

# GF-7 LDEOC Data Analysis

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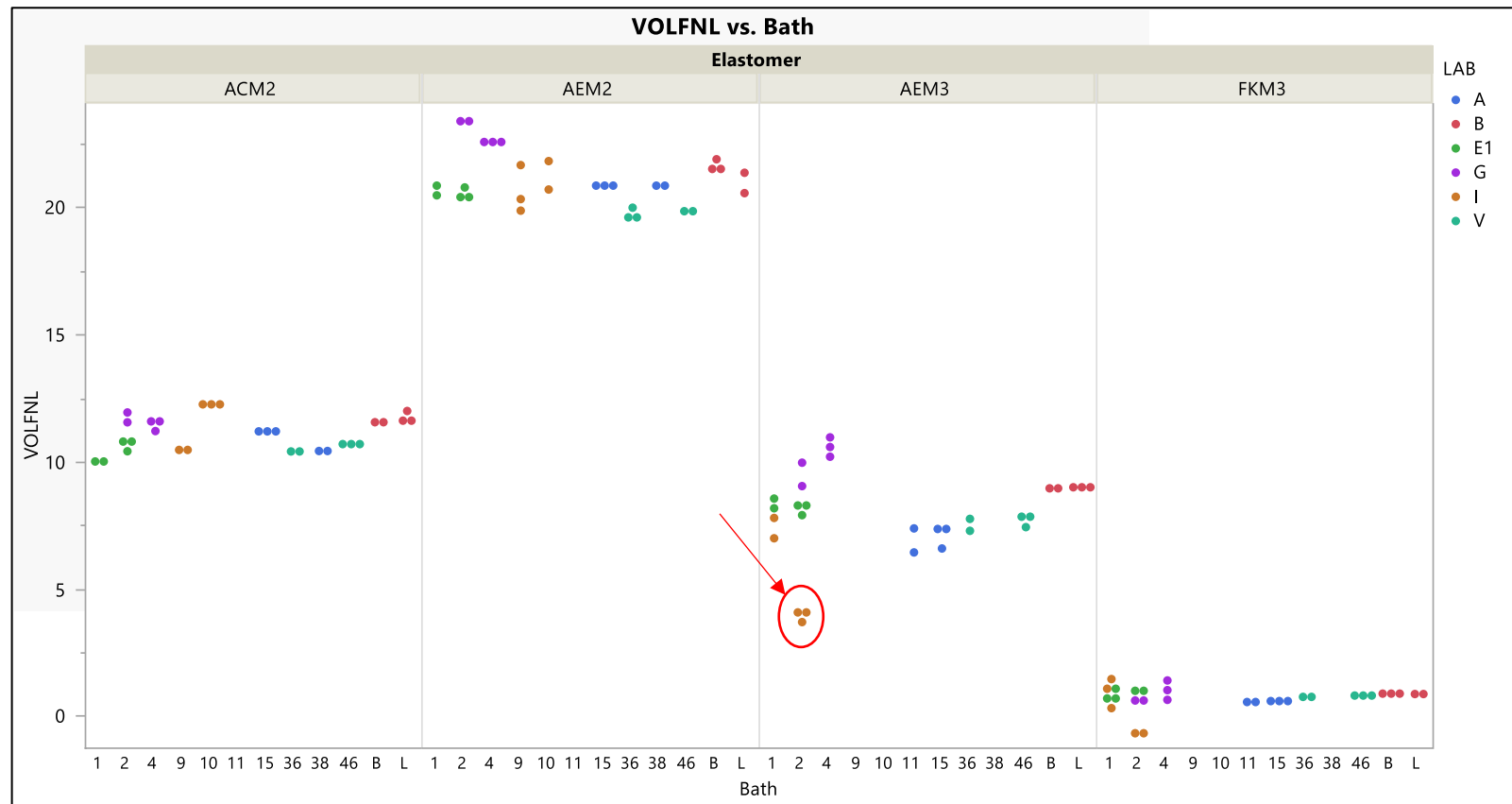
# Target Summary

- Recommend targets for each parameter are shown below:

Elastomer	VOLFNL LSMeans	VOLFNL Stdev	HARFNL LSMeans	HARFNL Stdev	TSFNL LSMeans	TSFNL Stdev
AEM2	20.98	1.13	-7.76	1.34	-42.01	3.92
ACM2	10.95	0.71	-2.09	1.65	-14.10	3.77
AEM3	8.28	1.19	-0.44	2.50	-38.17	6.01
FKM3	0.75	0.46	4.00	0.88	-50.39	11.61

# VOLFNL Parameter Analysis

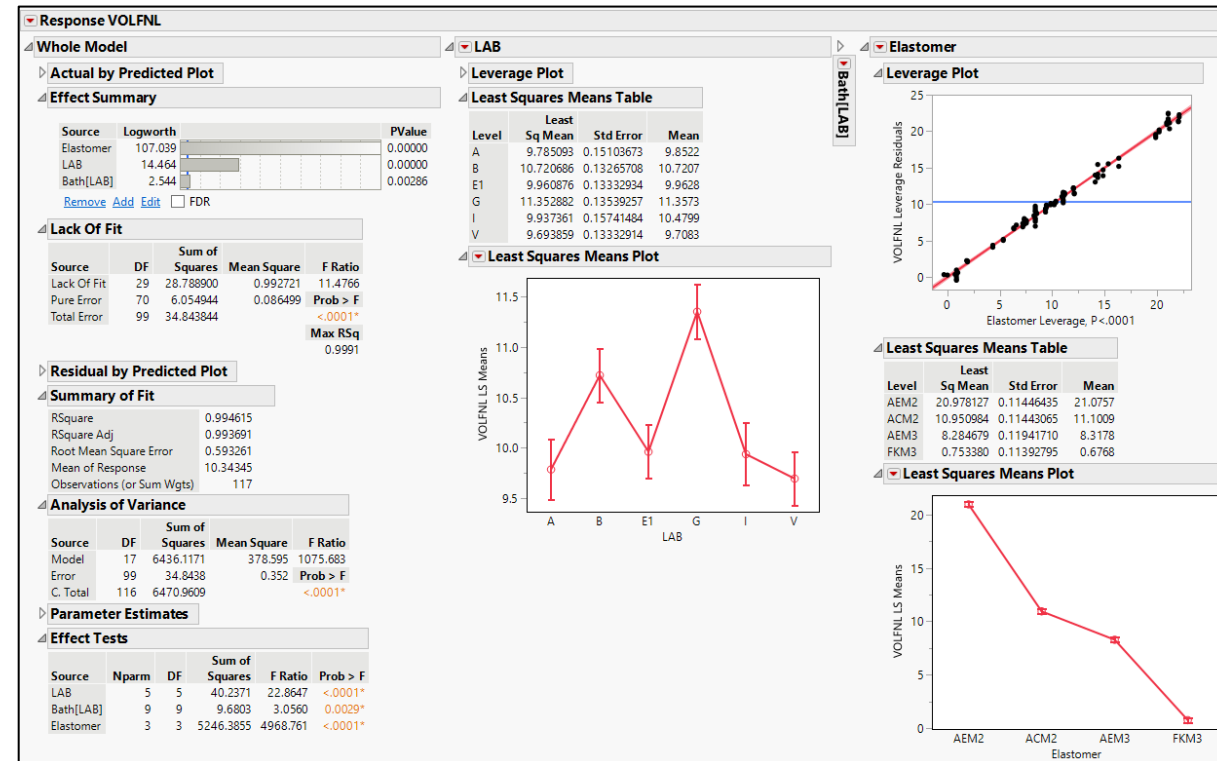
- Data Highlights:
  - Six labs (A, B, E1, G, I, V) with 2 baths ran 5 tests - with elastomers: ACM2, AEM2, AEM3, and FKM3 ( $n = 120$ )
  - *For elastomer AEM3, Lab I - bath 2 data appears to exhibit a higher variability*
    - *Data will be omitted from analysis dataset*
  - Plot of data shown below:



# VOLFNL Parameter Analysis

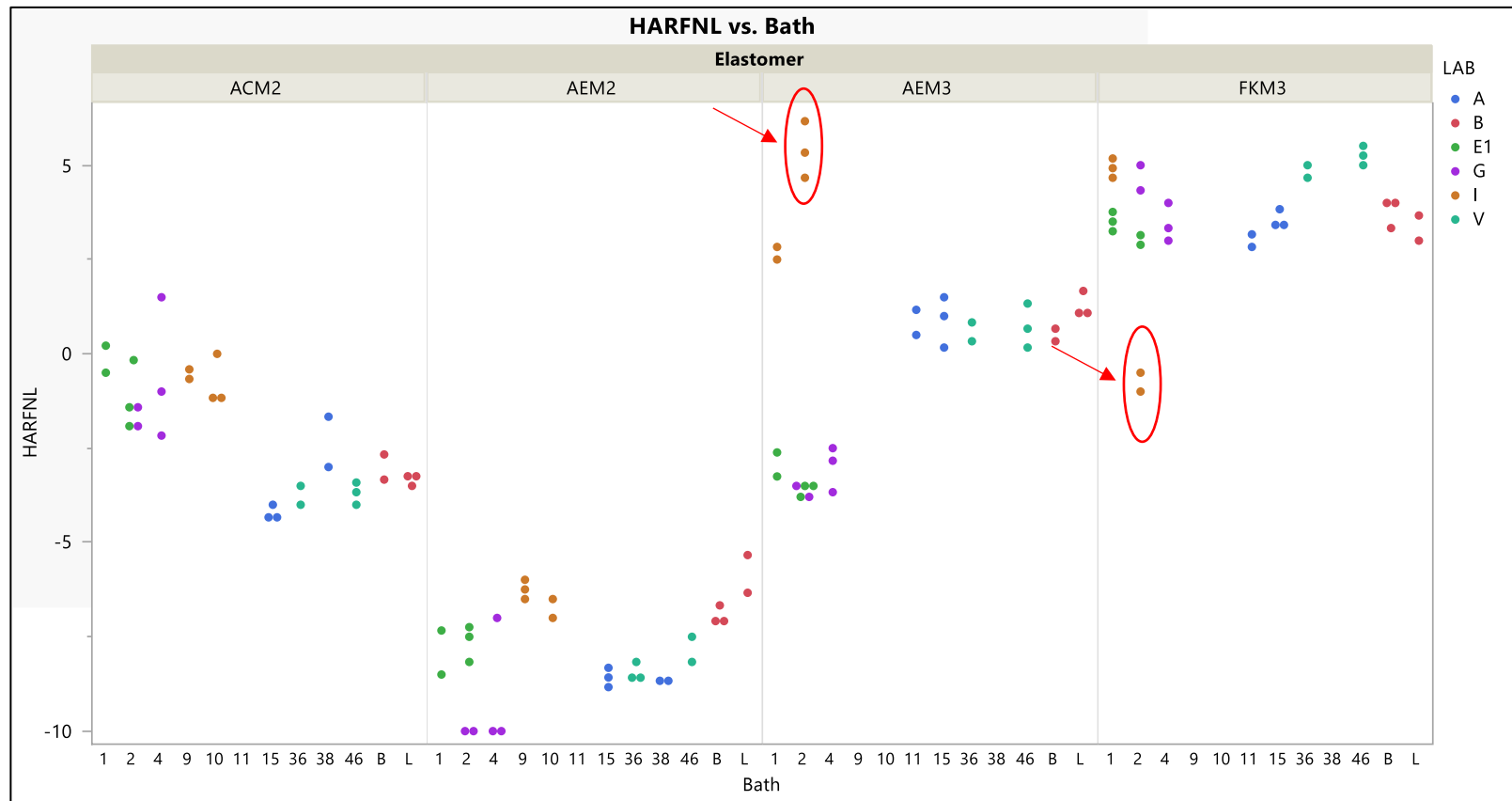
- VOLFNL parameter analyzed with elastomer, lab, and bath nested within lab
- Results:
  - Significant differences between Labs and elastomers
  - For Lab I, significant difference between baths within a lab
  - Elastomer targets and analysis summary are shown below:

Elastomer	VOLFNL		
	LSMeans	Stdev	n
AEM2	20.98	1.13	30
ACM2	10.95	0.71	30
AEM3	8.28	1.19	27
FKM3	0.75	0.46	30



# HARFNL Parameter Analysis

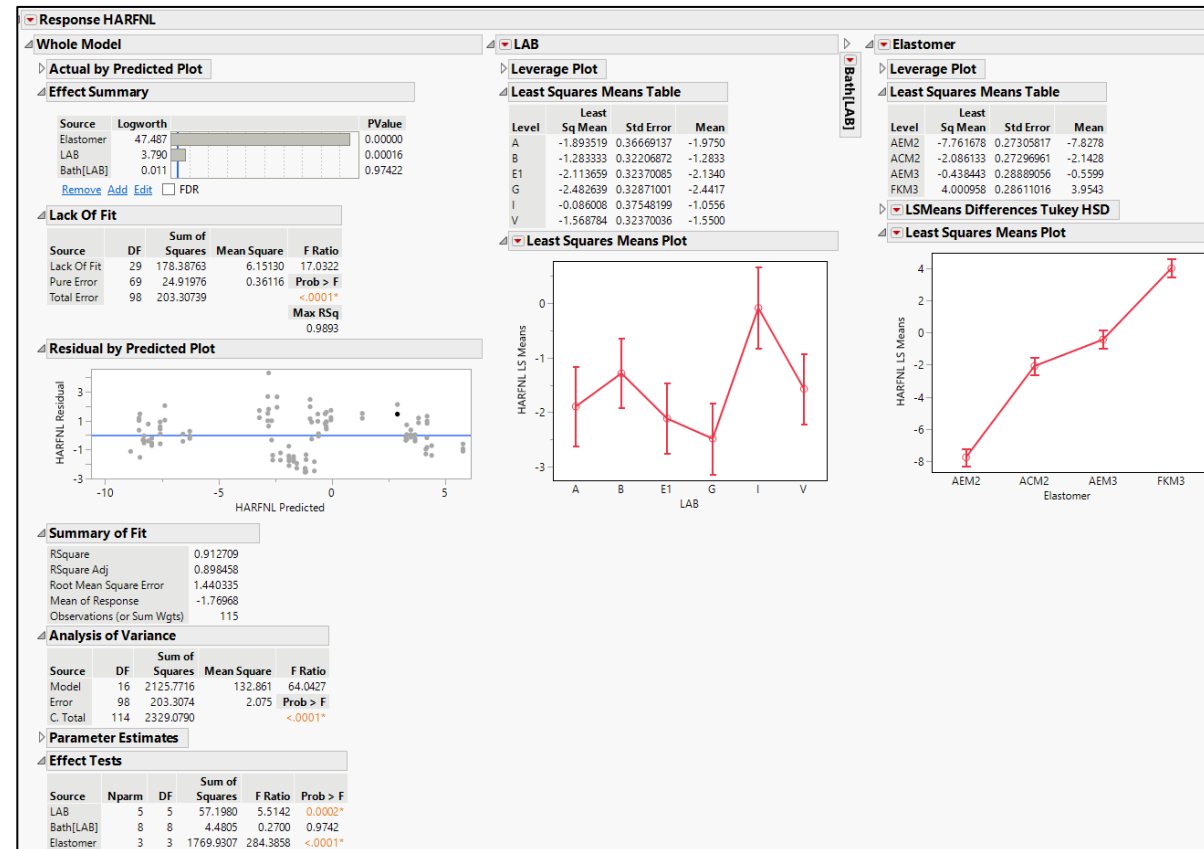
- Data Highlights:
  - Six labs (A, B, E1, G, I, V) with 2 baths ran 5 tests - with elastomers: ACM2, AEM2, AEM3, and FKM3 ( $n = 120$ )
  - *For elastomers AEM3 & FKM3, Lab I - bath 2 data appears to exhibit a higher variability*
    - *Data will be omitted from analysis dataset*
  - Plot of data shown below:



# HARFNL Parameter Analysis

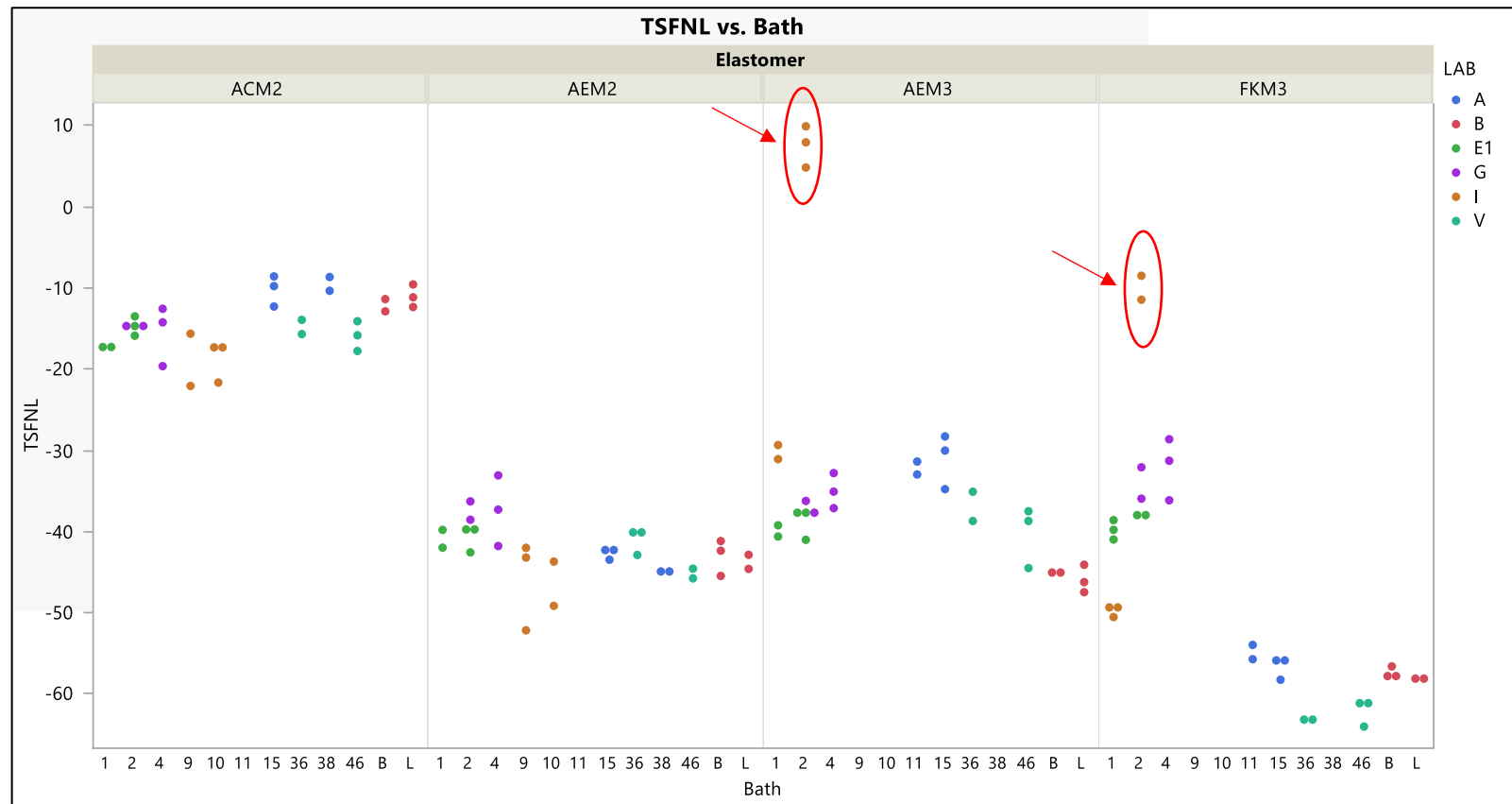
- HARFNL parameter analyzed with elastomer, lab, and bath nested within lab
- Results:
  - Significant differences between Labs and elastomers
  - Elastomer targets and analysis summary are shown below:

Elastomer	HARFNL		
	LSMeans	Stdev	n
AEM2	-7.76	1.34	30
ACM2	-2.09	1.65	30
AEM3	-0.44	2.50	27
FKM3	4.00	0.88	28



# HARFNL Change Parameter Analysis

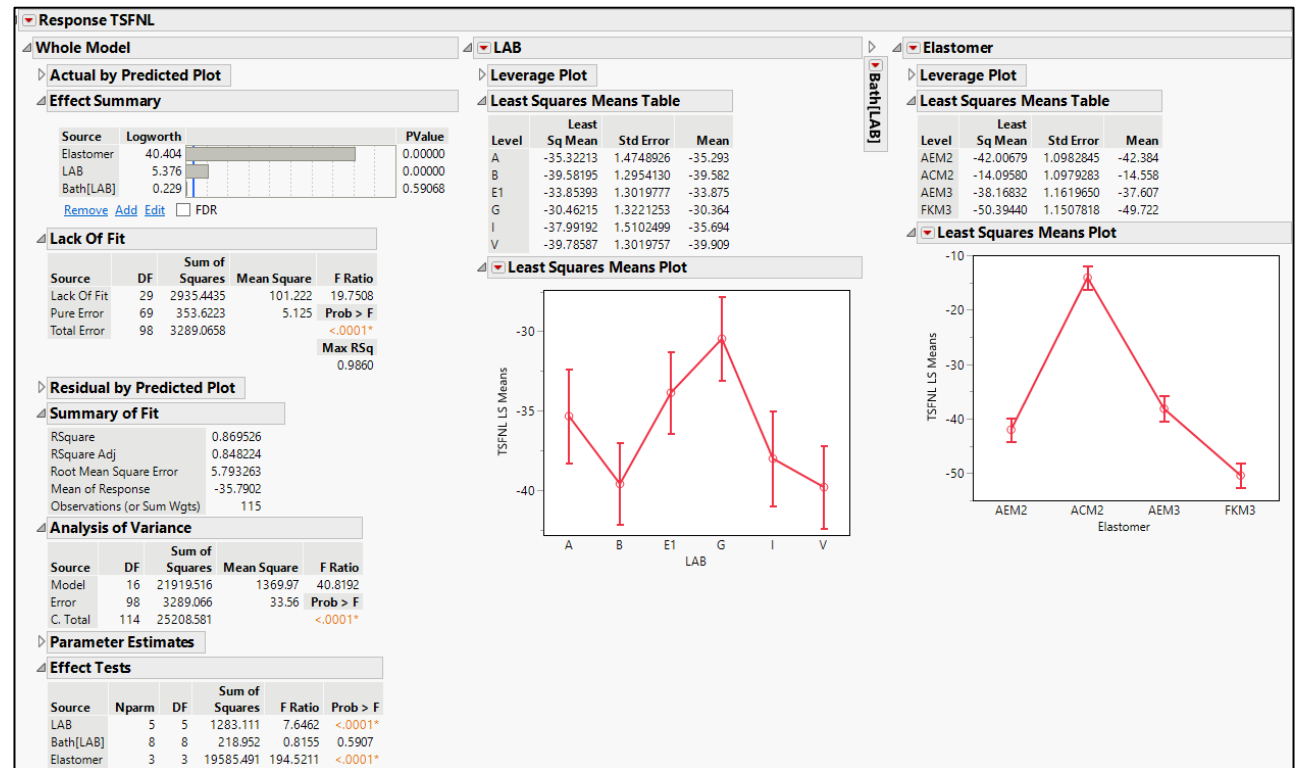
- Data Highlights:
  - Six labs (A, B, E1, G, I, V) with 2 baths ran 5 tests - with elastomers: ACM2, AEM2, AEM3, and FKM3 ( $n = 120$ )
  - *For elastomers AEM3 & FKM3, Lab I - bath 2 data appears to exhibit a higher variability*
    - *Data will be omitted from analysis dataset*
  - Plot of data shown below:



# TSFNL Parameter Analysis

- TSFNL parameter analyzed with elastomer, lab, and bath nested within lab
- Results:
  - Significant differences between Labs and elastomers
  - Elastomer targets and analysis summary are shown below:

Elastomer	TSFNL		
	LSMeans	Stdev	n
AEM2	-42.01	3.92	30
ACM2	-14.10	3.77	30
AEM3	-38.17	6.01	27
FKM3	-50.39	11.61	28





# Appendix

# Random Effects Model Variance Components

Y	Elastomer	Random Effect	Var			Std. Dev.	Y	Elastomer	Random Effect	Var			Std. Dev.	Y	Elastomer	Random Effect	Var		
			Var Ratio	nt	Pct of Total					Var Ratio	nt	Pct of Total					Var Ratio	nt	Pct of Total
VOLFNL	AEM2	LAB	6.3162468	1.049022	82.696		HARFNL	AEM2	LAB	2.681413	1.276305	71.516		TSFNL	AEM2	LAB	0.98529	7.63043	49.63
VOLFNL	AEM2	Bath[LAB]	0.3216431	0.05342	4.211		HARFNL	AEM2	Bath[LAB]	0.067976	0.032355	1.813		TSFNL	AEM2	Bath[LAB]	-0.16289	-1.26145	0
VOLFNL	AEM2	Residual		0.166083	13.093		HARFNL	AEM2	Residual		0.475982	26.671		TSFNL	AEM2	Residual		7.74435	50.37
VOLFNL	AEM2	Total		1.268525	100	1.126288	HARFNL	AEM2	Total		1.784643	100	1.335905	TSFNL	AEM2	Total		15.37478	100
VOLFNL	ACM2	LAB	7.5909982	0.130296	25.873		HARFNL	ACM2	LAB	2.958975	1.843418	67.699		TSFNL	ACM2	LAB	2.099464	9.60308	67.736
VOLFNL	ACM2	Bath[LAB]	20.748687	0.356143	70.719		HARFNL	ACM2	Bath[LAB]	0.411813	0.256556	9.422		TSFNL	ACM2	Bath[LAB]	-0.28007	-1.28108	0
VOLFNL	ACM2	Residual		0.017165	3.408		HARFNL	ACM2	Residual		0.622992	22.879		TSFNL	ACM2	Residual		4.574063	32.264
VOLFNL	ACM2	Total		0.503604	100	0.70965	HARFNL	ACM2	Total		2.722966	100	1.650141	TSFNL	ACM2	Total		14.17714	100
VOLFNL	AEM3	LAB	9.2524918	1.225135	86.903		HARFNL	AEM3	LAB	28.97172	5.995034	95.671		TSFNL	AEM3	LAB	6.03403	31.00519	85.783
VOLFNL	AEM3	Bath[LAB]	0.3944826	0.052234	3.705		HARFNL	AEM3	Bath[LAB]	0.311093	0.064374	1.027		TSFNL	AEM3	Bath[LAB]	-0.07533	-0.38706	0
VOLFNL	AEM3	Residual		0.132411	9.392		HARFNL	AEM3	Residual		0.206927	3.302		TSFNL	AEM3	Residual		5.138388	14.217
VOLFNL	AEM3	Total		1.40978	100	1.187342	HARFNL	AEM3	Total		6.266335	100	2.503265	TSFNL	AEM3	Total		36.14358	100
VOLFNL	FKM3	LAB	-0.078967	-0.00283	0		HARFNL	FKM3	LAB	4.302002	0.47919	61.489		TSFNL	FKM3	LAB	44.34338	131.5751	97.677
VOLFNL	FKM3	Bath[LAB]	4.8005533	0.171867	82.76		HARFNL	FKM3	Bath[LAB]	1.694386	0.188734	24.218		TSFNL	FKM3	Bath[LAB]	0.054726	0.162381	0.121
VOLFNL	FKM3	Residual		0.035801	17.24		HARFNL	FKM3	Residual		0.111388	14.293		TSFNL	FKM3	Residual		2.967186	2.203
VOLFNL	FKM3	Total		0.207668	100	0.455706	HARFNL	FKM3	Total		0.779312	100	0.882786	TSFNL	FKM3	Total		134.7046	100