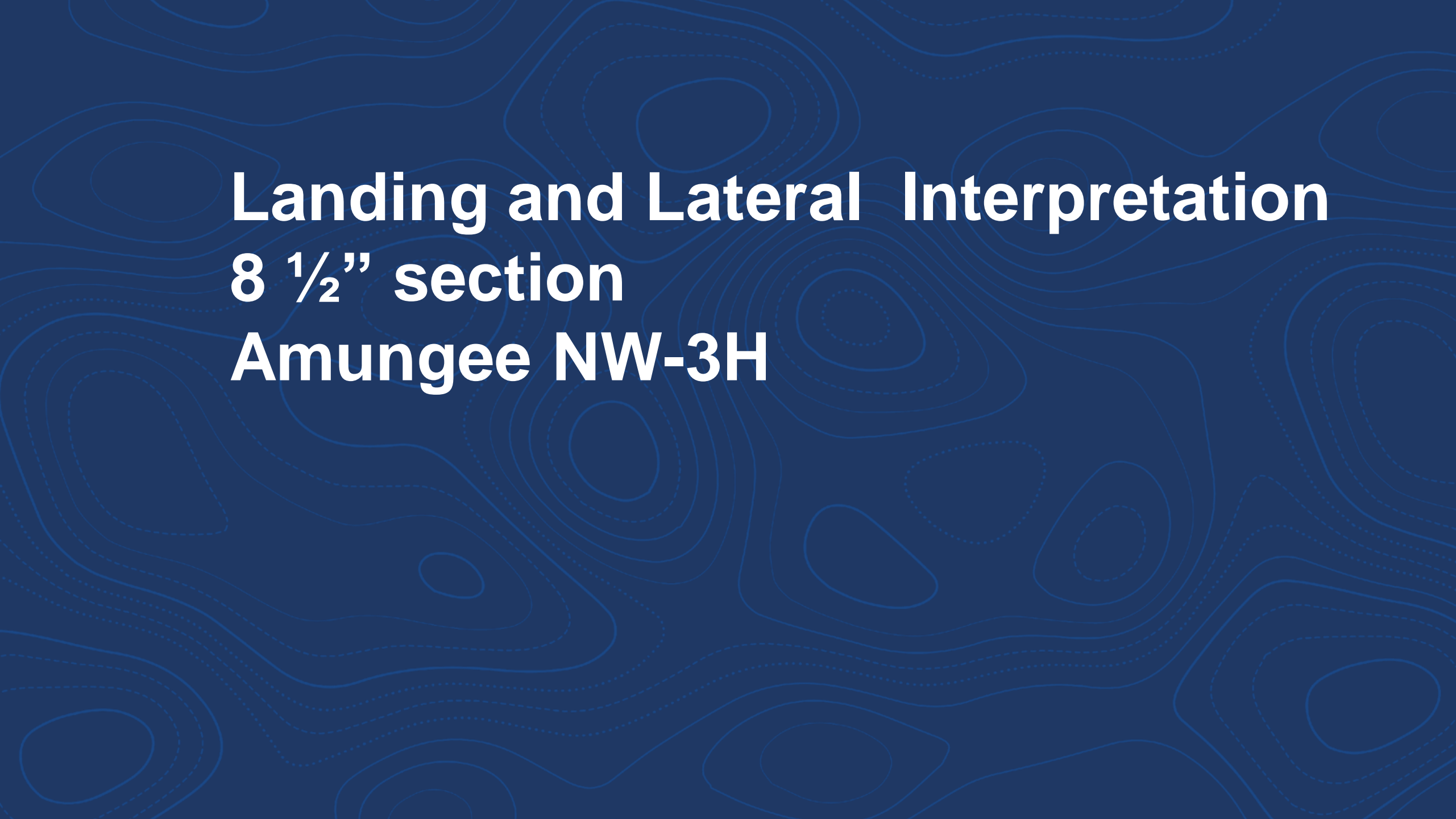


Post-Job report Tamboran Resources Amungee NW-3H

**Geosteering team ROGII
Ivan Ostapenko
Aibar Kozhakhmetov**

October 2023

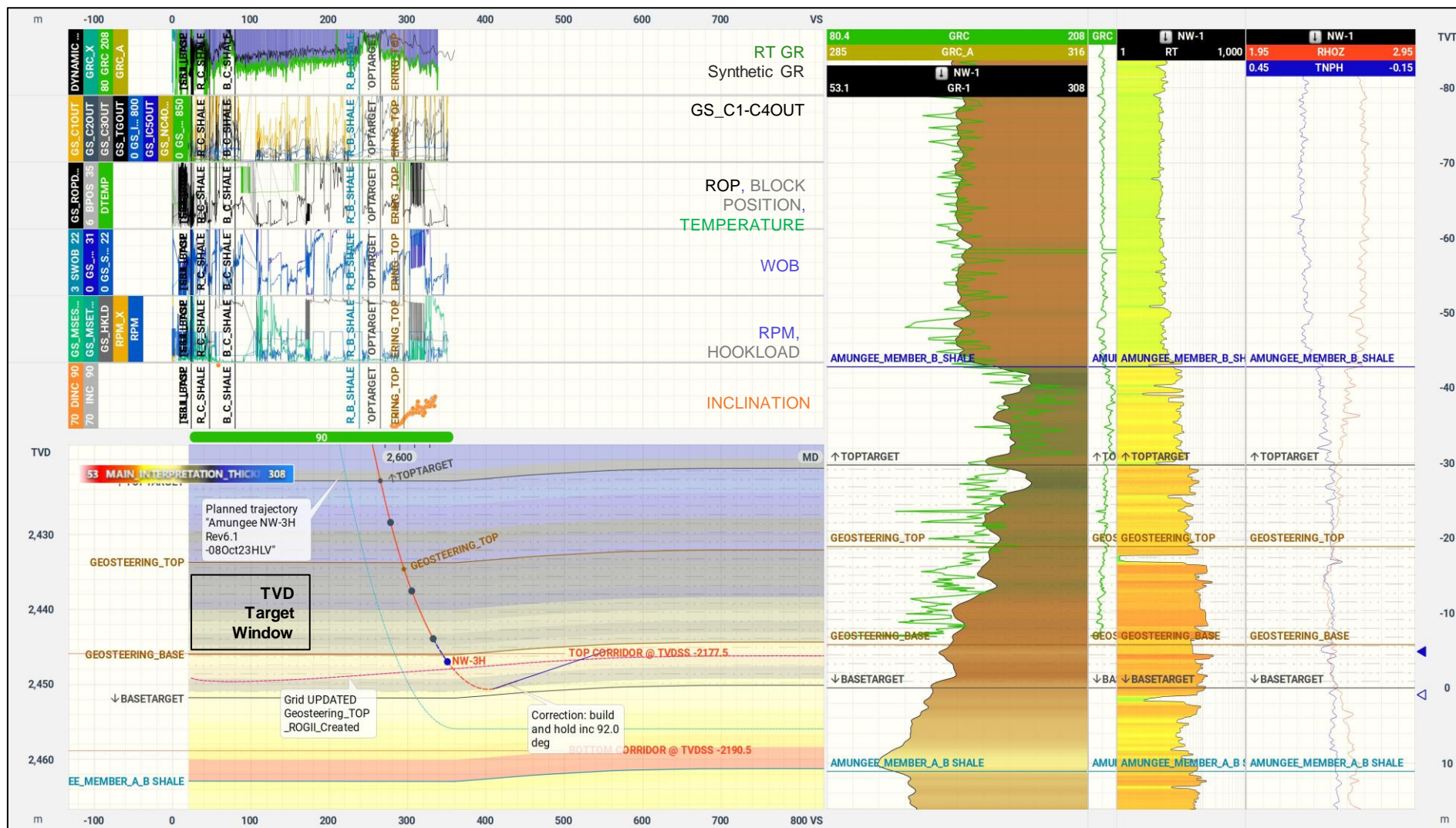
The background of the slide is a dark blue color with a pattern of white, concentric, wavy lines that resemble topographic map contour lines. These lines are irregular and flow across the entire frame, creating a textured, map-like appearance.

Landing and Lateral Interpretation

8 1/2" section

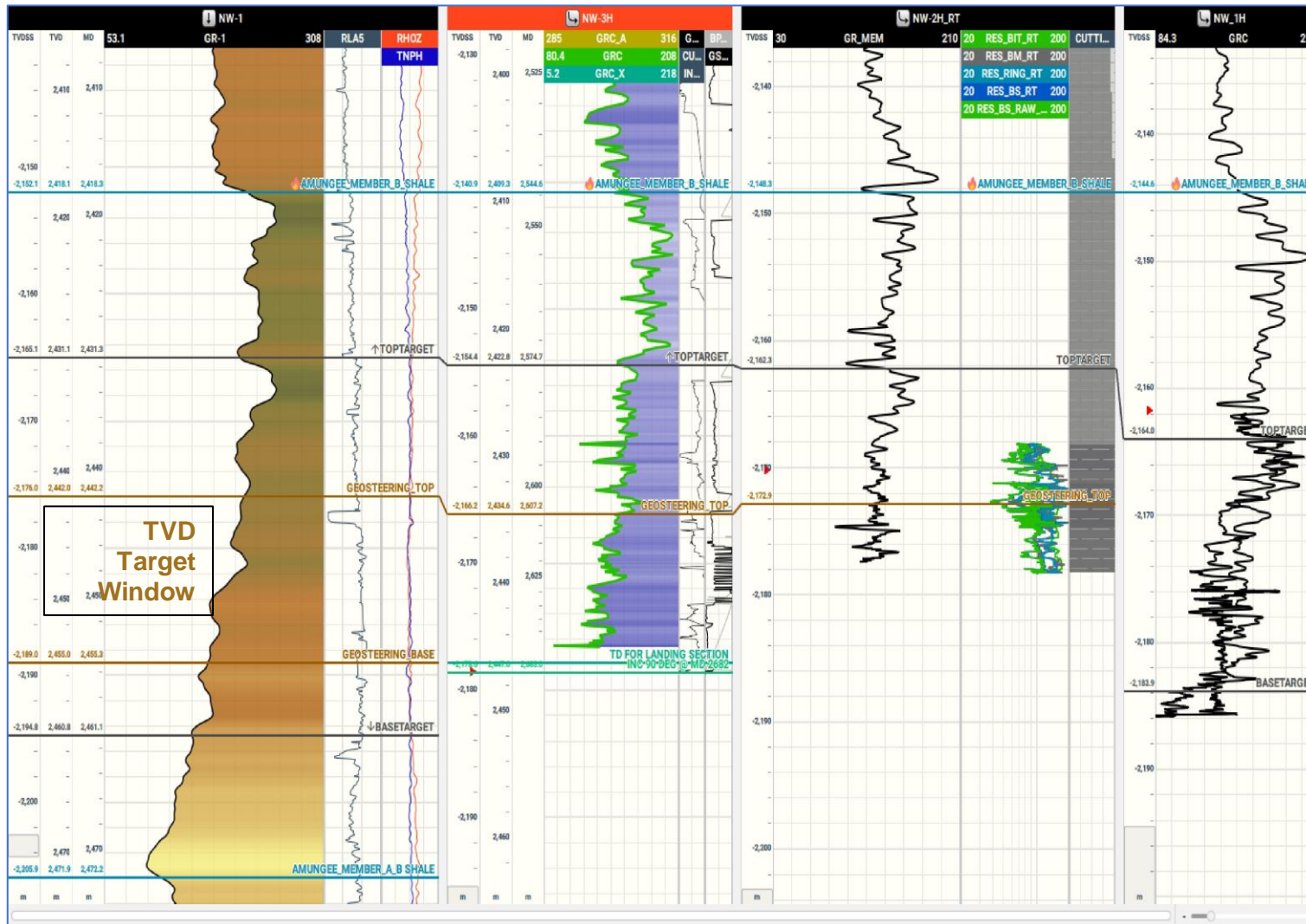
Amungee NW-3H

Interpretation 8 ½" section to 2664m MD (Landing Depth)



- Good correlation found to Type well Amunsee NW1 GR log.
- At 2304 m MD mapped 'Amunsee Member B C Shale' 22 mTVD higher than expected. 2.5 m high and 13.1 m left deviation from plan was corrected by implementing new plan 'Amunsee NW-3H Rev6.1 -08Oct23HLV'. Suggested to continue adjusting Azimuth and build inclination with a regular DLS to adjust wellpath closer to plan.
- At 2389 m MD realized the wellpath can not get to plan by expected top target due to DLS limitation. Suggested to recalculate plan accordingly.
- At 2544.6 m MD, -2140.9 m TVDSS crossed "Amunsee Member B Shale" which is 16.1 mTVD higher than expected. Suggested to land at -2171-2172 m TVDSS / TVD 2440-2441 m. Agreed on landing at TVD 2442 m due to DLS limitation.
- At 2664 m MD POOH due to MWD issue on site; projection to bit inc 82 deg, TVD 2447 m.

Correlation 8 ½” section to 2664 m MD



- Correlation in TVDSS, flattened on “Amungee Member B Shale” horizon marker.
- Based on correlation, bit position related to Target window is very clearly established.
- Suggested to start drilling with next BHA with building and holding 92 deg due to low projected inclination and low position in target. Apparent dip is not very clearly established.
- Expected to have a clear apparent bed dip based on first interval logs about to be drilled with next BHA.
- Top Target marker has been passed 15.5 m higher then expected, indicating high vertical uncertainty. Suggested checking depth detector calibration at the rig and drill pipe length measurement journal.
- Suggested relogging MD 2624 m – TD, before resuming drilling, to reduce depth uncertainty.

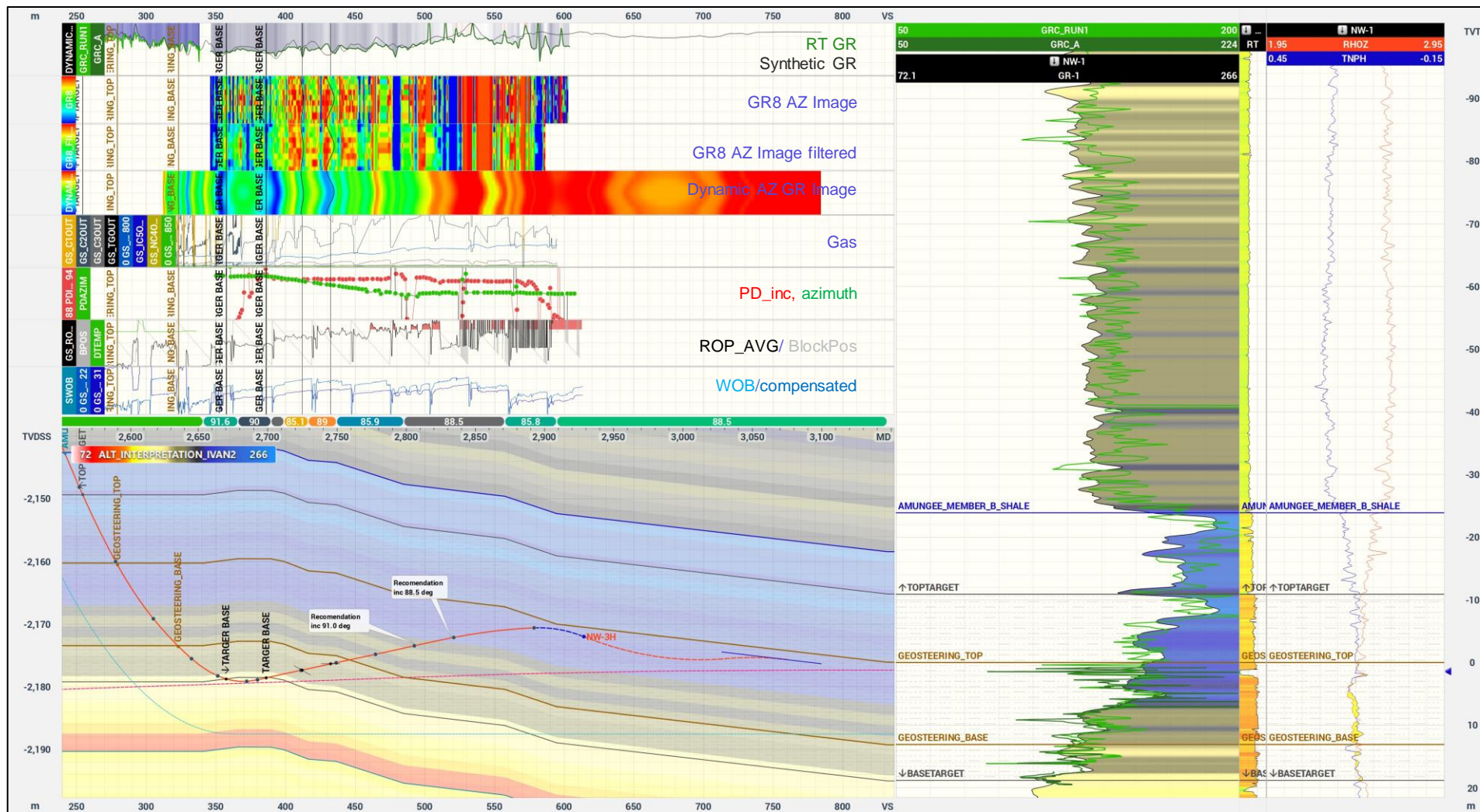
Formation tops prognosis vs current tops



Prog Tops Vs Actual Tops

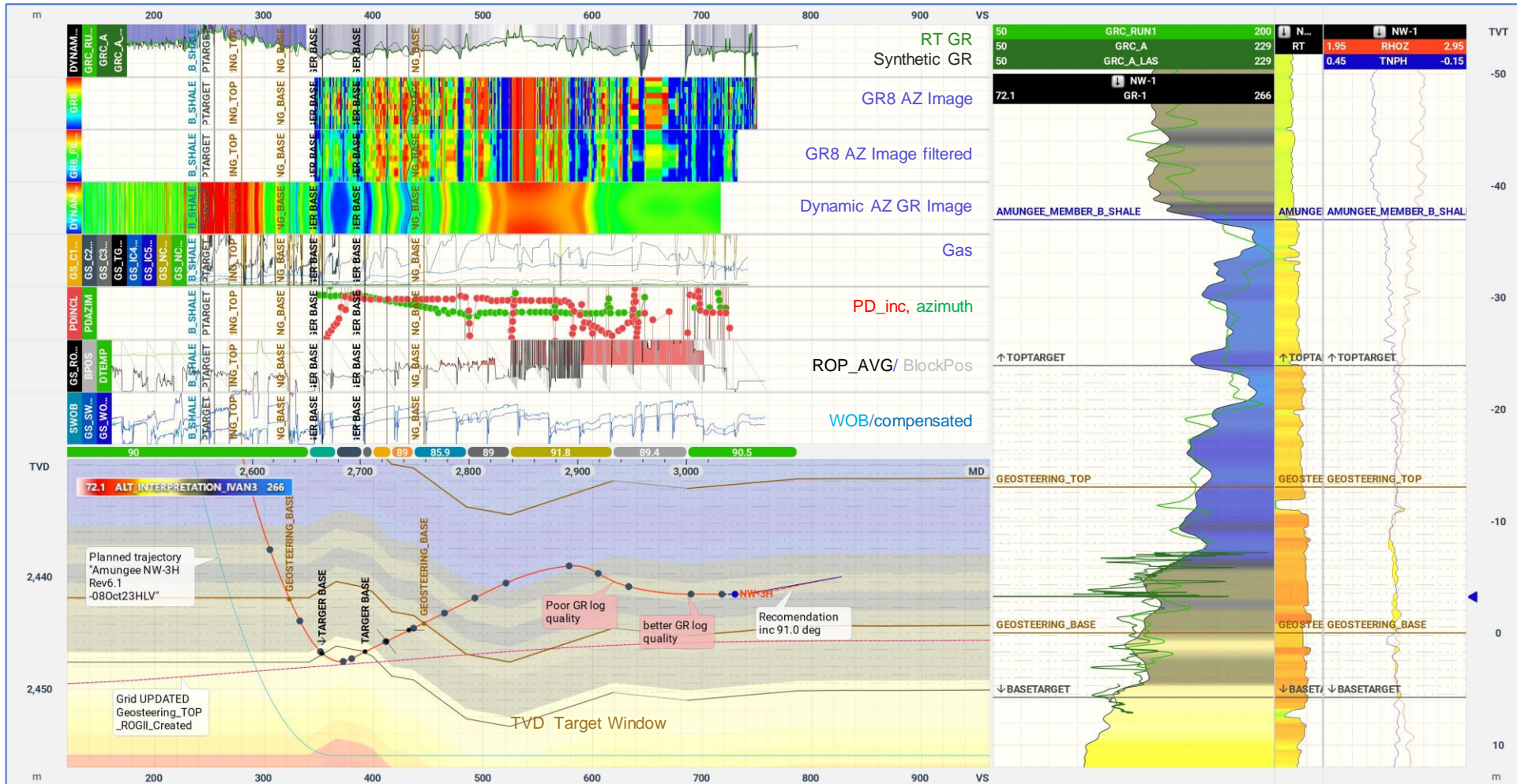
	Prog Tops, m			Actual Tops, m			Difference	
	MD	TVD	TVDSS	MD	TVD	TVDSS	MD, m	TVD, m
Amungee_Member_C_Shale	2,243.10	2,191.10	-1,922.70	2,236.50	2,185.00	-1,916.60	6.6	6.1
Amungee_Member_B_C_Shale	2,331.50	2,272.00	-2,003.60	2,355.70	2,294.10	-2,025.70	-24.2	-22.2
Amungee_Member_B_Shale	2,544.60	2,409.30	-2,140.90	2,550.40	2,425.60	-2,157.10	-5.8	-16.3
TopTarget	2,574.70	2,422.80	-2,154.40	2,570.90	2,433.80	-2,165.40	3.9	-10.9
DoleriteSill Top				1,929.30	1,882.60	-1,614.20		
Dolerite_Sill_Base				1,934.90	1,888.10	-1,619.70		
Geosteering_TOP				2,607.20	2,434.60	-2,166.20		

Interpretation Geosteering 8 1/2" lateral section



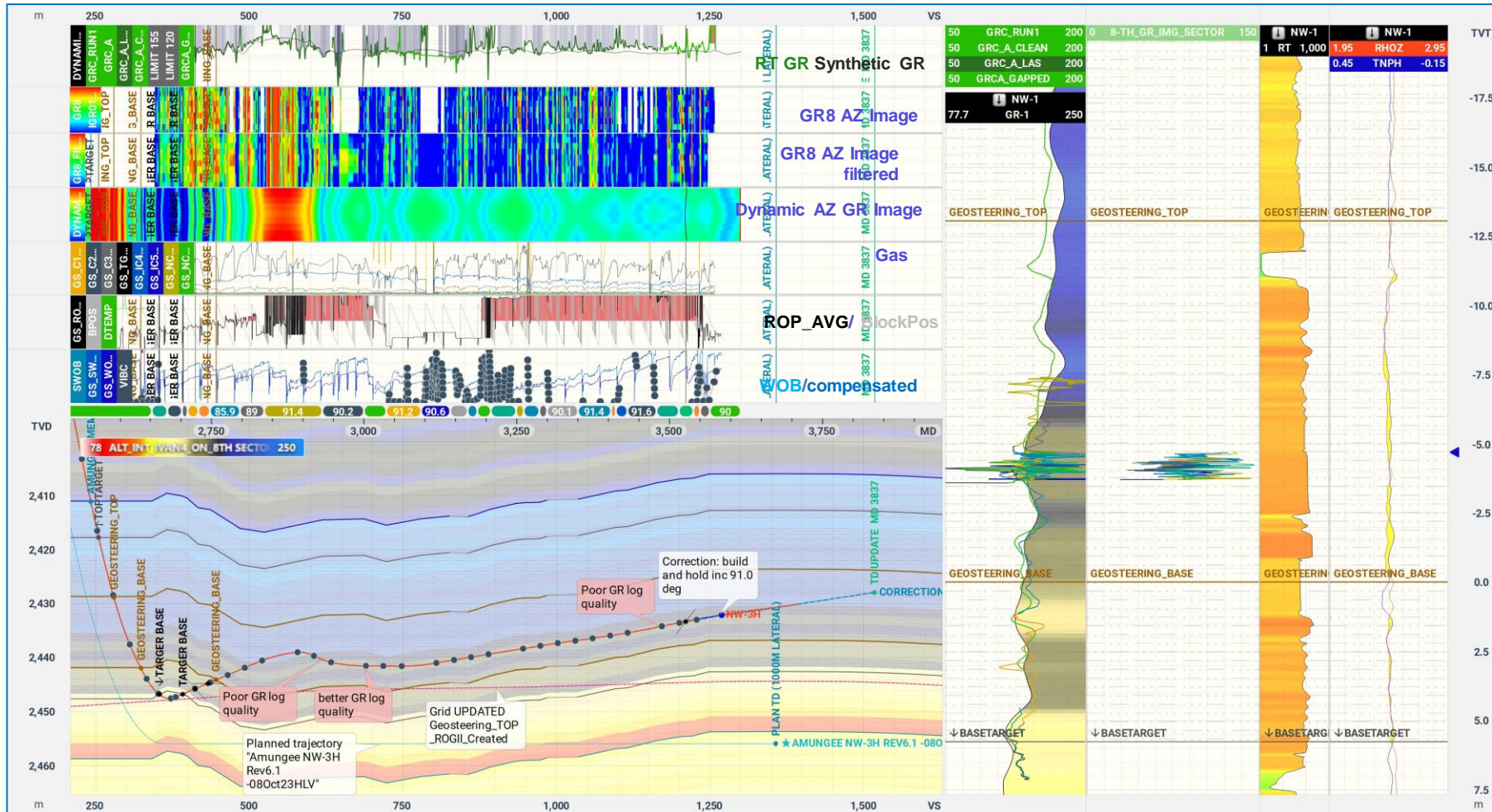
- Started to drill with new BHA (included GR and AZI-GR paired with RSS tool for directional control).
- Based on correlations from RT GR data and GR logs from previous Run.
- At 2696 m MD After getting inc 90 deg, recommended to build and hold inclination 92.0 deg and go stratigraphically up.
- According to image log interpretation (MD 2725 m) cutting upwards.
- From MD 2782 m bad image log quality.

Interpretation Geosteering 8 1/2" lateral section



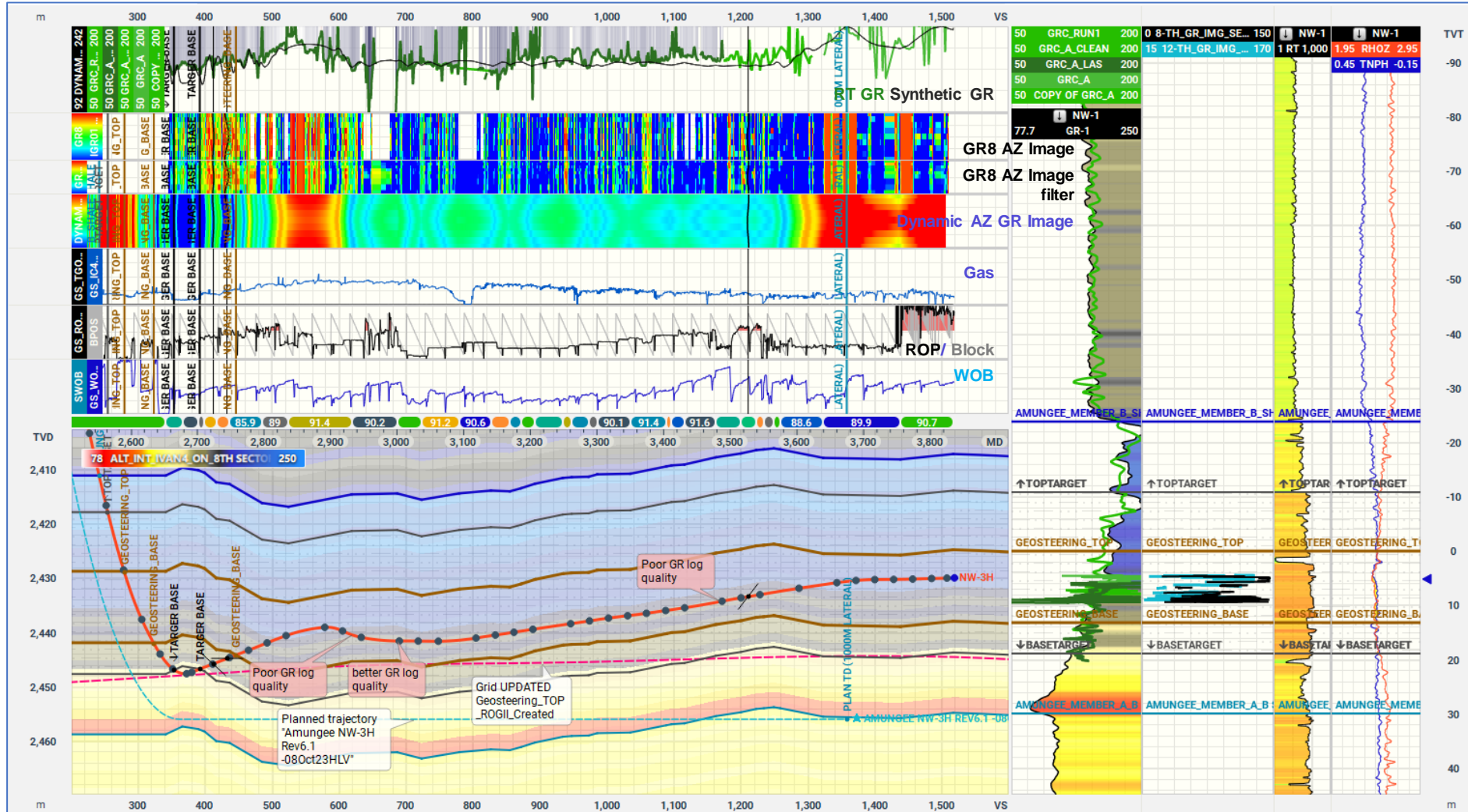
- At 2892.9 m MD rise in GR values indicated drilling stratigraphically upward. Suggested dropping inclination to 88.5 deg to go down, to the center of Geosteering window.
- From MD 2946 till 3001 m GRC_A data was of poor quality and not useful for correlation.
- At MD 2960 m values were getting lower: ~ 135 gAPI that could mean cutting downwards. Suggested building inclination to 91.0 degree and hold until we get stable GR readings above ~ 150 gAPI to get closer to the middle: between geosteering top and geosteering base.
- Good correlation related to type well NW-1H observed.

Interpretation Geosteering 8 1/2" lateral section



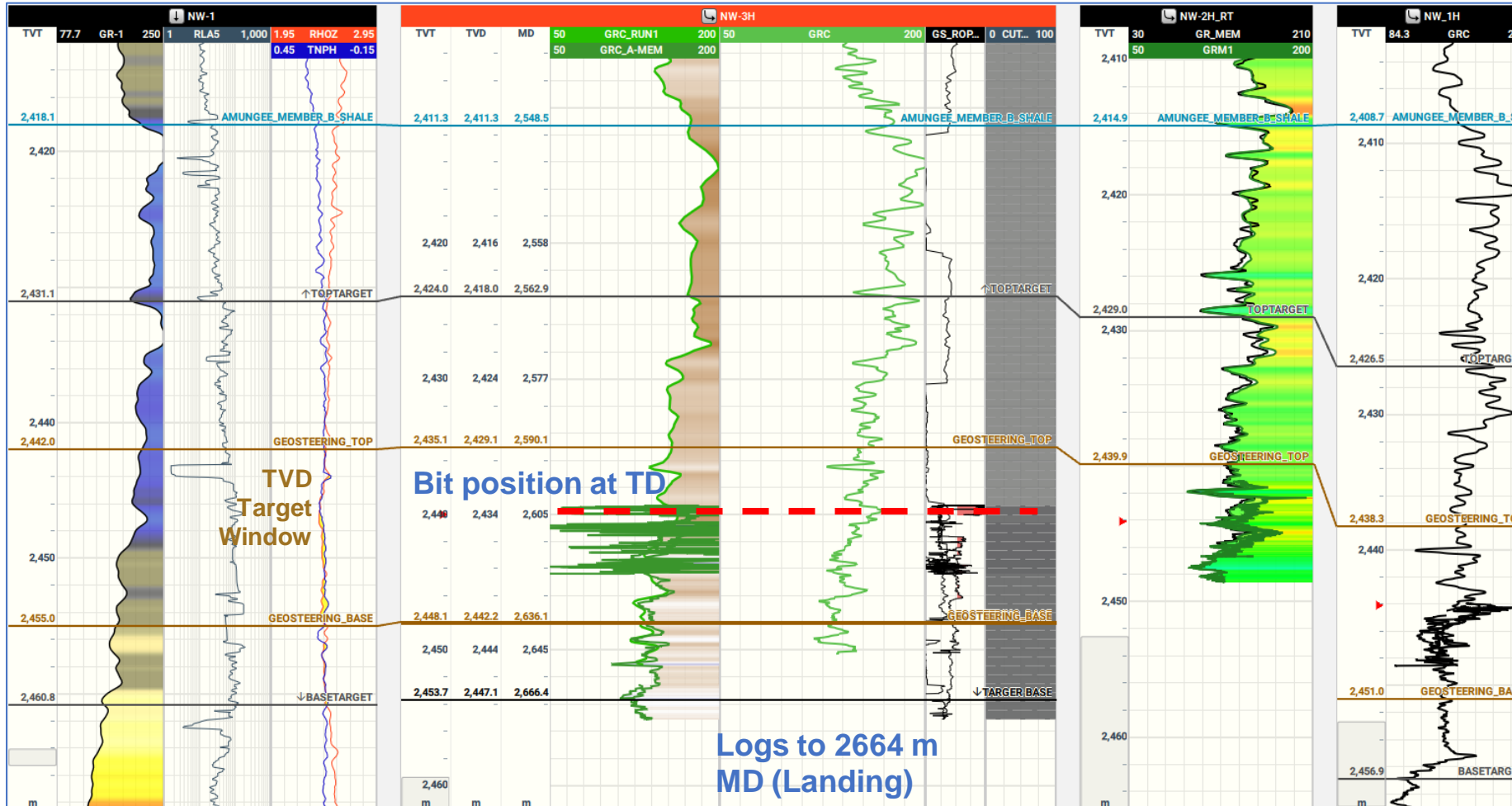
- Starting from MD 3097 m, GR readings started to have a lot of noise. Number of operations on rig were made to improve signal and decoding, but they were not very successful.
- At MD 3205.4 m geosteering dip was interpreted as 91.3 deg.
- One sector curve from Azi-GR image was pulled for correlation, since Azi-GR image GR data had lower noise.
- As GR log quality decreased, so did the stratigraphic uncertainty of the well.
- At MD 3528 m part of the GR log indicated cutting upwards with an interpreted sinusoid. Suggested holding Inc at 91.0 deg until significant change in GR or data quality improves to be better suited for correlation.

Interpretation Geosteering 8 1/2" lateral section



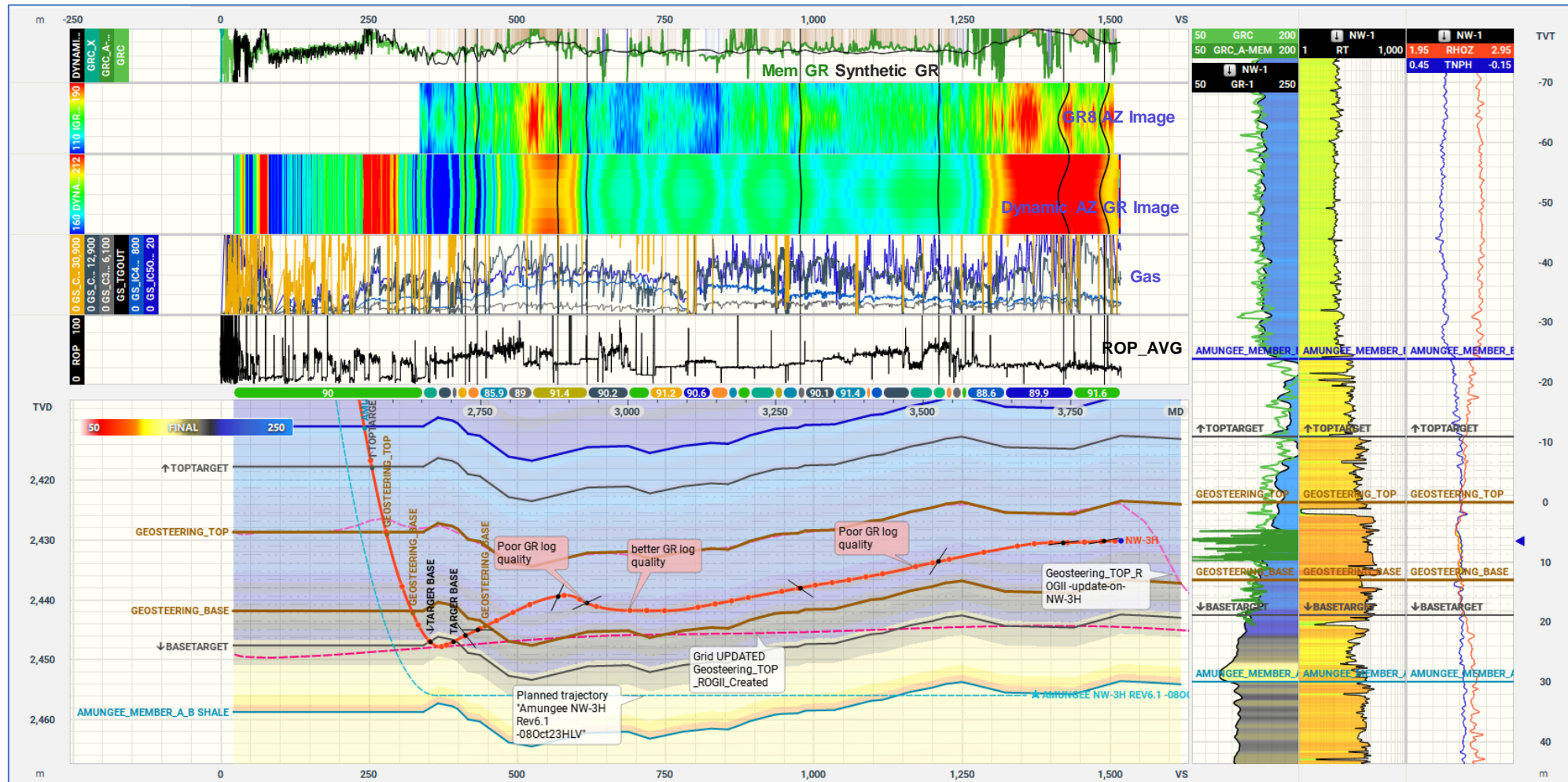
- At interval ~3643 - 3657 m MD, GR log quality improved. High absolute values indicated drilling in upper part of the target/near Geosteering window top. Suggested to drop and stabilize inclination to 90.0 deg to start drilling parallel to apparent dip.
- From MD 3694 m GR log quality got worse and not suitable for correlation.
- At MD 3746.5 m GR quality had improved for a while. GR absolute values continue increasing. Suggested drop Inc to 89 deg to drill down to GS window center. Decided to continue at 90.0 deg inc until TD.
- Called TD at MD 3837 m.

Correlation at TD



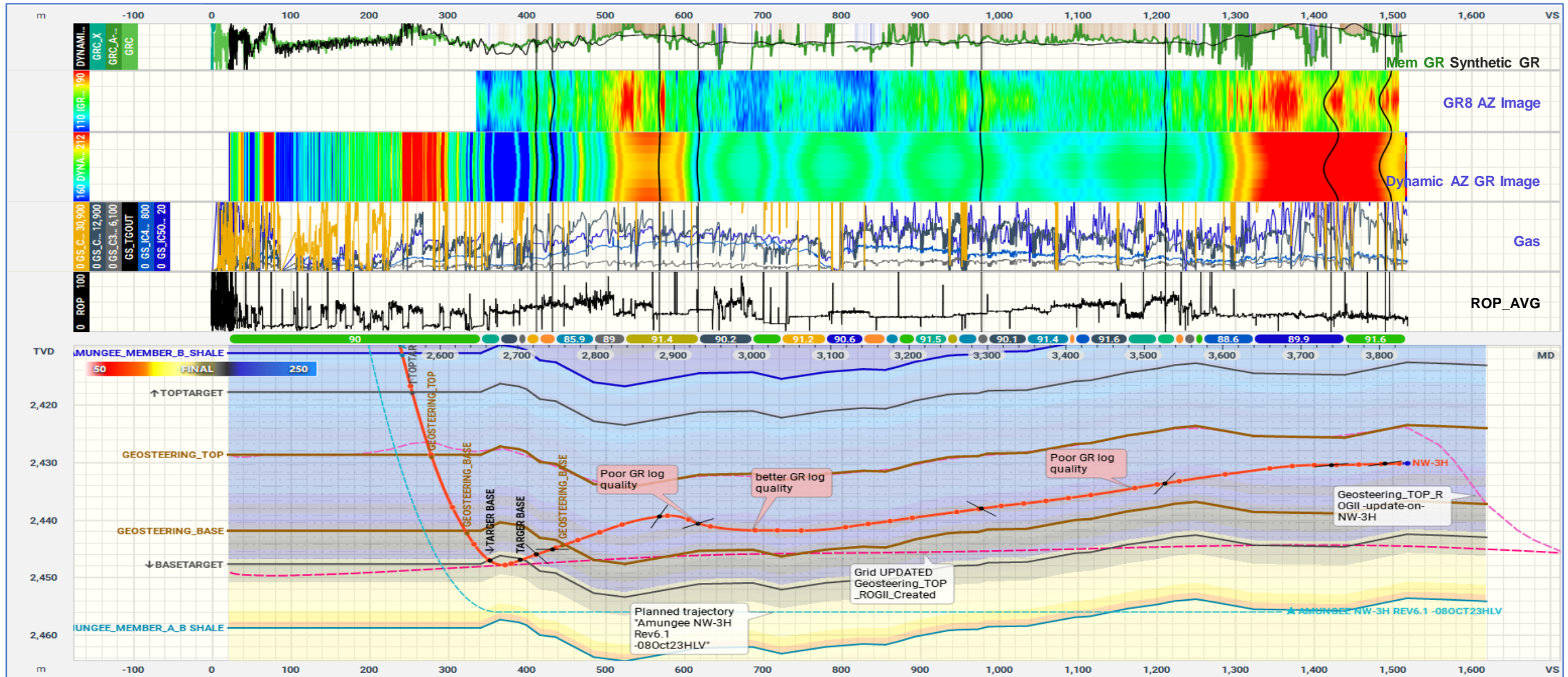
- Good correlation related to type well Amunee NW-1H.
- TD called @ 3837m MD.
- Drilled Total Lateral length after Reference Point (Geosteering TOP @ 2590mMD) = 1247m MD.
- Flattened on “Amunee Member B Shale”.
- TVT correlation panel. Current logs for all interpreted segments are represented in vertical orientation, even if interpreted drilling up or down in section along the wellpath.

Interpretation Lateral Section



- TD called @3837m MD. Current interpreted bit position ~6 m TVT Below horizon Geosteering_TOP. Total Lateral length after Reference Point (Geosteering_TOP @ 2590m MD) = 1247m MD.

Interpretation Lateral Section (Dip Picking)



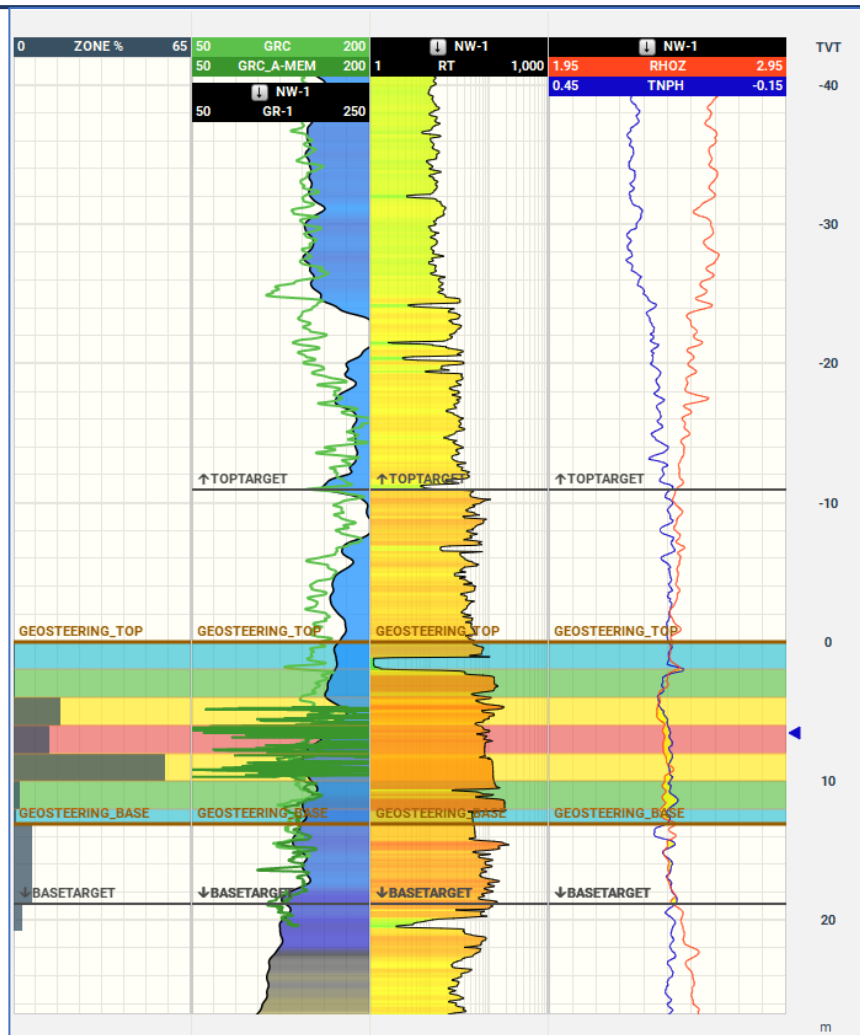
- Dip picking apparent bed dip represented with stick along the wellpath. Most of sinusoids close matching segments interpreted apparent bed dip.

Interpretation Lateral Section (TVT Zones Statistics)



- Zone percentage represented on the TVT plot black bars. 2 m TVT step zone intervals between “Geosteering top” and “Geosteering base” also interval between Base target and below. Warm colors are closer to center of Target window TVD, both represented in TVT and along the wellpath.

Interpretation Lateral Section (TVT Zones Statistics)



TVD Target Window

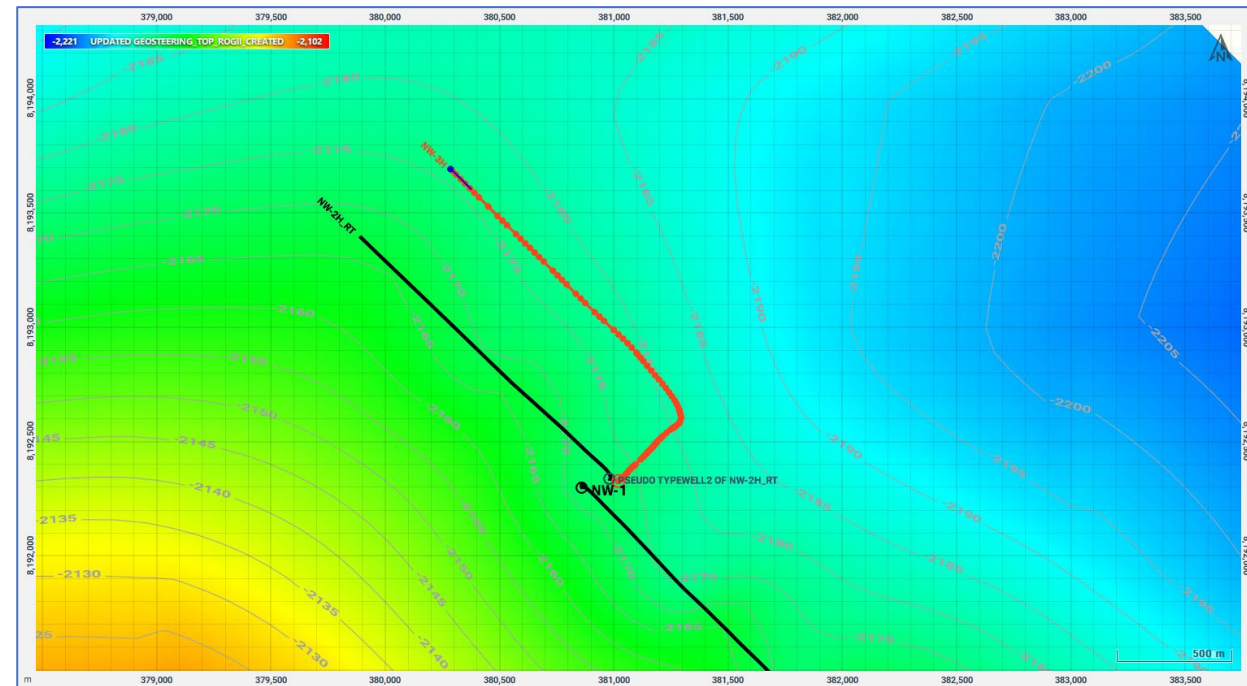
ZONE	L, m	Zone%
Geosteering_TOP	5	0.4%
1	6	0.5%
2	213	17.1%
3	165	13.2%
4	692	55.5%
5	29	2.3%
6	13	1.0%
Geosteering_Base	85	6.8%
BaseTarget	42	3.4%

90% of drilled horizontal section within Geosteering Window

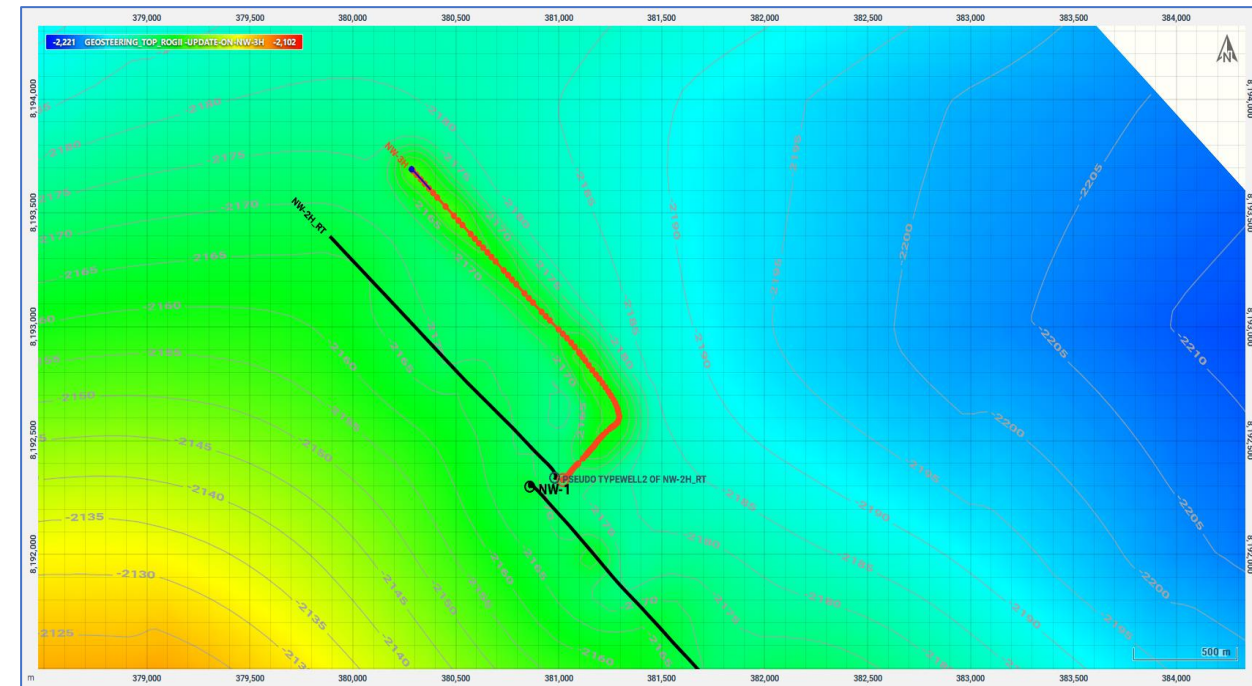
97% of drilled horizontal section within target zone

- Zone percentage represented on the TVT plot black bars (0 - 65 % scale on TVT track).
- 2 m TVT step zone intervals along the TVT Target window, Geosteering_Top to Geosteering_Base
- Warmer color zones are closer to center of Target window TVD.

Map view Amungee NW-3H area



- Geosteering TOP ROGII grid initial



- Geosteering TOP ROGII -update-on-NW-3H grid, based on final interpretation

- ROGII team delivered geosteering service 24/7.
- While landing and drilling **Amungee NW-3H** well, difference in vertical depth was interpreted, compared to expected depths based on correlation.
- GR logs and Azimuthal GR logs-based interpretations, in combination with updated dynamic GR log and Dynamic images calculated from Type well logs, support the geosteering process, RT feed of data allow updating StarSteer geosteering model to make informed decisions to adjust wellpath inside TVD window interval.
- Current structural dip trend interpretation, matches very close to sinusoid features interpreted from RT GR image, so this also supports interpretation for the wellpath drilled.
- Good correlation, when compared RT logs and Type well provided logs.
- Based on current interpretation initial grid maps created are updated based on final presented interpretations. High level of depth uncertainty affected grid update.
- Drilled Total Lateral length after Reference Point (Geosteering_TOP @ 2590m MD) was 1247m MD.
- Overall, drilled MD lateral interval, based on provided interpretation, indicates wellpath positioned predominately in the mid target interval window in TVD.
- Poor log data quality in last quarter of lateral section complicated geosteering and increased position stratigraphic uncertainty of well.
- No communications issues were reported or severe unexpected data feed gaps on the RT logs. Suggested Wellpath Adjustments communicated and executed timely.