
Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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March 22, 2006

Reply to:

Donald T. Bartlett

The Lubrizol Corporation

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ASTM D02.B0.03 L-37 Surveillance Panel

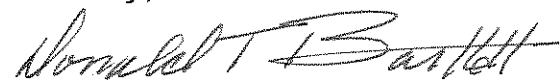
Members and Guests:

Attached for your review and comment are the unconfirmed minutes of the:

- o **March 21, 2006 L-37 Surveillance Panel Teleconference Meeting.**

Please direct any corrections or comments to my attention.

Sincerely,



Donald T. Bartlett, Chairman

L-37 Surveillance Panel

Attachments

Report of Conference Call
L-37 Surveillance Panel
March 21, 2006, 2:00 EST

The teleconference meeting was brought to order at 11:00 a.m. EST.

I. Attendees:

ASTM TMC:	Don Lind	Afton Corp:	Cory Koglin
Lubrizol Corp:	Don Bartlett	Lubrizol Corp:	Chris Schenkenberger
Dana Corp:	Don Kreinbring	SwRI:	Brian Koehler
PARC:	Dale Smith	DA Stuart:	Paula Vettel
Lubrizol Corp:	Jerry Gropp	Afton Corp:	Robert Burrows
Infineum:	Sal Rae		

II. Agenda:

- Review Phase 3 industry testing to date using the 2005 P4L792/V1L417 2005 Non-Lubrited hardware and decide if we proceed to completion of 44-test matrix.

III. Summary of Panel Discussion, Consensus Actions, and Motions:

2005 Non-lubrited hardware P4L792/VL417 Summary:

General Comments and Discussion:

- Attachment # 1 is the full summary of 6 tests at each of 4 labs completed thus far on the four reference oils provided by Mr. Lind.
- **Pitting/Spalling Distress** - Looks pretty good, only one possible outlier from lab E that had just one spall on one tooth.
- **All other distresses** looked similar to previous batches. We need more data for final analysis and review.
- The question was asked, what does the GUSA number mean which is identified on the spreadsheet. *Secretary note: Mr. Kreinbring, in a separate email after this meeting to the chairman responded: The axle build number consists of a year code followed by the country of manufacture, followed by a 5-digit sequential build number.*

For example: GUSA15513

G Year 2005 (H=2006, J= 2007, etc.

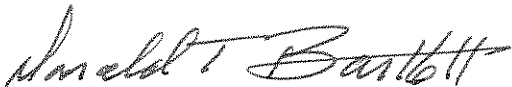
USA The United States of America.

15513 The 15,513th axle built during the year, (starts with 00001; following would be 15514, 15515, etc.)

- **Motion 1:** Mr. Koglin, second Mr. Koehler: Labs are to proceed with running the rest of the 44-test matrix (5 more tests in each of the 4 labs). All tests are to be completed and reported to the ASTM TMC by April 12th.
 - Discussion and comments on the motion:
 - TMC indicated that they will need the data 2 days to prepare the final charts.
 - The remaining 5 tests at each of the four labs consists of:
 - ✓ 1 Standard test on TMC 151-3.
 - ✓ 1 test each, Standard and Canadian on TMC 152.
 - ✓ 1 test each, Standard and Canadian on TMC 153.
 - We are a couple of weeks behind in completing the matrix by April 1st as initially targeted. The goal is to review the data (all tests) at the April 19 SP meeting and take action on targets and hardware approval.
 - Mr. Lind was directed to immediately assign the oils.
 - Labs agreed to continue taking axles from different pallets to achieve a random sampling of the entire hardware batch.
 - Labs agreed to continue to report the GUSA unique/continuous axle sticker number Dana attached to the axle cover.
 - The motion was passed with a count of 6 for, 0 opposed, and 2 abstentions.

Being no further business to transact, the teleconference meeting was adjourned at 11:31 a.m.

Respectfully submitted,

A handwritten signature in cursive script, reading "Donald T. Bartlett".

Donald T. Bartlett,
L-37 Surveillance Panel Chairman

GEAR BATCH V1417/P4L792 NON-LUBRITED HARDWARE MATRIX DATA

Standard Temperature Data

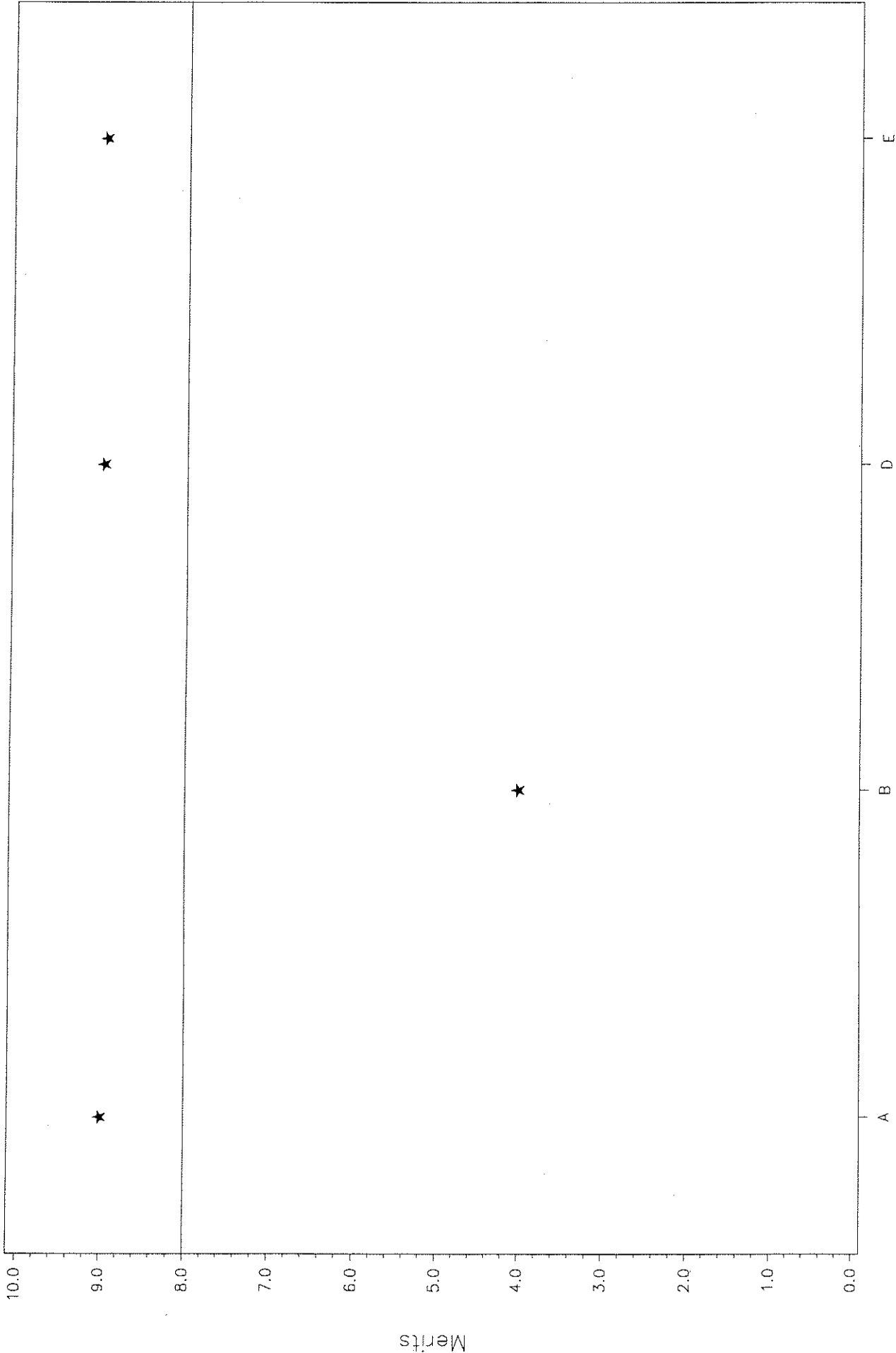
CMIR	Lab	Stand	Run	Oil	Pinbat	Ringbat	DTCOMP	Pwear	Pridg	Pripp	Pspit	Rwear	Rridg	Rripp	Rspit	fpcrat	lpcrat	GUSA
49503	D	3A	464	127	V1L417	P4L792	20060114	8	9	8	9.9	8	10	10	10	0	3	
46001	B	191	2263	127	V1L417	P4L792	20060107	6	4	8	9.5	7	5	9	9.9	0	2	15143
44289	E	2	234	127	V1L417	P4L792	20060112	8	9	7	9.7	7	9	9	9.9	0	2	
49554	A	2	2917	127	V1L417	P4L792	20060113	7	9	5	9.7	7	9	9	9.9	0	2	
53444	D	3A	472	151-3	V1L417	P4L792	20060126	9	10	10	9.9	9	10	10	10	1	3	
56556	B	191	2275	151-3	V1L417	P4L792	20060124	8	10	10	10	7	10	10	10	0	2	16354
53460	E	2	240	151-3	V1L417	P4L792	20060124	6	9	8	9.9	7	10	9	9.9	0	2	
50356	A	2	2926	151-3	V1L417	P4L792	20060128	8	10	9	9.9	8	10	9	9.9	1	2	16083
56536	D	3A	491	152	V1L417	P4L792	20060224	8	10	10	10	9	10	10	10	0	2	15971
55496	B	191	2284	152	V1L417	P4L792	20060214	9	10	10	9.9	7	10	10	10	0	2	15775
58301	E	2	248	152	V1L417	P4L792	20060310	8	9	8	9.9	7	10	9	9.9	0	2	15777
53557	A	2	2940	152	V1L417	P4L792	20060217	8	10	9	9.9	8	10	9	9.9	0	2	15404
53558	A	2	2941	152	V1L417	P4L792	20060218	8	10	9	9.9	8	10	10	9.8	0	2	15144
56537	D	3A	493	153	V1L417	P4L792	20060227	9	10	10	9.9	9	10	10	10	0	2	15979
55498	B	191	2286	153	V1L417	P4L792	20060217	6	8	8	9.8	7	8	9	10	-1	2	15467
53555	E	2	245	153	V1L417	P4L792	20060301	8	9	8	4	7	9	9	9.8	0	2	15513
53560	A	2	2955	153	V1L417	P4L792	20060309	8	9	9	9.9	8	10	10	9.9	0	2	15904

Low Temperature Data

58273	D	3A	498	152	V1L417	P4L792	20060306	9	10	10	10	9	10	10	10	0	2	15770
55497	B	191	2285	152	V1L417	P4L792	20060215	9	10	9	10	7	10	10	10	0	2	15973
58300	E	2	246	152	V1L417	P4L792	20060302	8	9	8	9.9	7	10	9	9.9	0	2	15393
53559	A	2	2946	152	V1L417	P4L792	20060225	8	9	8	9.9	8	10	10	9.9	0	2	15200
56538	D	3A	496	153	V1L417	P4L792	20060302	8	10	10	10	9	10	10	10	0	2	15979
55499	B	191	2296	153	V1L417	P4L792	20060304	9	9	10	9.9	7	10	10	9.9	0	2	16226
58307	E	2	247	153	V1L417	P4L792	20060309	8	10	9	9.9	7	10	9	9.9	0	2	15457
53561	A	2	2956	153	V1L417	P4L792	20060310	8	9	10	9.9	8	10	10	9.9	0	2	15456

L-37 Reference Oil Performance by LTMSLAB

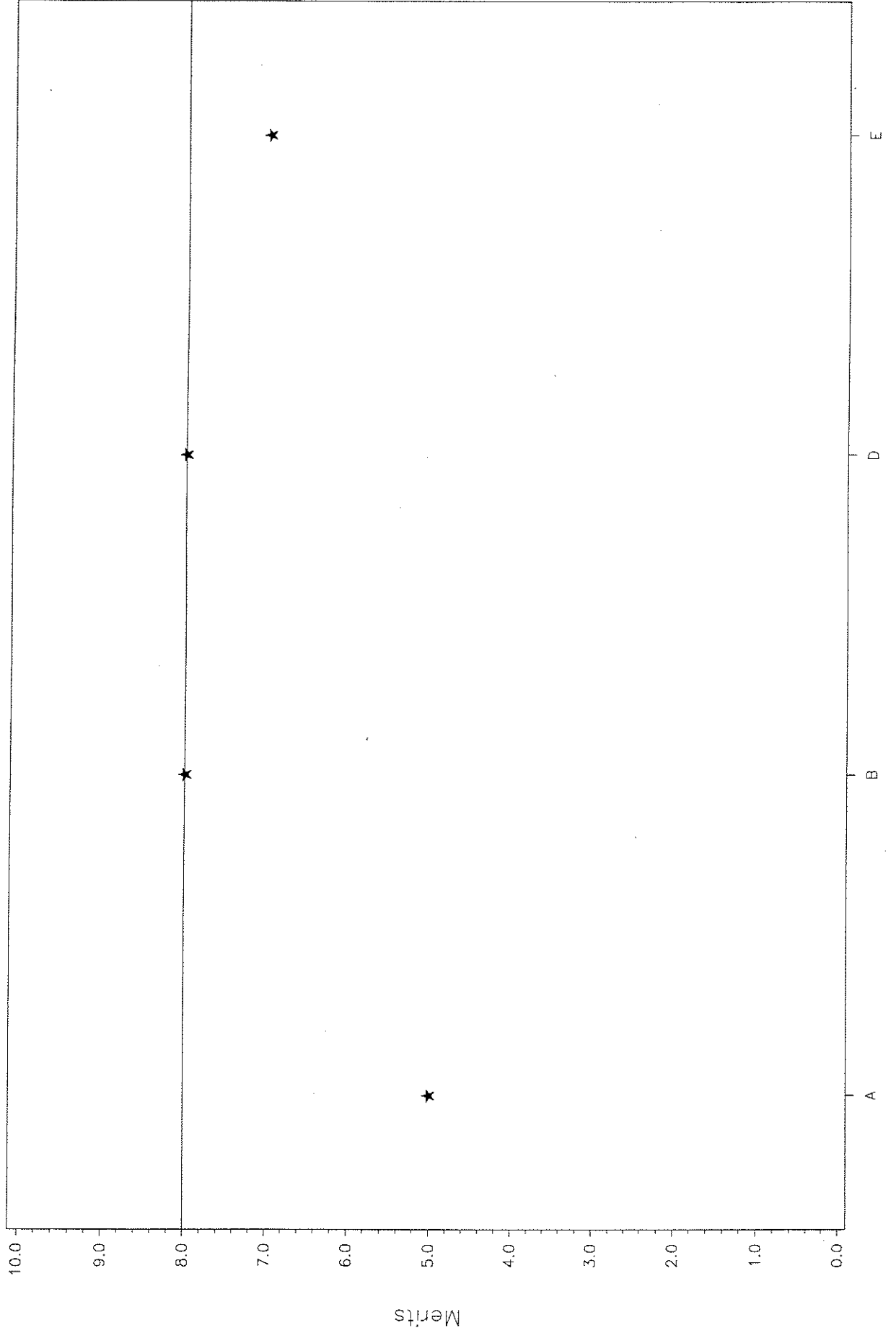
Ridging - NON-LUBRICATED
Reference Oil 127



L-37 Reference Oil Performance by LTMSLAB

Rippling - NON-LUBRICATED

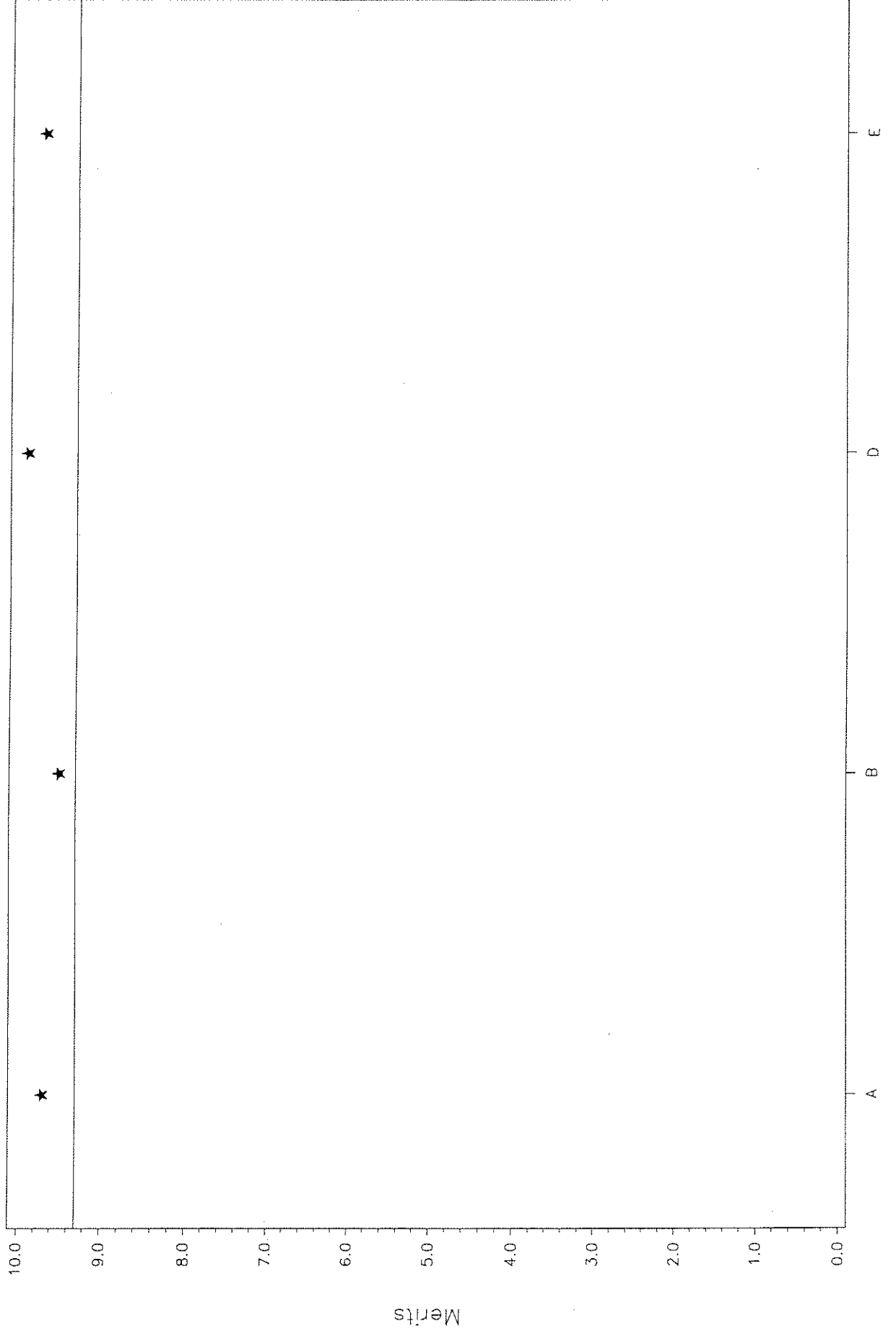
Reference Oil 127



L-37 Reference Oil Performance by LTMSLAB

Spitting -- NON-LUBRICATED

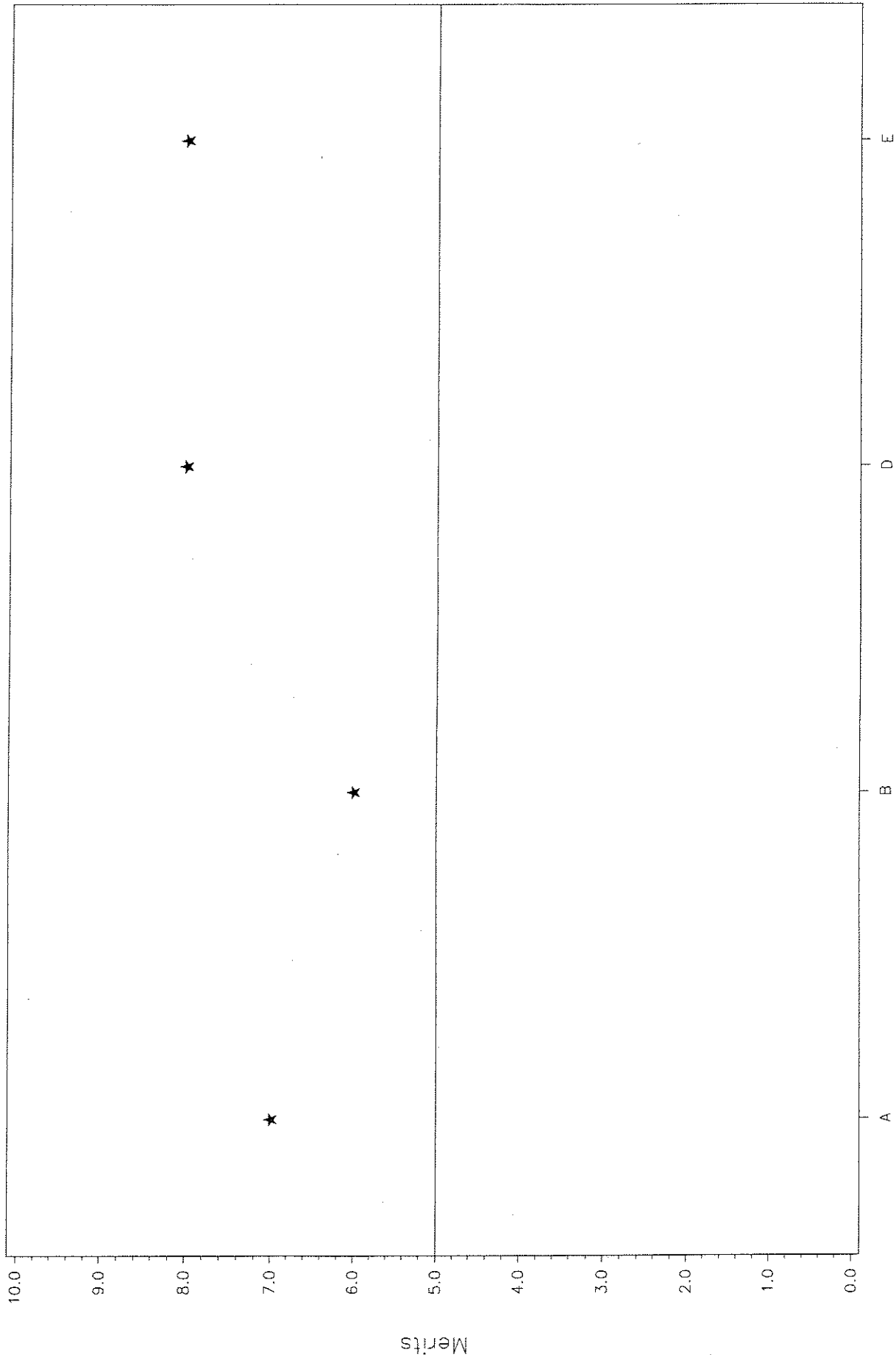
Reference Oil 127



L-37 Reference Oil Performance by LTMSLAB

Wear - NON-LUBRITED

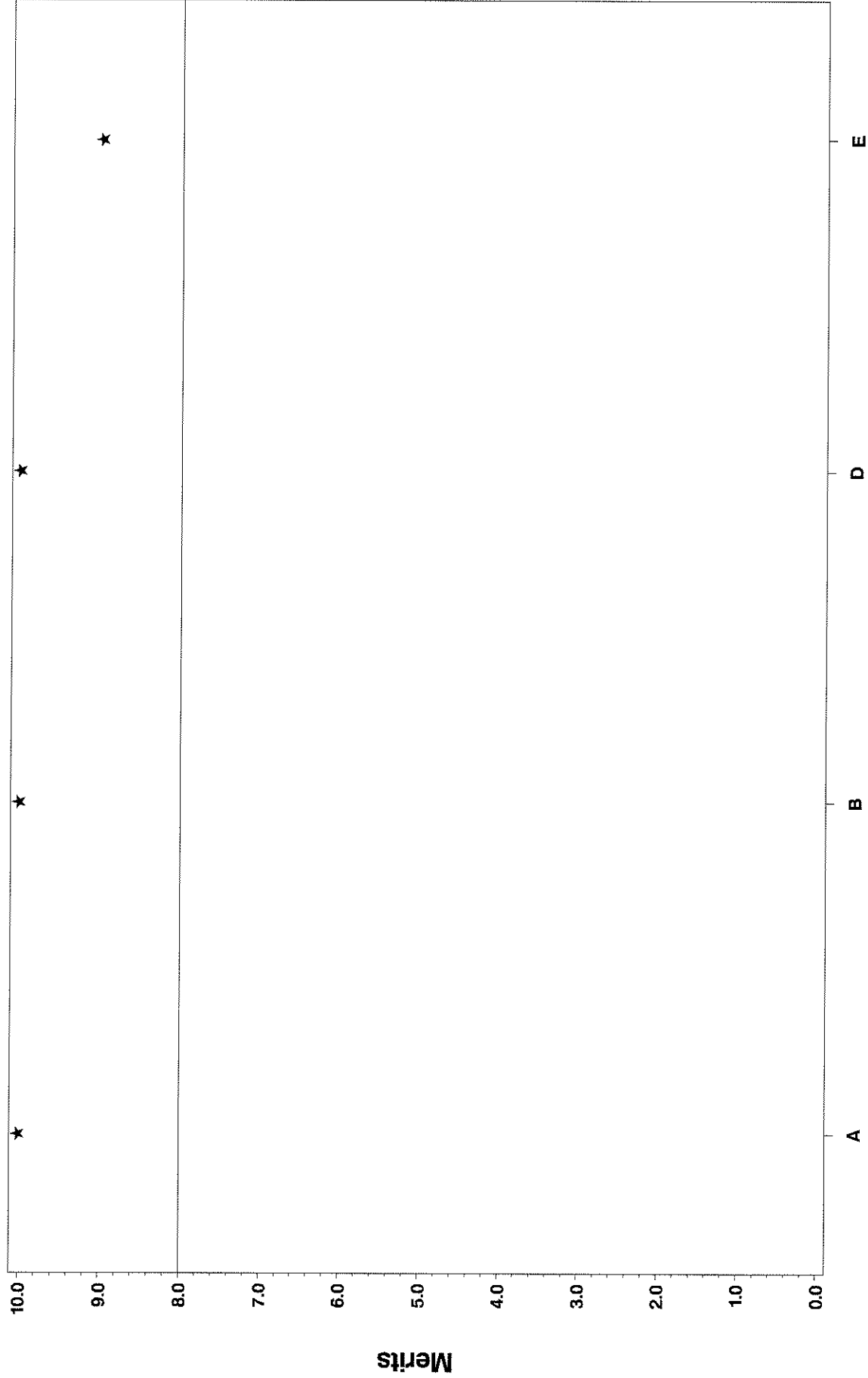
Reference Oil 127



L-37 Reference Oil Performance by LTMSLAB

Ridging - NON - LUBRICATED

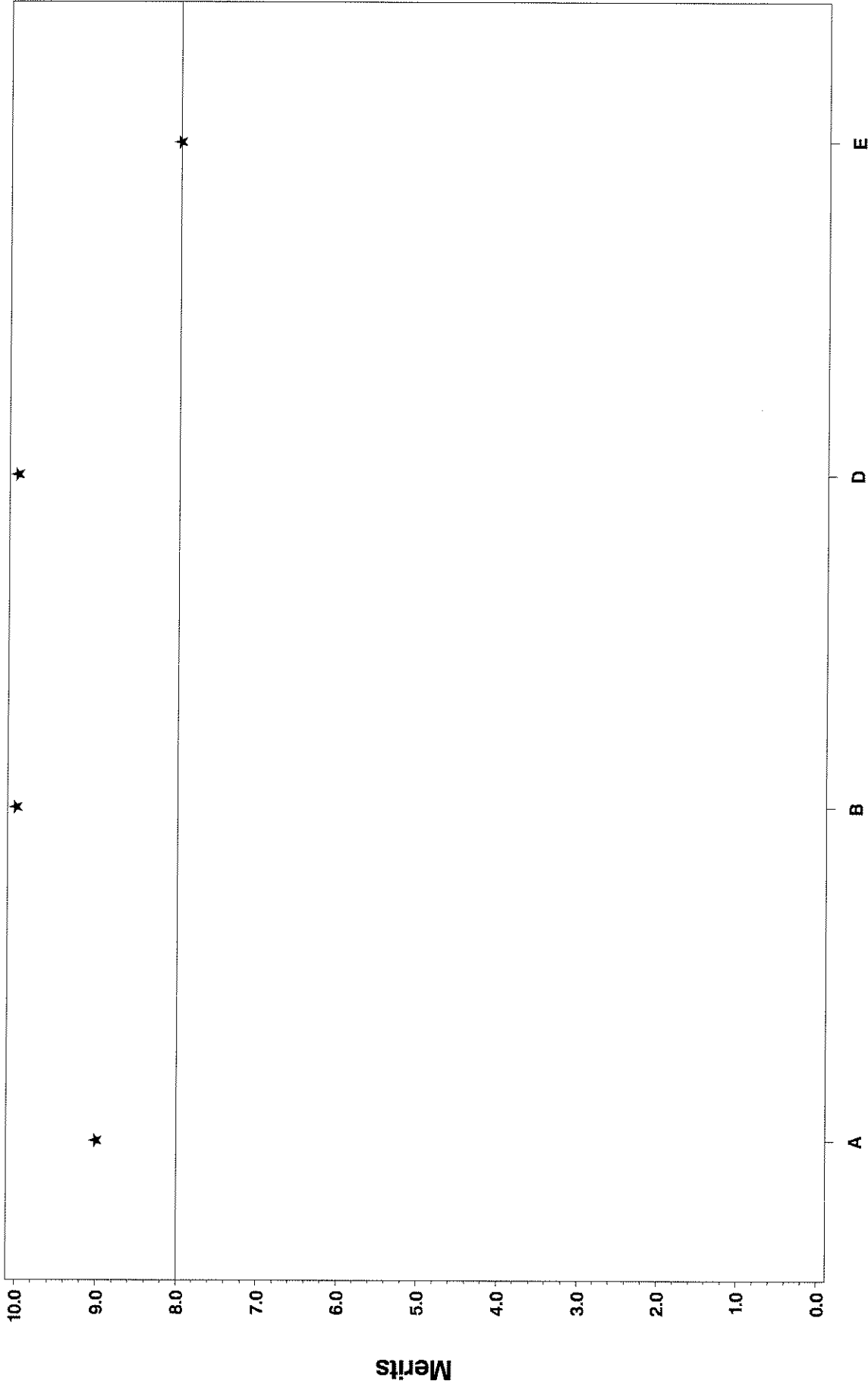
Reference Oil 151 - 3



L-37 Reference Oil Performance by LTMSLAB

Rippling – NON – LUBRICATED

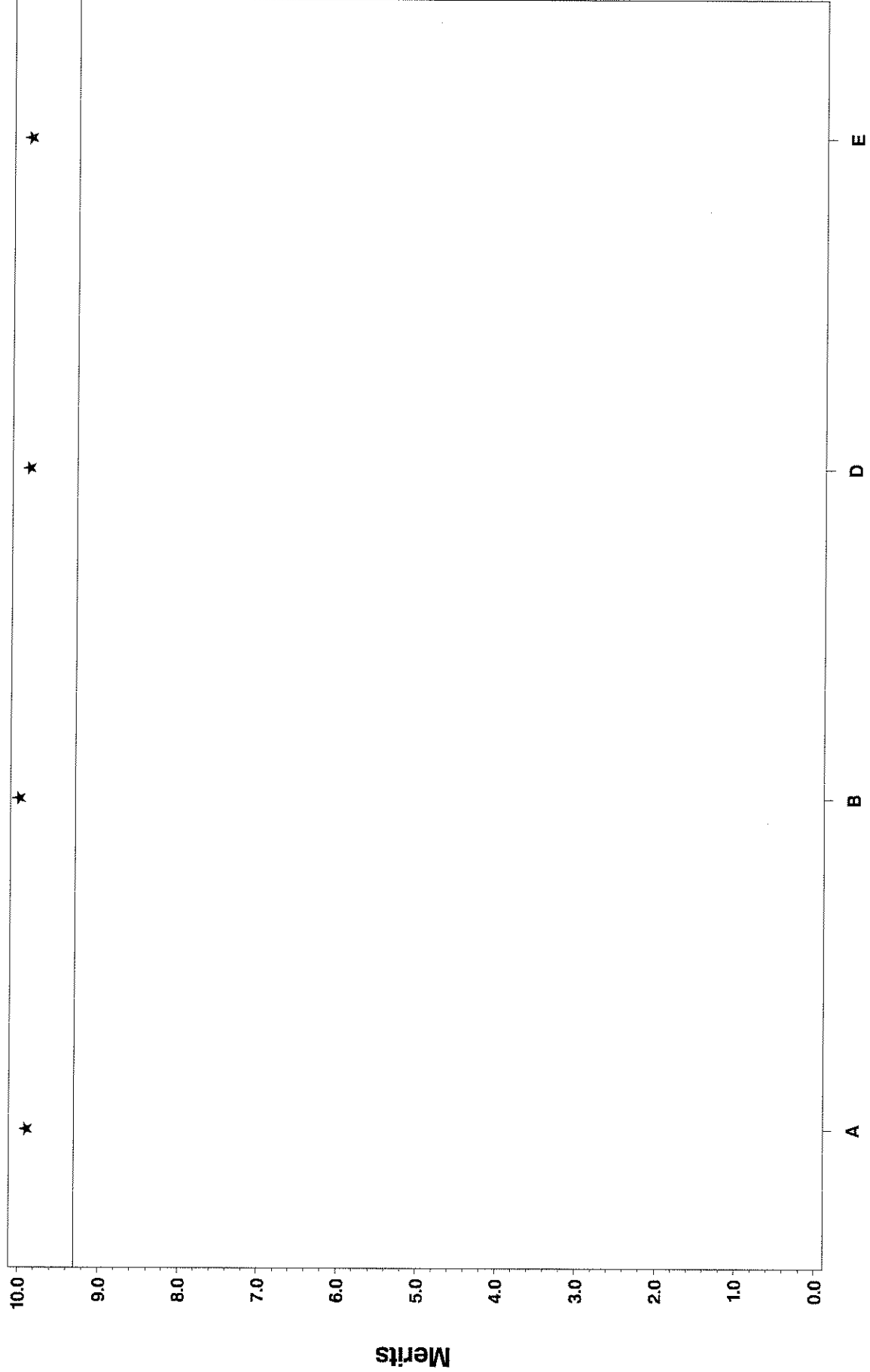
Reference Oil 151 – 3



L-37 Reference Oil Performance by LTMSLAB

Spitting -- NON -- LUBRICATED

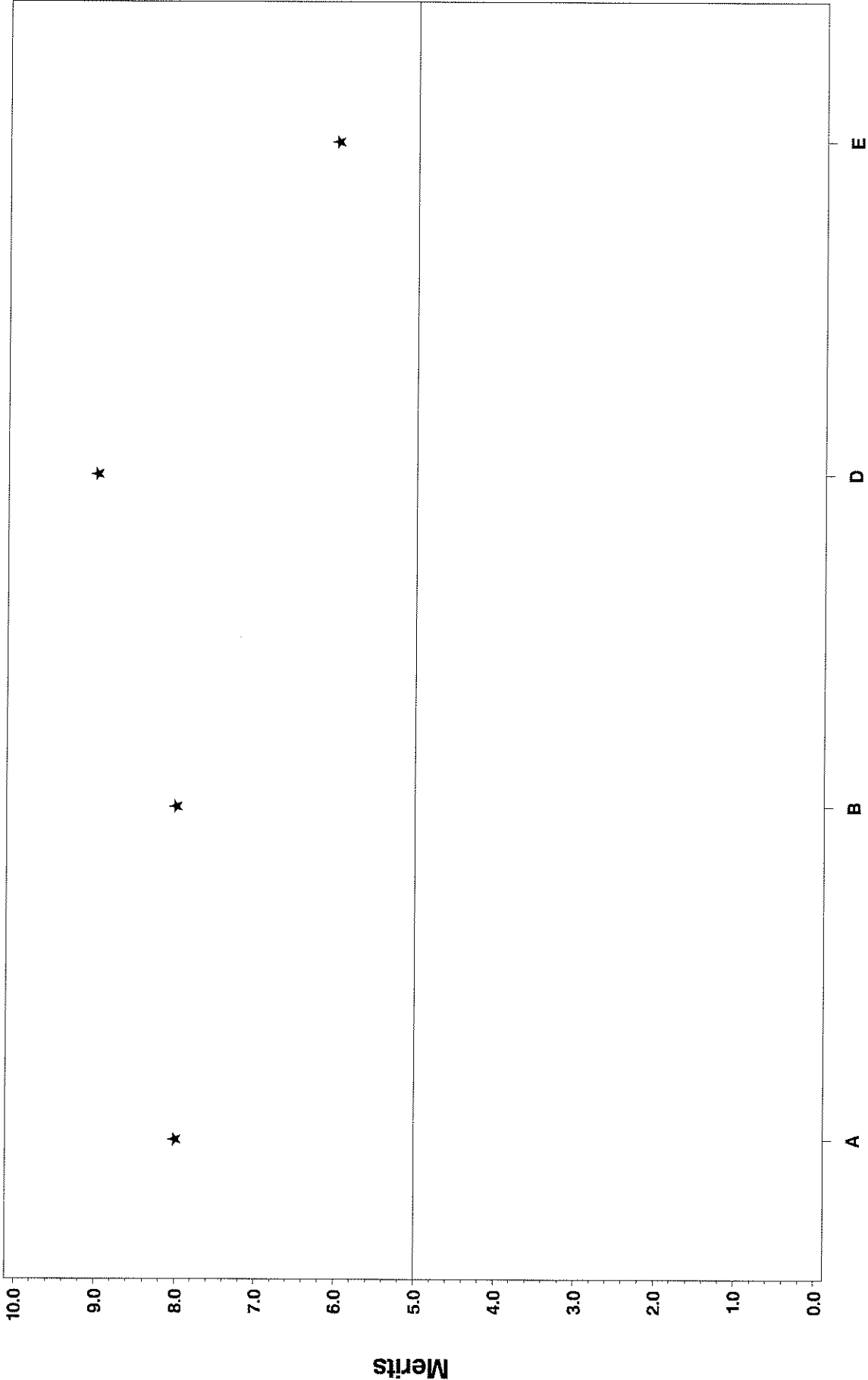
Reference Oil 151 -- 3



L-37 Reference Oil Performance by LTMSLAB

Wear — NON — LUBRICATED

Reference Oil 151 — 3

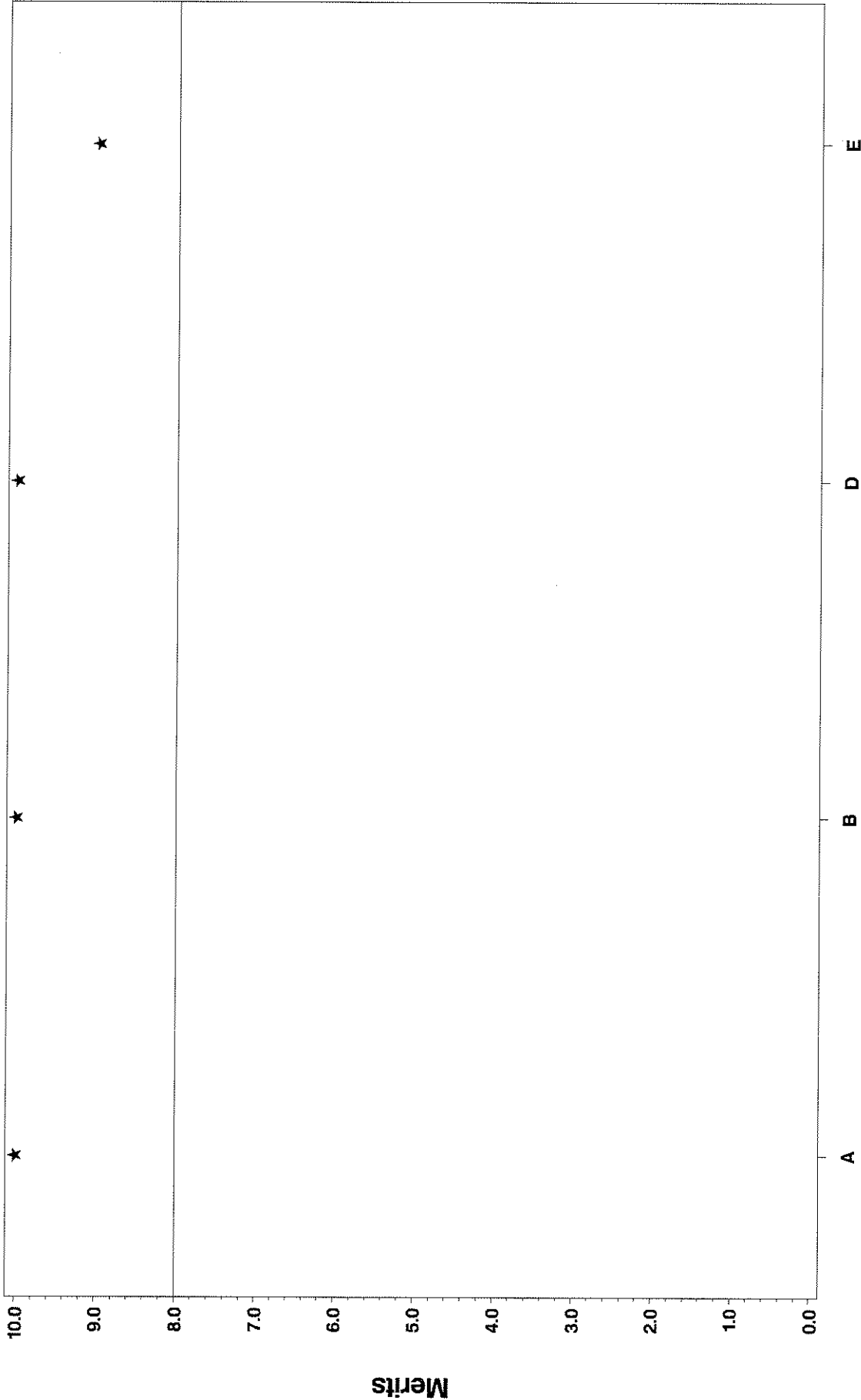


L-37 Reference Oil Performance by LTMSLAB

Ridging -- NON -- LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Standard Temperature

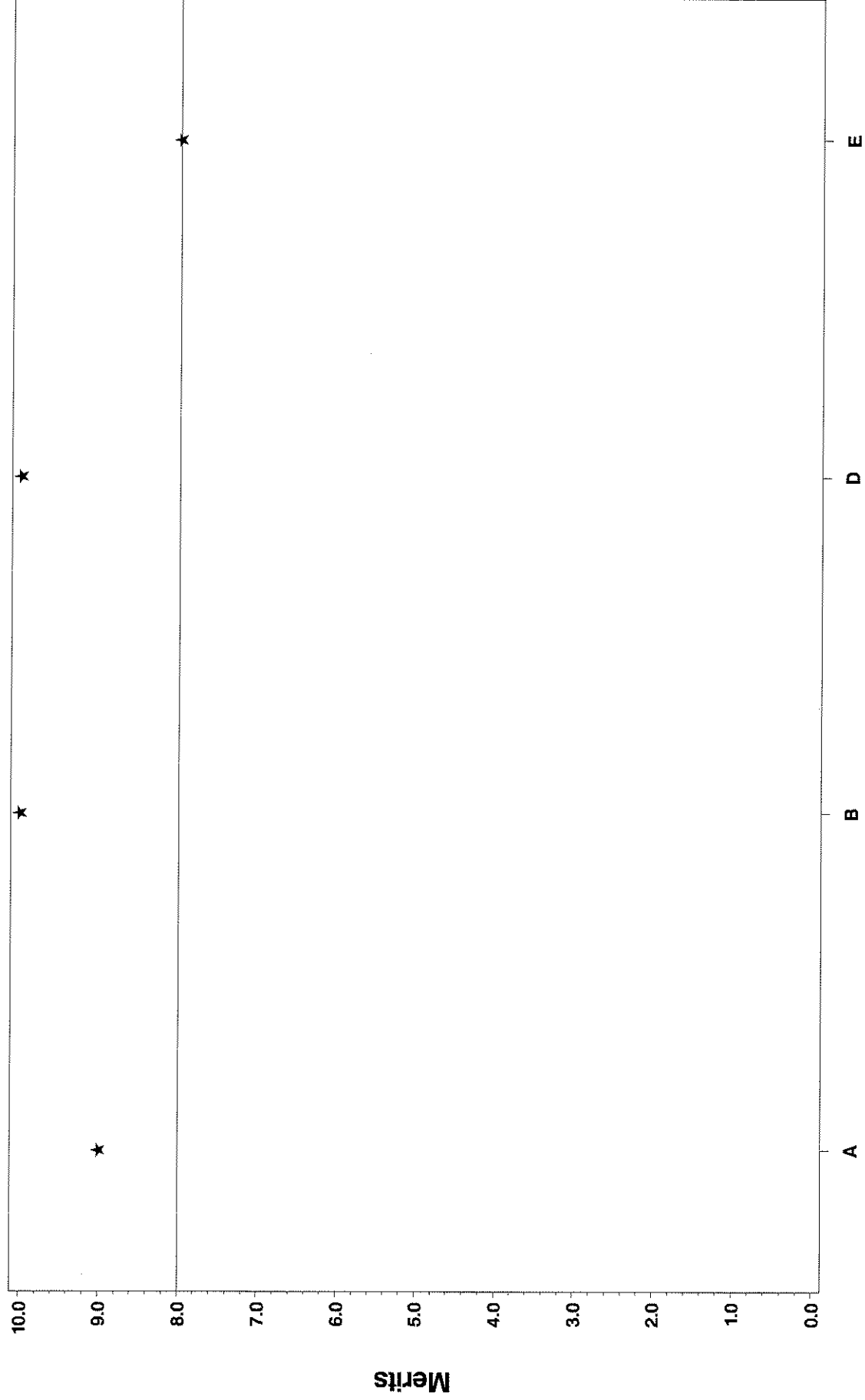


L-37 Reference Oil Performance by LTMSLAB

Rippling — NON — LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Standard Temperature

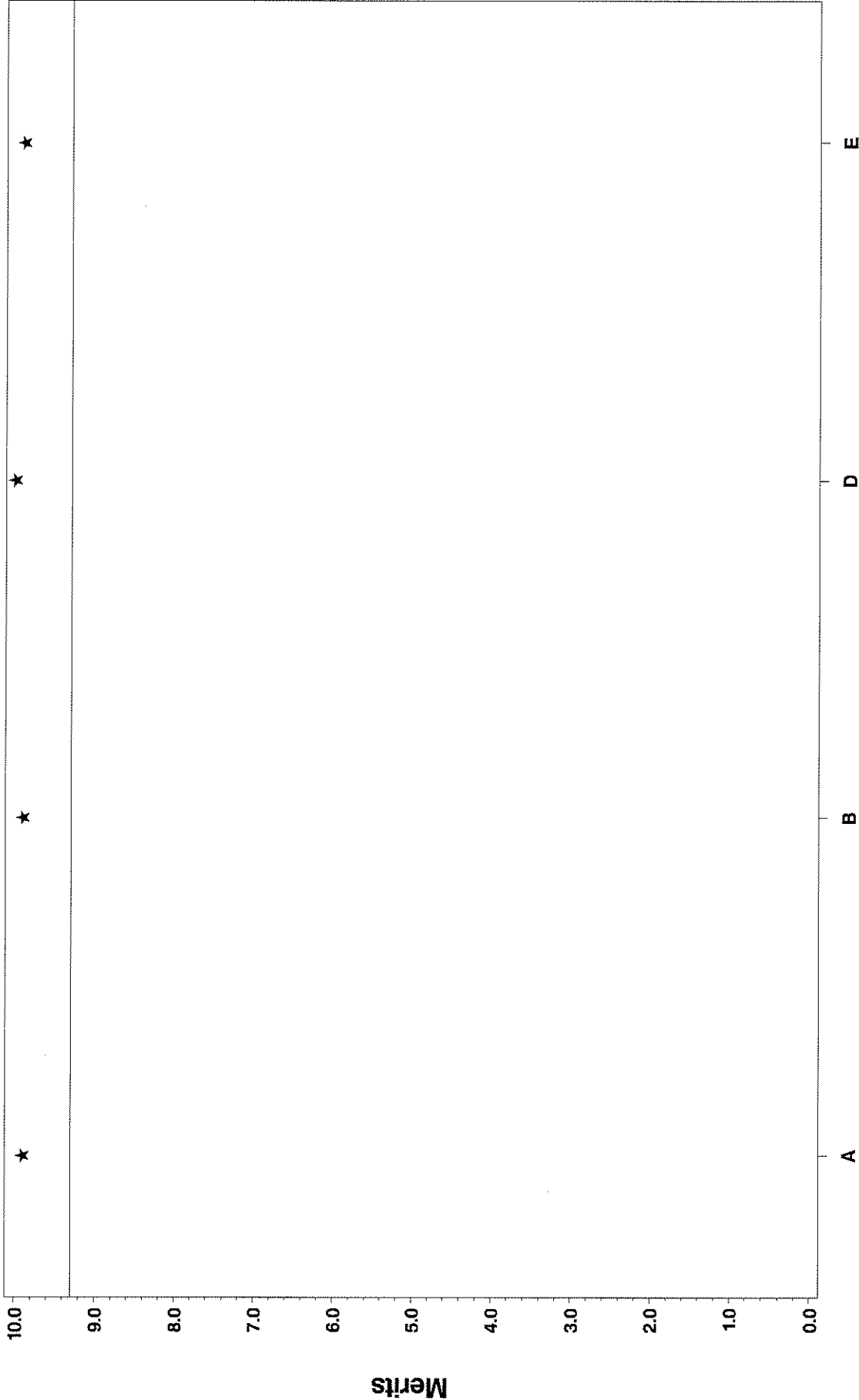


L-37 Reference Oil Performance by LTMSLAB

Splitting -- NON -- LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Standard Temperature

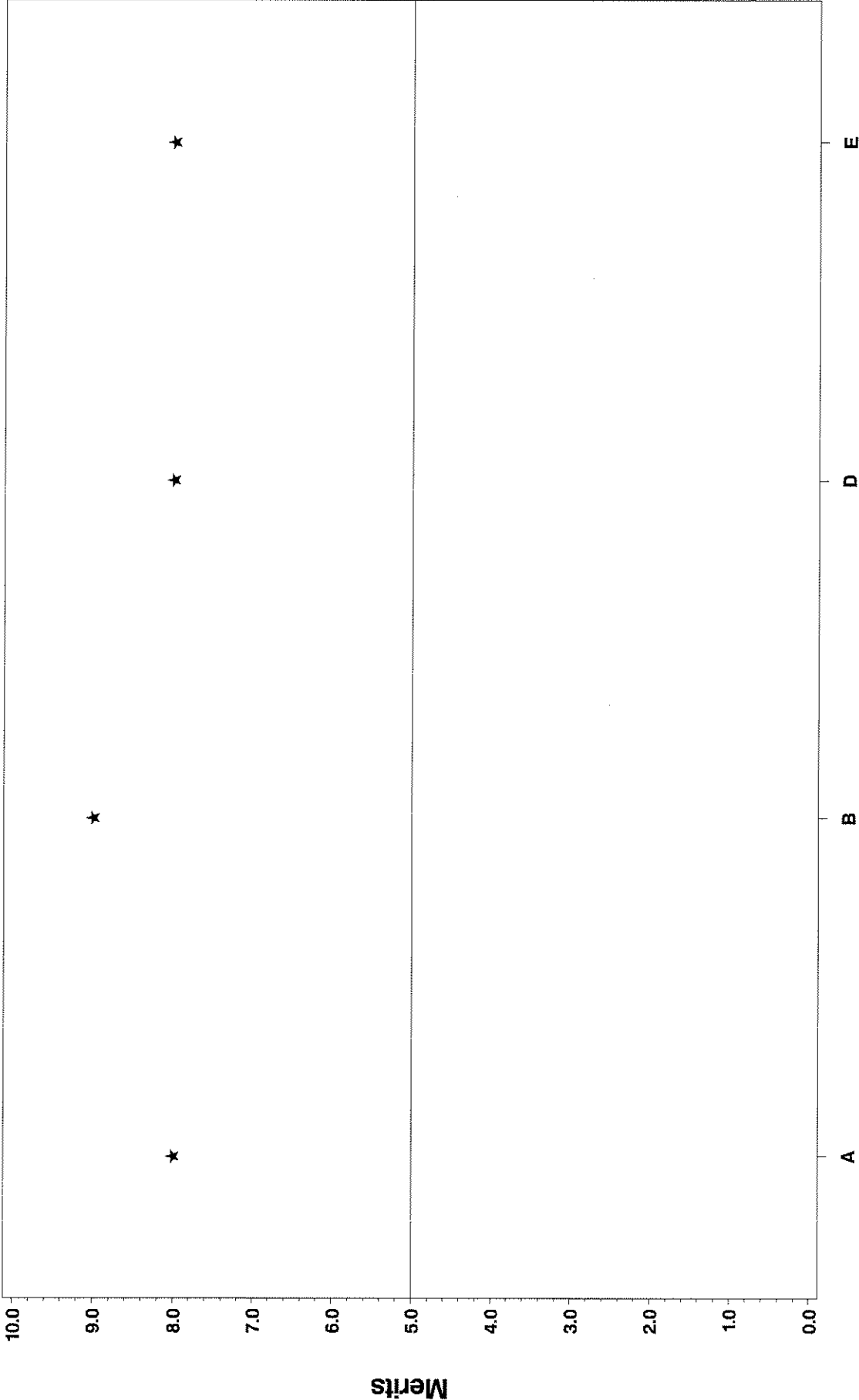


L-37 Reference Oil Performance by LTMSLAB

Wear — NON — LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Standard Temperature

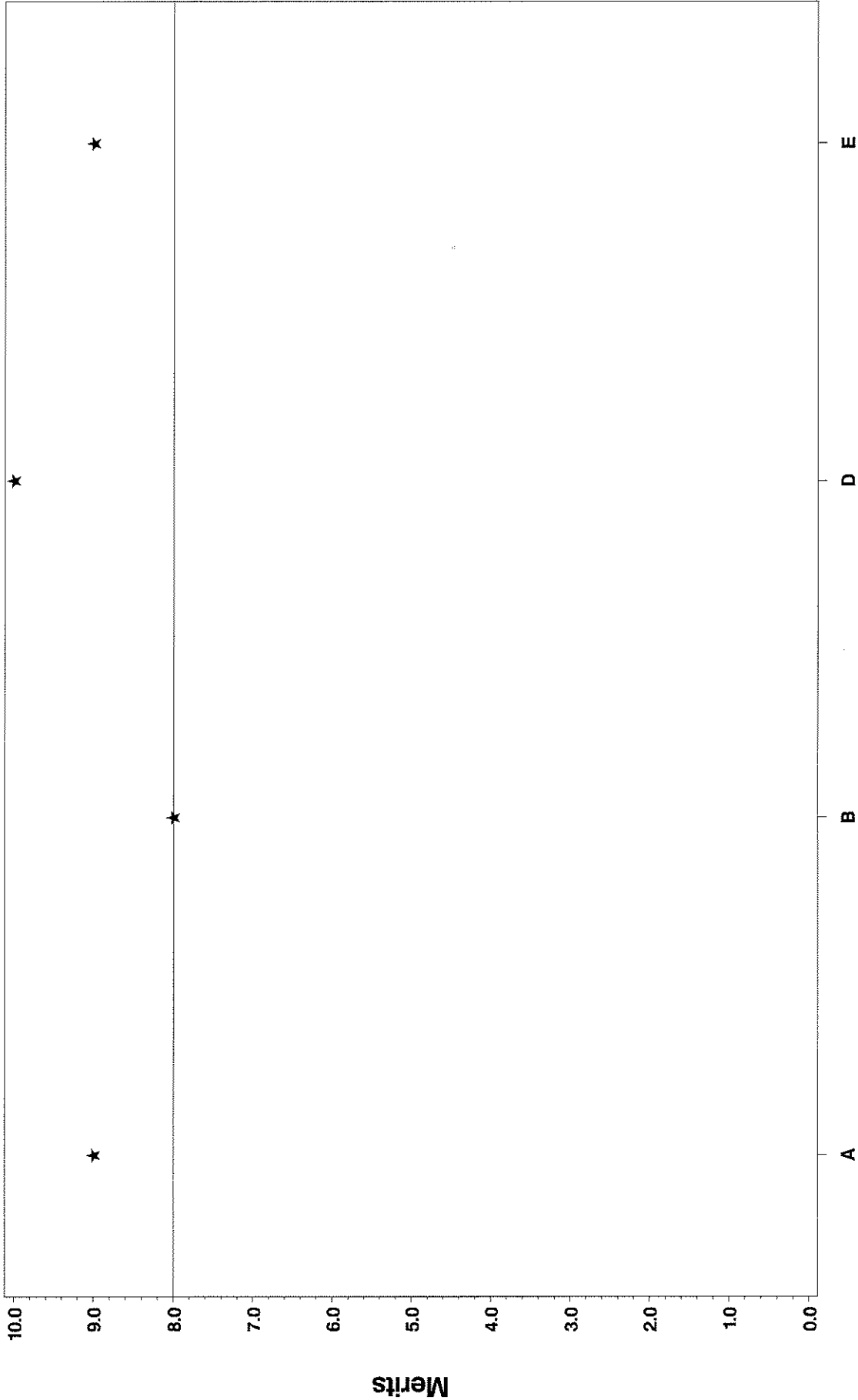


L-37 Reference Oil Performance by LTMSLAB

Ridging -- NON -- LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 153 Standard Temperature

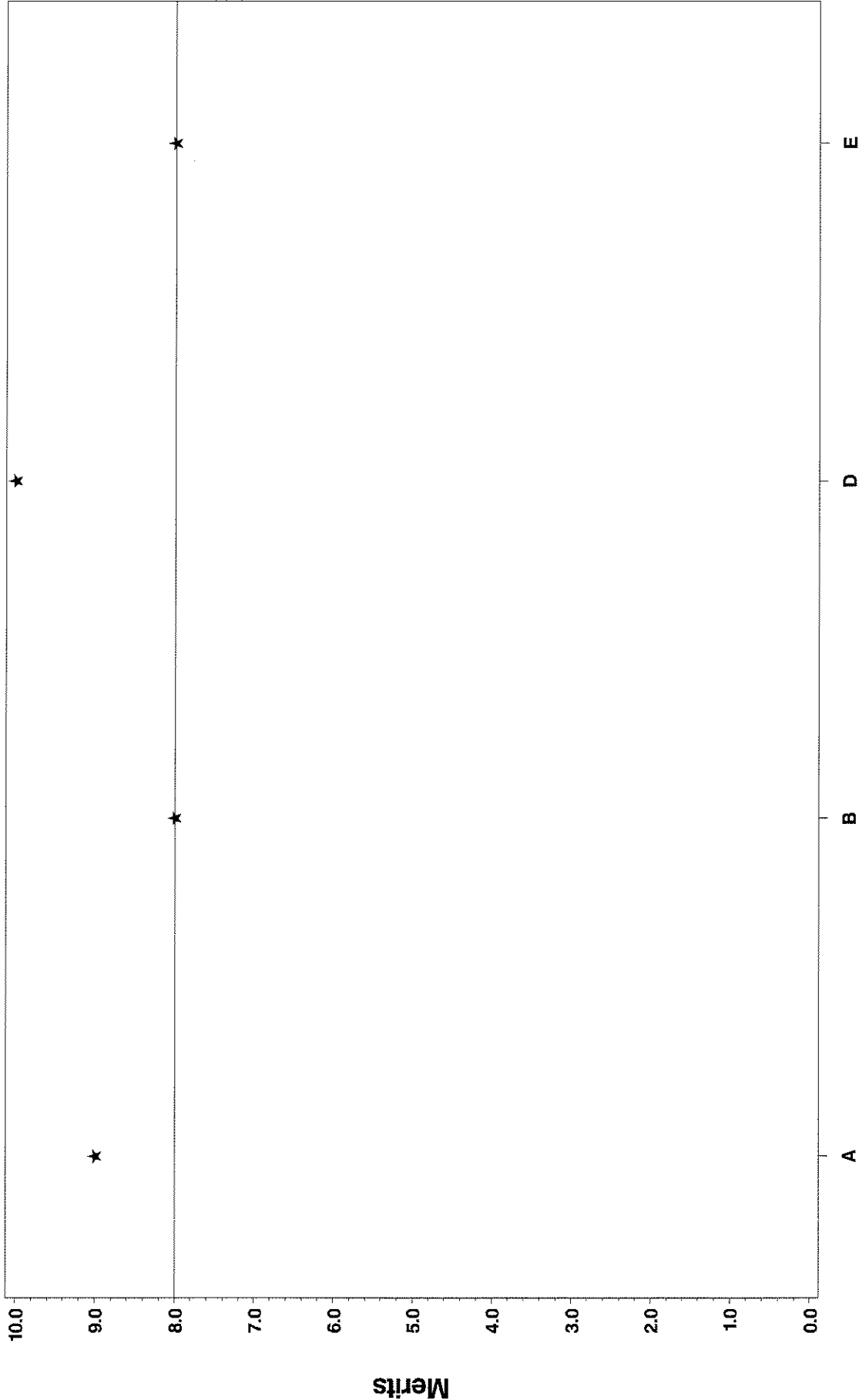


L-37 Reference Oil Performance by LTMSLAB

Rippling – NON – LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 153 Standard Temperature

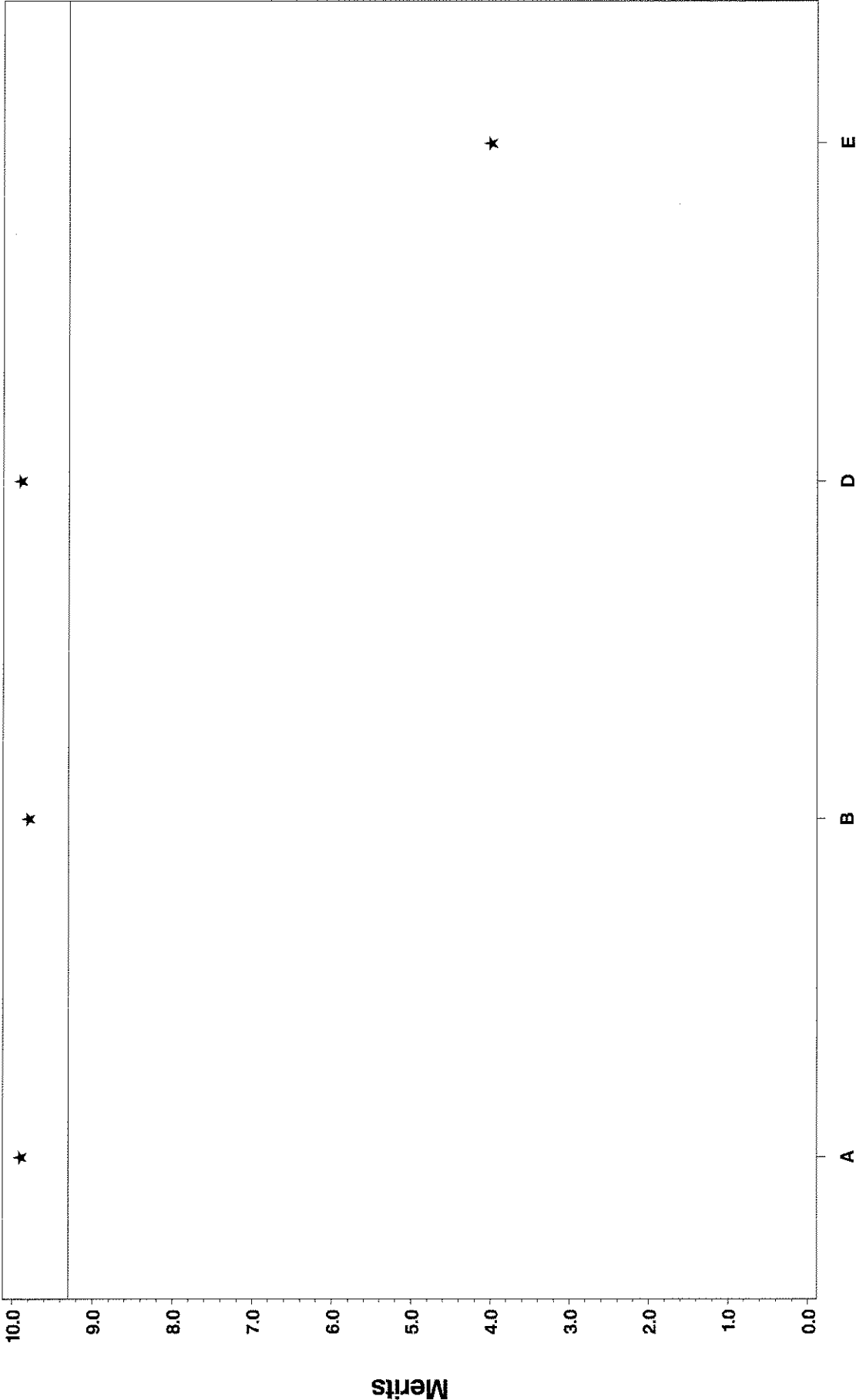


L-37 Reference Oil Performance by LTMSLAB

Splitting – NON – LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 153 Standard Temperature

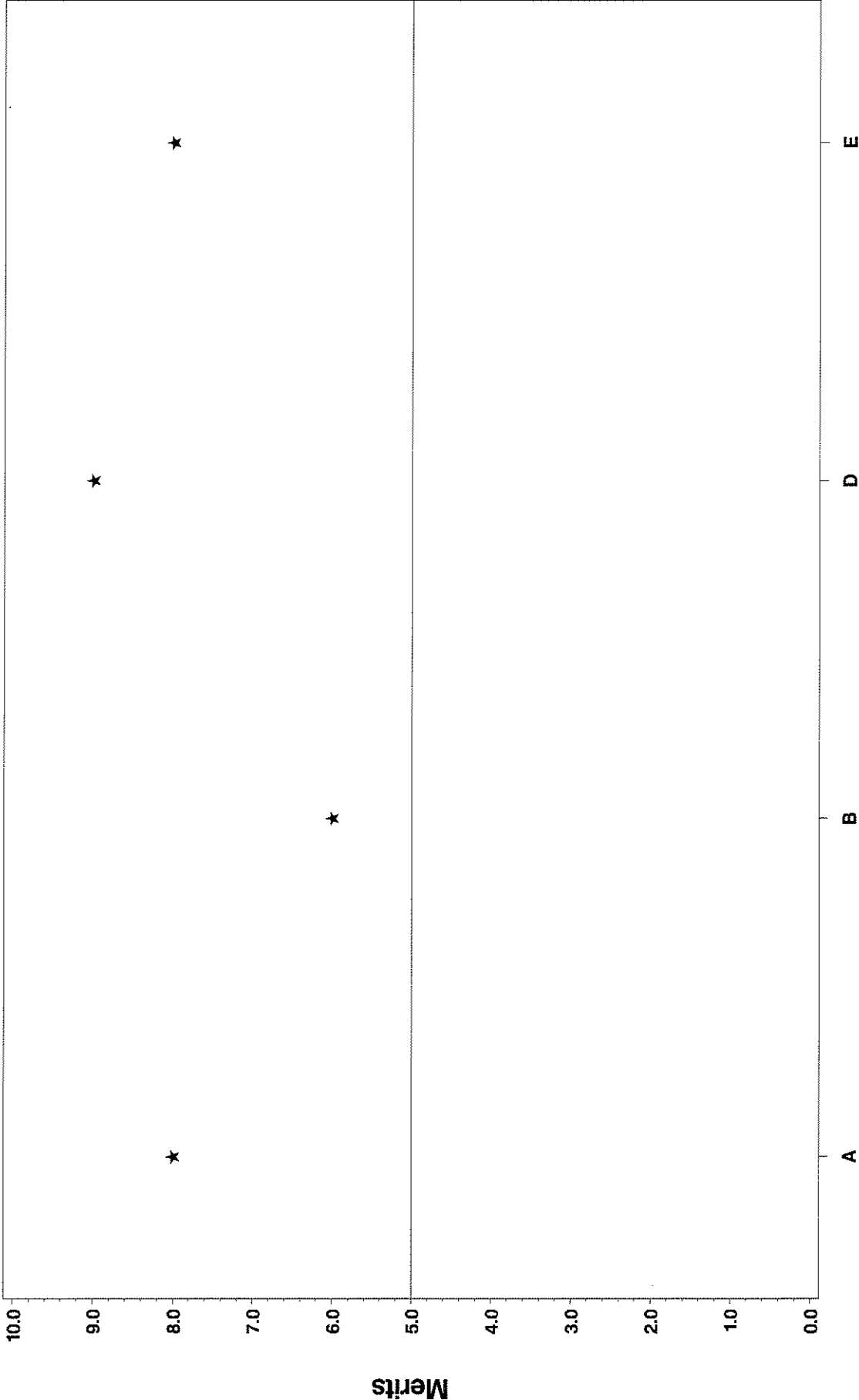


L-37 Reference Oil Performance by LTMSLAB

Wear — NON — LUBRITED

Gear Batch V1L417/P4L792

Reference Oil 153 Standard Temperature

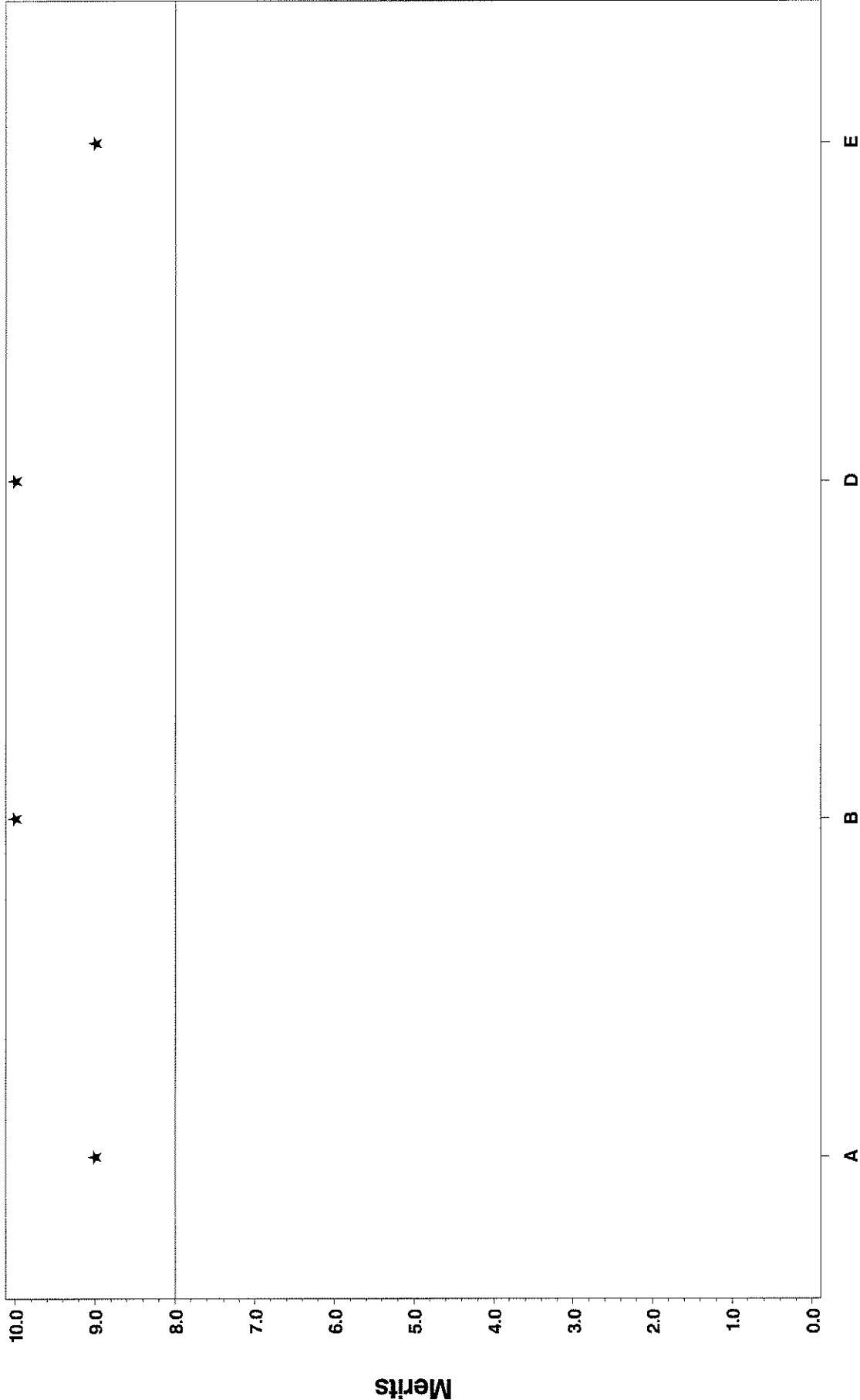


L-37 Reference Oil Performance by LTMSLAB

Ridging -- NON -- LUBRITED

Gear Batch V1L417/P4L792

Reference Oil 152 Low Temperature

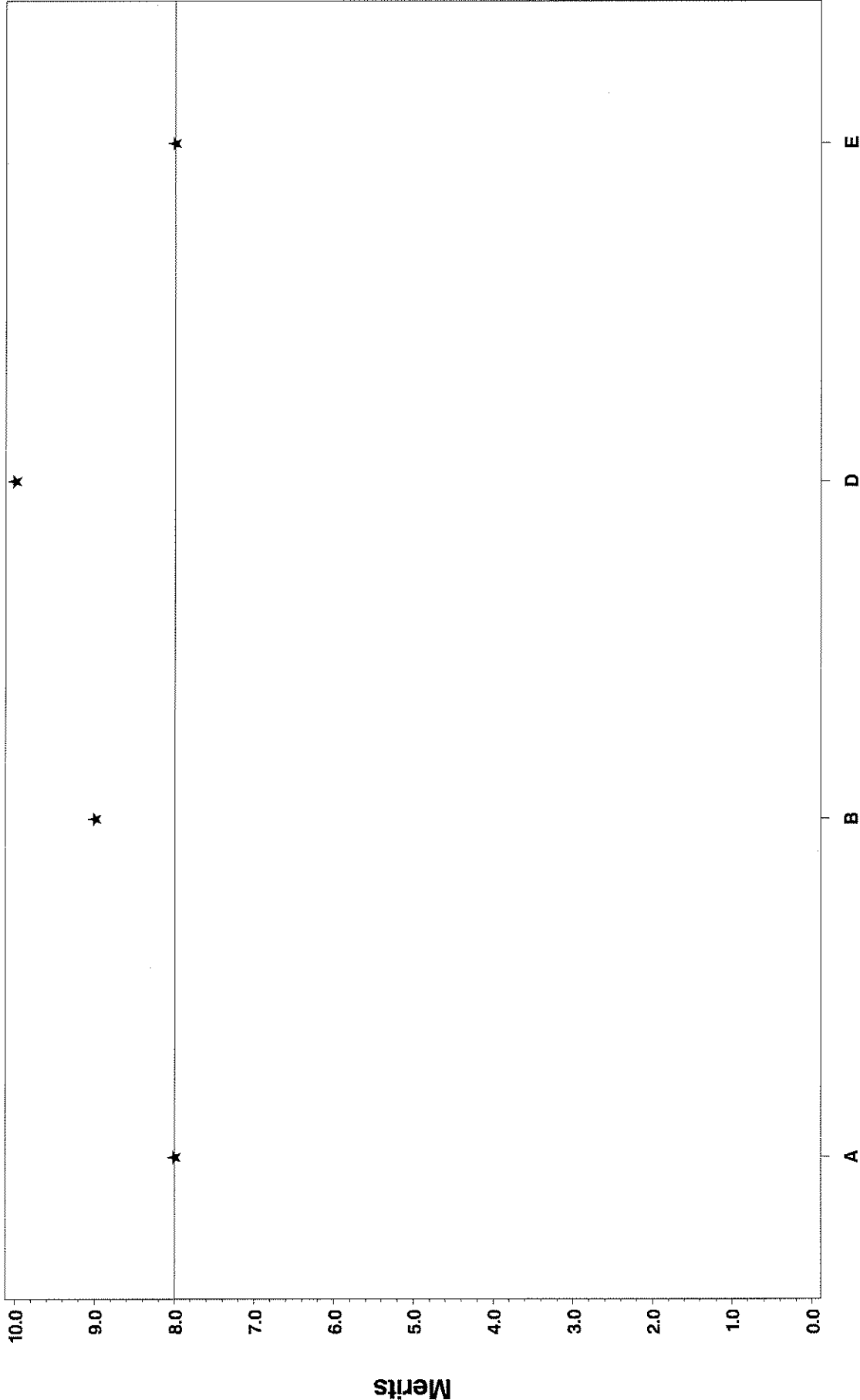


L-37 Reference Oil Performance by LTMSLAB

Rippling – NON – LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Low Temperature

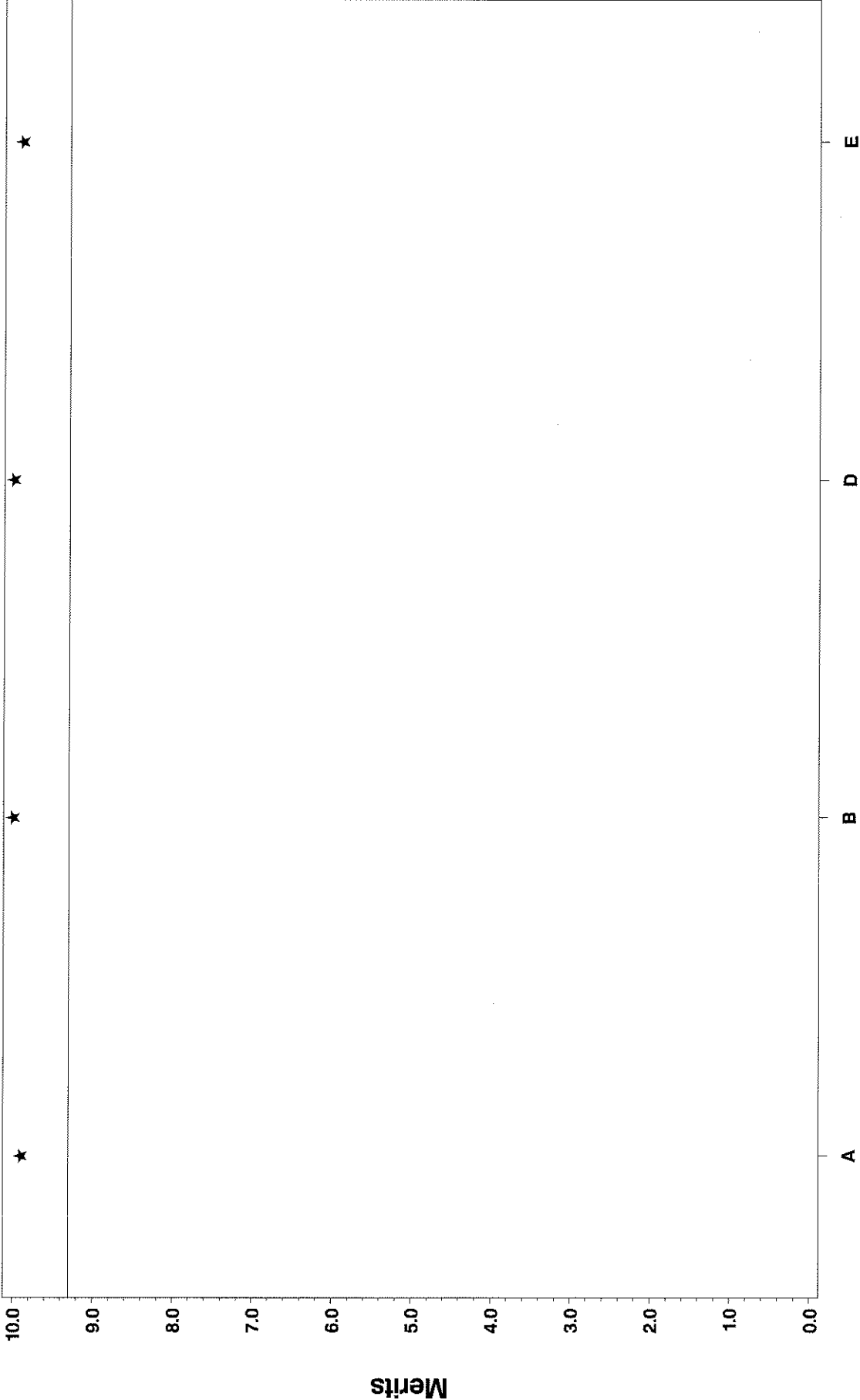


L-37 Reference Oil Performance by LTMSLAB

Splitting – NON – LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Low Temperature

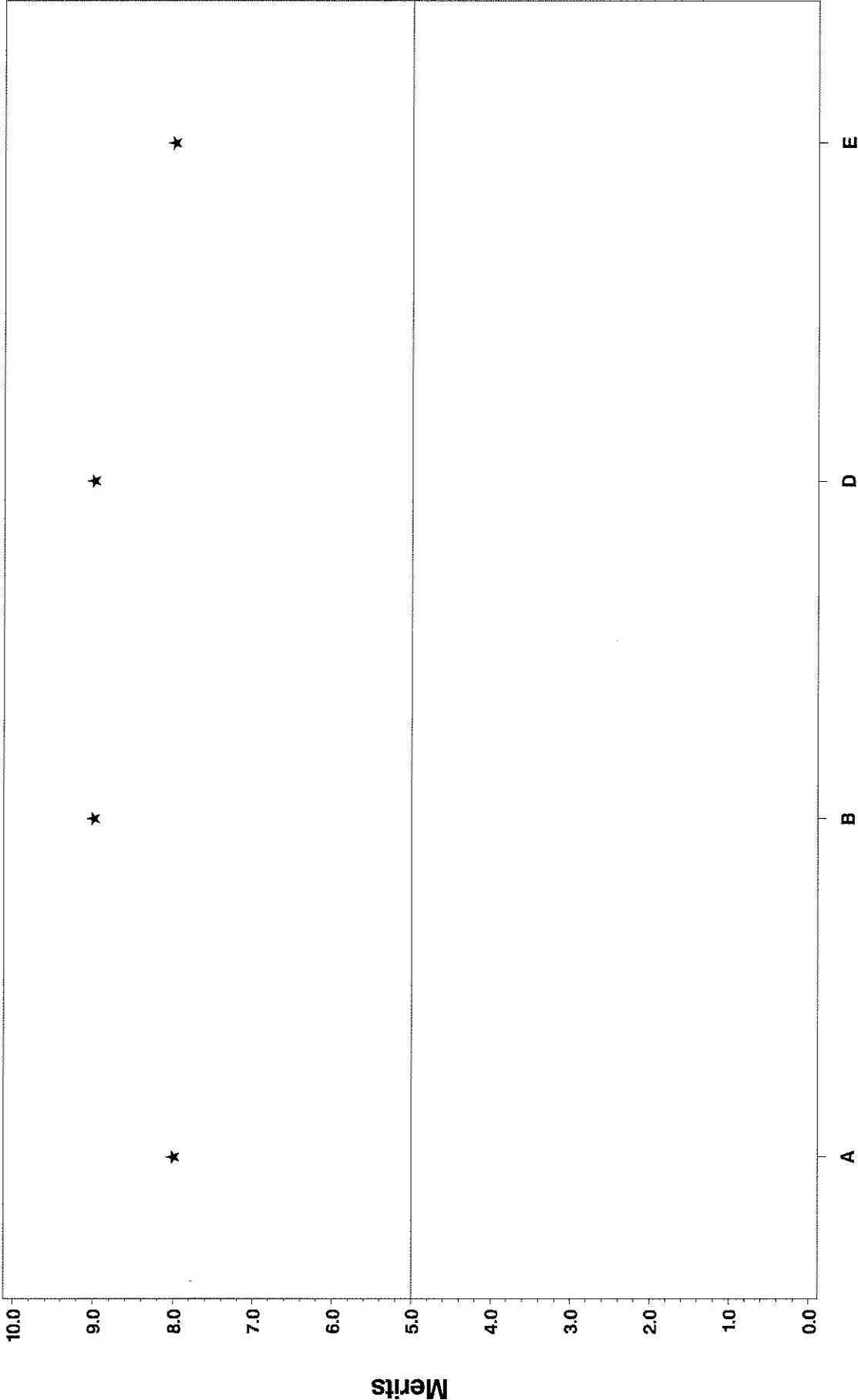


L-37 Reference Oil Performance by LTMSLAB

Wear -- NON -- LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 152 Low Temperature

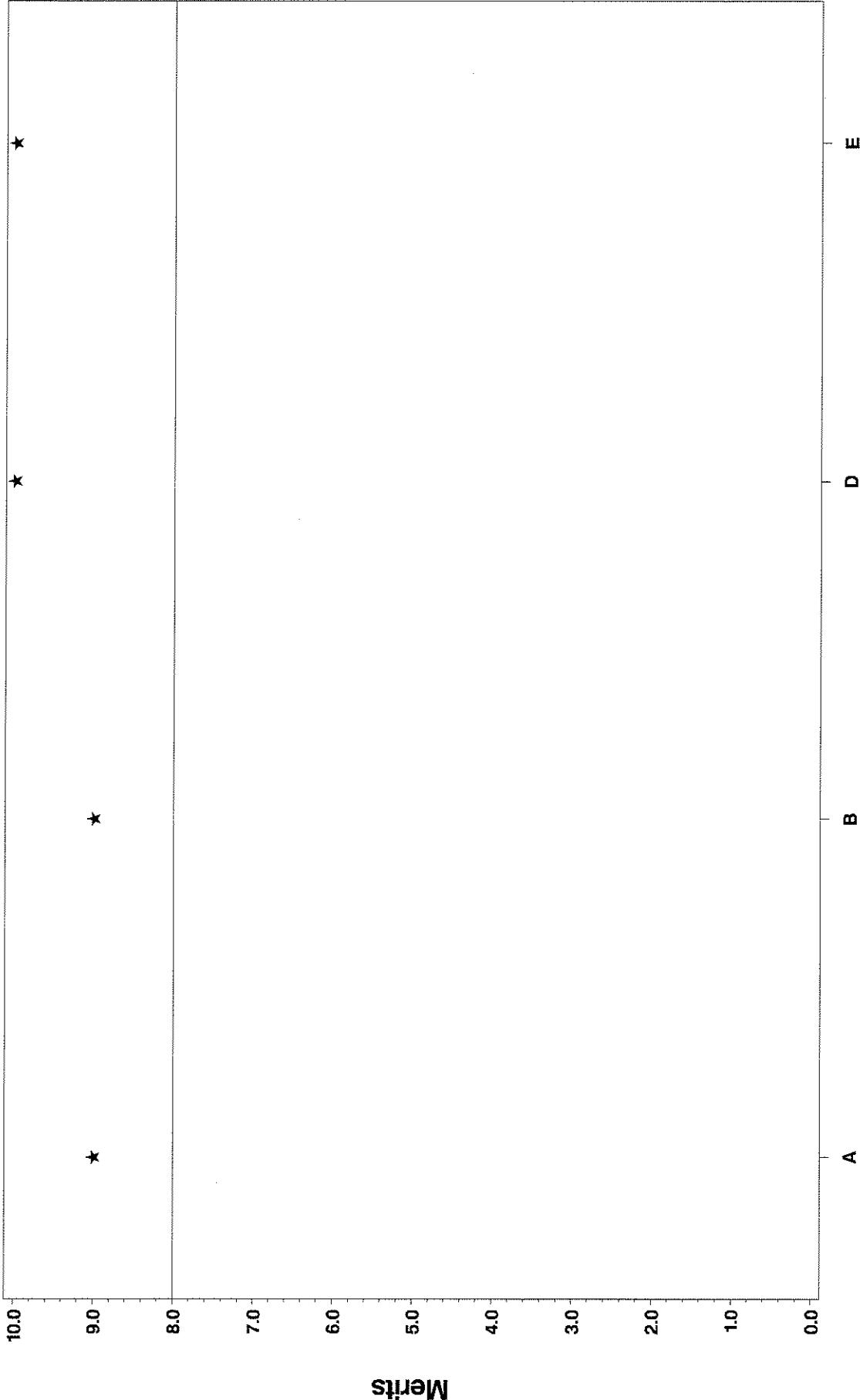


L-37 Reference Oil Performance by LTMSLAB

Ridging -- NON -- LUBRITED

Gear Batch V1L417/P4L792

Reference Oil 153 Low Temperature

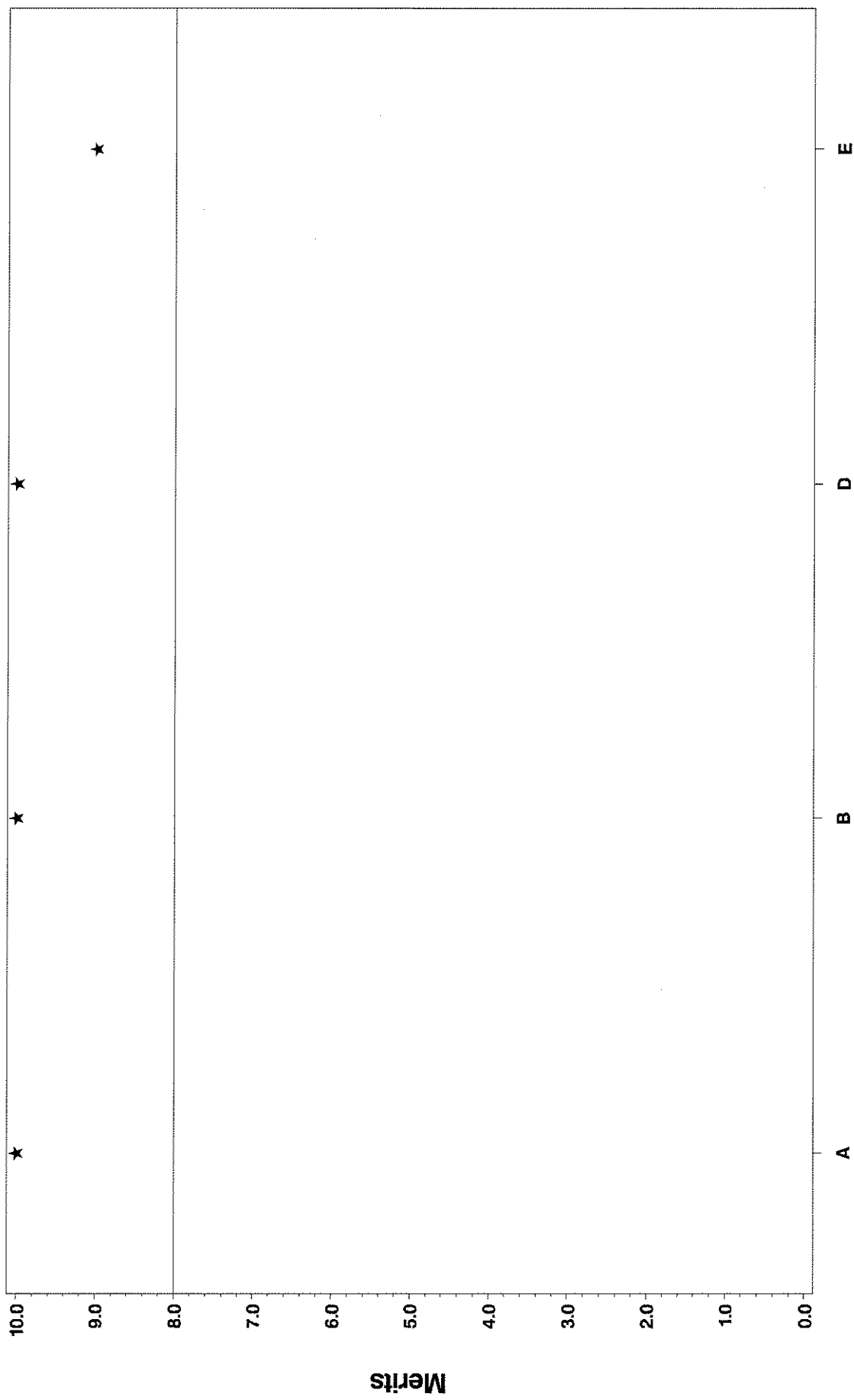


L-37 Reference Oil Performance by LTMSLAB

Rippling - NON - LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 153 Low Temperature

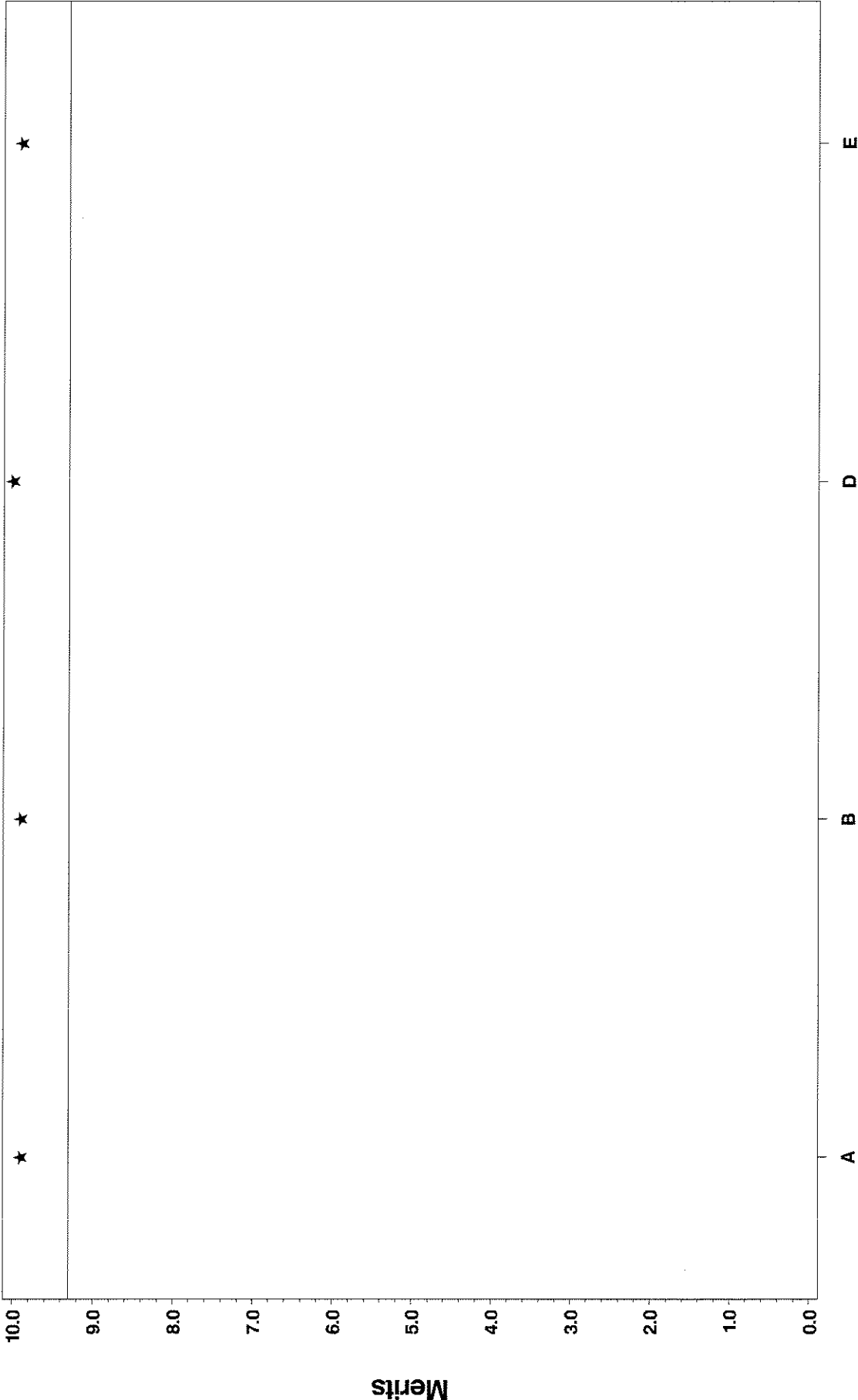


L-37 Reference Oil Performance by LTMSLAB

Spitting – NON – LUBRICATED

Gear Batch V1L417/P4L792

Reference Oil 153 Low Temperature

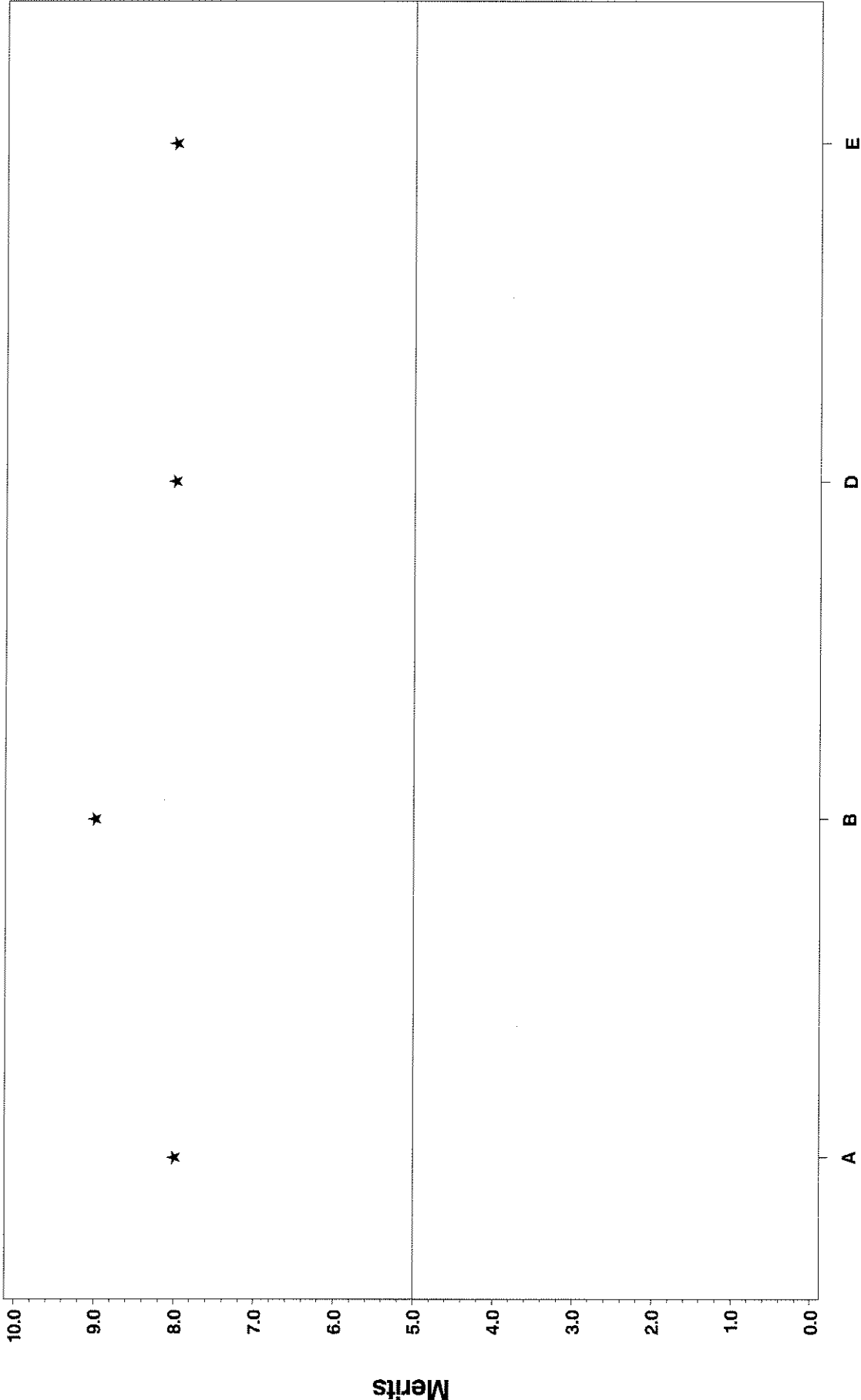


L-37 Reference Oil Performance by LTMSLAB

Wear — NON — LUBRICATED

Gear Batch V1L417/P4L792

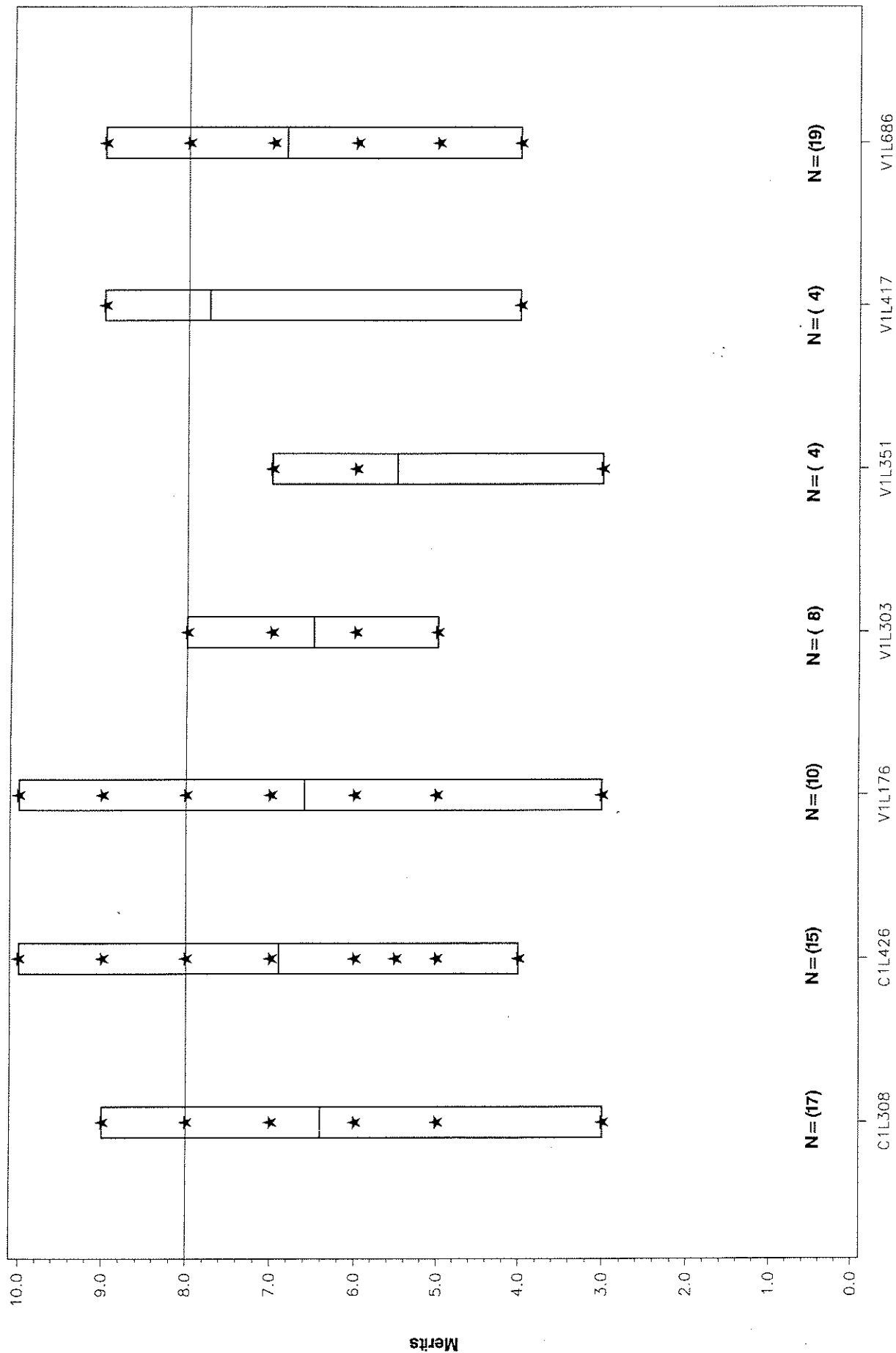
Reference Oil 153 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Ridging -- NON-LUBRICATED

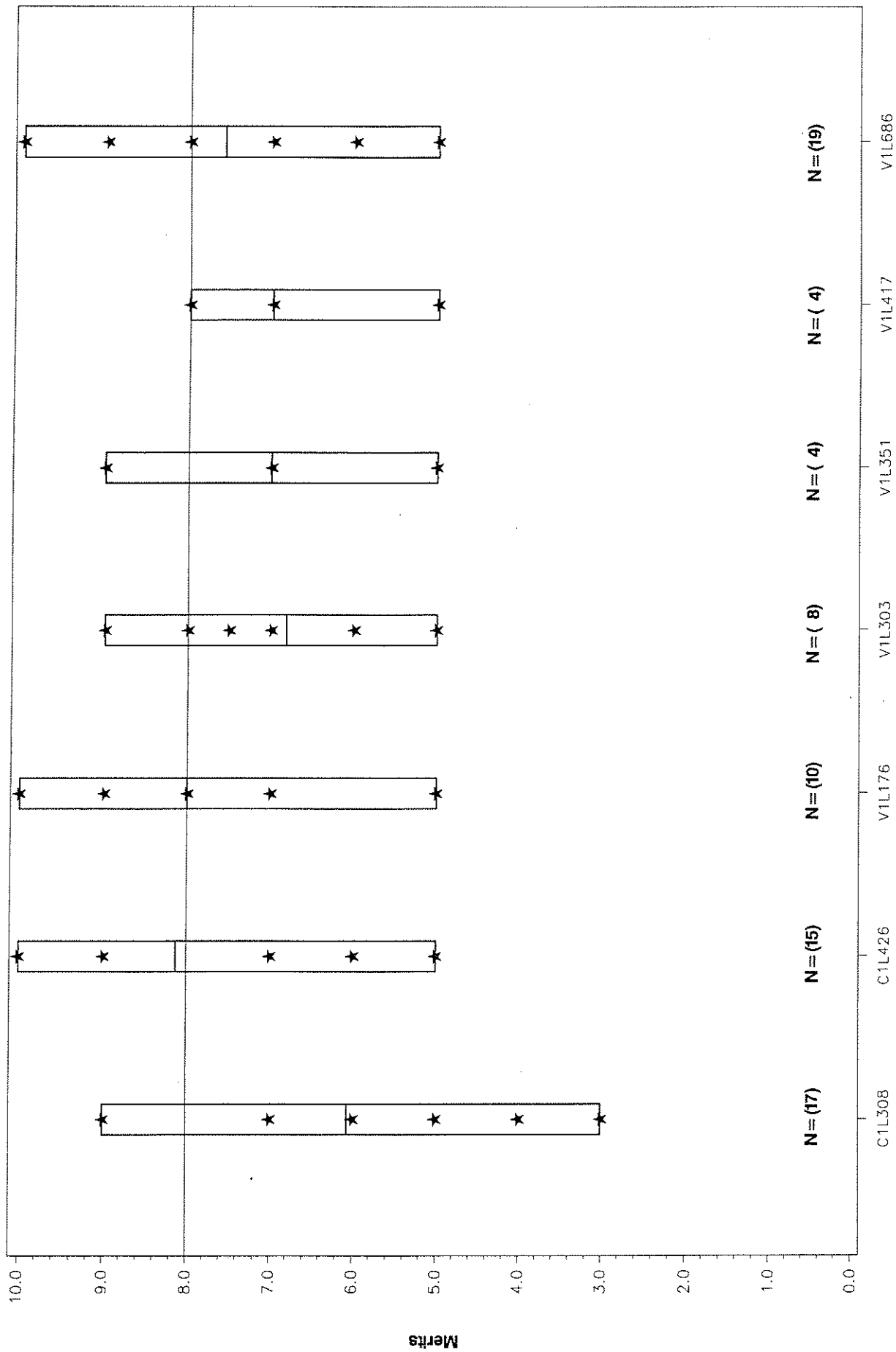
Reference Oil 127



L-37 Reference Oil Performance by Pinion Batch

Rippling -- NON-LUBRITED

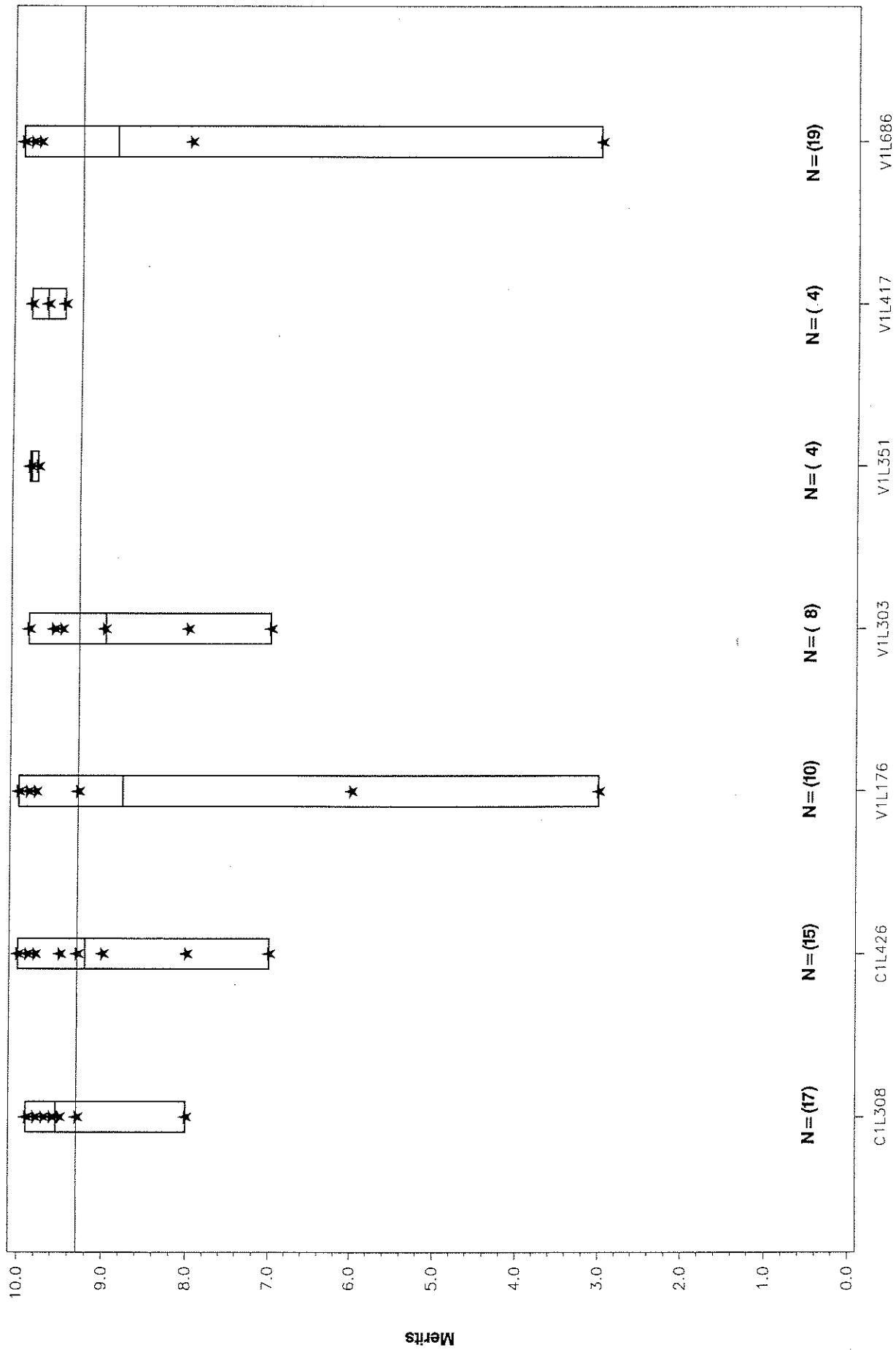
Reference Oil 127



L-37 Reference Oil Performance by Pinion Batch

Spitting - NON-LUBRITED

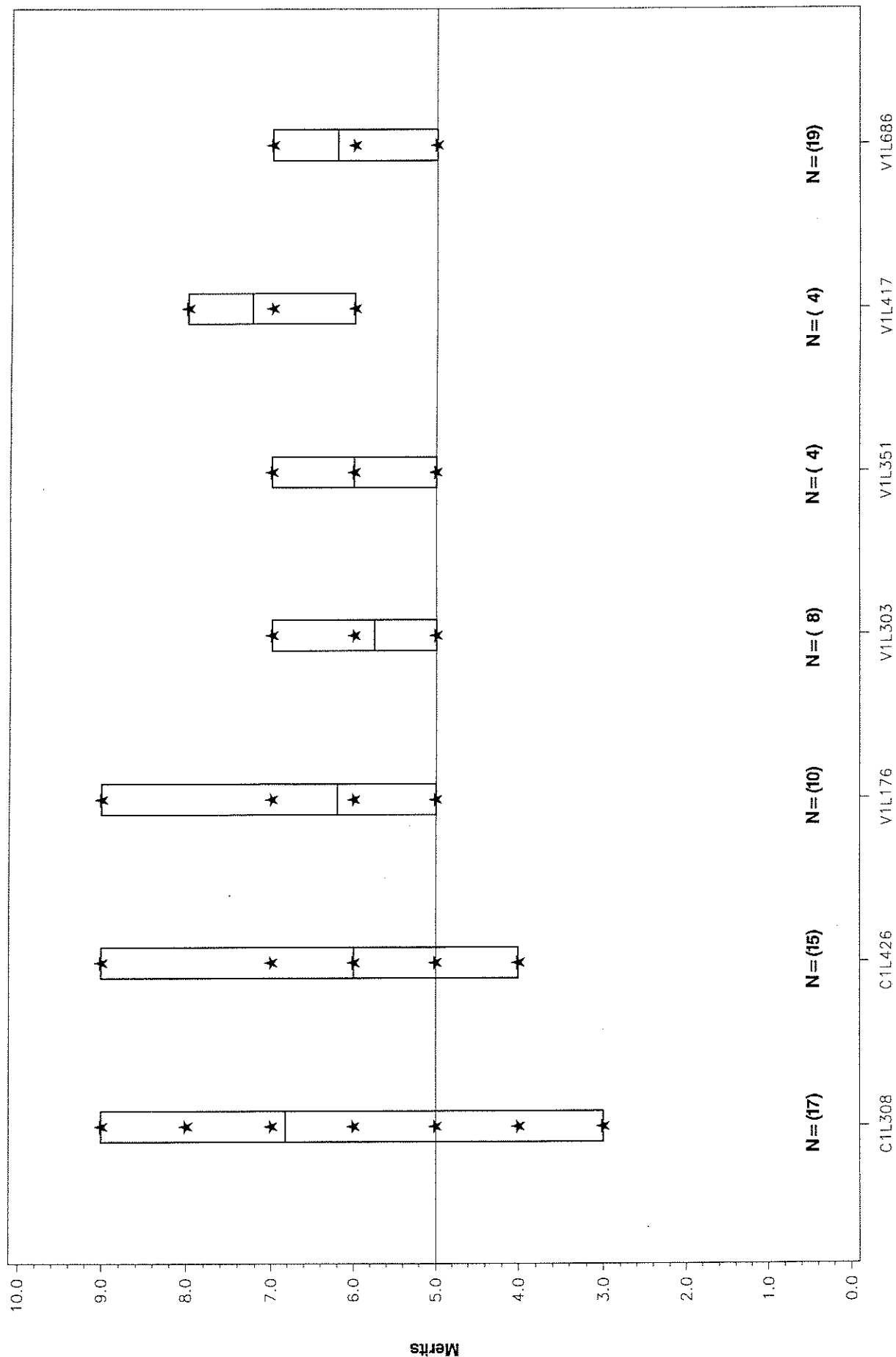
Reference Oil 127



L-37 Reference Oil Performance by Pinion Batch

Wear - NON-LUBRITED

Reference Oil 127

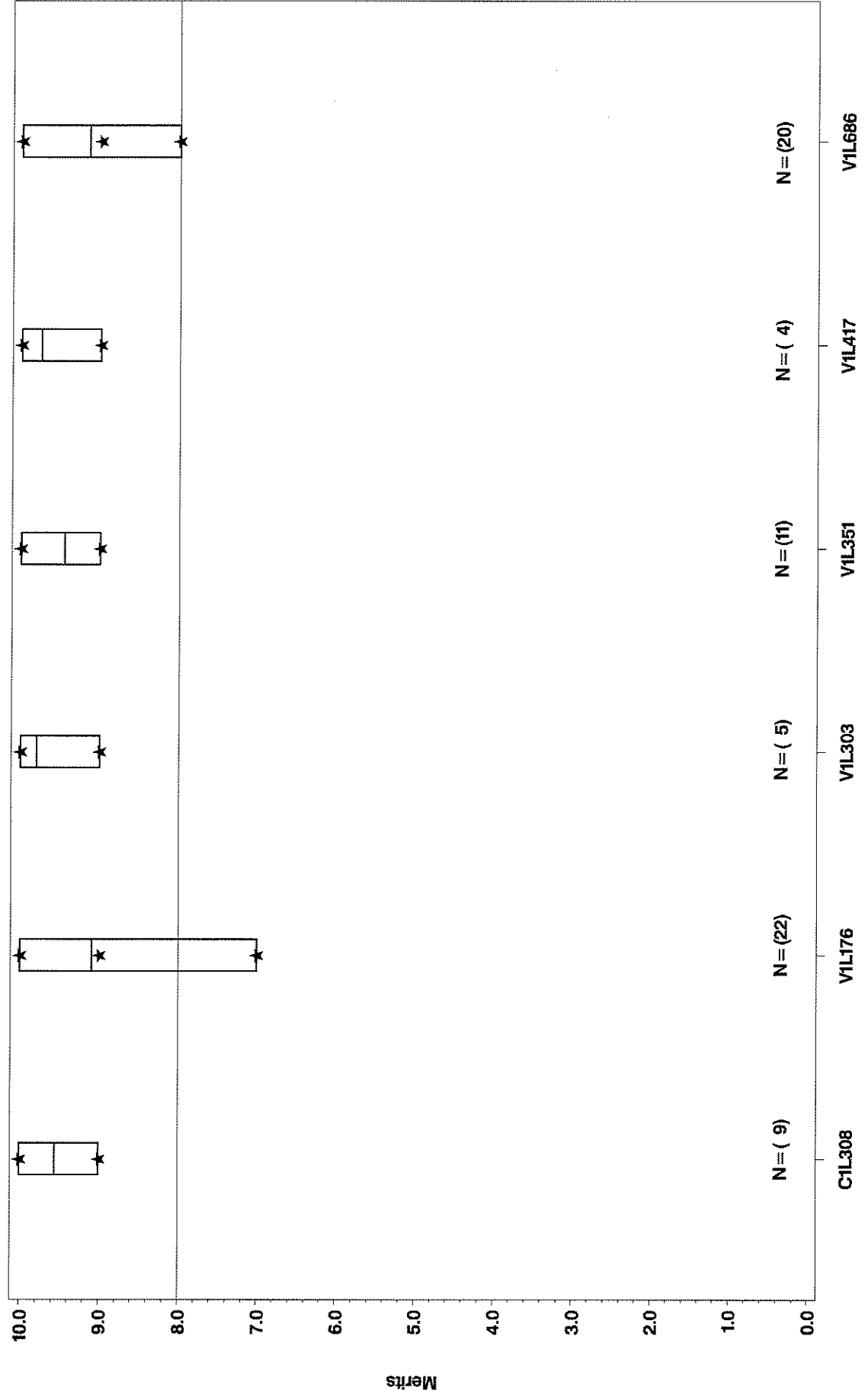


L-37 Reference Oil Performance by Pinion Batch

Ridging - NON - LUBRITED

Gear Batch V1L417/P4L792

Reference Oils 151-2 & 151-3

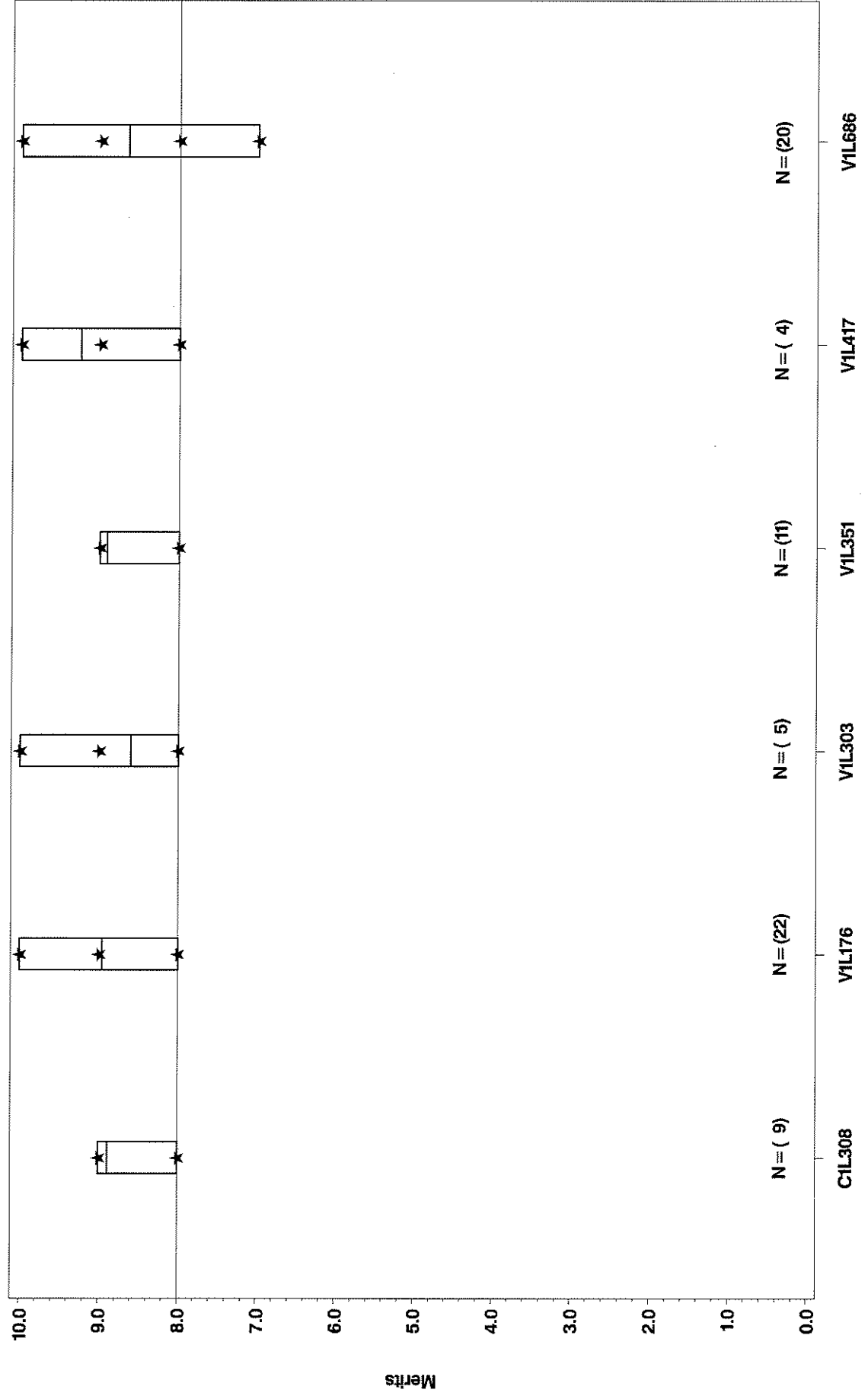


L-37 Reference Oil Performance by Pinion Batch

Rippling - NON - LUBRICATED

Gear Batch V1L417/P4L792

Reference Oils 151 - 2 & 151 - 3

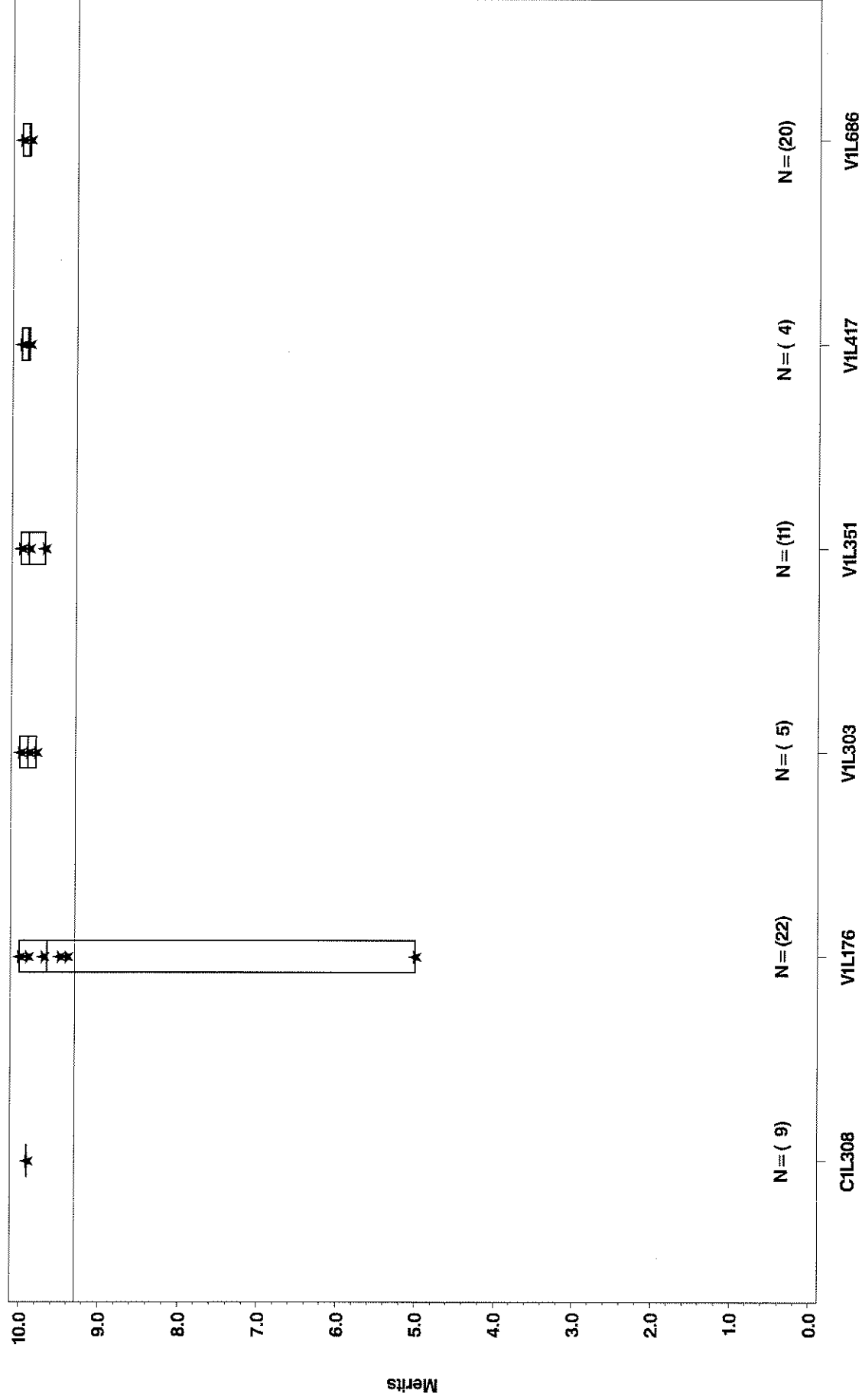


L-37 Reference Oil Performance by Pinion Batch

Spitting - NON - LUBRICATED

Gear Batch VIL417/P4L792

Reference Oils 151 - 2 & 151 - 3

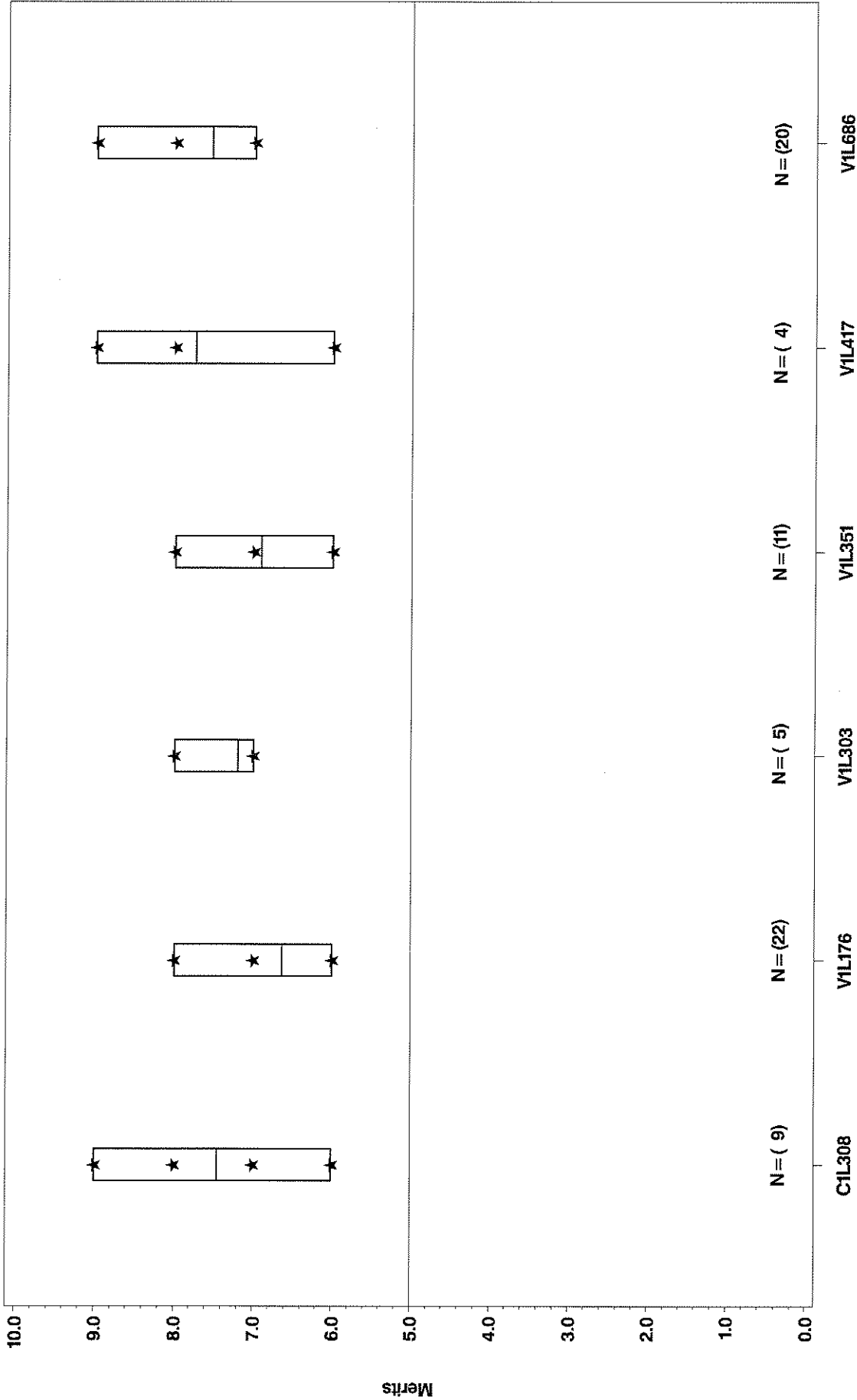


L-37 Reference Oil Performance by Pinion Batch

Wear -- NON -- LUBRITED

Gear Batch V1L417/P4L792

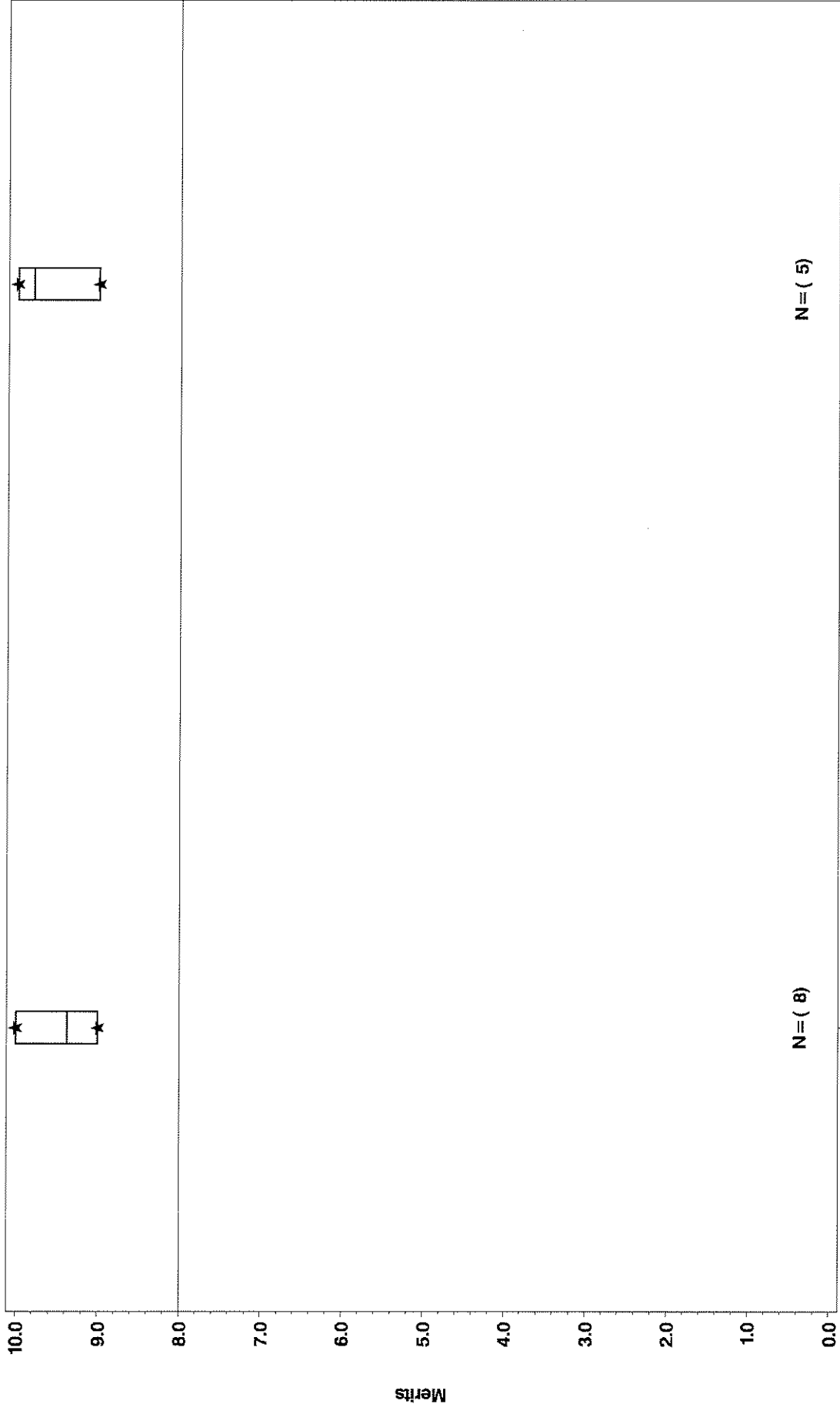
Reference Oils 151-2 & 151-3



L-37 Reference Oil Performance by Pinion Batch

Ridging - NON - LUBRITED

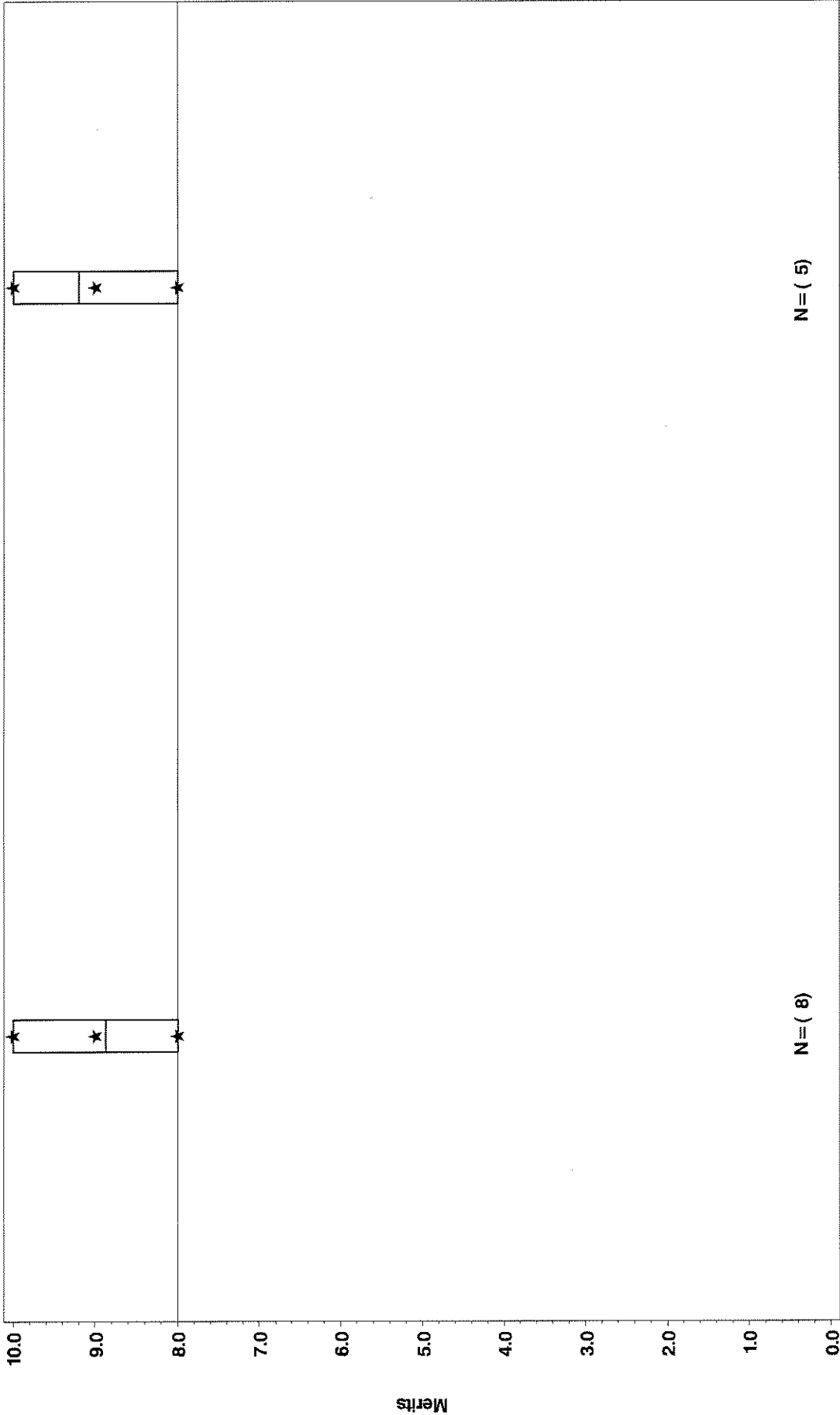
Reference Oil 152 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Rippling - NON - LUBRICATED

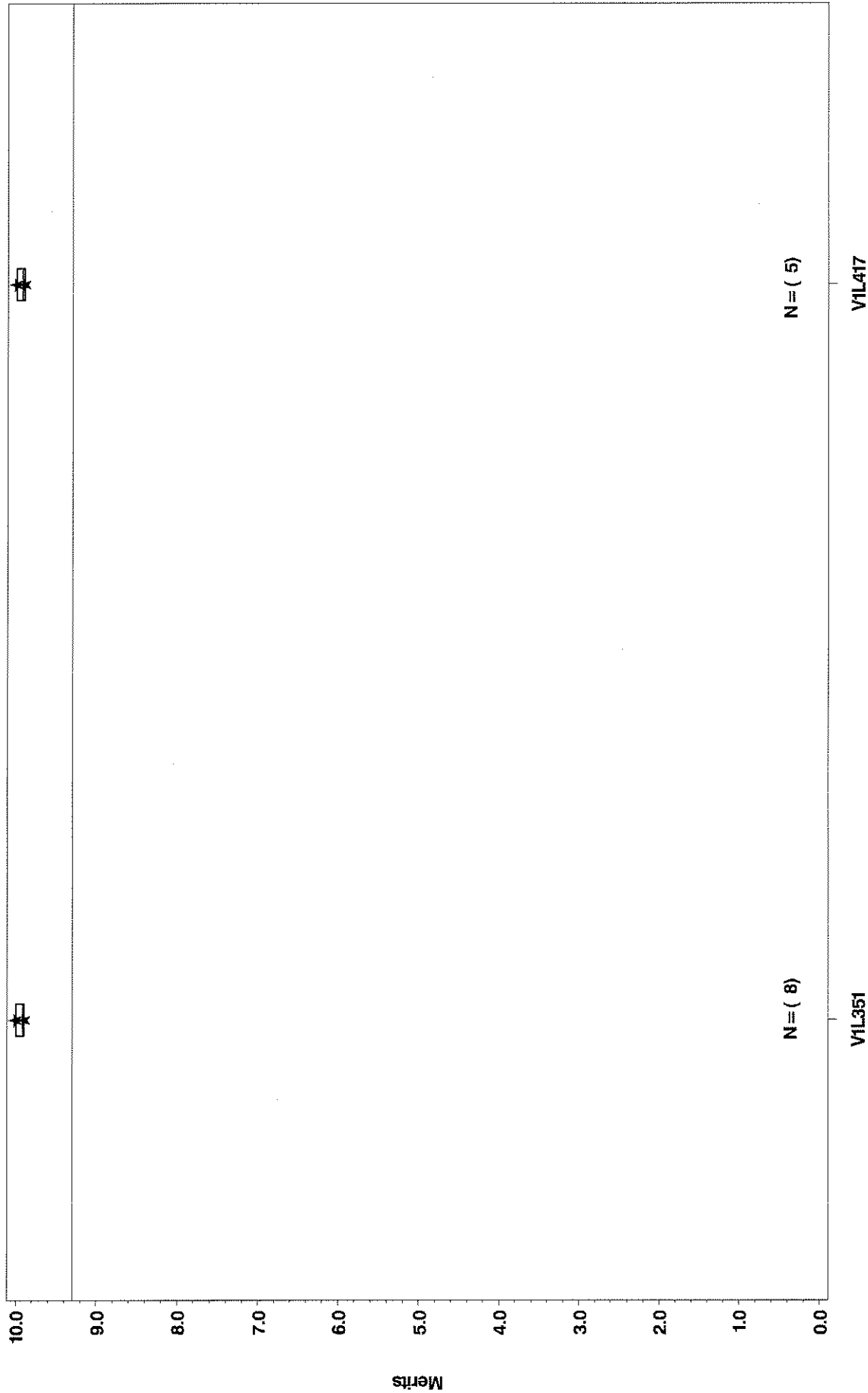
Reference Oil 152 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Spitting -- NON-LUBRICATED

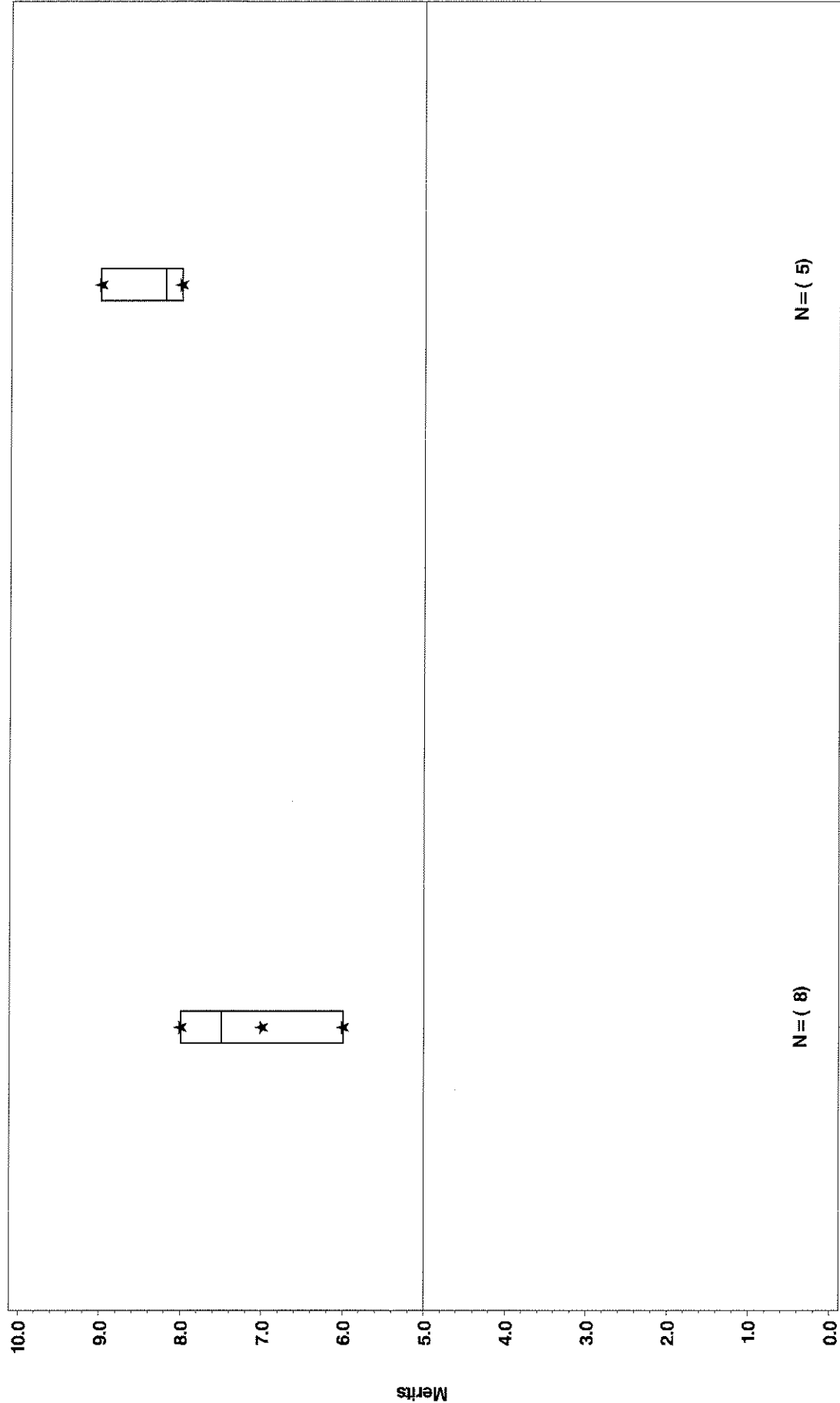
Reference Oil 152 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Wear - NON - LUBRICATED

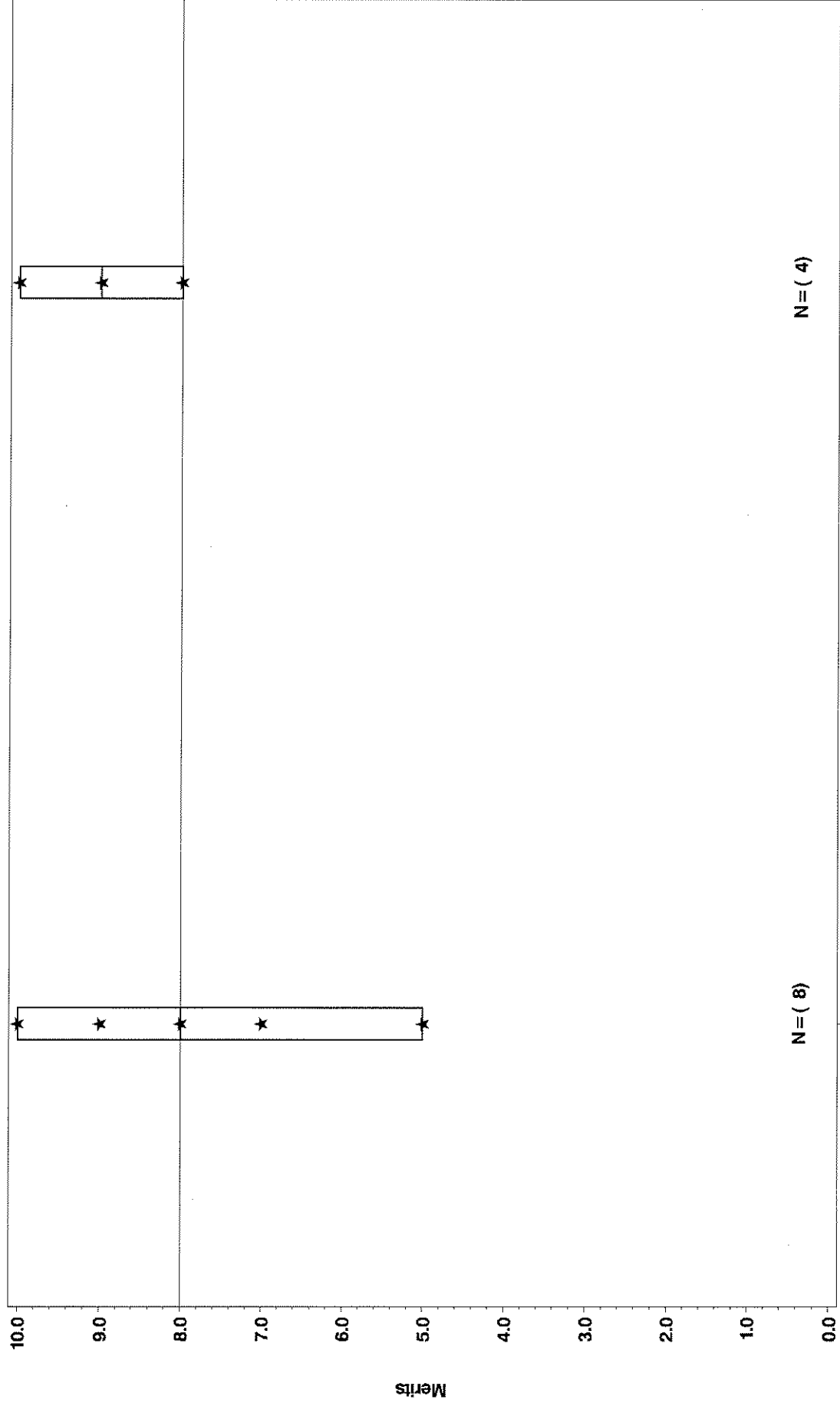
Reference Oil 152 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Ridging - NON - LUBRICATED

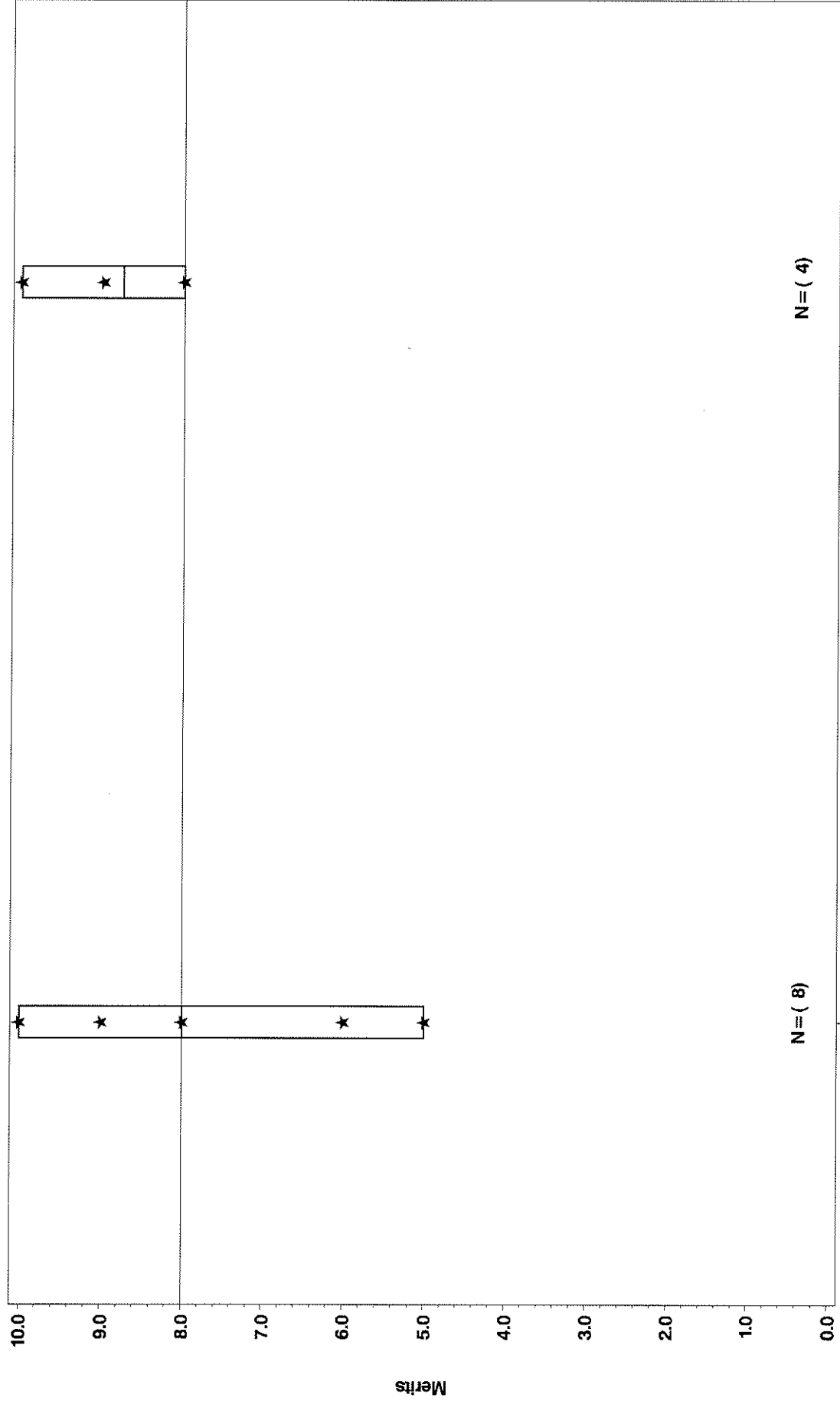
Reference Oil 153 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Rippling - NON-LUBRICATED

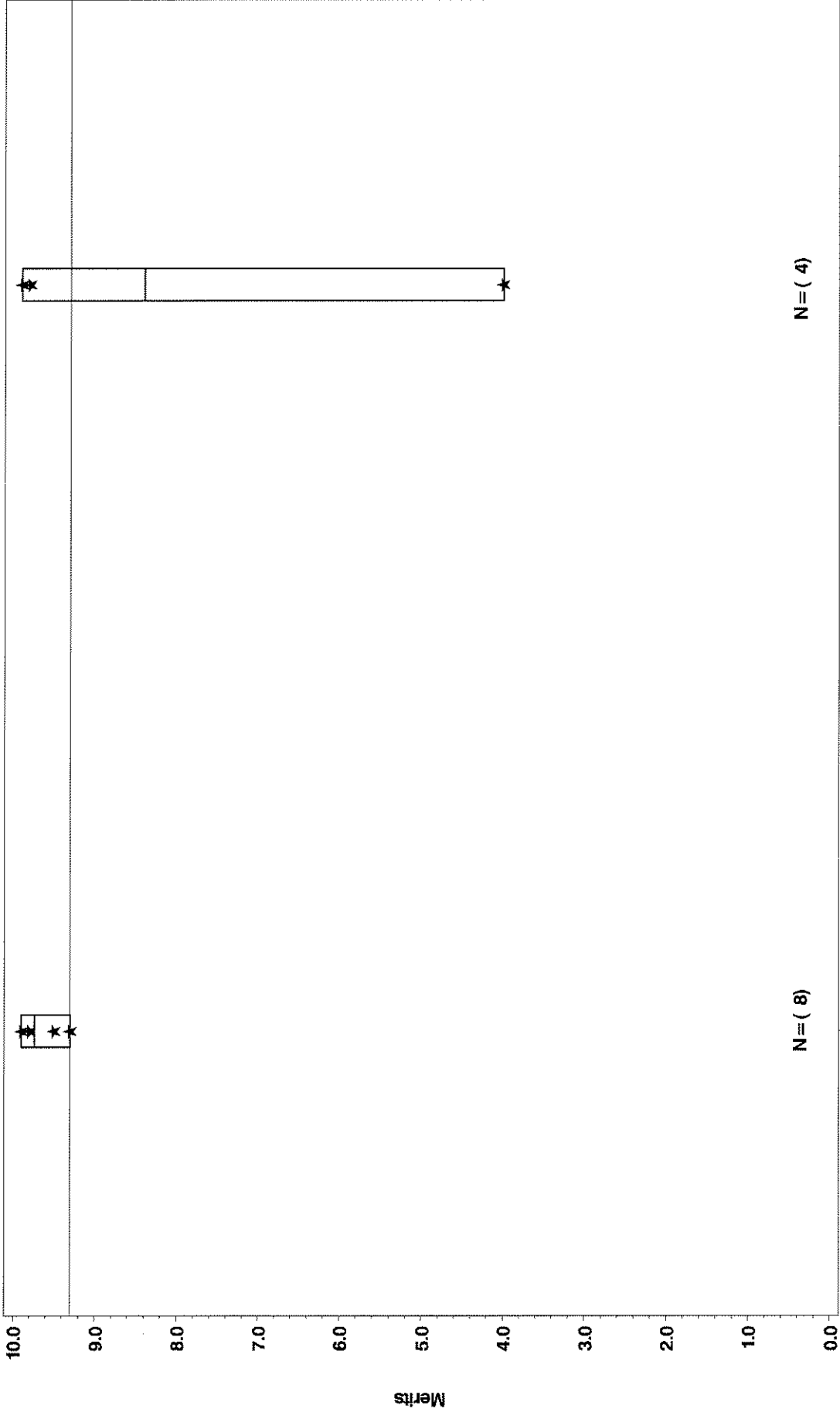
Reference Oil 153 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Spitting -- NON-LUBRICATED

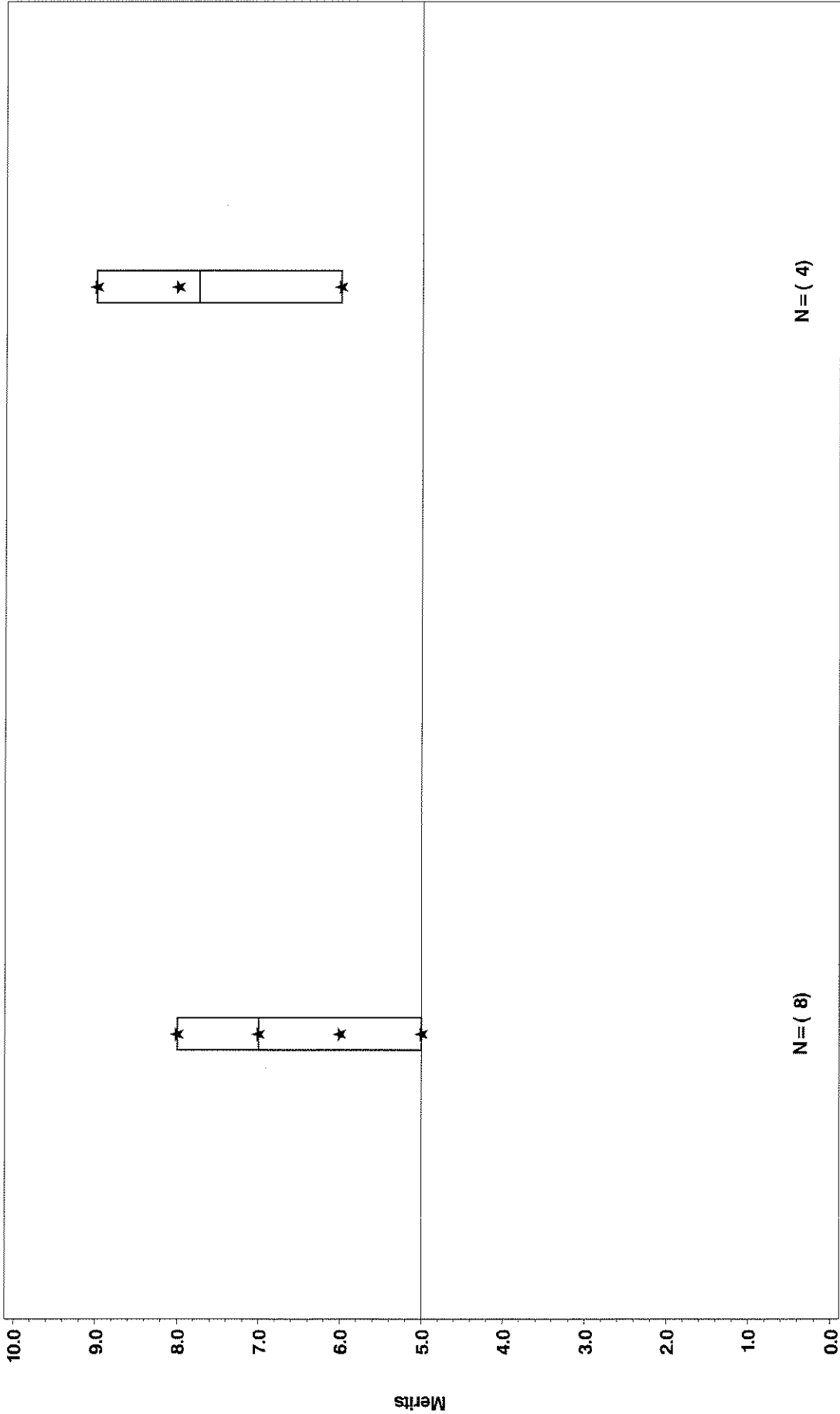
Reference Oil 153 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Wear -- NON-LUBRICATED

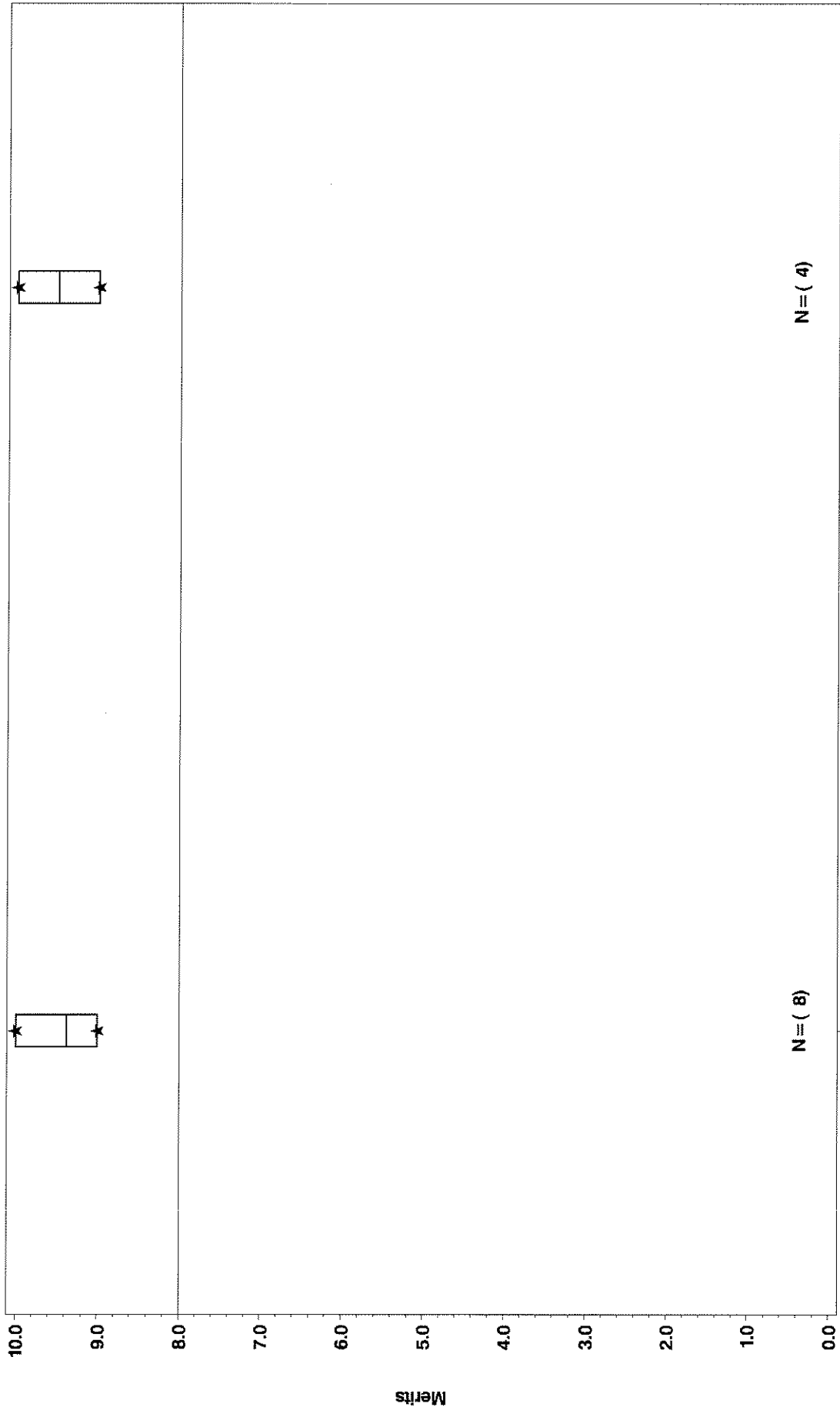
Reference Oil 153 Standard Temperature



L-37 Reference Oil Performance by Pinion Batch

Ridging - NON - LUBRICATED

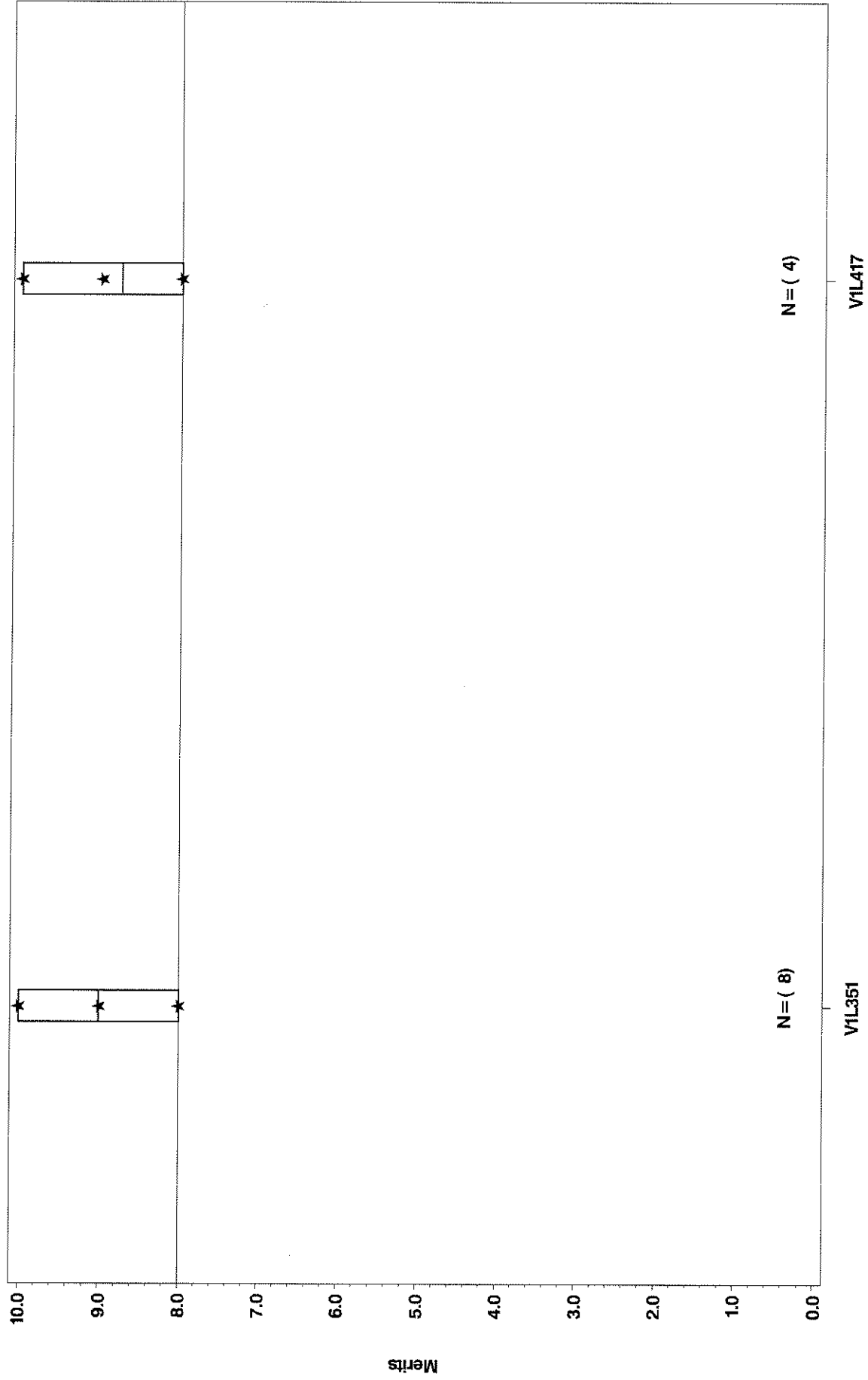
Reference Oil 152 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Rippling - NON-LUBRITED

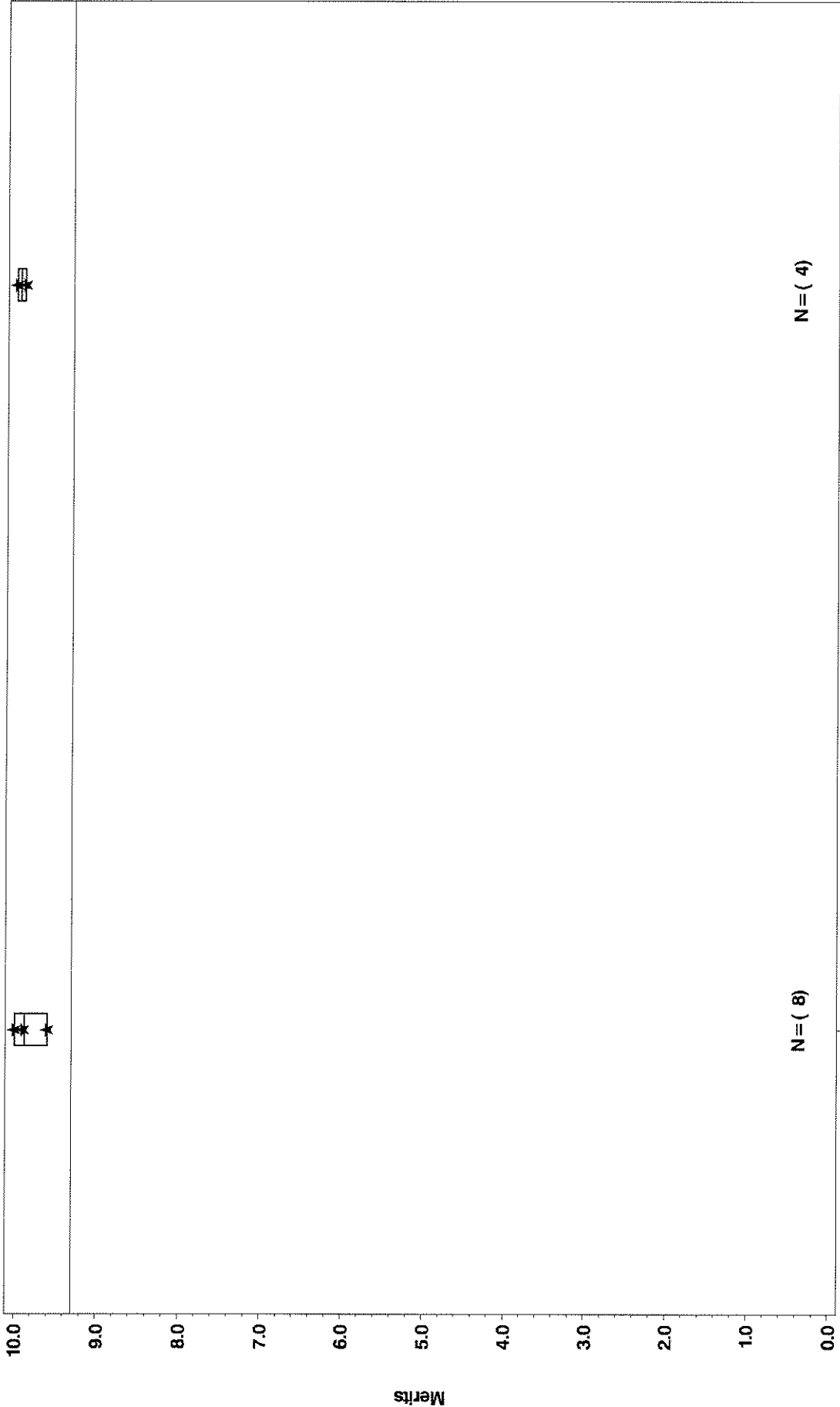
Reference Oil 152 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Spitting -- NON-LUBRICATED

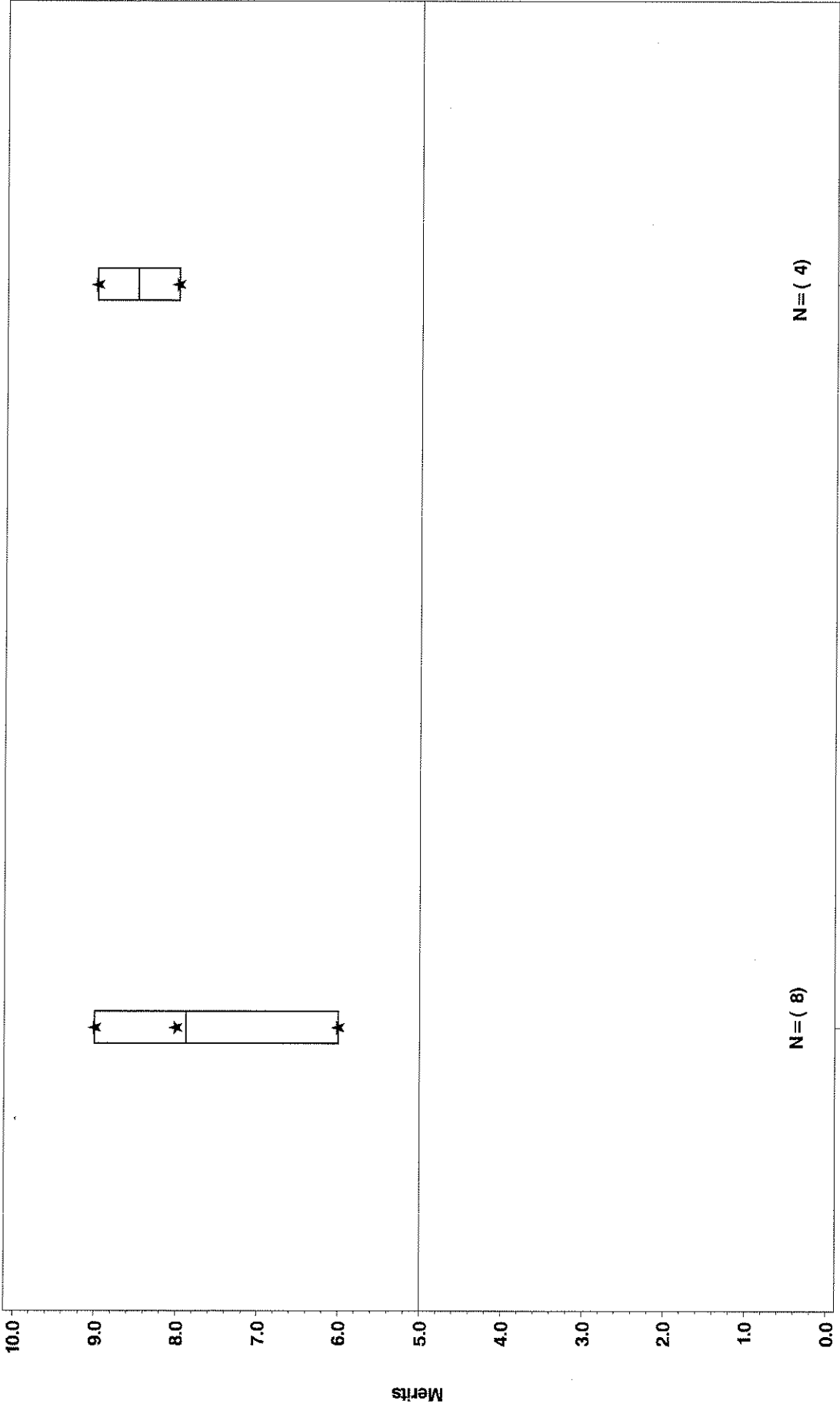
Reference Oil 152 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Wear --- NON - LUBRICATED

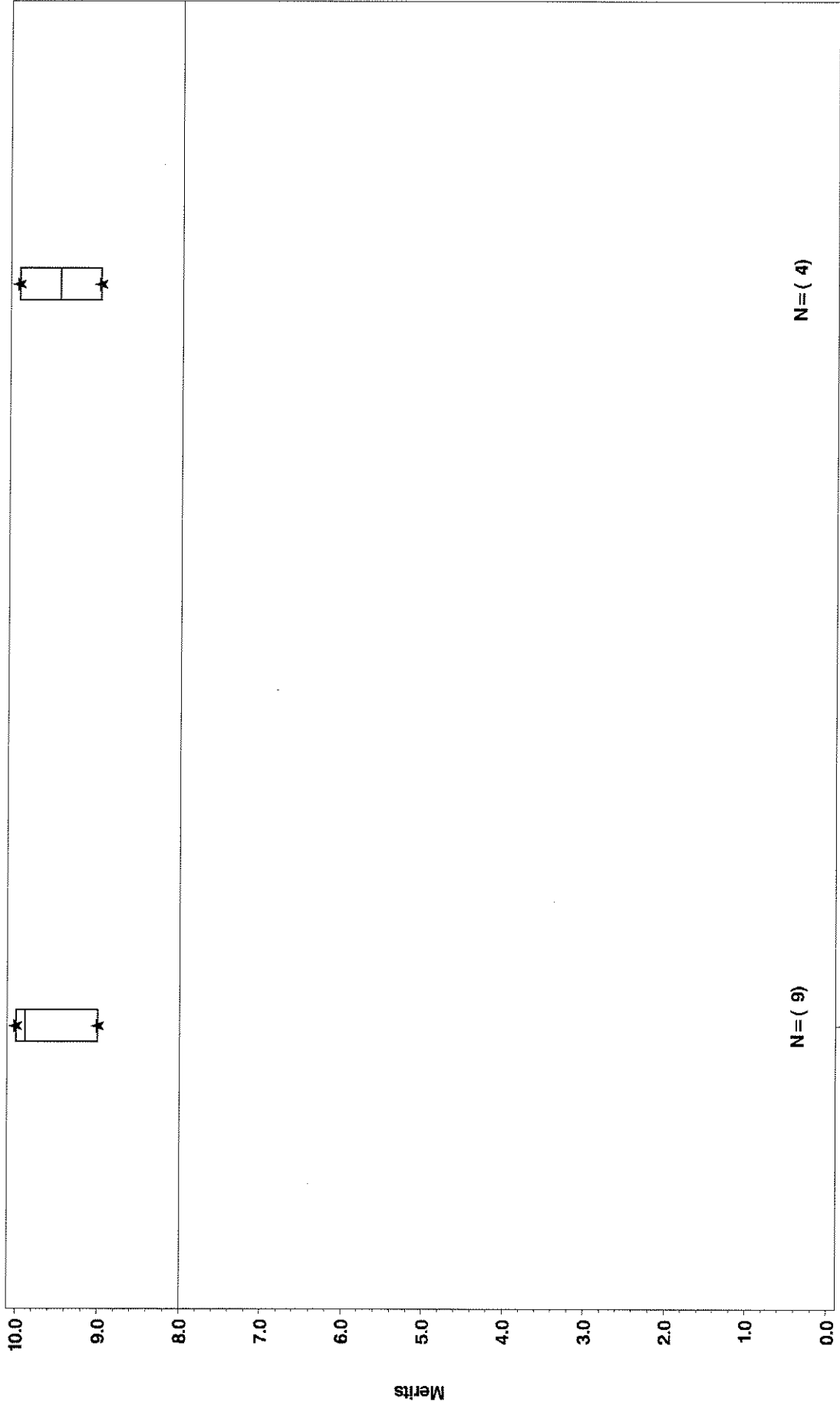
Reference Oil 152 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Ridging - NON-LUBRICATED

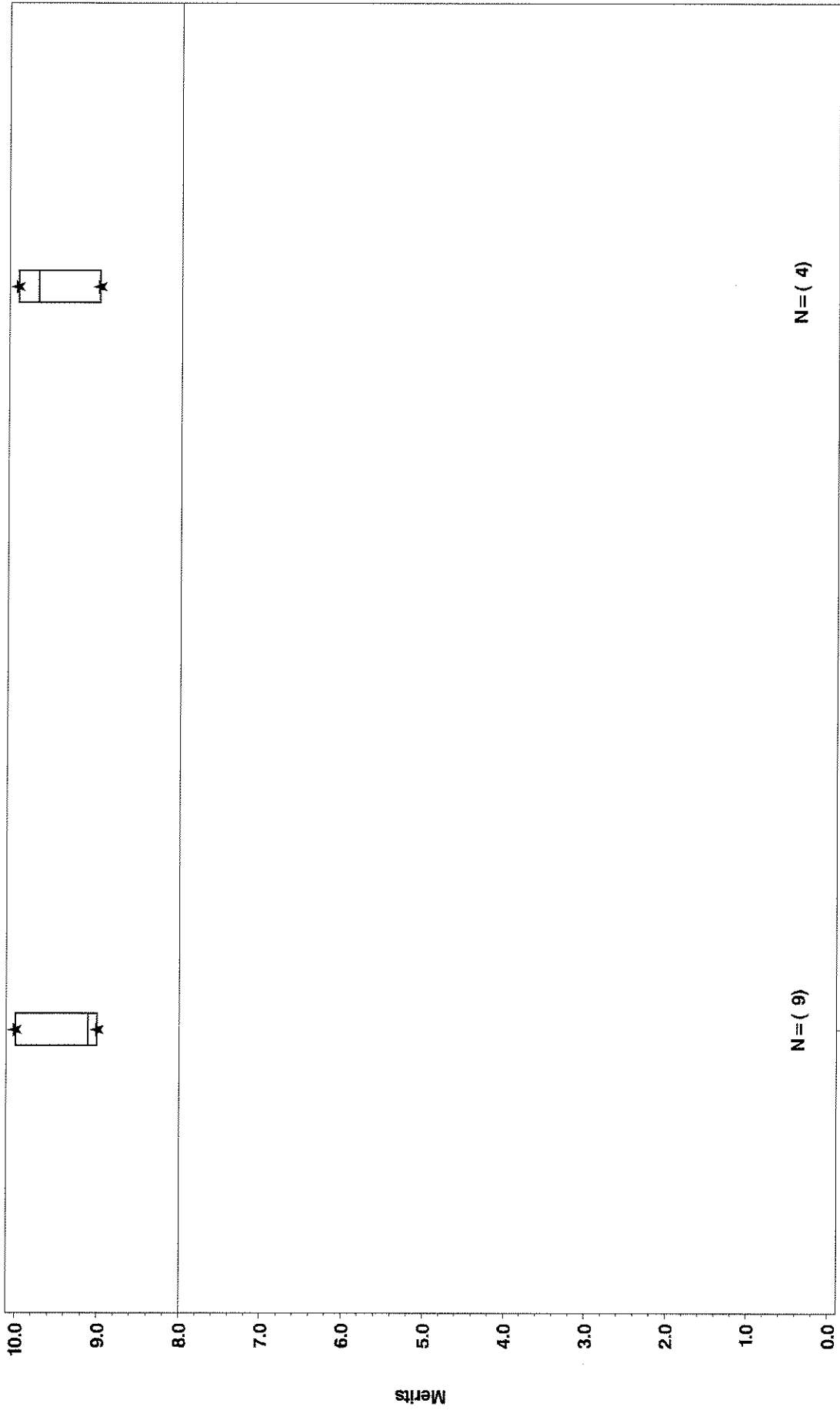
Reference Oil 153 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Rippling – NON – LUBRICATED

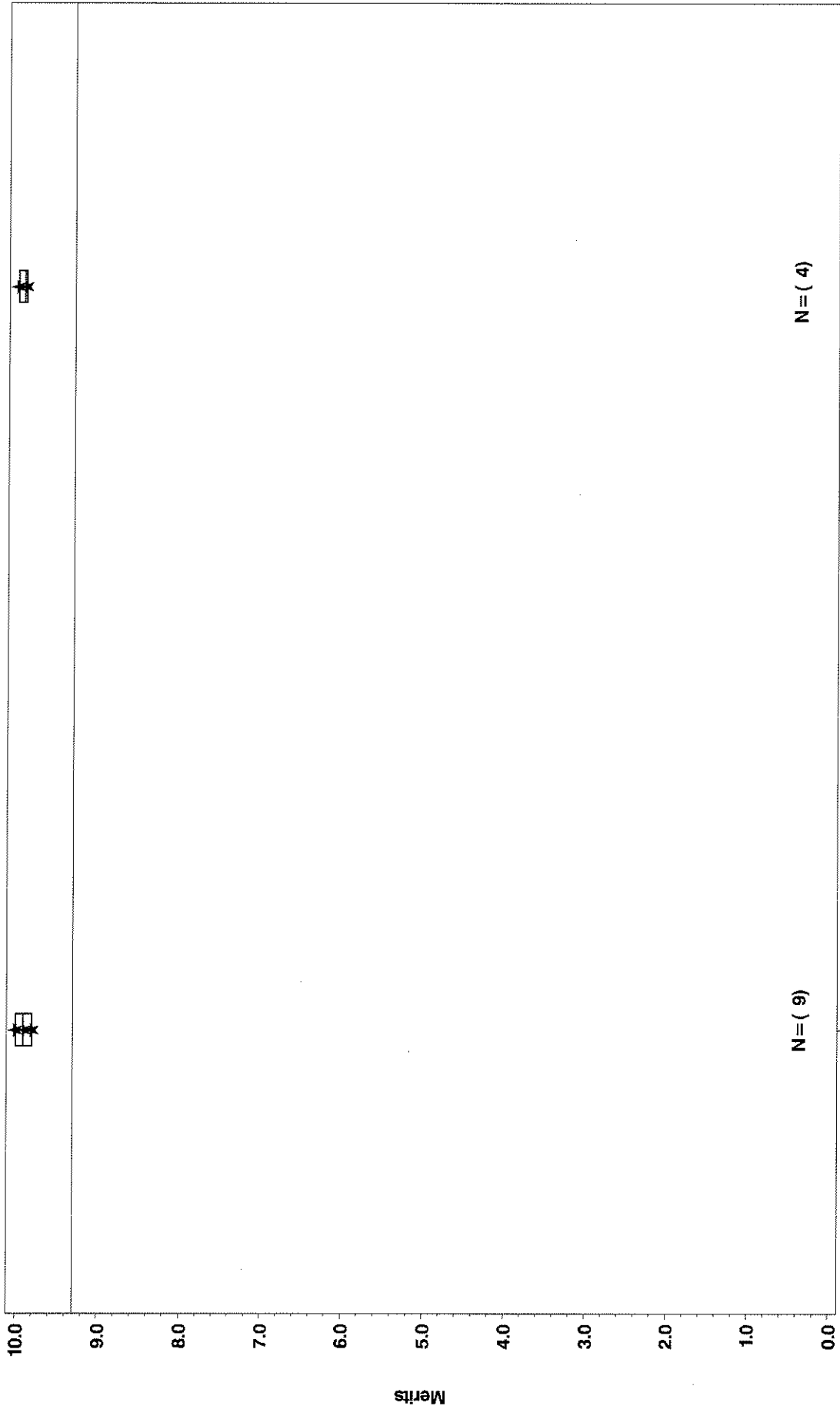
Reference Oil 153 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Spitting - NON-LUBRITED

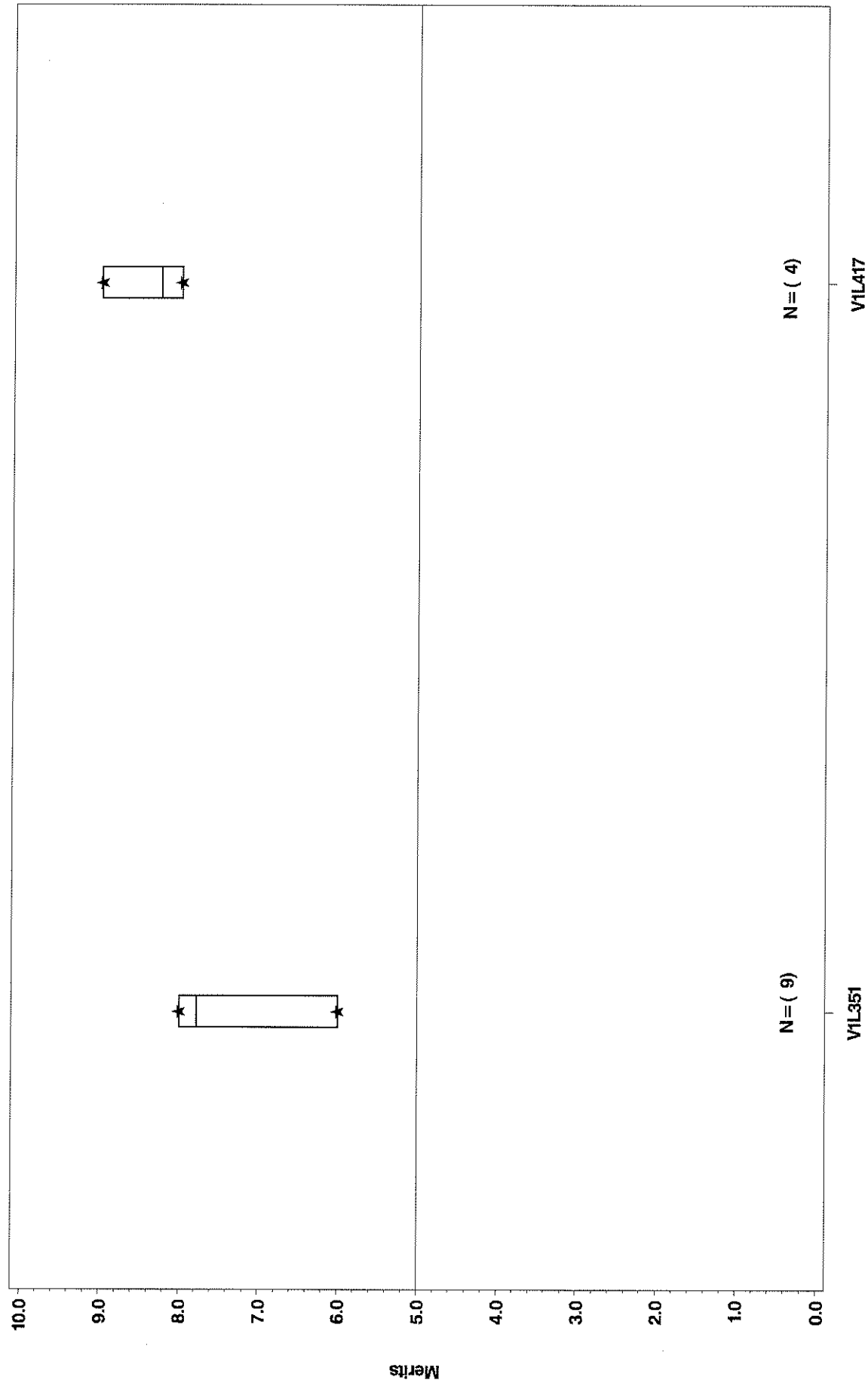
Reference Oil 153 Low Temperature



L-37 Reference Oil Performance by Pinion Batch

Wear - NON-LUBRICATED

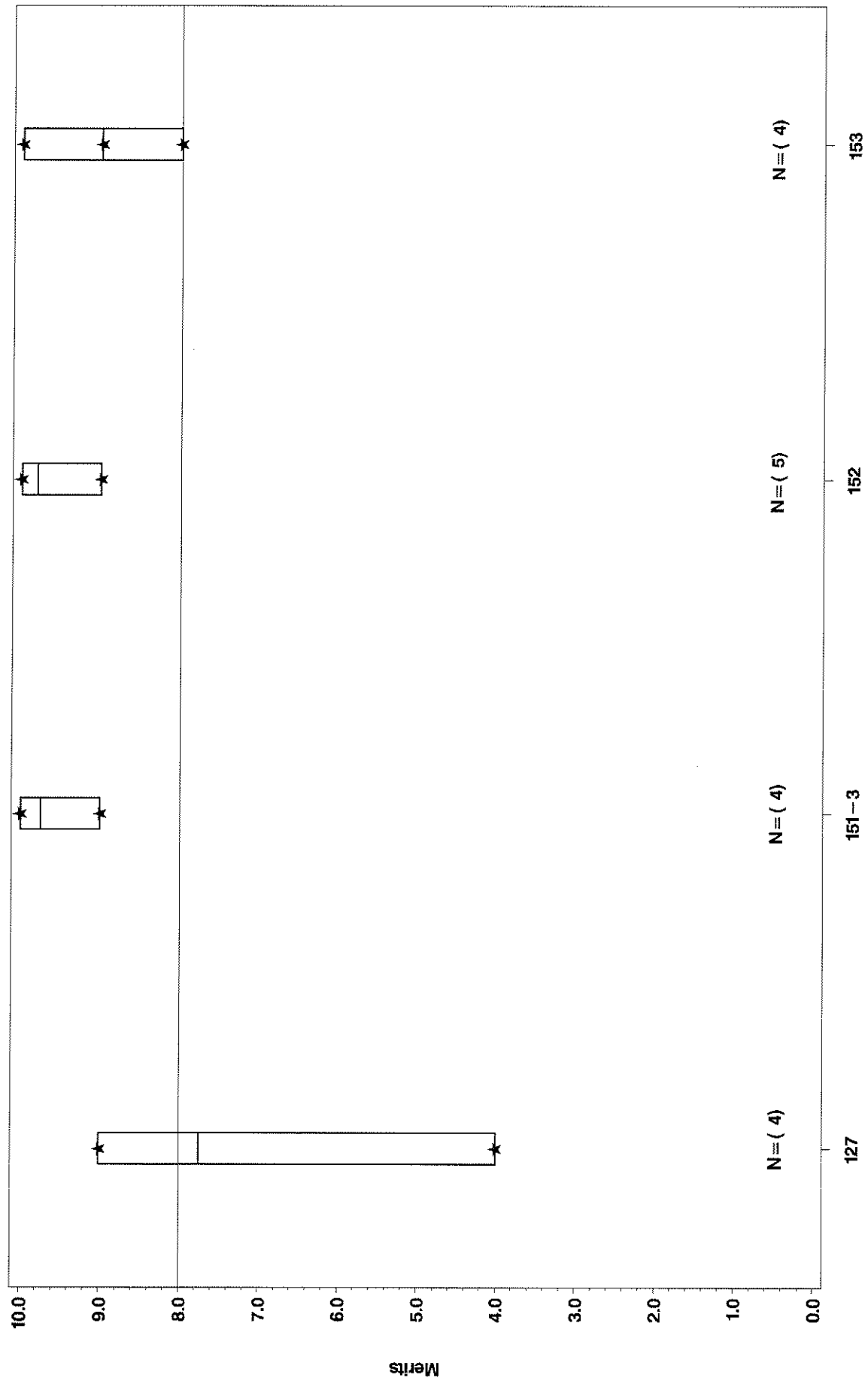
Reference Oil 153 Low Temperature



L-37 Reference Oil Comparison

Ridging — NON — LUBRITED — Standard

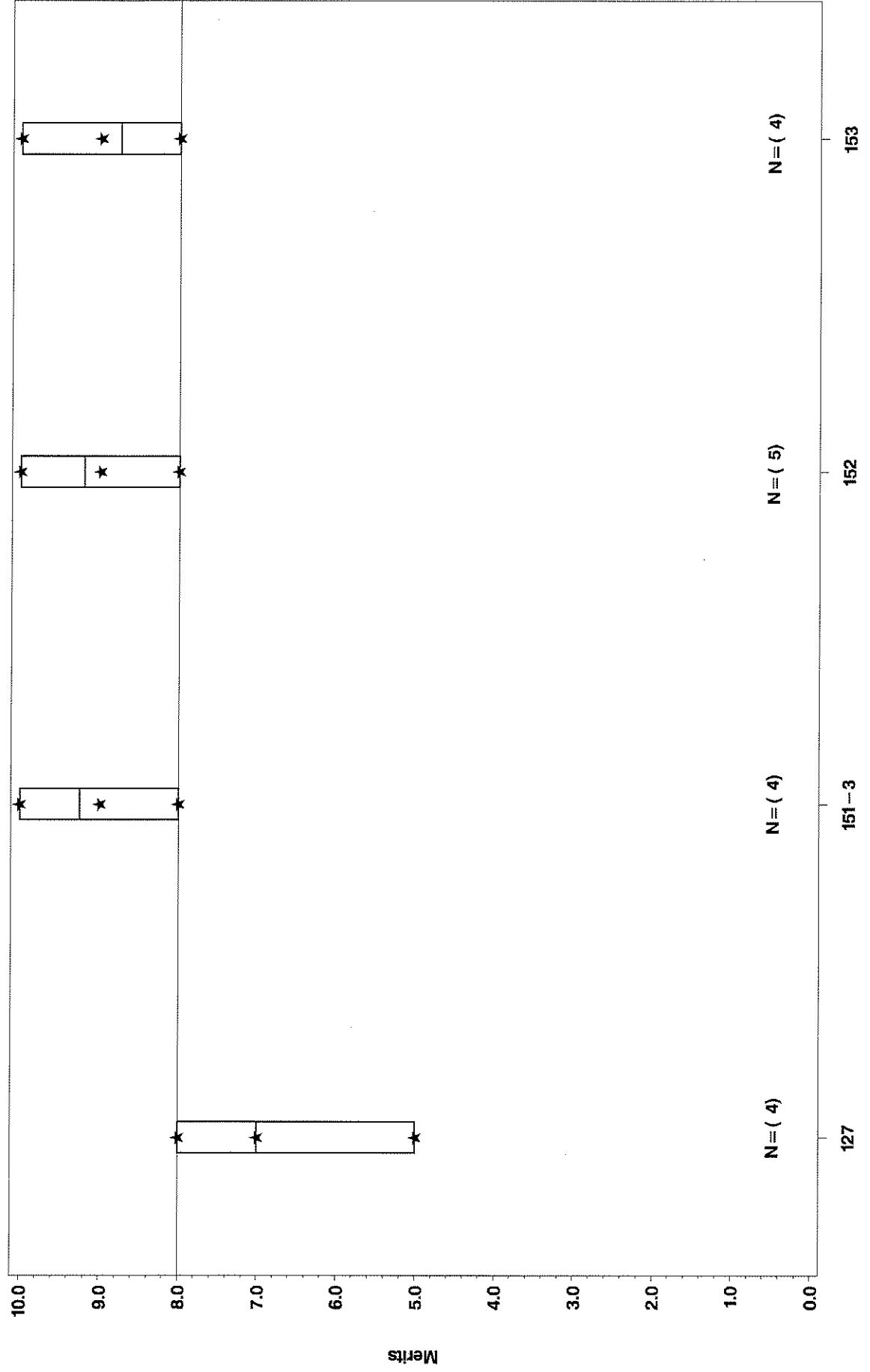
Gear Batch VIL417/P4L792



L-37 Reference Oil Comparison

Rippling - NON - LUBRICATED - Standard

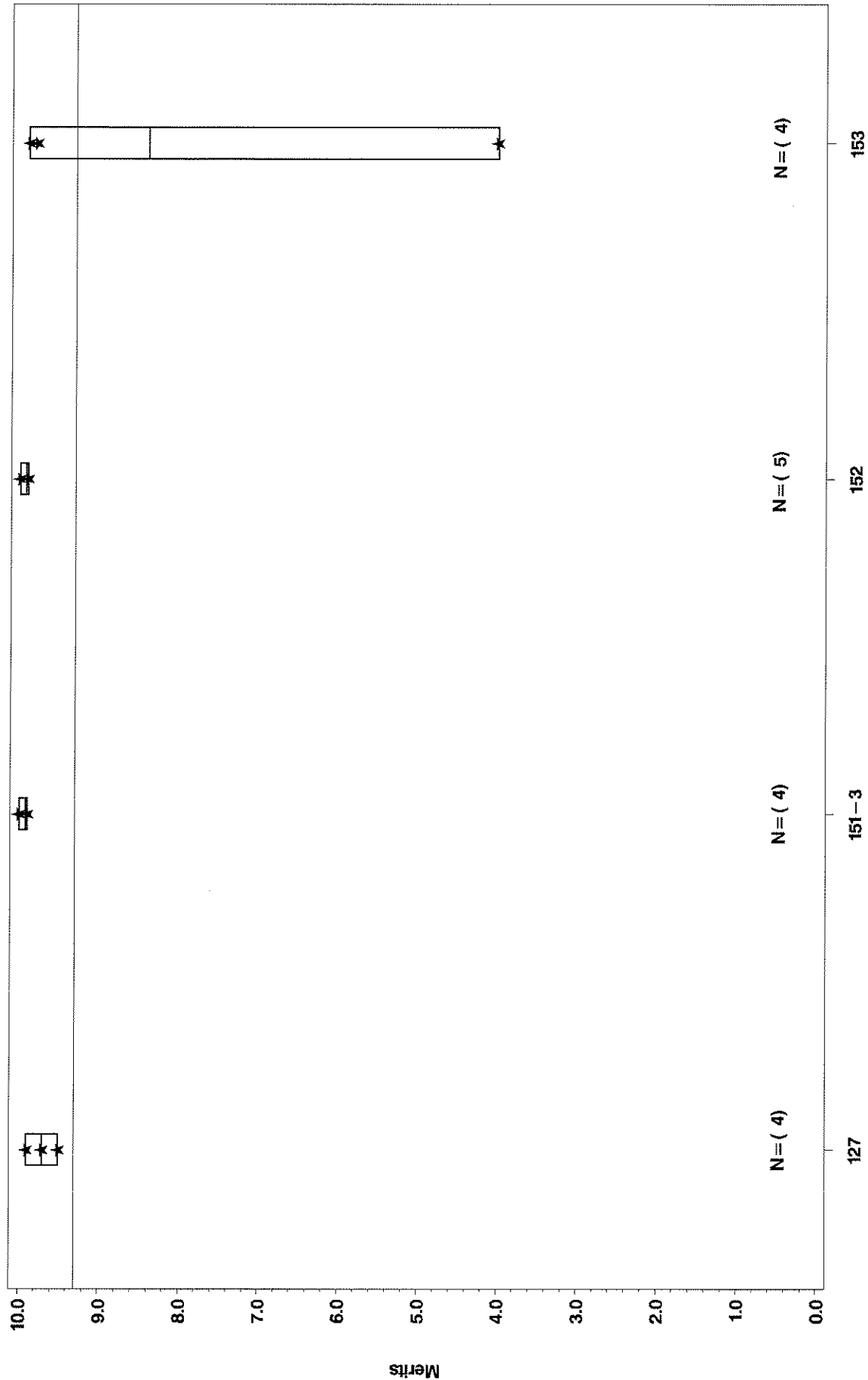
Gear Batch VIL417/P4L792



L-37 Reference Oil Comparison

Splitting -- NON-LUBRICATED -- Standard

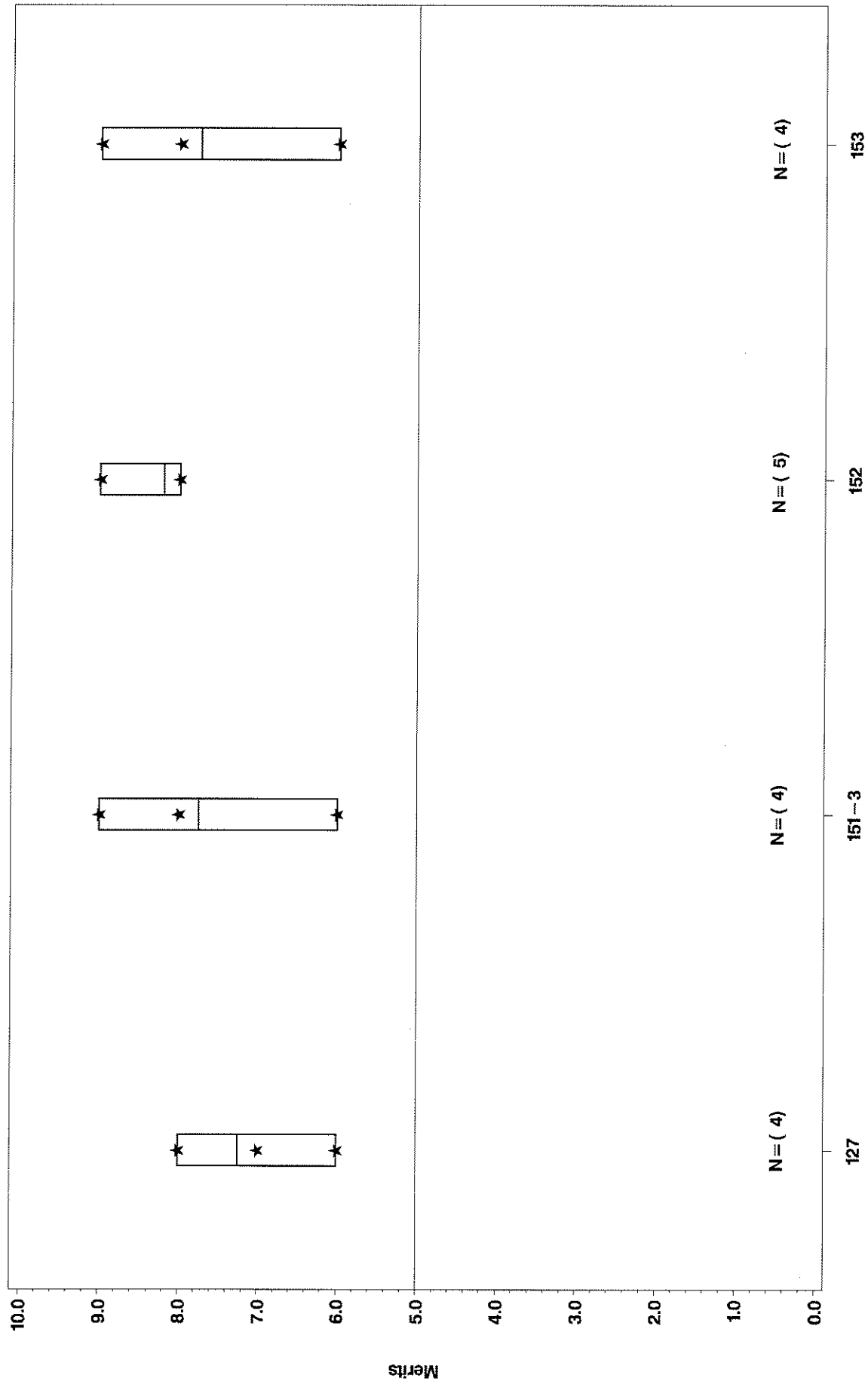
Gear Batch V1L417/P4L792



L-37 Reference Oil Comparison

Wear — NON — LUBRICATED — Standard

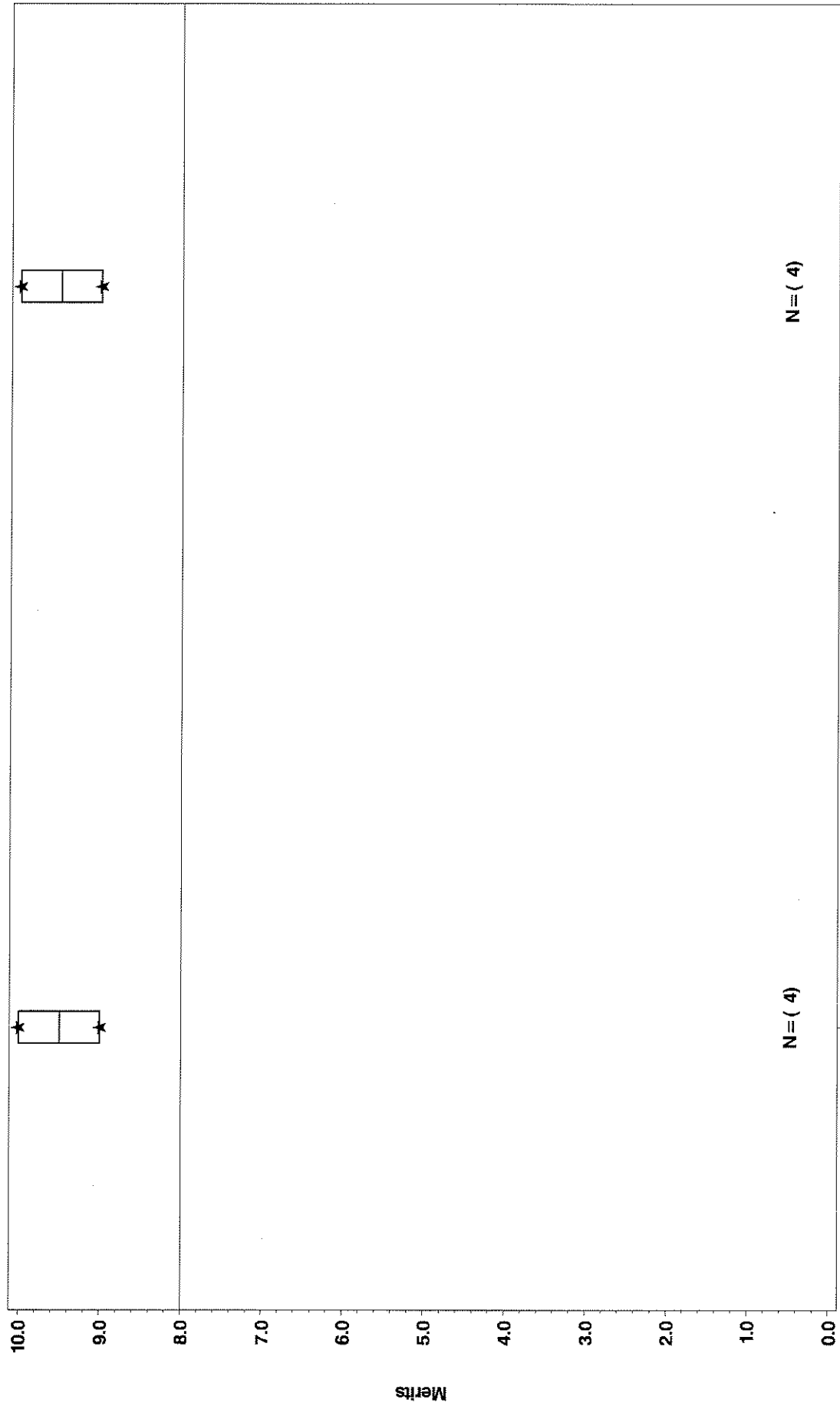
Gear Batch V1L417/P4L792



L-37 Reference Oil Comparison

Ridging - NON - LUBRICATED - LowTemp

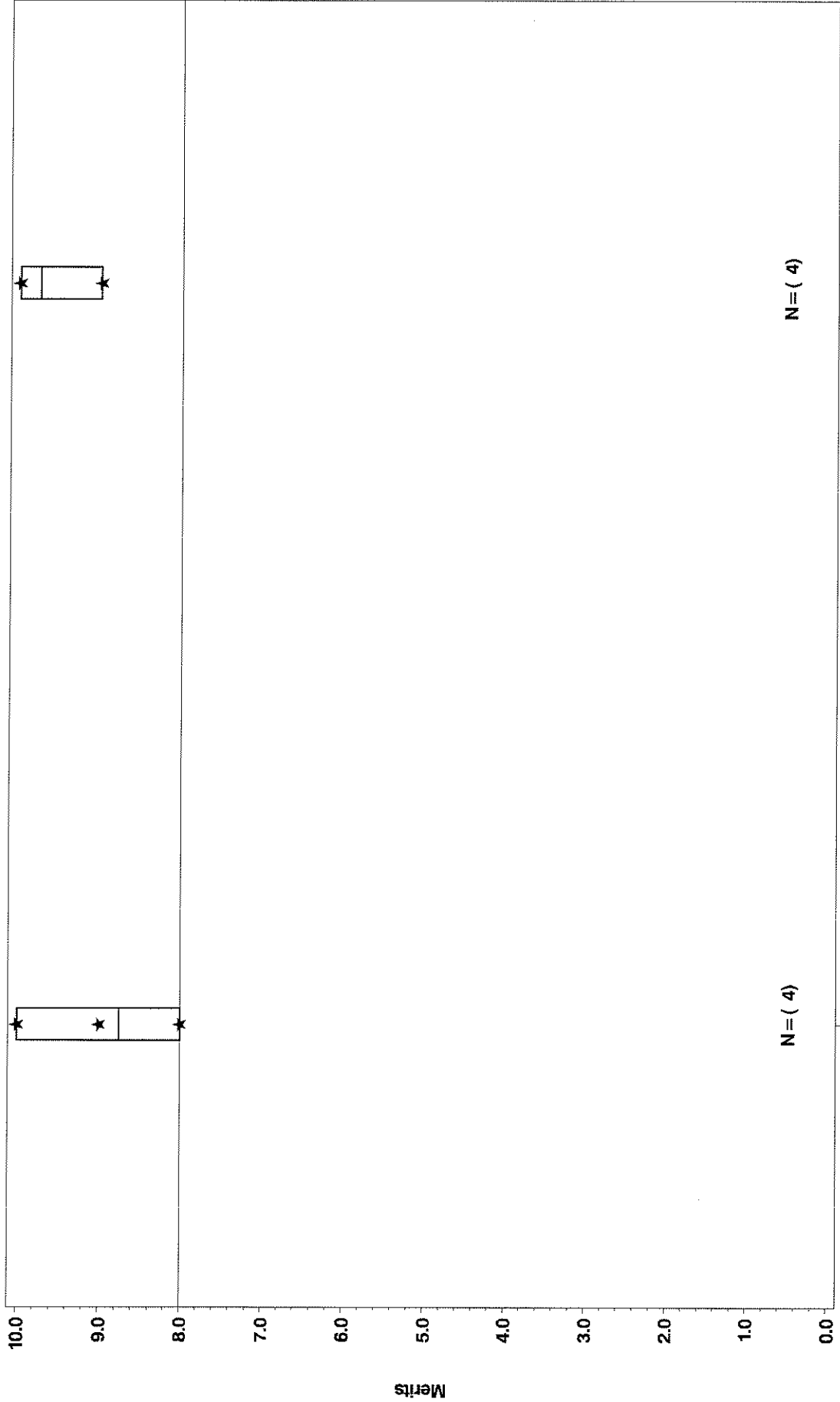
Gear Batch V1L417/P4L792



L-37 Reference Oil Comparison

Rippling — NON — LUBRITED — LowTemp

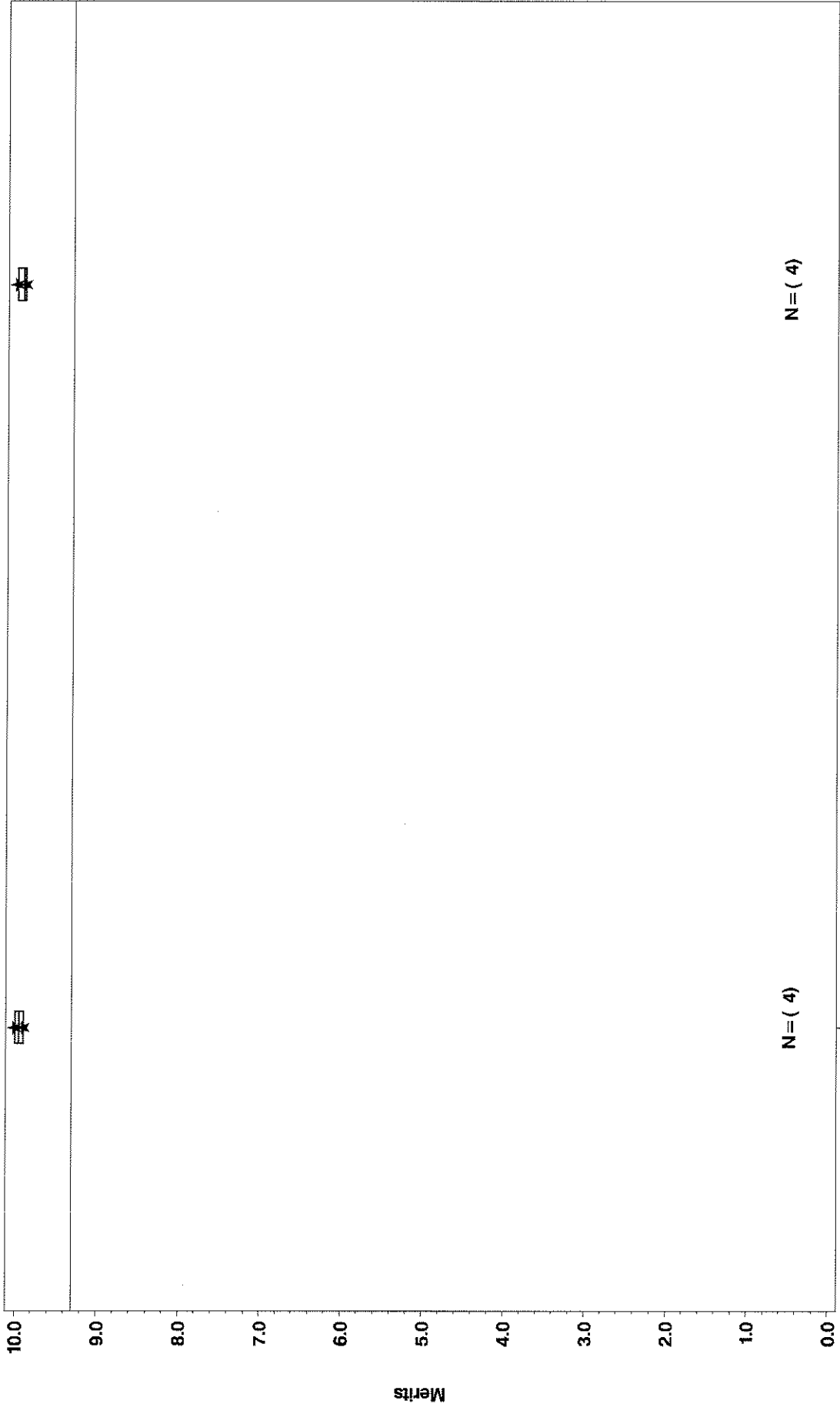
Gear Batch VIL417/P4L792



L-37 Reference Oil Comparison

Spitting -- NON -- LUBRICATED -- LowTemp

Gear Batch VIL417/P4L792



L-37 Reference Oil Comparison

Wear - NON-LUBRICATED - LowTemp

Gear Batch VIL417/P4L792

