush	HCl15	HCl15	6966.884	0.65
Main Flush	em15	HCl15	1033.116	0.65
Main Flush	em15	em15	6966.884	0.85
Overflush	over_w	em15	1033.116	0.85
Overflush	over_w	over_w	310.884	1.0
Displacement	disp_w	over_w	1033.116	1.0



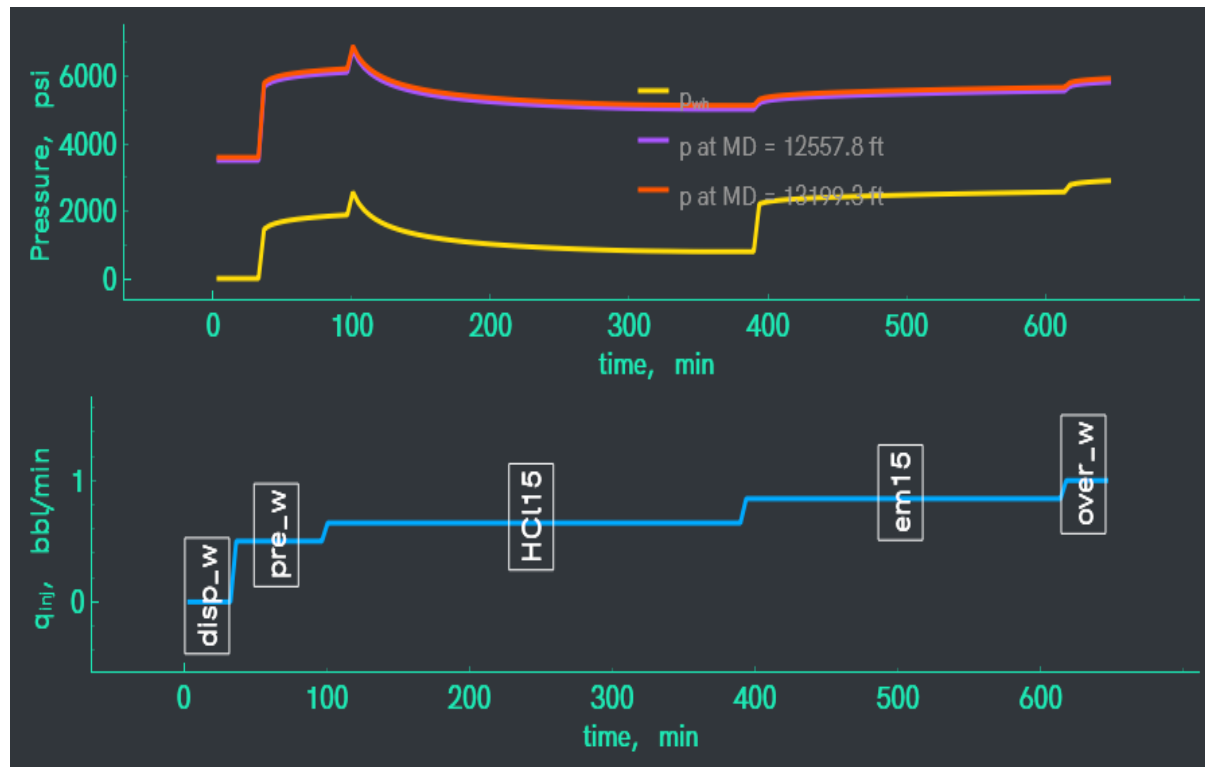
Supporting Simulation Results for the Job Procedure

Plot Average Skin vs. Time



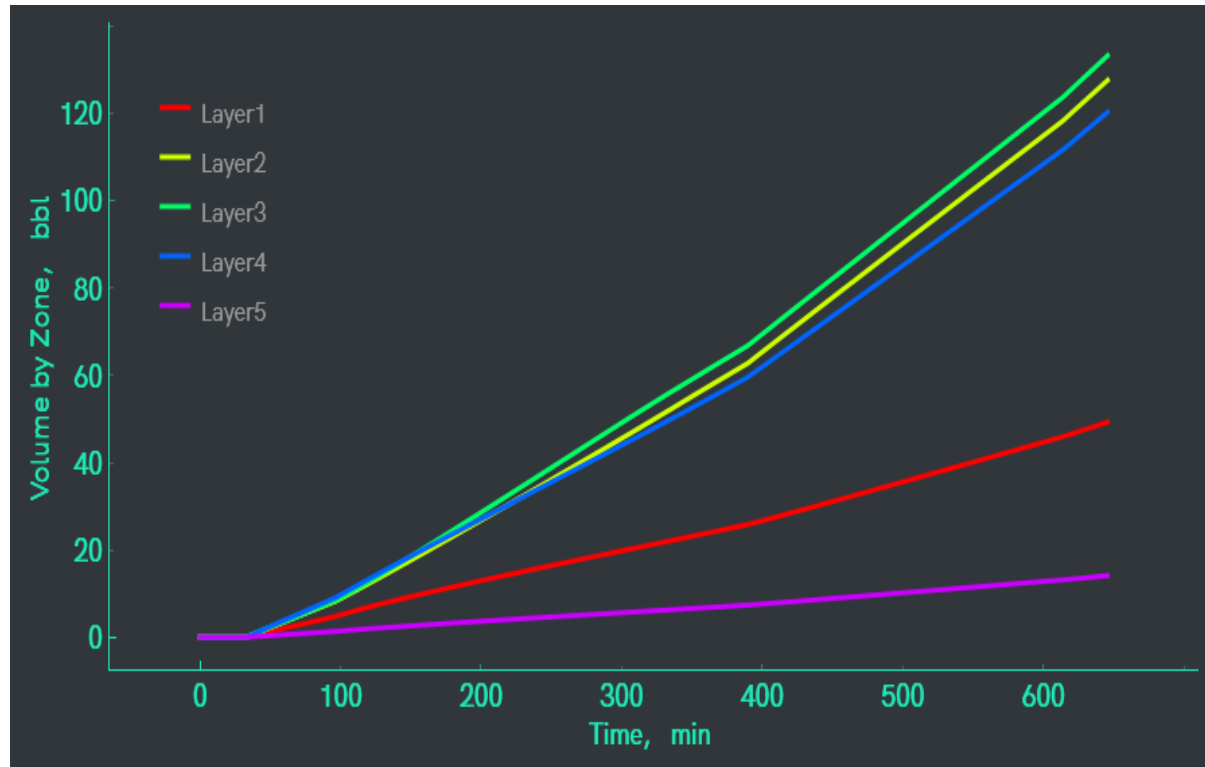


Plot Pressure, Injection Rate vs. Time



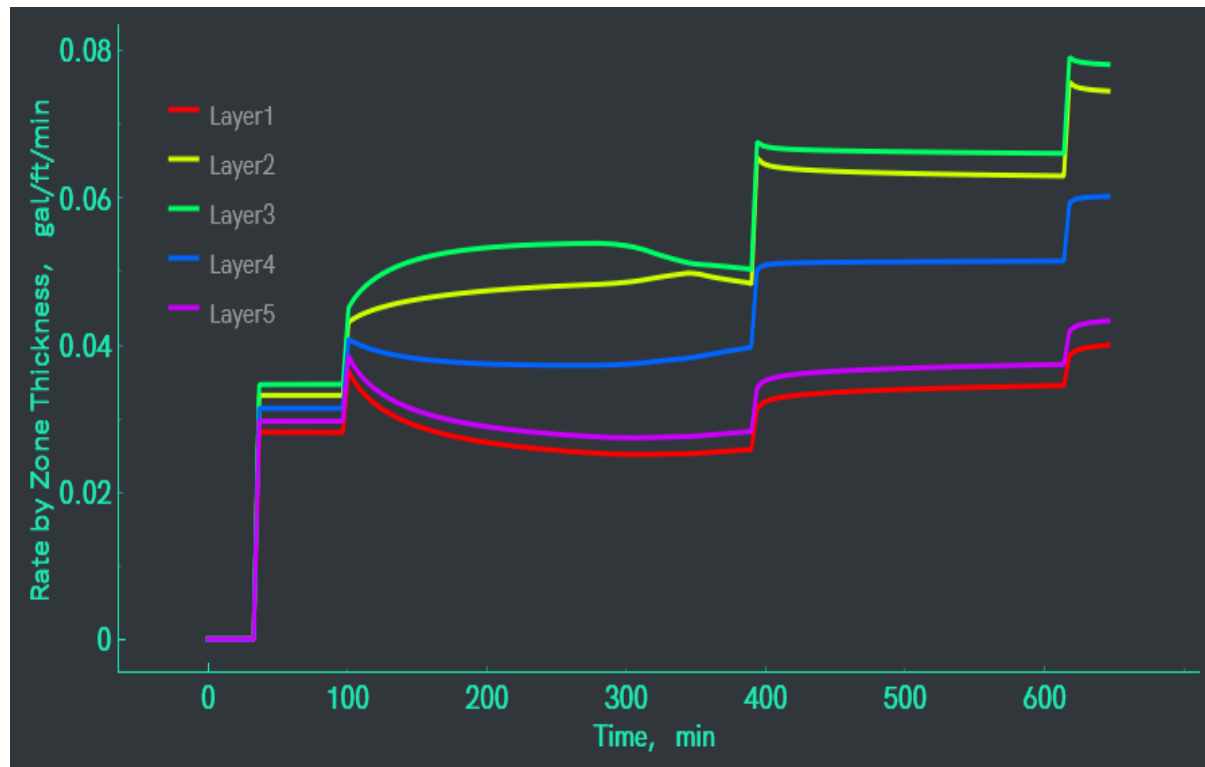


Plot Volume by Zones vs. Time



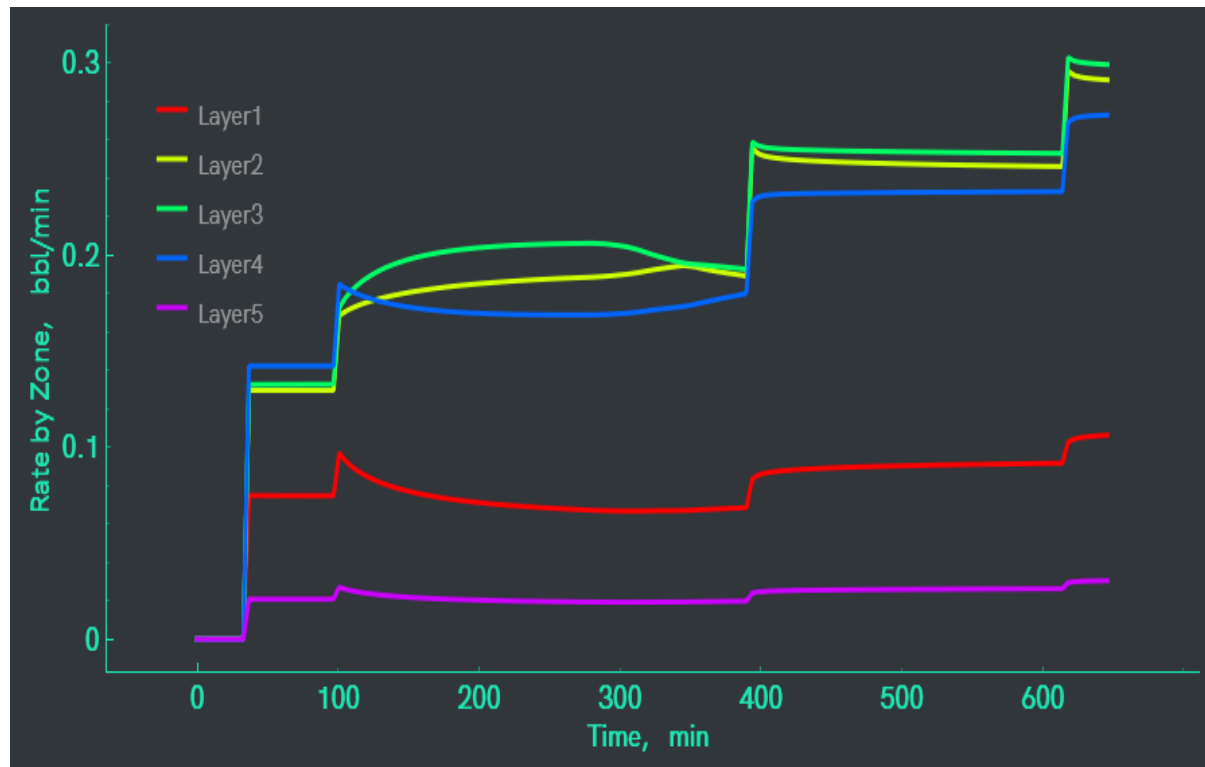


Plot Rate by Zones Thickness vs. Time



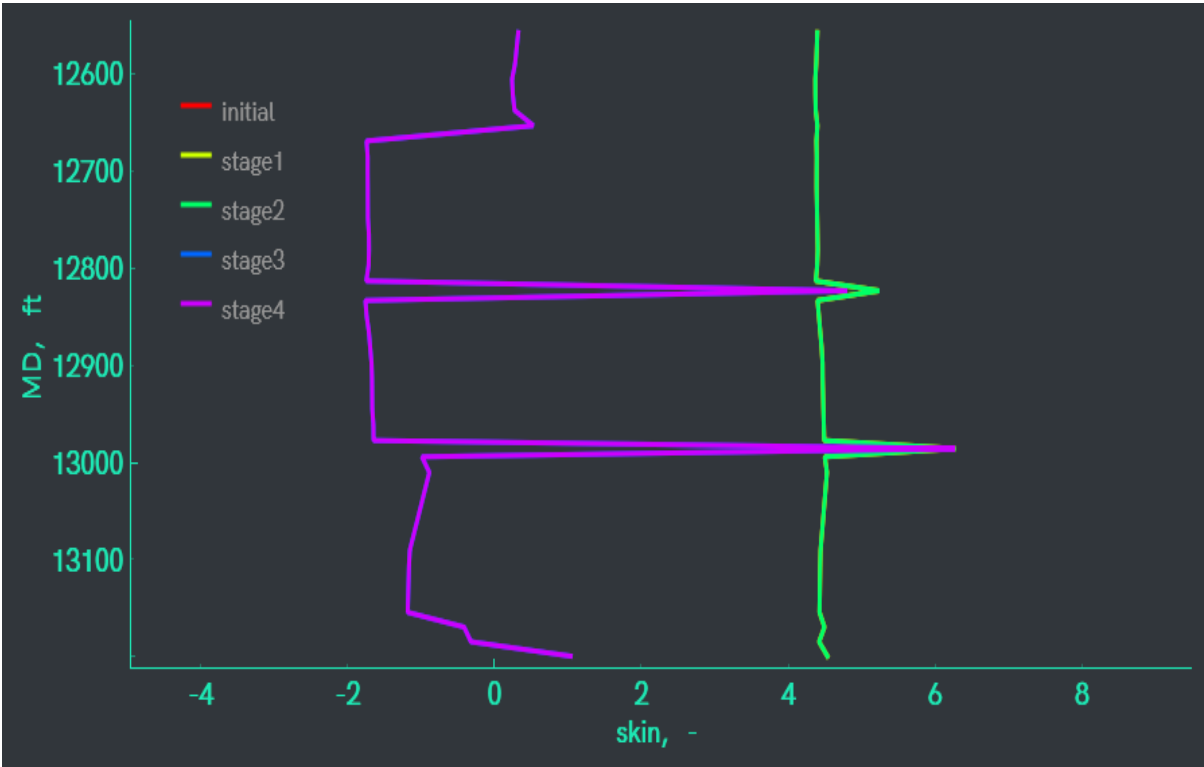


Plot Rate by Zones vs. Time





Plot Near Wellbore Skin vs. MD





Plot Wormhole Length vs. MD

