

De Wijk Periodic Monitoring Report

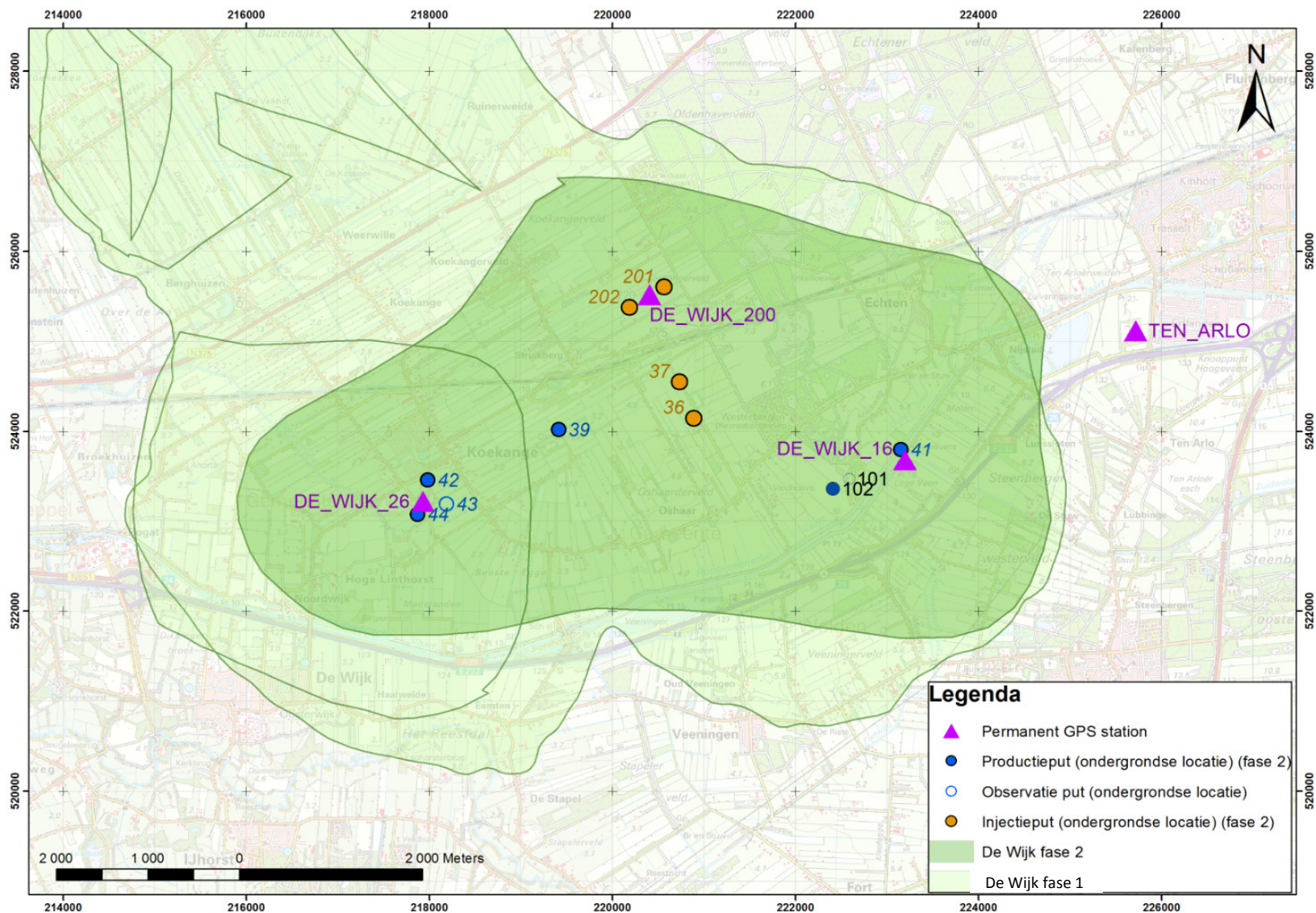
**De Wijk Meet & Regel Protocol
Month: May 2018**

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2. Phase 2 Injectors: Injection rate and THP data (4 injectors)
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5. Subsidence vs. Time plot (4 GPS stations)
6. Subsidence Control Measures

De Wijk: Production and Subsidence Monitoring

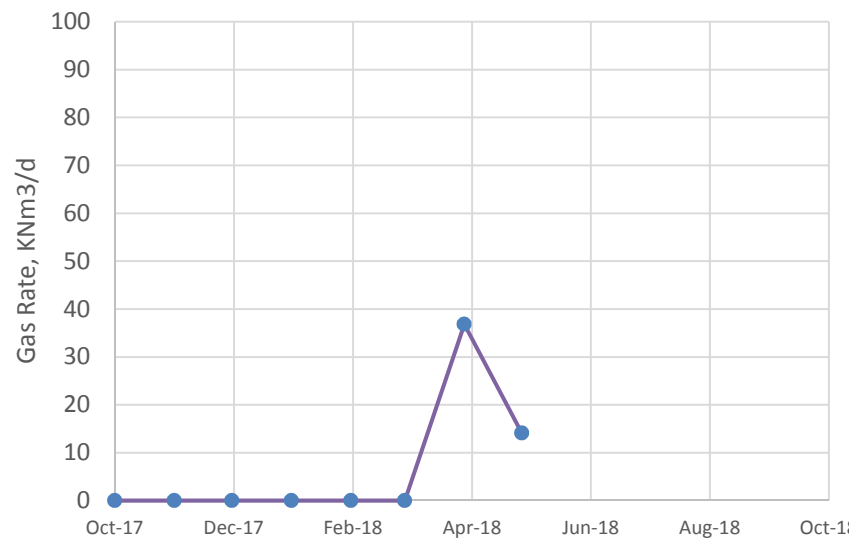
De Wijk Map



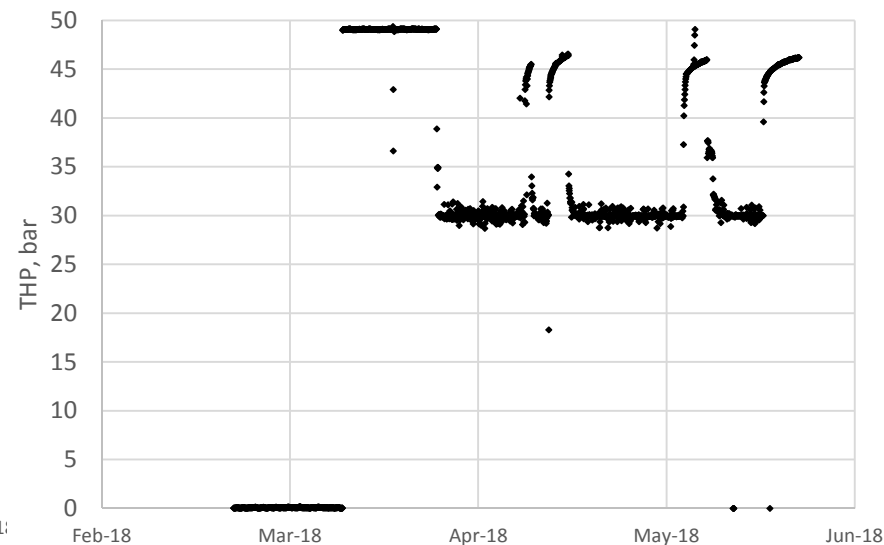
De Wijk: Production and Subsidence Monitoring

De Wijk Phase 2 Producers (East)

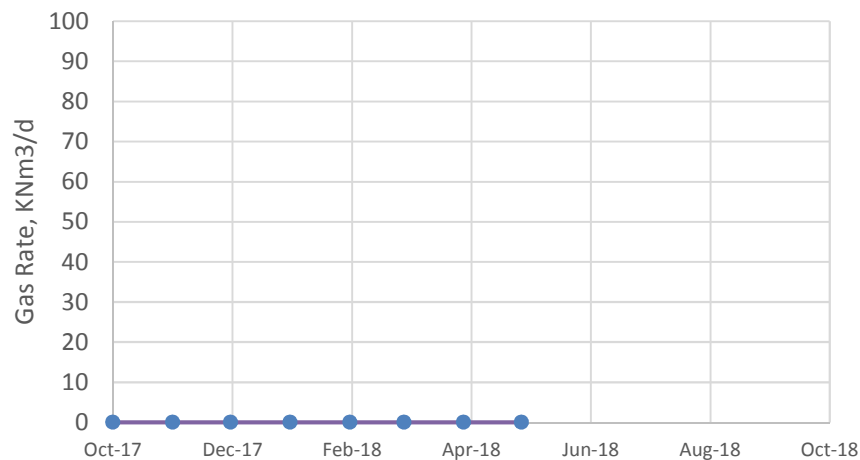
WYK-41, Production Rate



WYK-41 THP



WYK-102, Production Rate



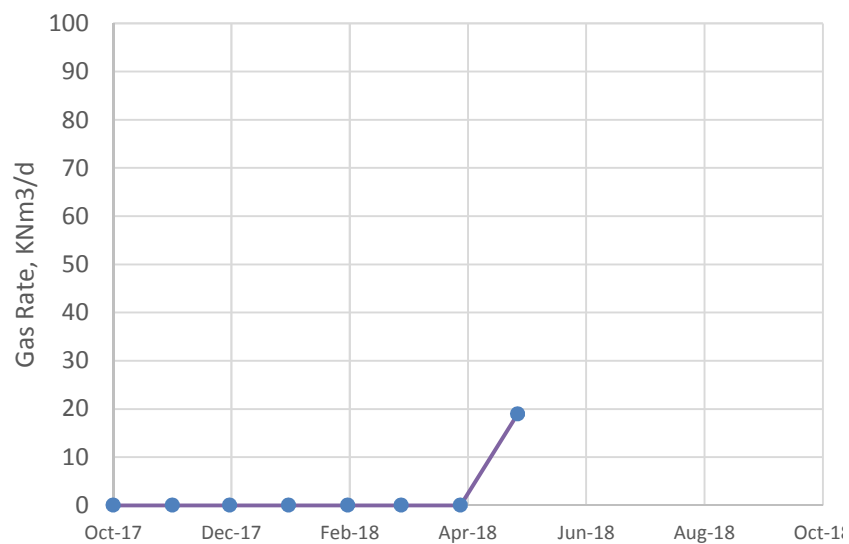
WYK-102 THP



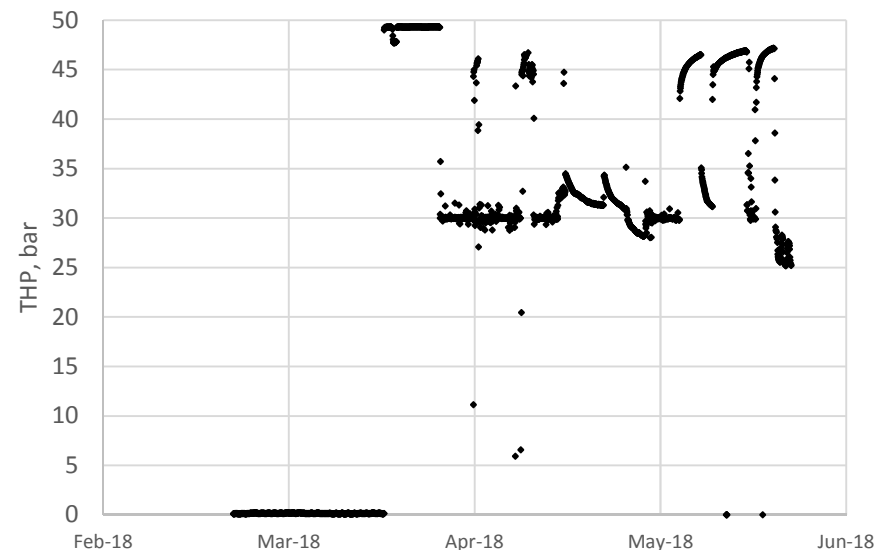
De Wijk: Production and Subsidence Monitoring

De Wijk Phase 2 Producers (West)

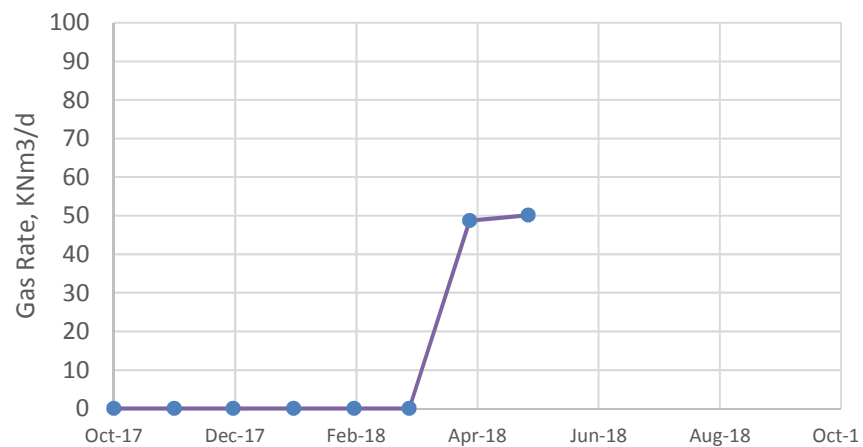
WYK-42, Production Rate



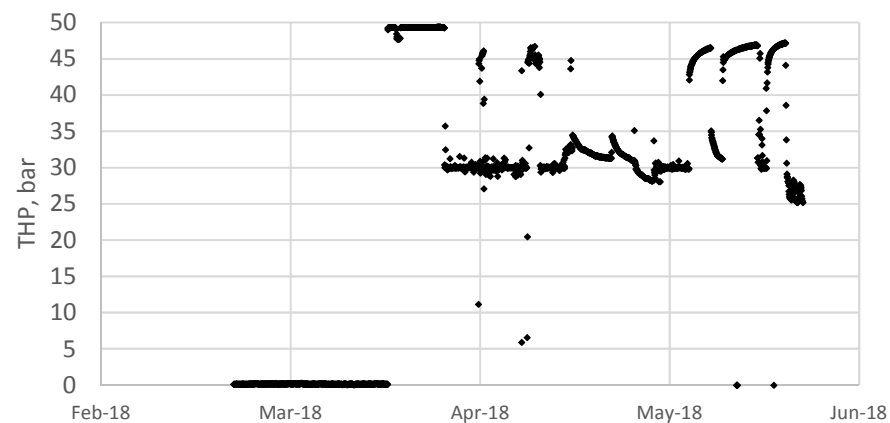
WYK-42 THP



WYK-44, Production Rate

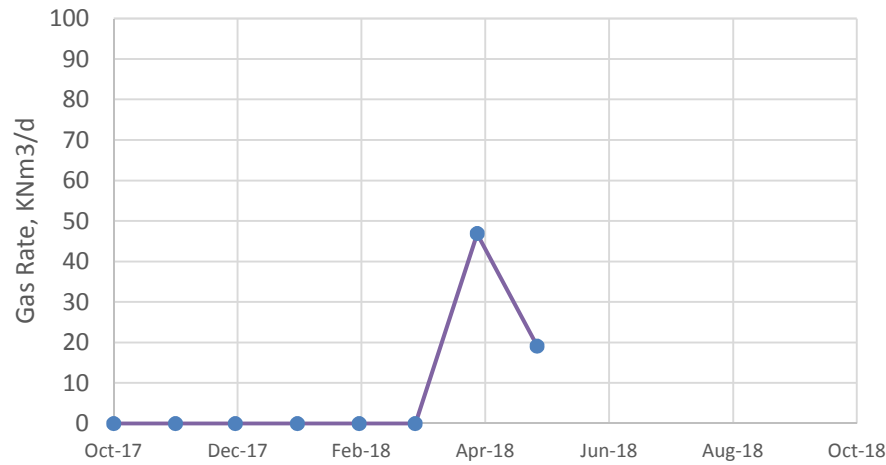


WYK-44 THP

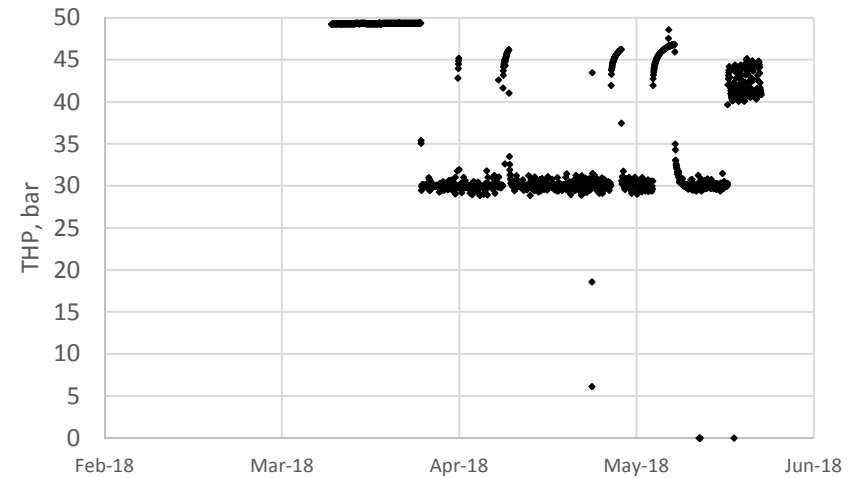


De Wijk Phase 2 Producers (West)

WYK-39, Production Rate

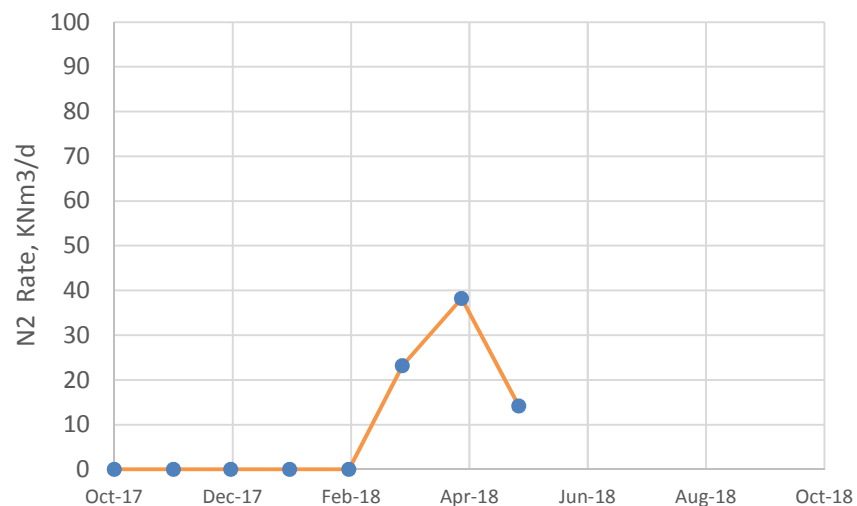


WYK-39 THP

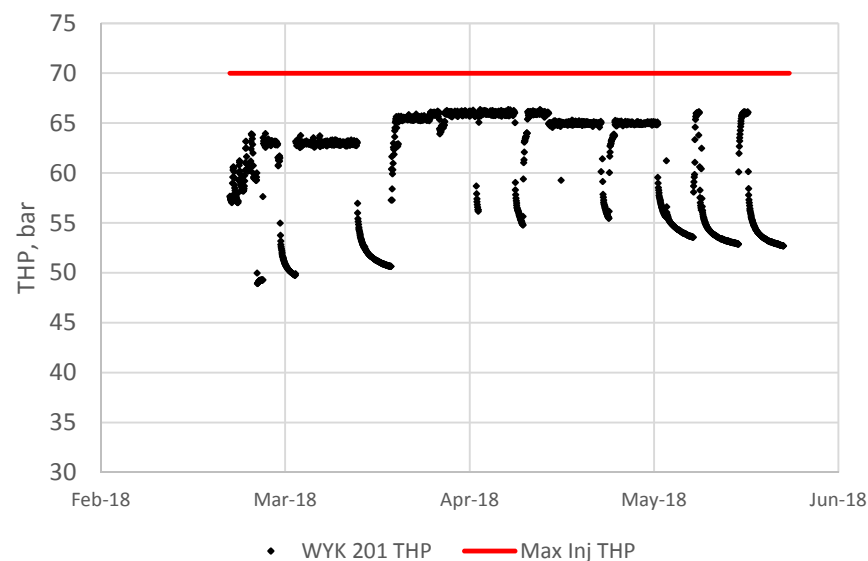


De Wijk Phase 2 Injectors

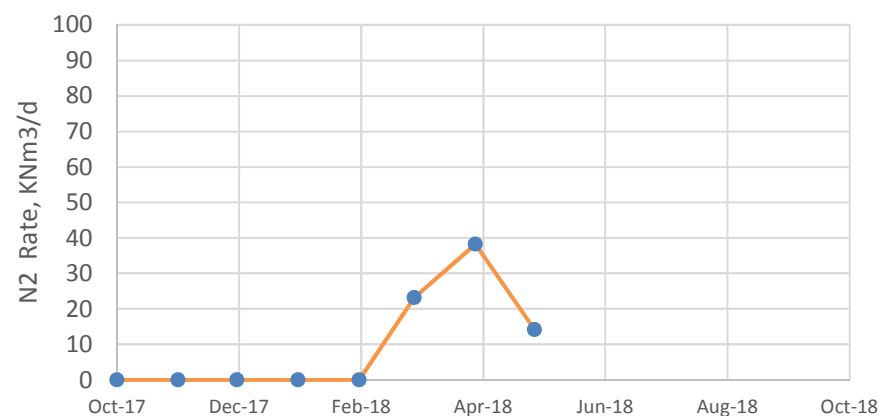
WYK-201



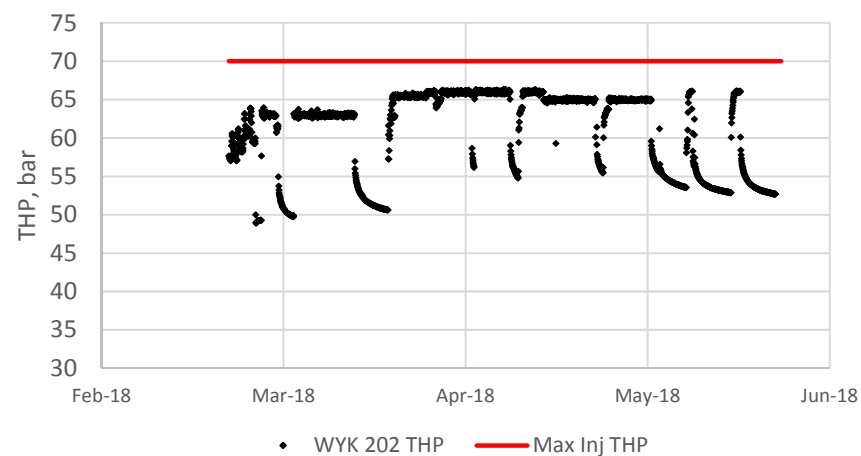
WYK-201 THP



WYK-202



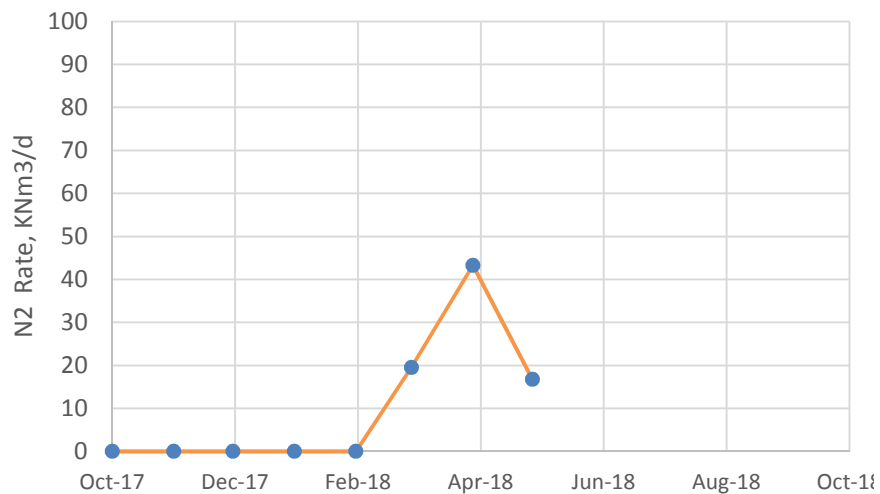
WYK-202 THP



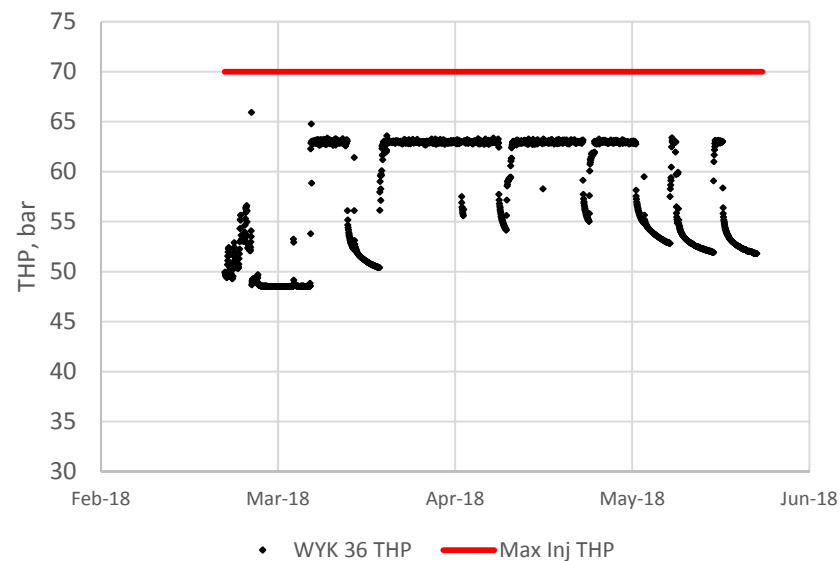
De Wijk: Production and Subsidence Monitoring

De Wijk Phase 2 Injectors

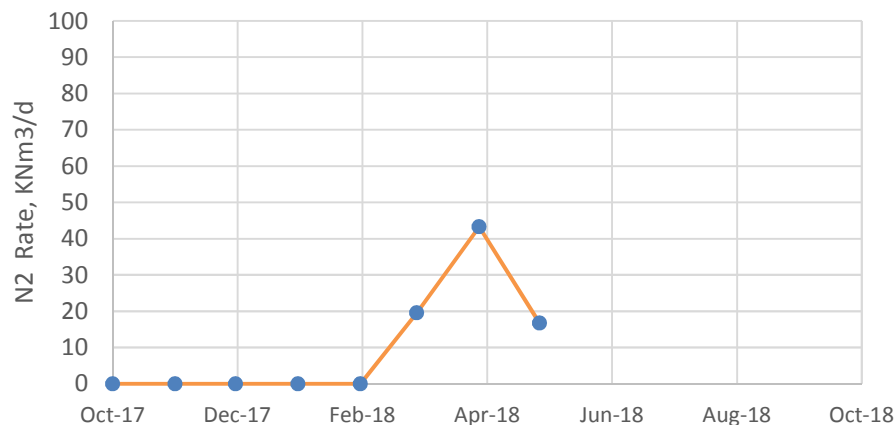
WYK-36



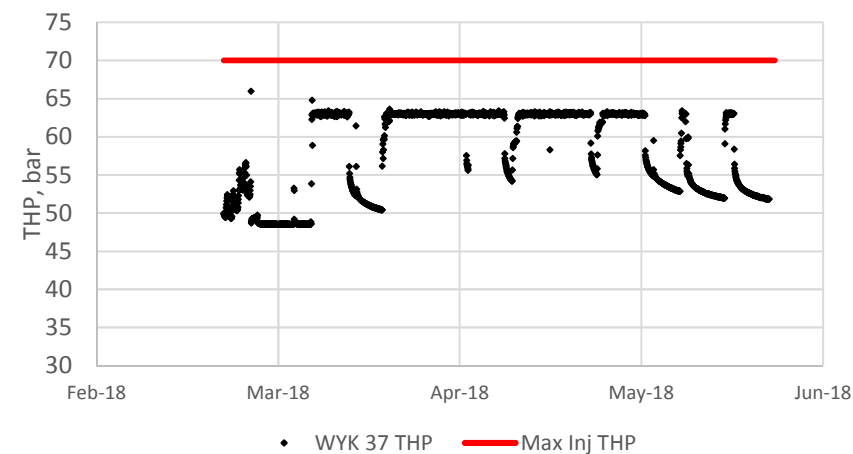
WYK-36 THP



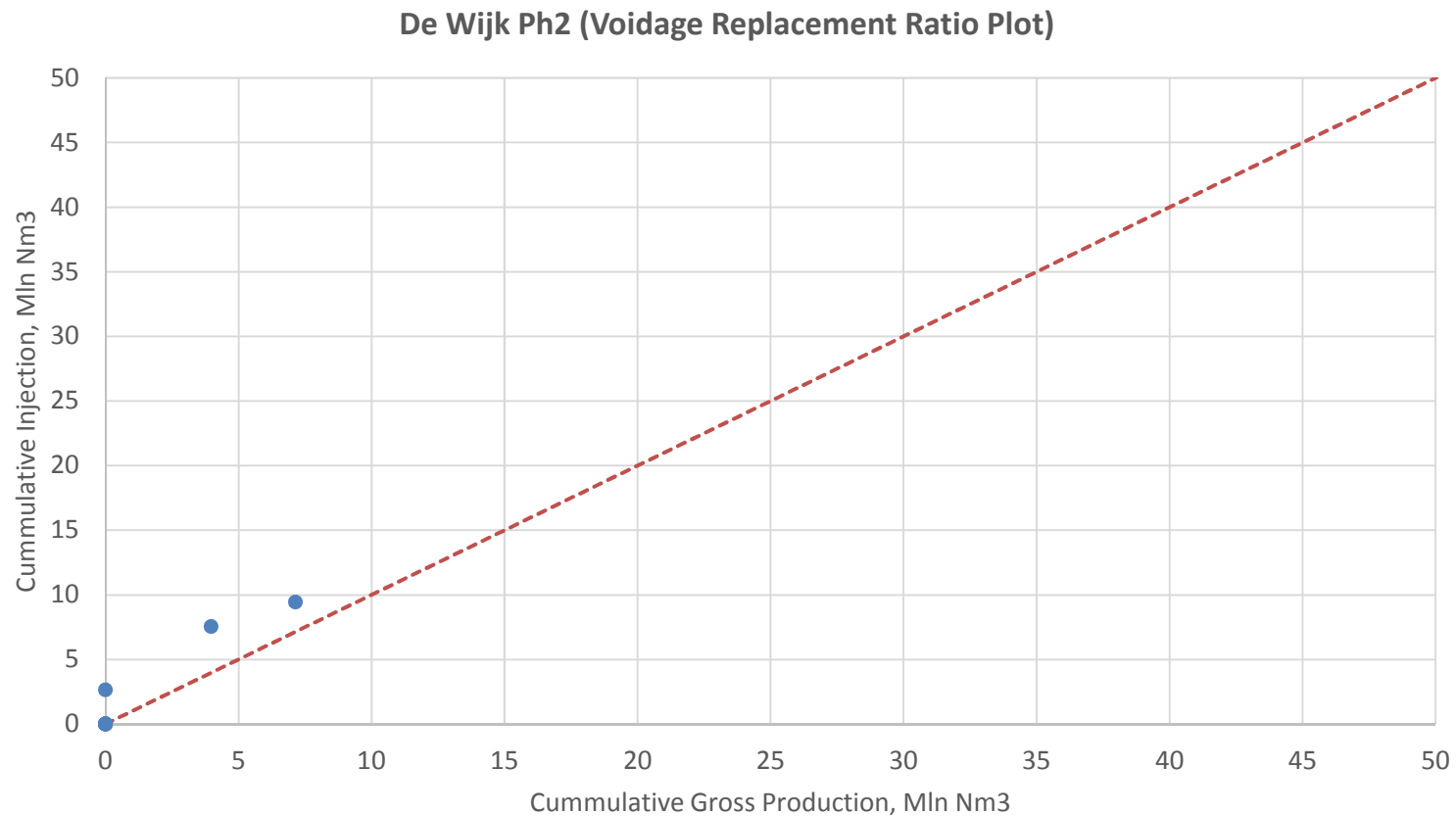
WYK-37



WYK-37 THP



De Wijk Phase 2

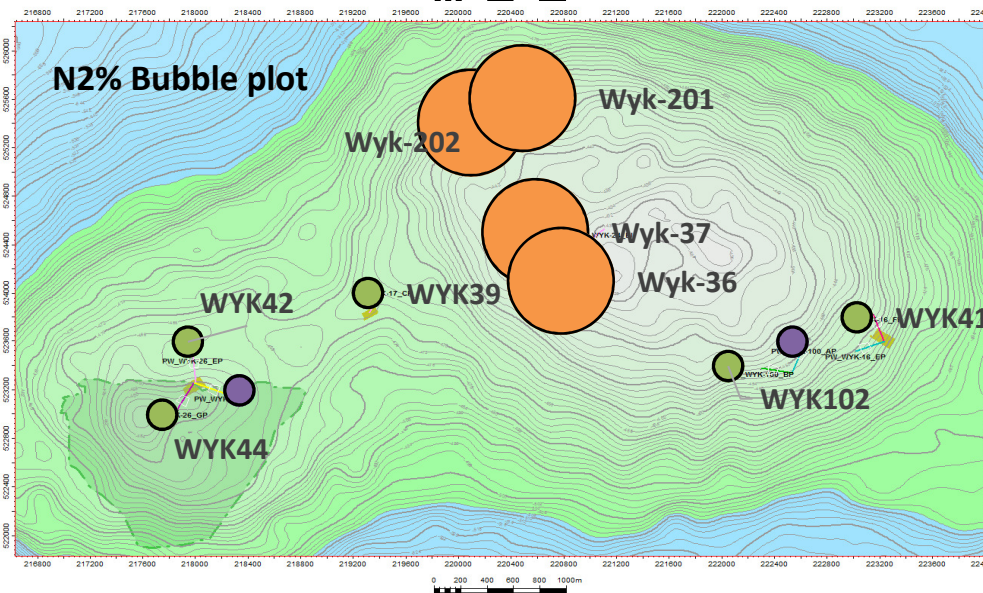
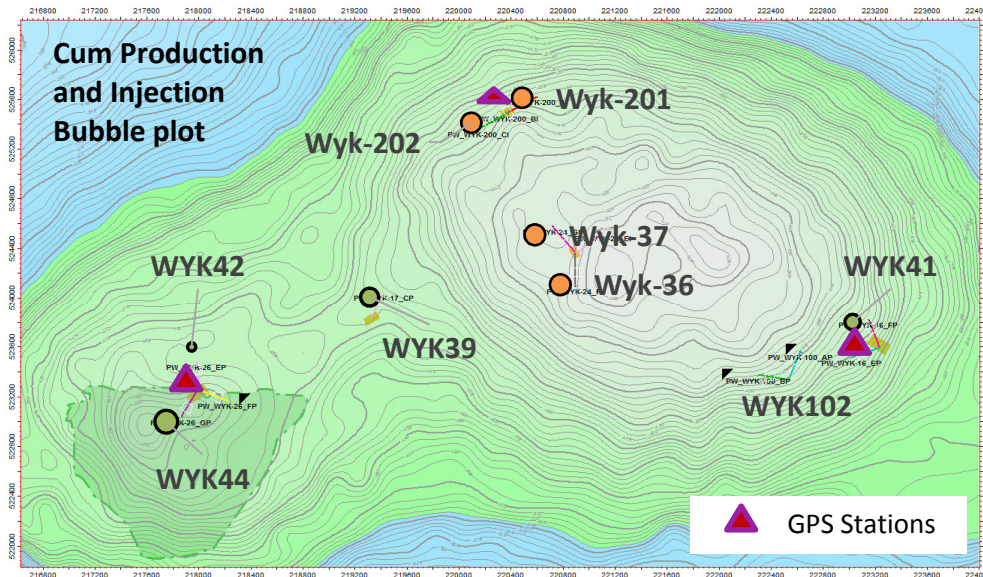


De Wijk Phase 2

Plot 1: Bubble plot for Cumulative production and Injection for the producers and Injectors.

The size of the bubble represents the cumulative volumes for that well. The larger the area of the circle, the more production/injection from that well.

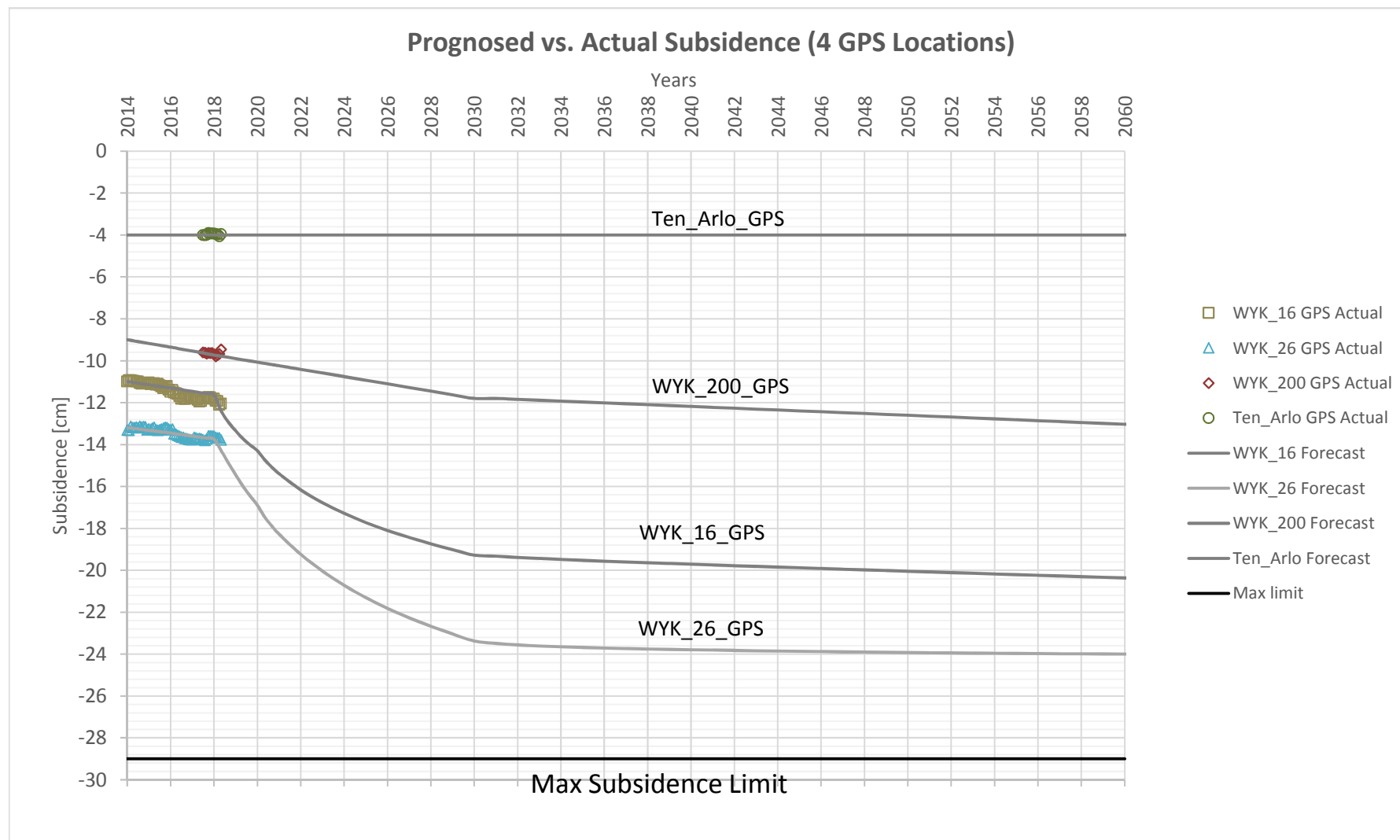
Plot 2: Bubble plot for N2% in producers and injectors. The size of the circle represents the N2 percentage for that well. The larger the area of the circle, the higher the N2 percentage of that producer. The injectors circle size corresponds to 100% N2.



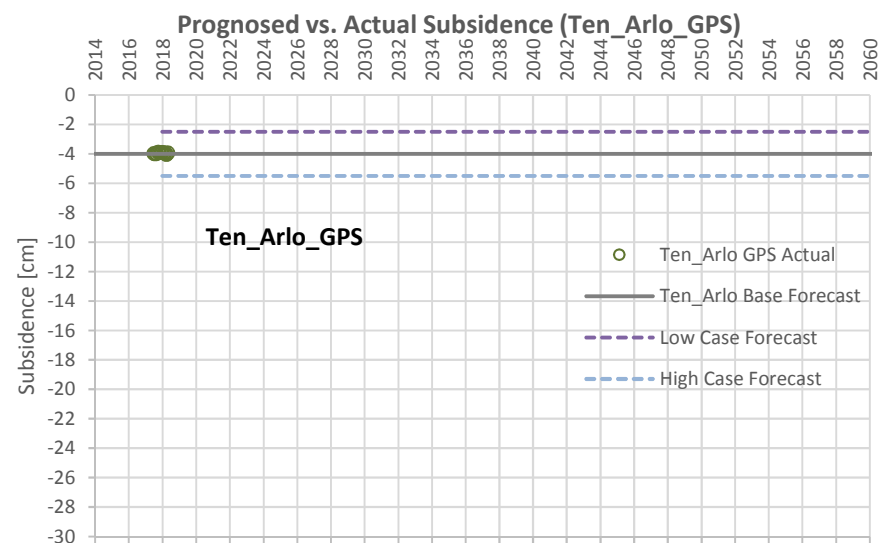
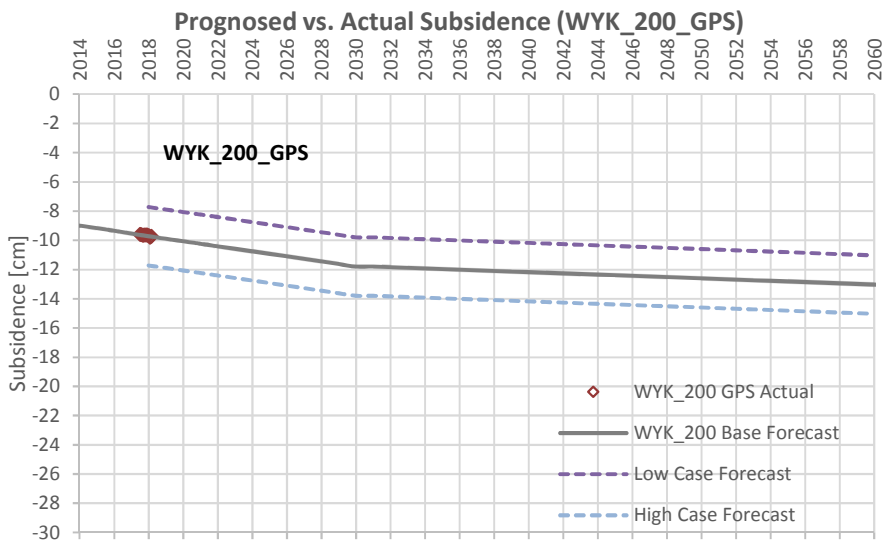
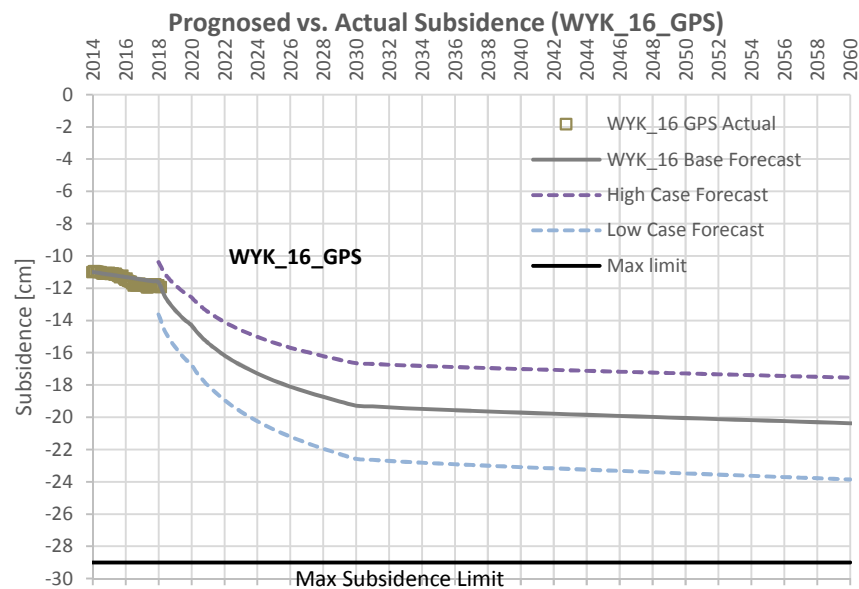
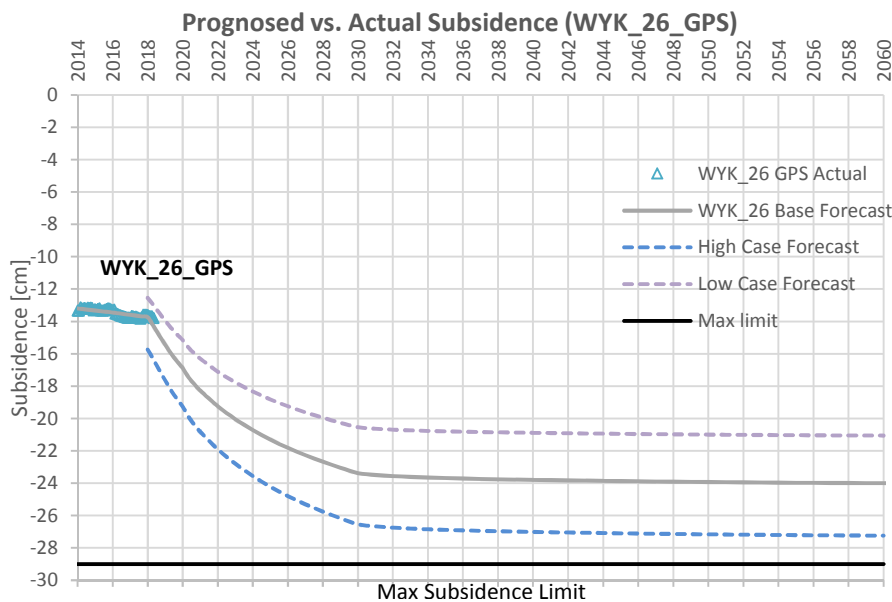
Well	Status	Cum Prd/Inj, Mln Nm3	N2%
WYK39	Producer	2.00	9.0
WYK41	Producer	1.54	9.0
WYK42	Producer	0.59	9.0
WYK44	Producer	3.01	9.0
WYK102	Producer	0.00	9.0
WYK101	Obs well	0.00	9.0
WYK-43	Obs well	0.00	9.0
Wyk-202	Injector	2.30	100.0
wyk-201	Injector	2.30	100.0
Wyk-36	Injector	2.42	100.0
Wyk-37	Injector	2.42	100.0

De Wijk: Production and Subsidence Monitoring

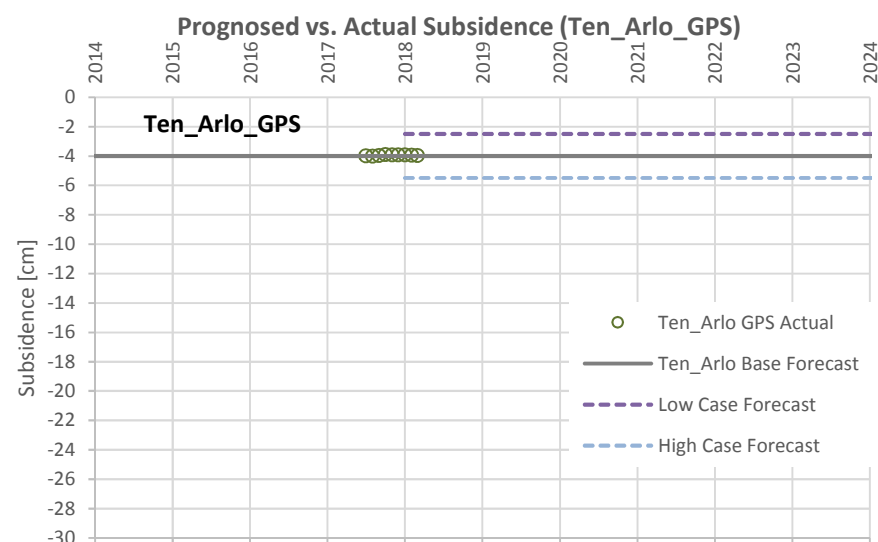
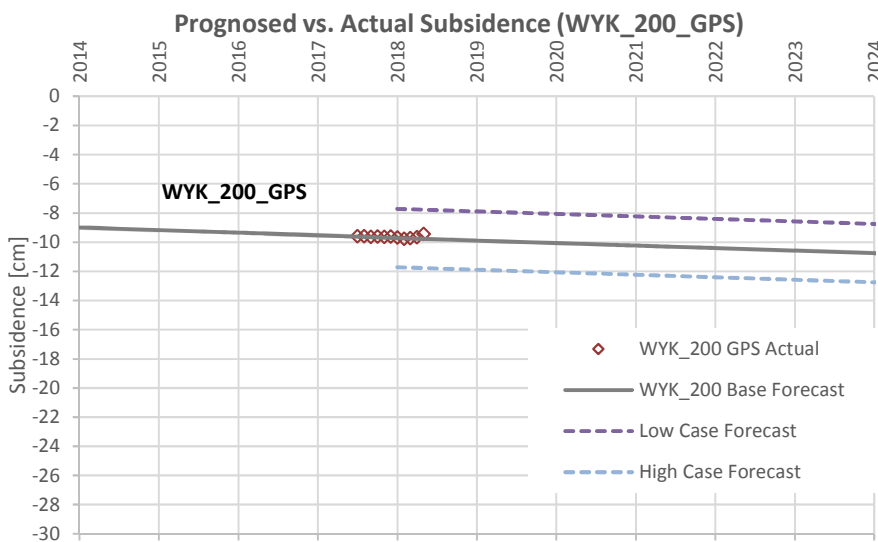
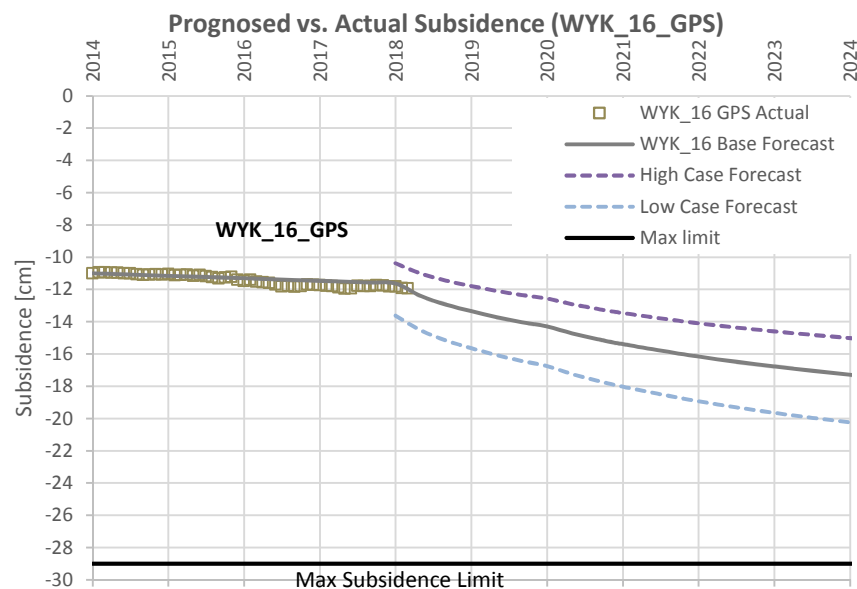
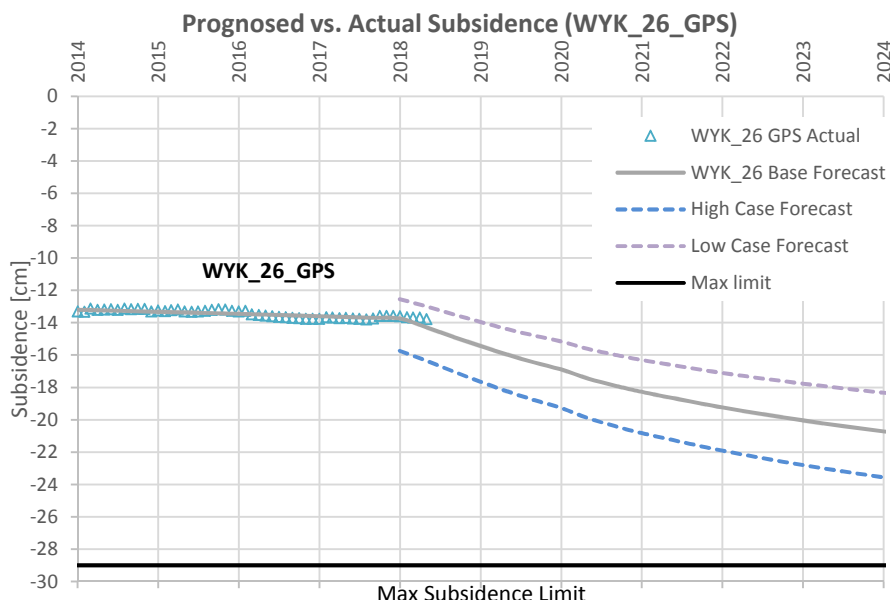
GPS stations: Total subsidence Prognosed vs. Actual



GPS stations: Total subsidence Prognosed Bandwidth vs. Actual

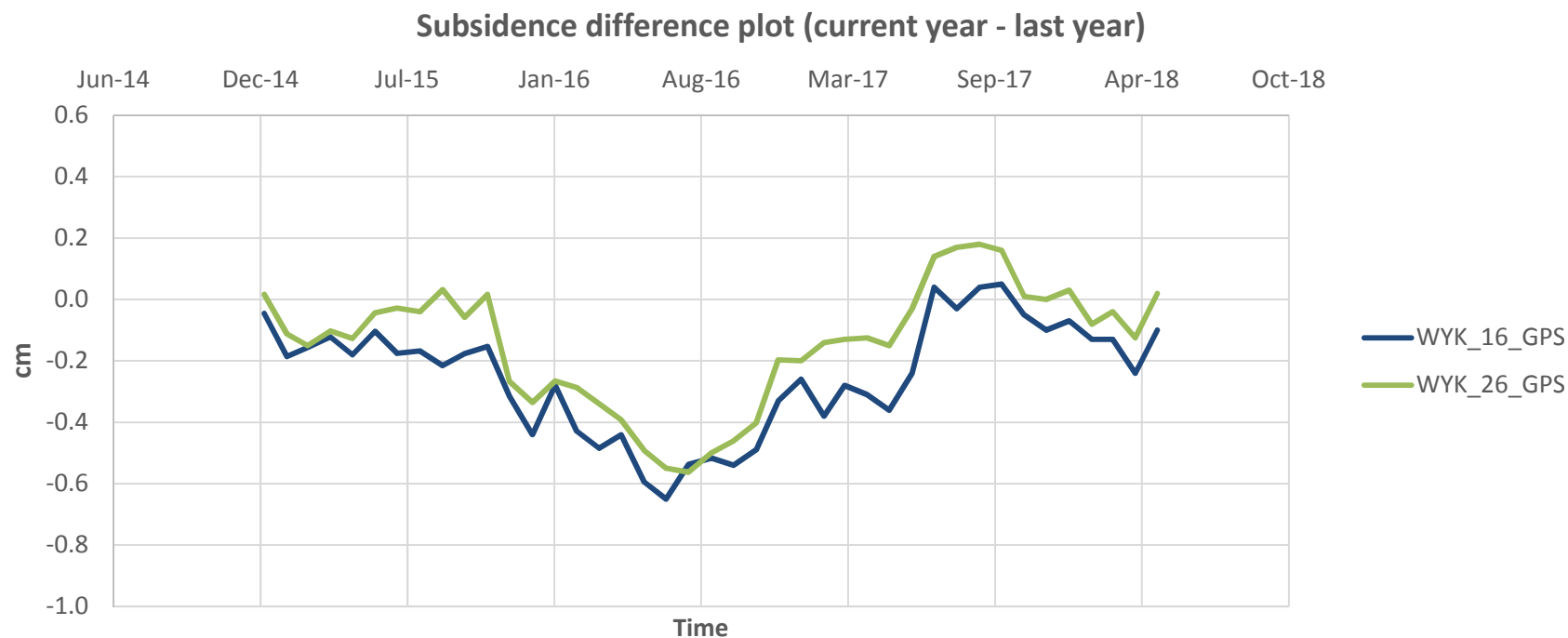


GPS stations: Total subsidence Prognosed Bandwidth vs. Actual



Subsidence difference plot for 4 GPS stations

↑ + Uplift
↓ - Subsidence



Subsidence Control Measures

May-18

GPS Station	Historical Subsidence (1974 - 2014), [cm]	Measured Subsidence (2014 - present)	Between 1974	May-18	Control Measures
			Actual Subsidence, [cm]	Prognosed Subsidence, [cm]	
GPS: De_Wijk_16	-11	-1.1	-12.1	-12.4	Continue Monitoring
GPS: De_Wijk_26	-13.2	-0.6	-13.8	-13.7	Continue Monitoring
GPS: De_Wijk_200	-9	-0.8	-9.5	-9.7	Continue Monitoring
GPS: Ten_Arlo	-4	0.0	-4.0	-4.0	Continue Monitoring

Injector	Max THP (3 months), bar
WYK-201	66.4
WYK-202	66.4
WYK-36	65.9
WYK-37	65.9

Remarks and Analysis of data in this report:

- ASU closed since 25th May for the planned maintenance work.
- De Wijk Ph2 producers also closed since 25th May due to no injection in Ph2 and Ten Arlo system planned maintenance work.

Pore Collapse Risk Analysis:

1. No sudden change in subsidence rate
2. No sudden change in wells production performance (rate or pressure)

Current assessment:

No Pore collapse in the field

