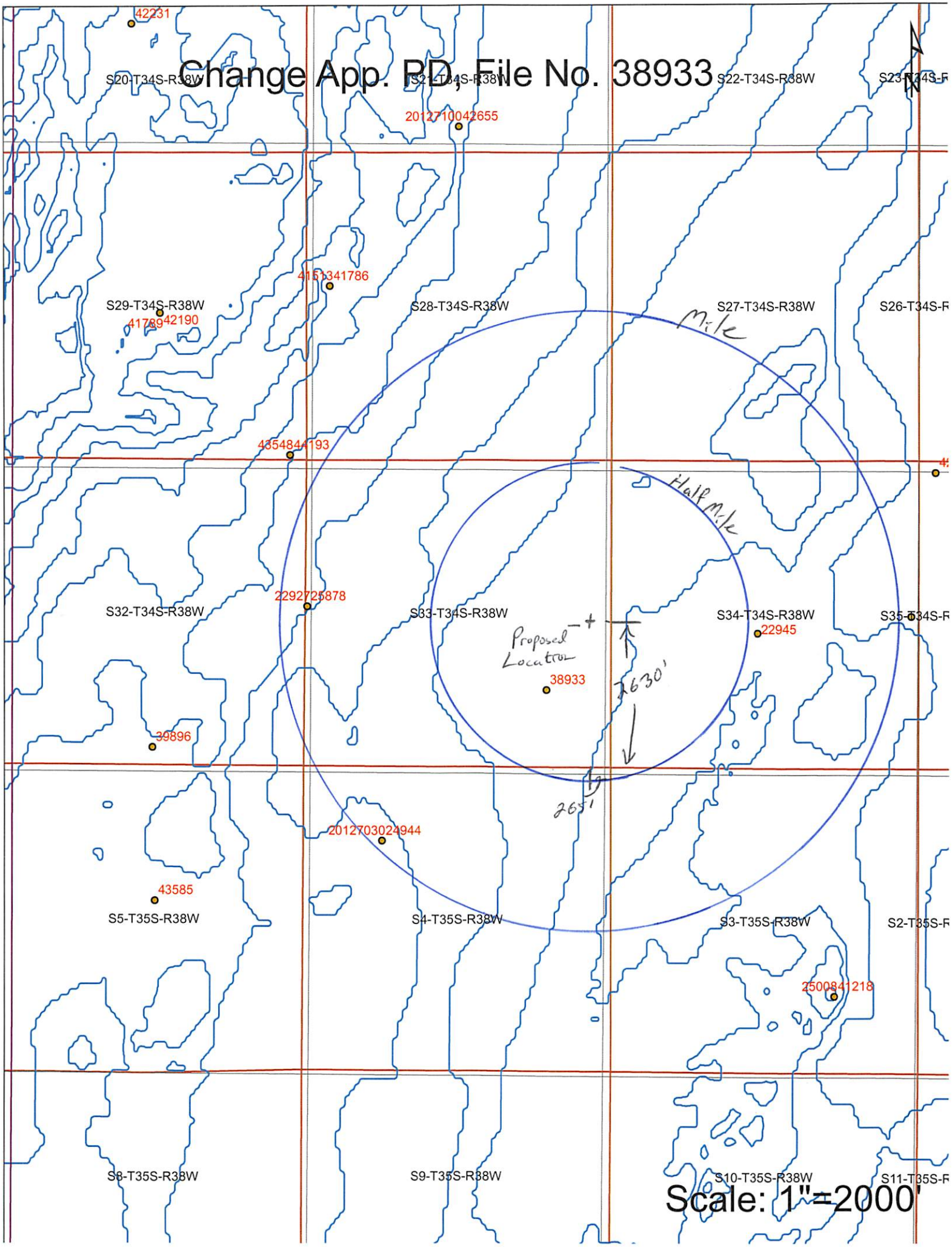
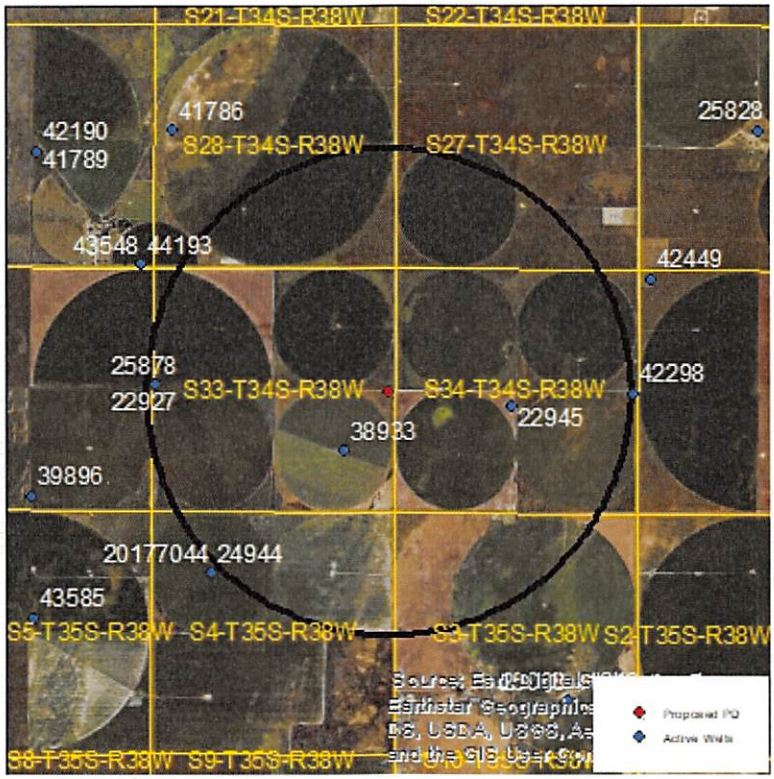
Change App. PD, File No. 38933



Scale: 1"=2000'

Evaluation of proposed move for Water Right No 38933

Proposed: Move the well authorized under water right no. 38933 1,621 ft to the northeast.



Wells within 1 mile: 22927 & 25878 and 22945.

The saturated thickness at the proposed well location is estimated to be 316 ft, based upon measurement at the observation well in section 21-34-38 and local drillers logs. For saturated thicknesses greater than 200 ft, the maximum allowable Theis drawdown to neighboring critical wells is 4.0 ft.

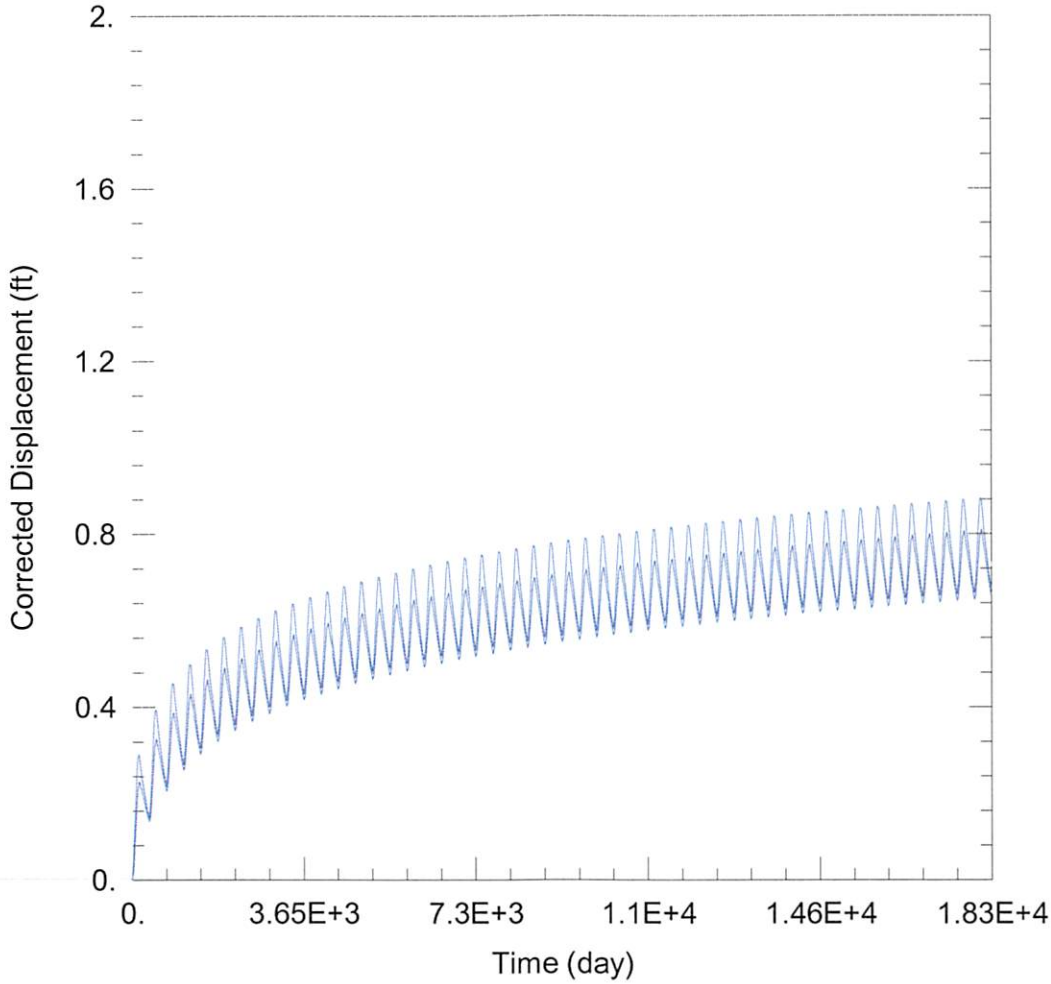
50 year Theis Analysis: The following values were used to run the analysis:

S = 0.1893, T = 11,014 ft^2/day, $tp_{current}$ = 120 days (based upon typical irrigation season), $Q_{current}$ = 329 gpm (based upon reported water use over 120 days), $tp_{proposed}$ = 77 days, $Q_{proposed}$ = 760 gpm.

Theis drawdown calculations are as follows:

22927 & 25878:	Drawdown from current location = 0.81 ft
	Drawdown from proposed location = 1.09 ft
	Net drawdown = **0.3 ft**
22945:	Drawdown from current location = 0.88 ft
	Drawdown from proposed location = 1.75 ft
	Net drawdown = **0.9 ft**

Net drawdown effects do not exceed the maximum drawdown allowance of 4.0 ft on any well, so no further evaluation is necessary.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2019_moves\38933\38933 Current.aqt
Date: 04/11/19 Time: 10:47:52

PROJECT INFORMATION

Company: GMD 3
Project: 38933
Location: Stevens County
Test Well: 38933

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
38933	-190117	61795

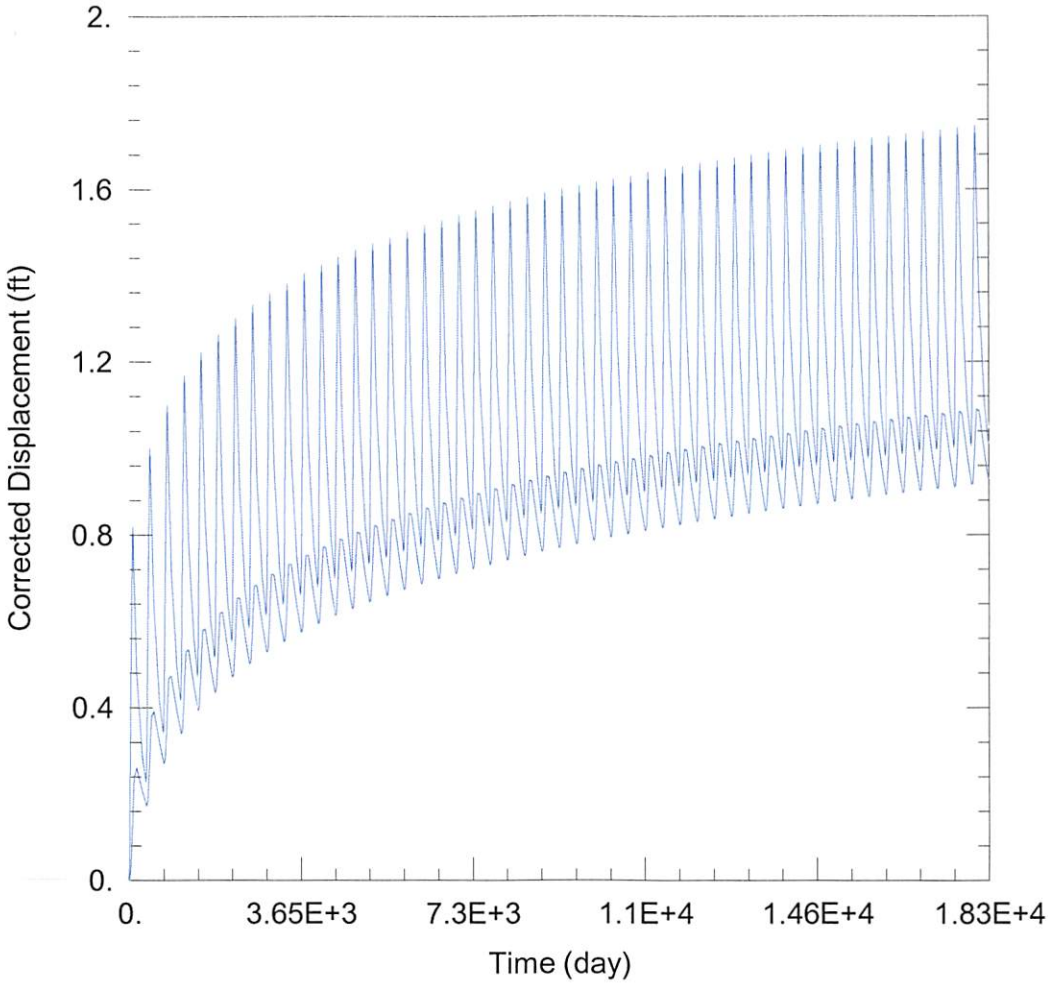
Observation Wells

Well Name	X (ft)	Y (ft)
▫	-190117	61795
▫ 22927 & 25878	-194241	63238
▫ 22945	-186473	62769

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 1.101E+4 ft^2/day
S = 0.1893
Kz/Kr = 1.
b = 316. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2019_moves\38933\38933 Proposed.aqt
Date: 04/11/19 Time: 10:47:46

PROJECT INFORMATION

Company: GMD 3
Project: 38933
Location: Stevens County
Test Well: 38933

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
38933	-189144	63091

Observation Wells

Well Name	X (ft)	Y (ft)
▫	-189144	63091
▫ 22927 & 25878	-194241	63238
▫ 22945	-186473	62769

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 1.101E+4 ft^2/day
S = 0.1893
Kz/Kr = 1.
b = 316. ft

INPUTS	
Target Section Definition	
Section	33
Township	34
Range	38
Range Direction	w
Target Point Coordinates (*NAD27* or *NAD83*)	
Target Longitude	-101.447502
Target Latitude	37.046497

Load Data and Compute

Instructions

1. Enter values for section, township, range and range direction.
2. Enter *NAD27* or *NAD83* longitude and latitude of target point.
3. Click "Load Data and Compute" button.
4. Use feet distances corresponding to datum of target point.

Loaded Section Data From LEOBASE using *NAD83*

Corner	Corner Latitudes	Corner Longitudes
SW	37.03930290	-101.46515982
NW	37.05375279	-101.46515966
NE	37.05381365	-101.44710873
SE	37.03930290	-101.44703195
Degrees Longitude per Foot		3.42627639E-06
Degrees Latitude per Foot		2.74654219E-06

Target Point Distances from Corners using NAD83

Corner	Feet North(+)/South(-)	Feet East(-)/West(+)
SW	2619	-5154
NW	-2642	-5154
NE	-2664	115
SE	2619	137

Target point is In Section

Loaded Section Data From LEOBASE using *NAD27*

Corner	Corner Latitudes	Corner Longitudes
SW	37.03927600	-101.46472200
NW	37.05372600	-101.46472200
NE	37.05378700	-101.44667100
SE	37.03927600	-101.44659400
Degrees Longitude per Foot		3.42627518E-06
Degrees Latitude per Foot		2.74598553E-06

Target Point Distances from Corners using NAD27

Corner	Feet North(+)/South(-)	Feet East(-)/West(+)
SW	2630	-5026
NW	-2633	-5026
NE	-2655	243
SE	2630	265

Target point is In Section

NENESE

Difference (NAD83 Minus NAD27)

Corner	Corner Latitudes	Corner Longitudes
SW	0.00002690	-0.00043782
NW	0.00002679	-0.00043766
NE	0.00002665	-0.00043773
SE	0.00002690	-0.00043795

Difference (NAD83 Minus NAD27)

Corner	Feet North(+)/South(-)	Feet East(-)/West(+)
SW	-10.32710990	-127.78126883
NW	-9.22051560	-127.73457091