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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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Reply to: December 12, 2002
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Unapproved Minutes of the November 20, 2002 Sequence VG Surveillance Panel Meeting held in San Antonio, Texas

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The meeting was called to order at 12:58 PM by Chairman Gordon Farnsworth. A membership list was circulated for members and guests to sign in. The signed membership list is included as Attachment 1. A copy of the agenda is included as attachment 2. No changes to the membership were reported during this meeting. Minutes from the May 15th, 2002 meeting were approved as written, motion to approve, Bill Buscher, 2nd, Jerry Brys. Minutes from the September 17, 2002 meeting were approved as written, motion to approve, Bill Buscher, 2nd, Jerry Brys.

Review of Action Items from Previous Meeting

- 1) 1009 targets, TMC to collect two additional data points, Complete.
- 2) Chair to remind Ford of the rate and report items for upcoming meeting. Complete.
- 3) Future Hardware Task Force. Ongoing
- 4) Ford Bore Measurement procedure. Ongoing

See attachment 3.

TMC Report

A copy of the TMC Report is included as attachment 4. Test targets on reference oil 1009 were reviewed with no comments. The status of the VE test method D5302 was discussed and the panel agreed to recommend to Subcommittee B that Test Method D 5302 be withdrawn.

RSI Report

A copy of the RSI report is included as Attachment 5. Test volume has shown a decrease, with 55 operationally valid tests reported this period, with no replicate data, so precision estimates were not available.

Fuels Report

A copy of the fuel suppliers report is included as attachment 6. There has been little degradation of the fuel in storage at Dow. There is a 51 month supply at current usage rates. It was brought to the attention of the panel that there are adjustments being made to the fuel in storage, as the low end points tend to increase. Jim Carter informed the group that light ends are being added to the fuel. The panel tasked Jim with determining when these adjustments have been made and how these adjustments are being made. Plots of lab analysis data were also reviewed. No significant items were noted when individual lab data was reviewed. Questions abounded regarding what components were being added and what the purity of the added constituents is. Haltermann was tasked with identifying when these adjustments were made, what components were added, and what criteria were used to determine when these adjustments were made.

Test Sponsor Report

Barry Jecewski gave the test sponsor report, which is included as attachment 7. Labs have received Ford donated engines. Dan mentioned that the kits are also being assembled and deletion of cylinder heads is probably not an option. Barry would like to evaluate candidate data for follower pin wear, ring wear and bore wear and would like additional time to evaluate these parameters. Barry would also like to evaluate candidate blocks for bore wear. Gordon asked what the variability of the measurement would be. Field test data indicated that a representative value may be 14 – 17 wt. The panel agreed to extend the evaluation of ring wear and pin wear for an additional 6 months. There was no consensus to remove these measurements at this time, however, the panel agreed that if no information supporting the need for these measurements was forthcoming at the May, 2003 meeting, these measurements will be dropped.

O&H Report

Dan Worcester gave the O & H report, included as attachment 8. The switch to Romeo engines will probably take place in July of 2003. Dave Glaenzer asked who is spearheading the hardware redistribution, Dan will coordinate the redistribution of hardware. At least two labs will begin to run out of hardware about February, 2003. History of development efforts using the Romeo Hardware was discussed. Final decision was made to use Romeo blocks with AER cylinder heads. Fuel dilution data was reviewed, with AER heads giving higher fuel dilution than the Romeo heads. Sludge ratings appear to be slightly different. Because of potential for cylinder head damage, cam bearings will be installed in the AER heads. A sample of a cam, which exhibited excessive journal wear was circulated. Both Perkin Elmer and SwRI have engines built which could start a test to evaluate the cam bearing change, as well as evaluate fuel dilution numbers from both labs. Jerry Brys asked Dave Walker of AER if the cam bearings were the same as mains and rods and Dave replied that the cam bearings are from a different supplier. Dave did mention that Federal Mogul, the rod and main bearing supplier, is working on developing a bearing for this application. Matrix for AER/Romeo engines will be ten tests on two bore sizes in five labs with two oils. Beto Ariaza asked if the group would like to conduct a lifetime buyout, Ben Weber said it would depend on the costs if the panel would decide to do a onetime purchase. TEI agreed to work with labs offline to address the potential for a one time build out.

Sequence VG Surveillance Panel Meeting
November 20, 2002 San Antonio, TX

Light Duty Rating Task Force

No presentation was given by Frank Farber. A copy of the memorandum generated by Scott Parke concerning the conduct of recent workshops will be included in the minutes (see attachment 9). The TMC is currently tasked with conducting rating workshops, however, CRC may conduct workshops and will be issuing these out for bids. An ASTM workshop will be scheduled for a light duty workshop. A copy of the TMC memo was circulated to panel members. Bill Buscher asked that the workshop address oil screen clogging. Bill also requested that as an O&H item, that for the cylinder head build, the labs be allowed to review the VG AER head build out, which AER agreed would not be a problem. Both SwRI and Perkin Elmer, along with Beto, will be available to review the head build up for the matrix engines. Dan, Beto and Bill will work with Dave Walker to conduct this build.

Old Business

At the September meeting, it was identified that a number of engines were sold to AER. A question was asked if these engines were equivalent. A motion was made to allow these engines as an alternate source. David Walker indicated these engines may be available for another year or so. The group requested that AER notify the panel when they will be disposing the remaining engines. Bill Buscher said that the number of engines that may be needed will probably about one hundred. Numerous discussions took place regarding the motion, and when voted upon the results were 6 for, 1 against and 3 waives.

Scope and Adjectives

Scope and adjectives were reviewed and are included as attachment 10. The usage rate of 1009 was reviewed and the panel agreed to use oils 925-3, 1006-2, 1007 and 1009 equally. The panel agreed to work on redistribution of engines so that there will be no wasting of the current hardware.

Under new business, the requirement to photograph parts was made optional, a revision to test method D 6593 was approved, 8 for, 1 against and 1 waive.

The meeting was adjourned a 4:01 PM

A copy of the Motions and Action Items from this (November 2002) meeting is included as attachment 11.

Sequence VG Surveillance Panel

November 20, 2002

Name	Company	email address
Richard Grundza	ASTM TMC	reg@astmtmc.com.edu
Barry Jecewski	Ford Motor	BJECIEWSKI@Ford.com
Frank Fernandez	Chevron Oronite	ffer@chevrontexaco.com
FRANK FARRER	TMC	fmf@astmtmc.com.edu
Alfredo MONTEZ	CHEVRON ORONITE	ammn2@chevrontexaco.com
David Walker	AER Manufacturing	davidwalker@AERmfg.com
DAVID GLAENZER	Ethyl	dave-glaenzer@ethyl.com
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BEN WEBER	SWRI	bweber@swri.edu
Phil Scinto	LZ	PRSC@LUBRIZOL.COM

Agenda

Sequence VG Surveillance Panel
November 20, 2002
1:00PM – 5:00PM
San Antonio, Texas

1. Chairman comments
2. Attendance sign-in sheet distribution
3. Membership changes
4. Motion and Action recorders
5. Approval of minutes for May 15, 2002 and September 17, 2002 meetings All
6. Review action Items from last meeting G. Farnsworth
7. TMC Reference Oil Report R. Grundza
 - Category oil 1009 status
8. RSI Candidate Status & Precision Report C. R. Oliver
9. Fuels supply and reblend status Worcester/Carter
 - Fuel batch analytical history
10. VG Test Developer Report Barry Jecewski
 - Status of Romeo (2000 model) hardware
 - Status of engine parts kits
 - Review support data for
 - Roller pin wear
 - Ring wear

Agenda
Sequence VG Surveillance Panel
November 20, 2002
1:00PM – 5:00PM
San Antonio, Texas

- | | |
|--|--------------|
| 11. VG O&H Report | D. Worcester |
| - Status of Romeo engine matrix | |
| - Timeline for Romeo engine introduction | |
| 12. Light Duty Rating Task Force | F. Farber |
| 14. Scope and Objectives | All |
| 15. Old Business | |
| -AER engine motion | |
| 16. New Business | |
| - Recommend to Tech B-01 that the VE standard be withdrawn | |
| 17. Adjourn | |

Action Items Review

- 1.) TMC will collect two more 1009 test results, for a total of five, to calculate the test targets and LTMS standard deviation. Status: Done
- 2.) The chair will remind Ford of the rate and report items for the upcoming November meeting. Status: Done
- 3.) Establish future engine supply Task Force. Chair selected but no meeting yet
- 4.) Evaluate new Ford bore measurement procedure to determine need. In progress by Barry Jecewski

Sequence VG Meeting

November 20, 2002
San Antonio, TX

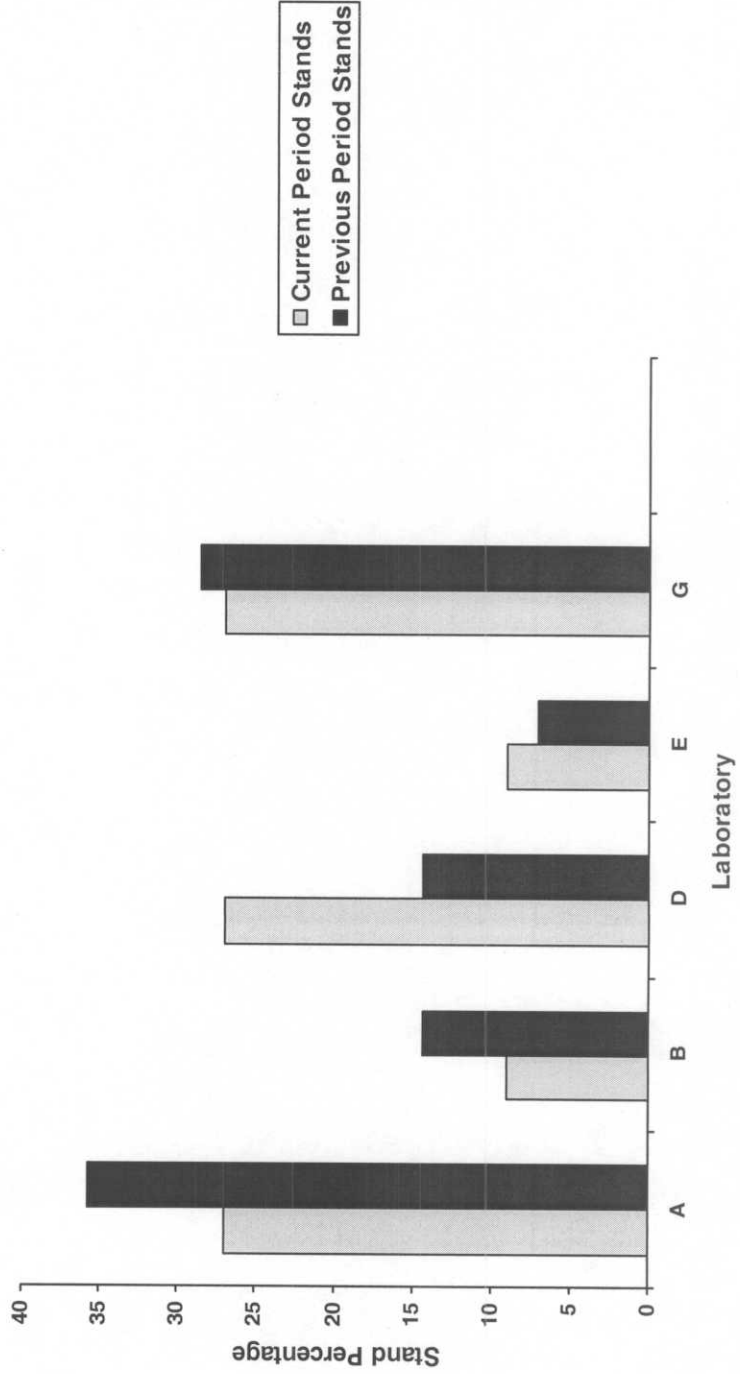
This report can be found on the TMC web site at

<ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencev/semiannualreports/vg-10-2002.pdf>

Sequence VG Semiannual Report

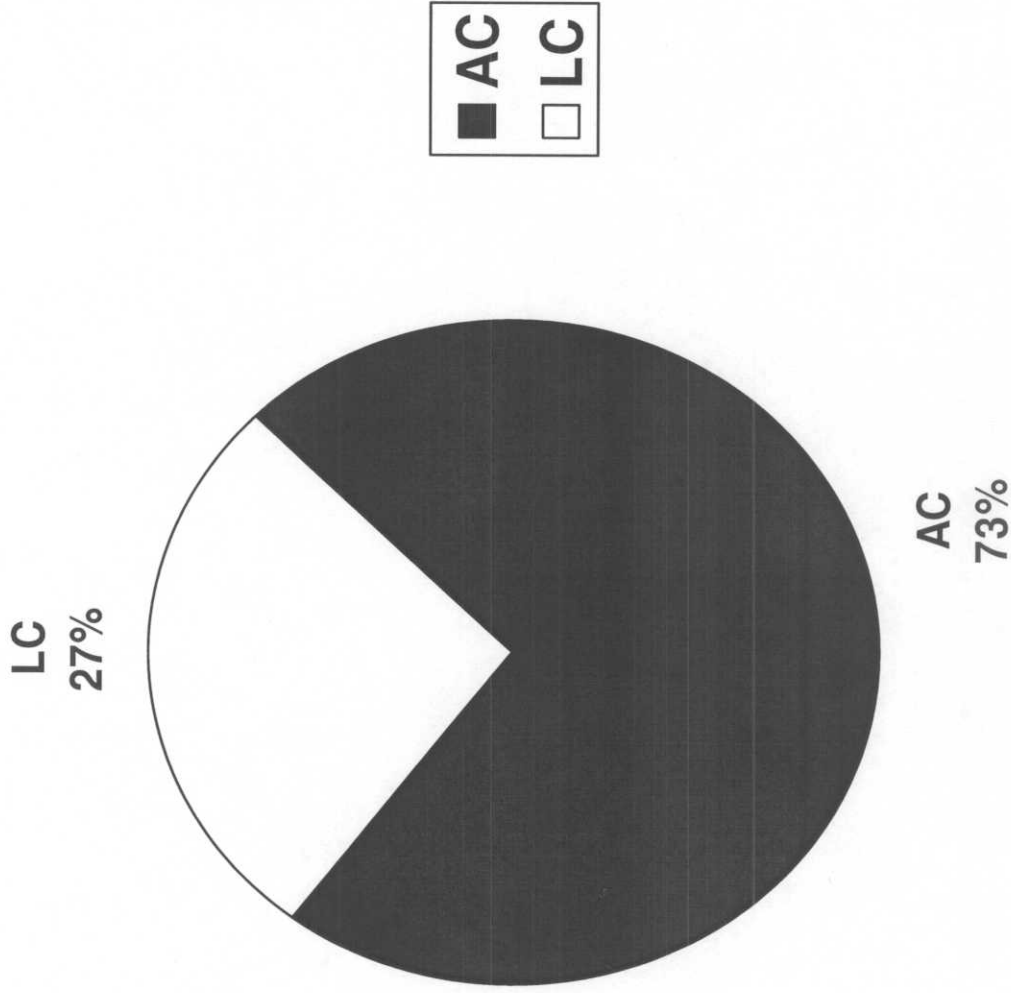
	Reporting Data	Calibrated as of 9/30/02
Number of Laboratories	5	4
Number of Stands	11	7

Laboratory/Stand Distribution



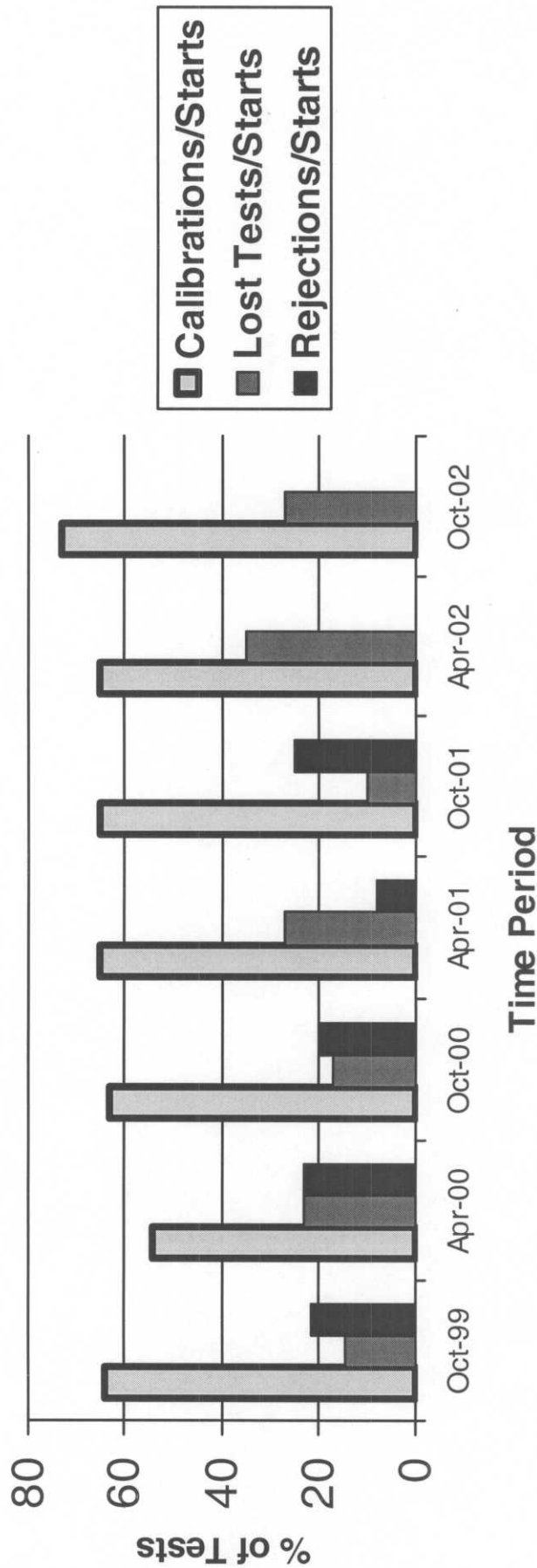
Reference Starts

- Total Starts this Period: 15
- In addition to the Calibration tests, 4 results run to evaluate Romeo hardware were included in the starts.



Comparison of Calibration per Start, Lost Test and Rejected Test per Start Rates for the Period Ending October 2002 with Previous ASTM Periods

Calibration Attempt Summary

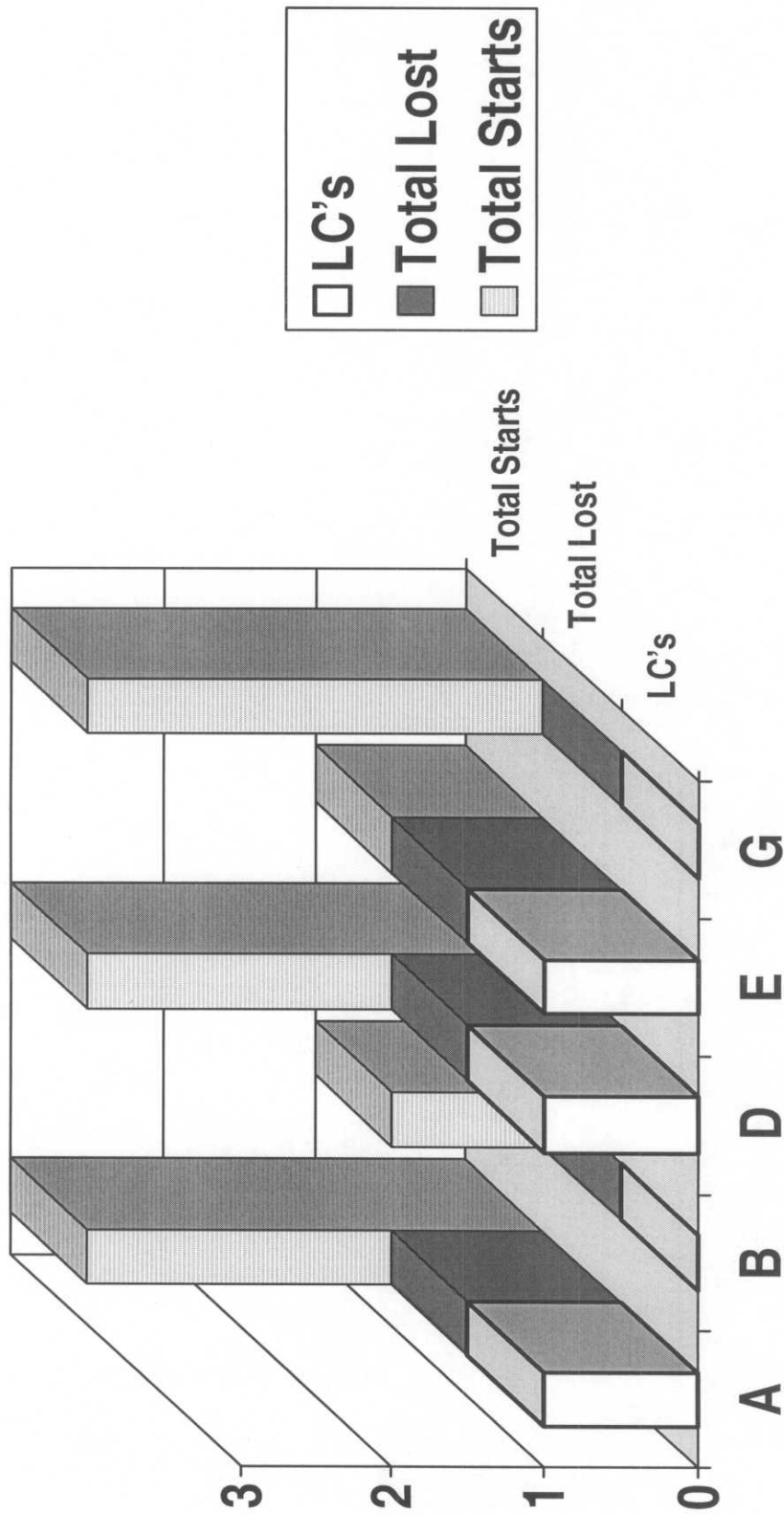


Summary of Tests Which Were Statistically Invalid

Lost Test Summary

- Stage II AFR too rich (1)
- MAP QI (1)
- Damaged Oberg filter, exhaust backpressure and speed QI (1)

Laboratory Lost Test Rate



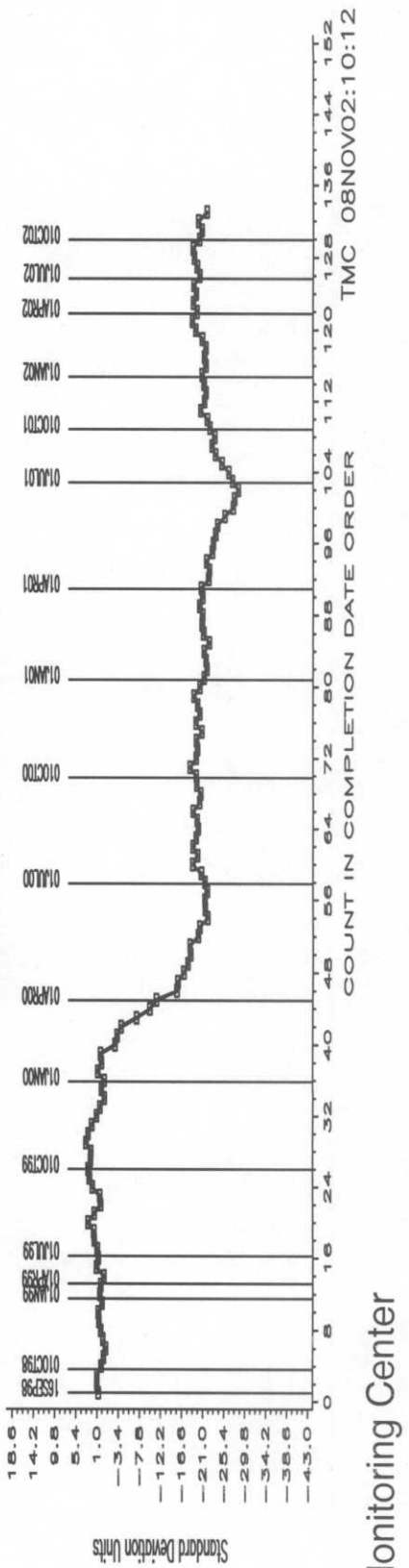
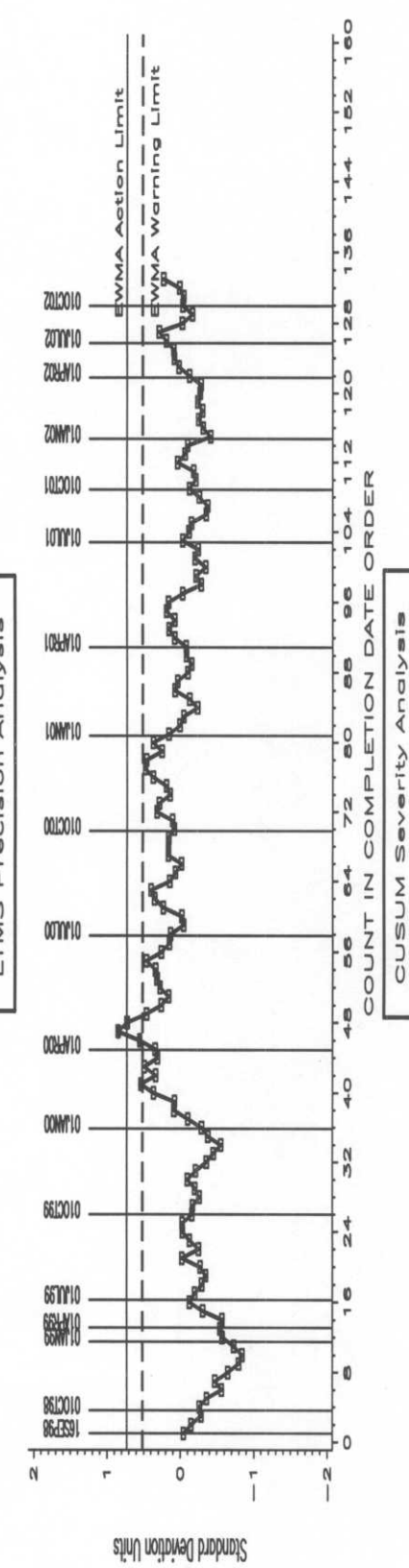
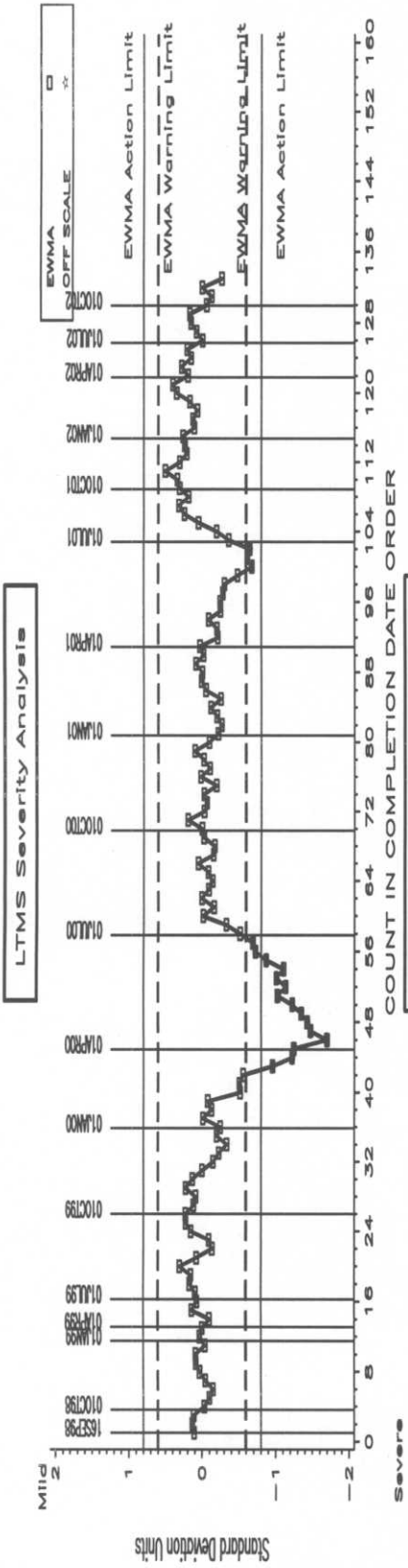
Industry Severity Summary

<u>Variable</u>	<u>Pooled s</u> <u>All Oils</u>	<u>Mean</u> <u>Delta/s</u>	<u>Confidence</u> <u>Interval</u>	<u>Based</u> <u>on</u>	<u>Delta in</u> <u>Reported</u> <u>Units</u>
RAC	0.130	-0.390	7.74- 8.06	8.0	-0.05
AES	0.174	0.010	7.66 – 7.95	7.8	0.00
APV	0.405	0.297	7.72 – 7.98	7.5	0.12
AEV	0.137	0.135	8.83 – 9.03	8.9	0.02
OSCR	0.915	-0.354	6.1- 31.6	20	5.8

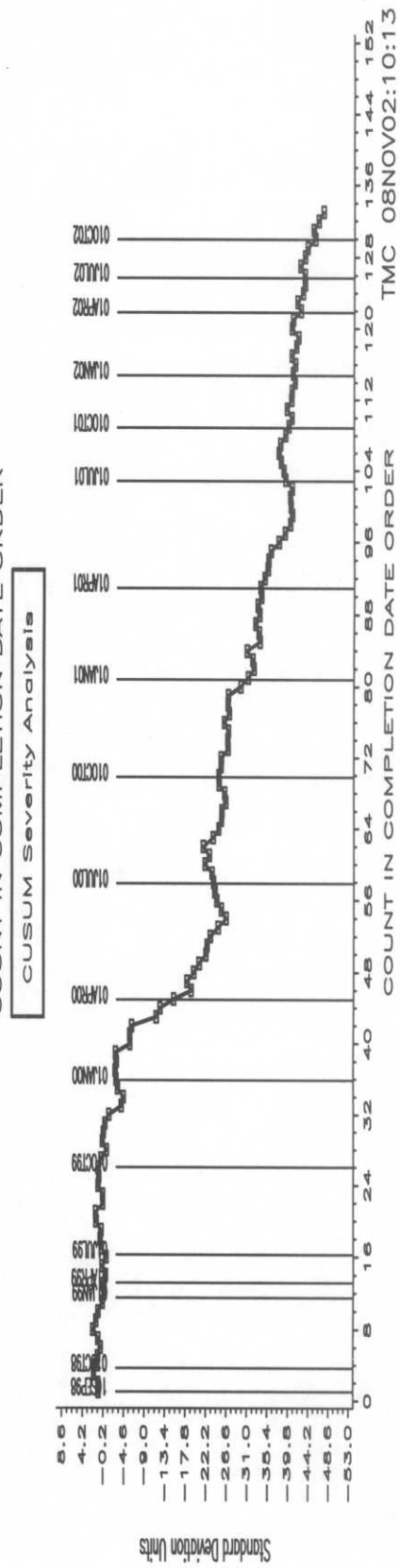
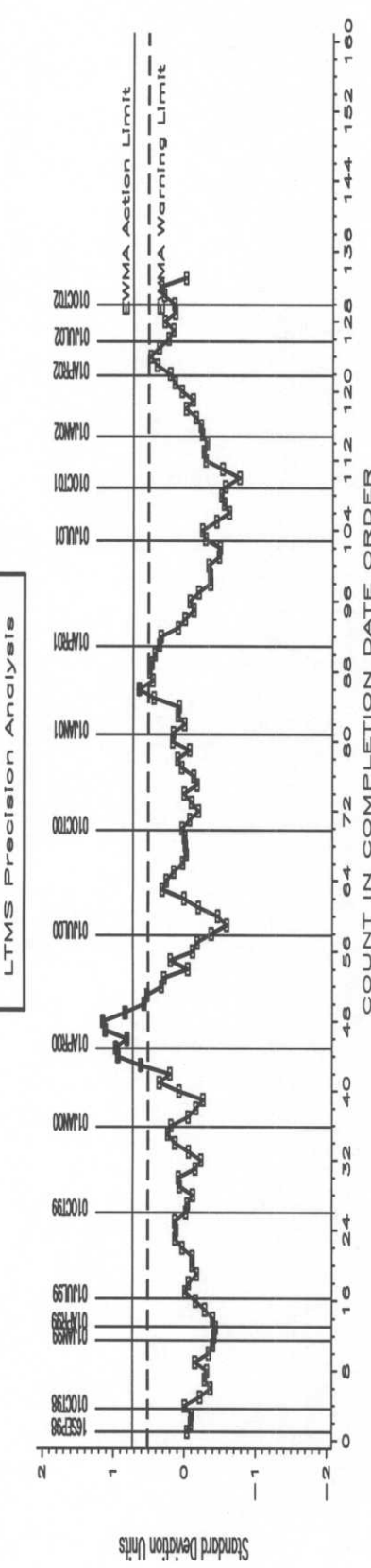
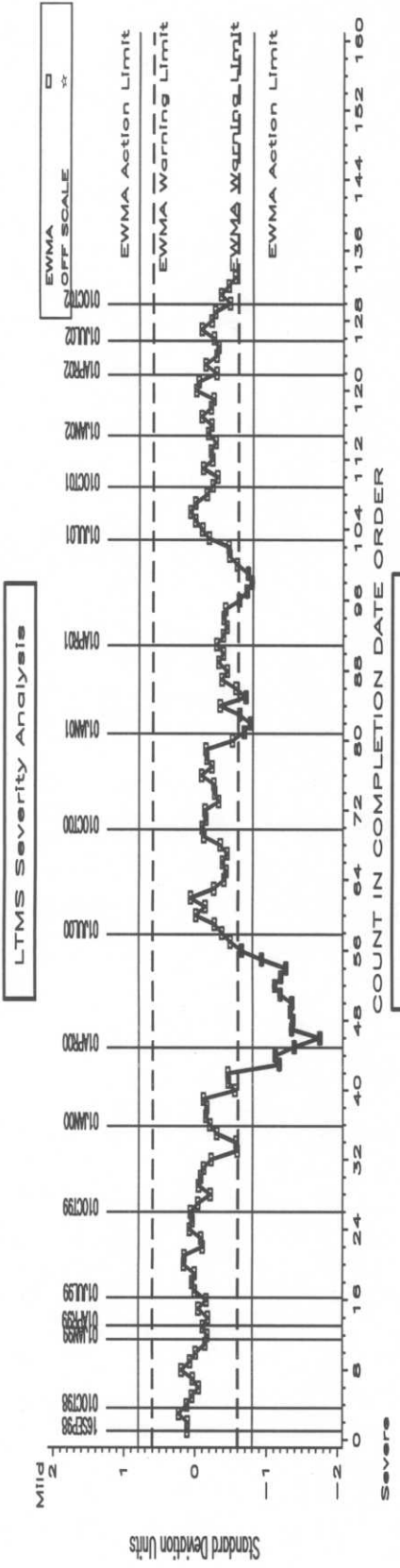
Average Δ /s By Laboratory

Laboratory	AES	OSCR	AEV	RAC	APV
A	0.40	-0.46	-0.12	0.18	-0.96
B	-1.18	1.78	-0.13	0.11	0.67
D	-0.24	-1.60	0.94	-1.08	1.48
E	-	-	-	-	-
G	0.26	-0.16	-0.15	-0.47	0.22

VG INDUSTRY OPERATIONALLY VALID DATA AVERAGE ENGINE SLUDGE

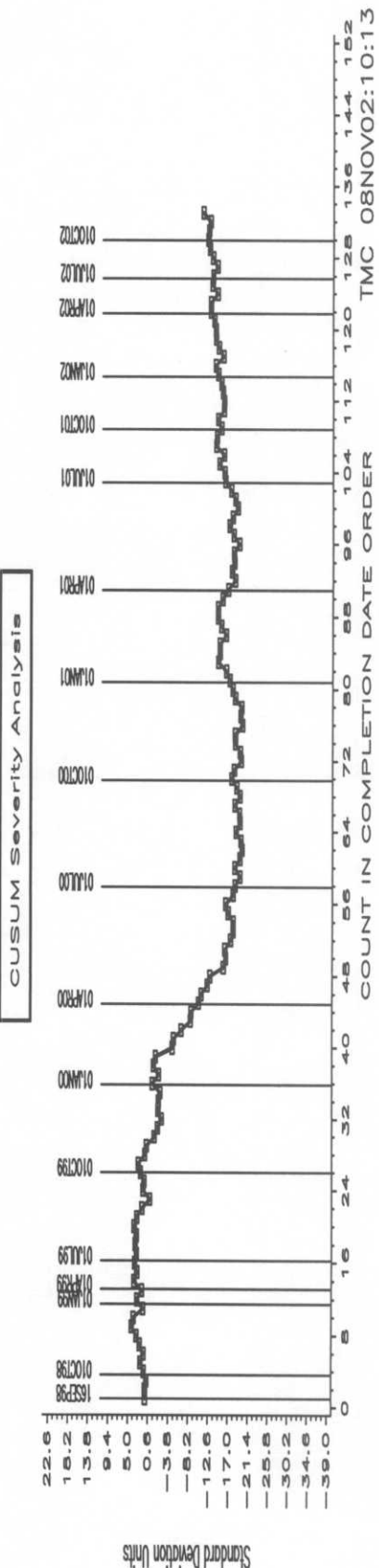
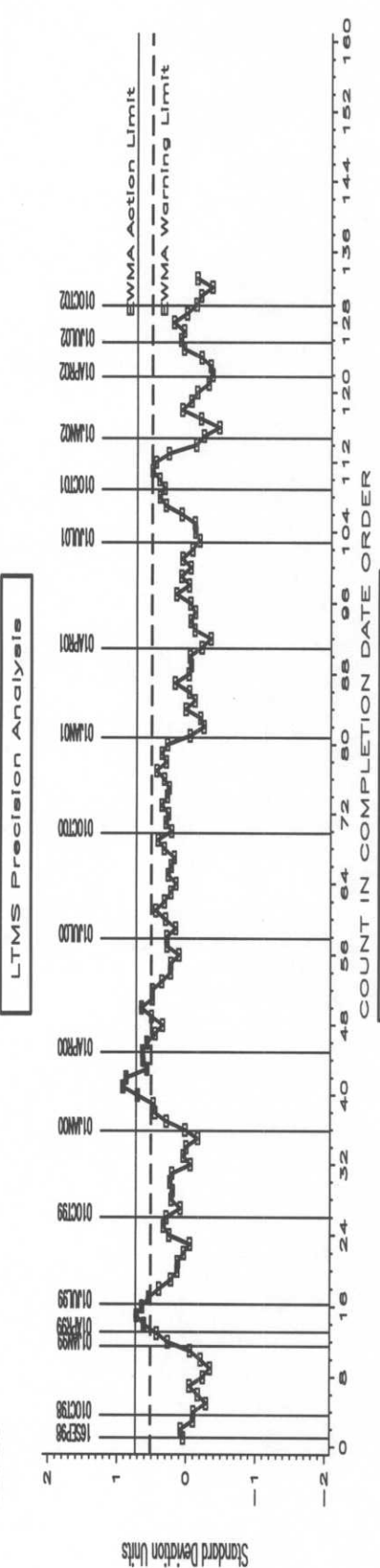
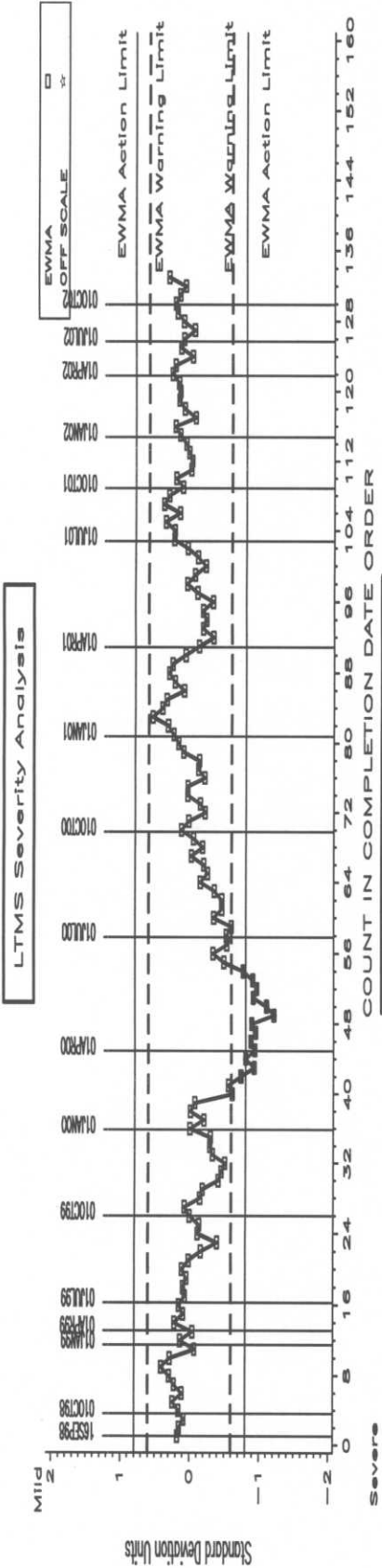


VG INDUSTRY OPERATIONALLY VALID DATA
 AVERAGE ROCKER COVER SLUDGE

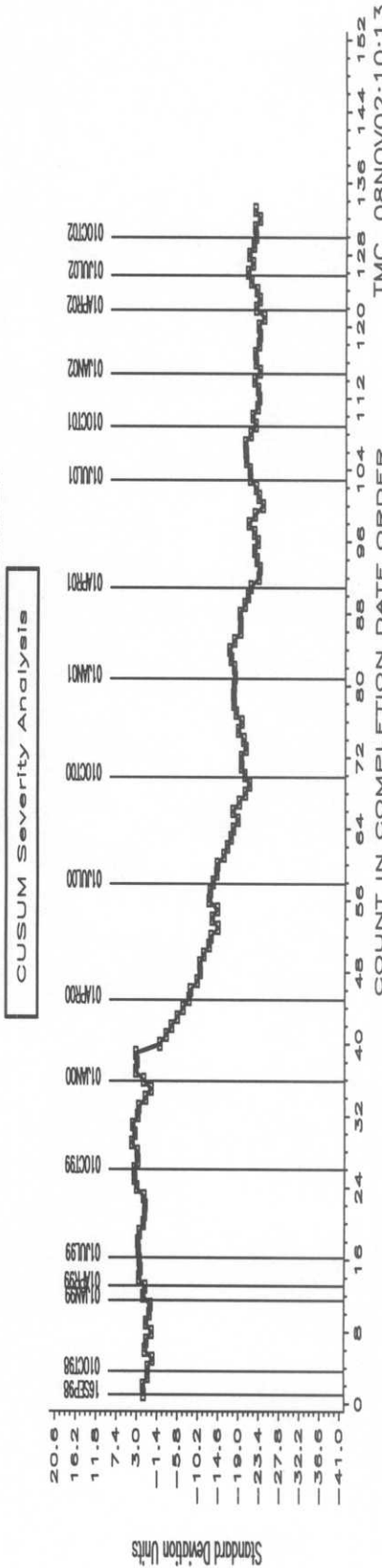
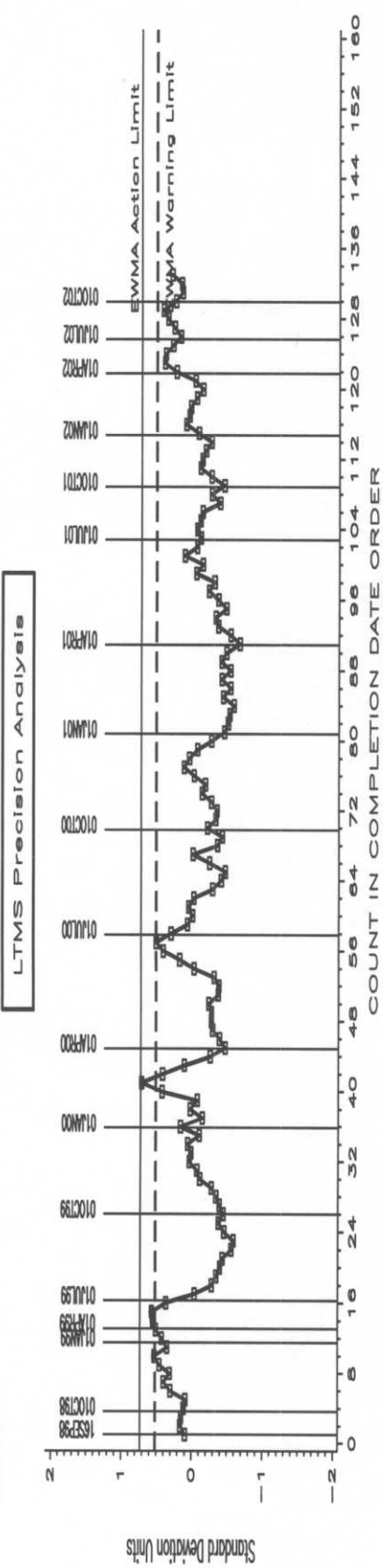
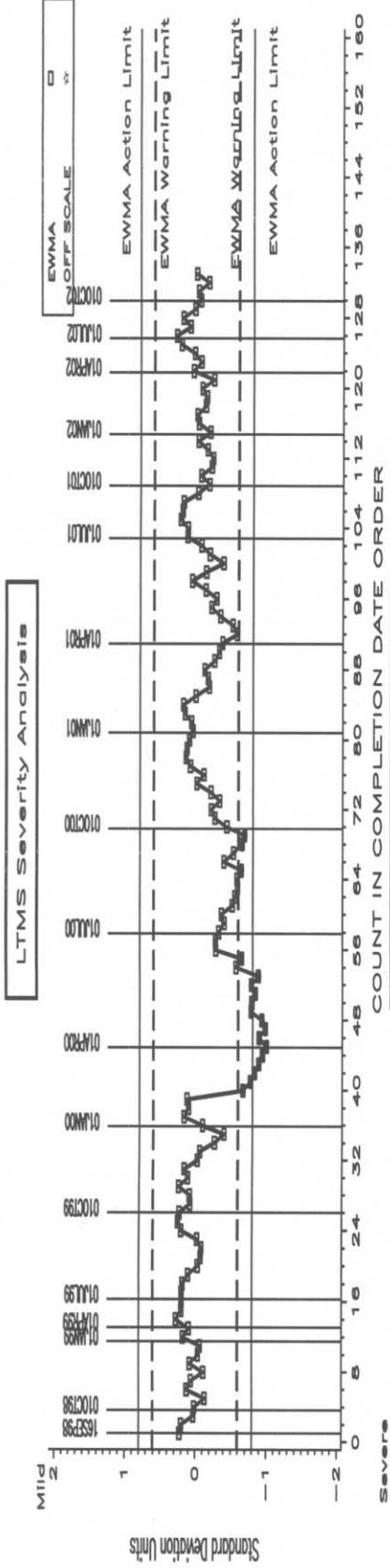


TMC 08NOV02:10:13

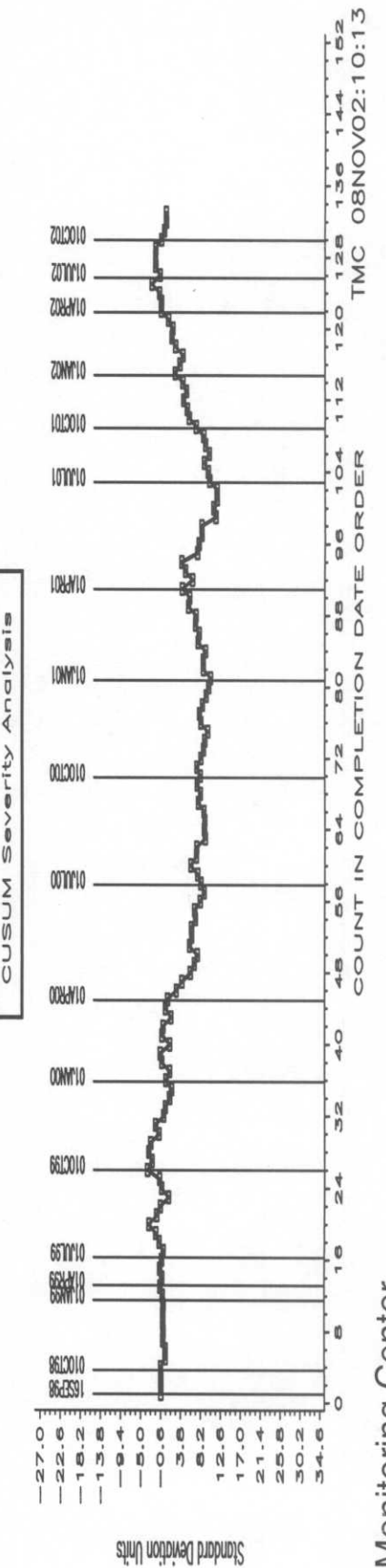
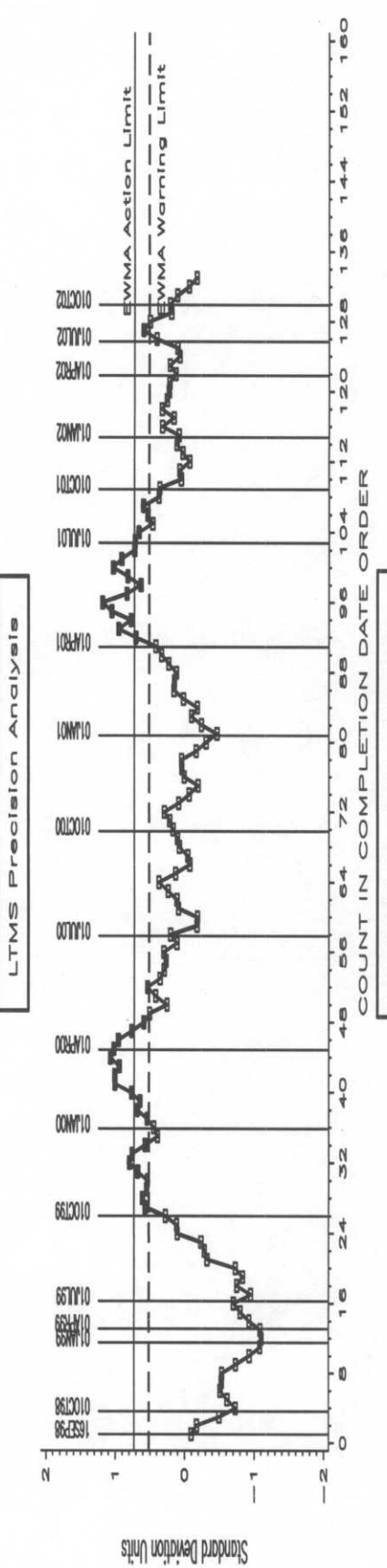
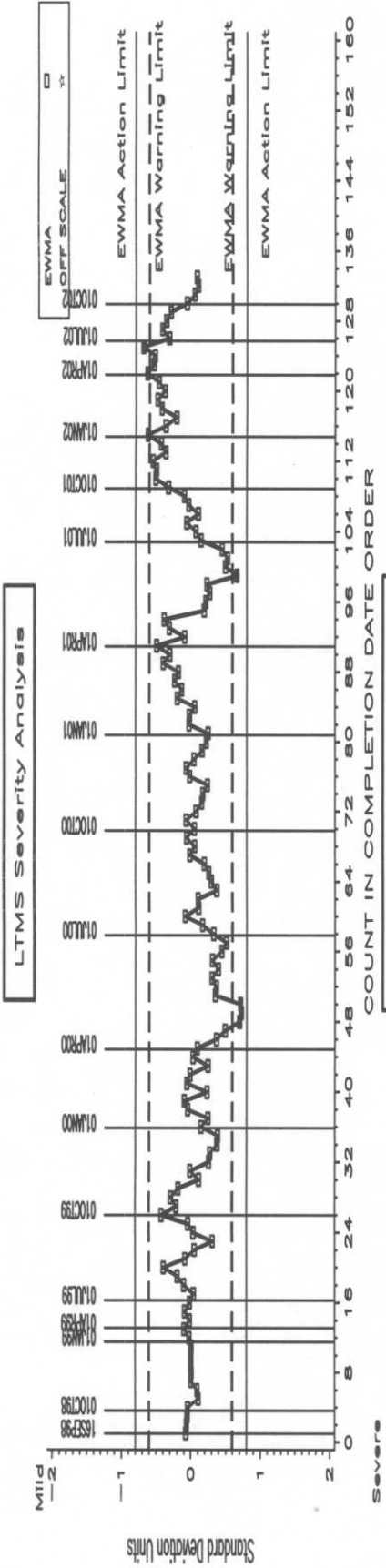
VG INDUSTRY OPERATIONALLY VALID DATA
 AVG. ENG. VARN. 3-PART FINAL RESULT APV + BAFFLES



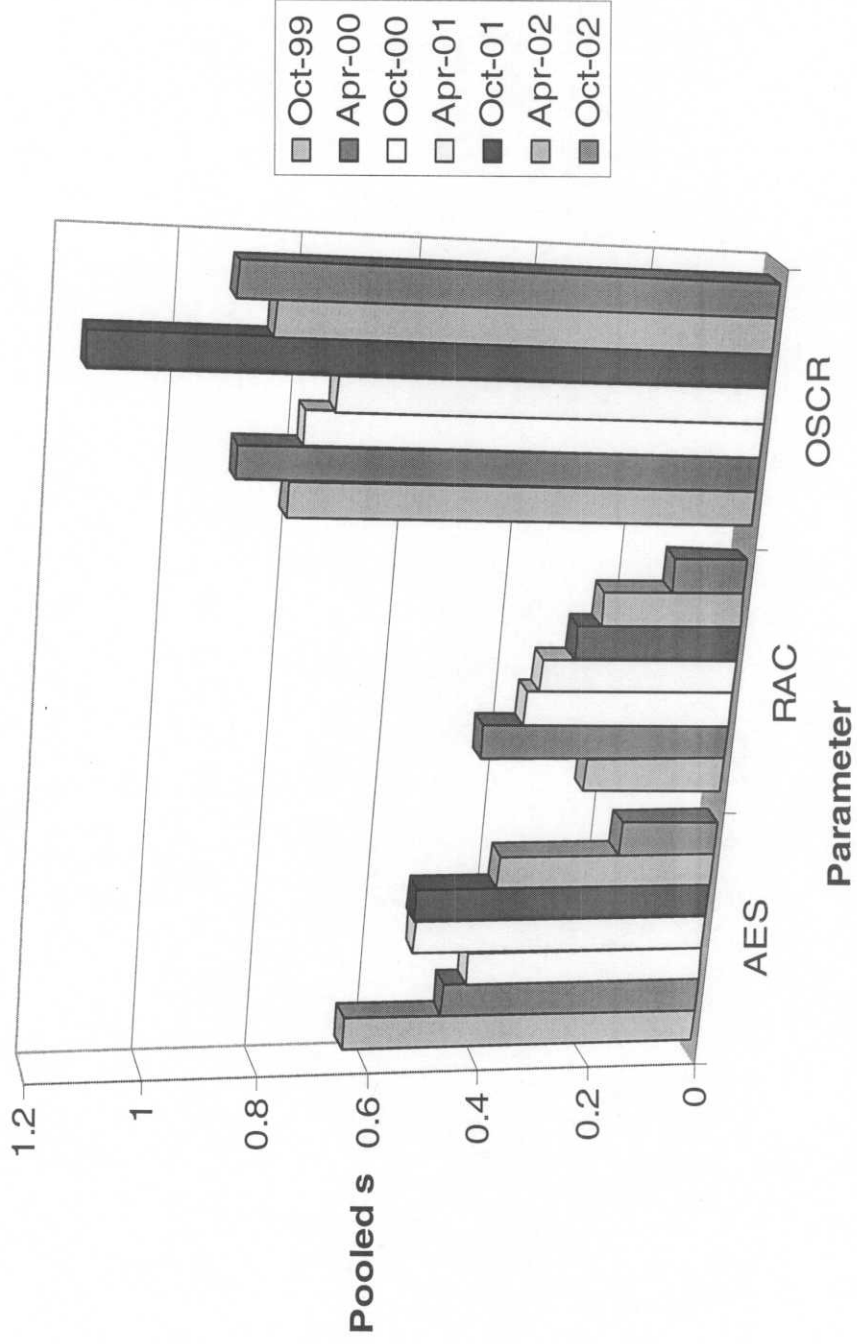
VG INDUSTRY OPERATIONALLY VALID DATA AVG PISTON SKIRT RATING



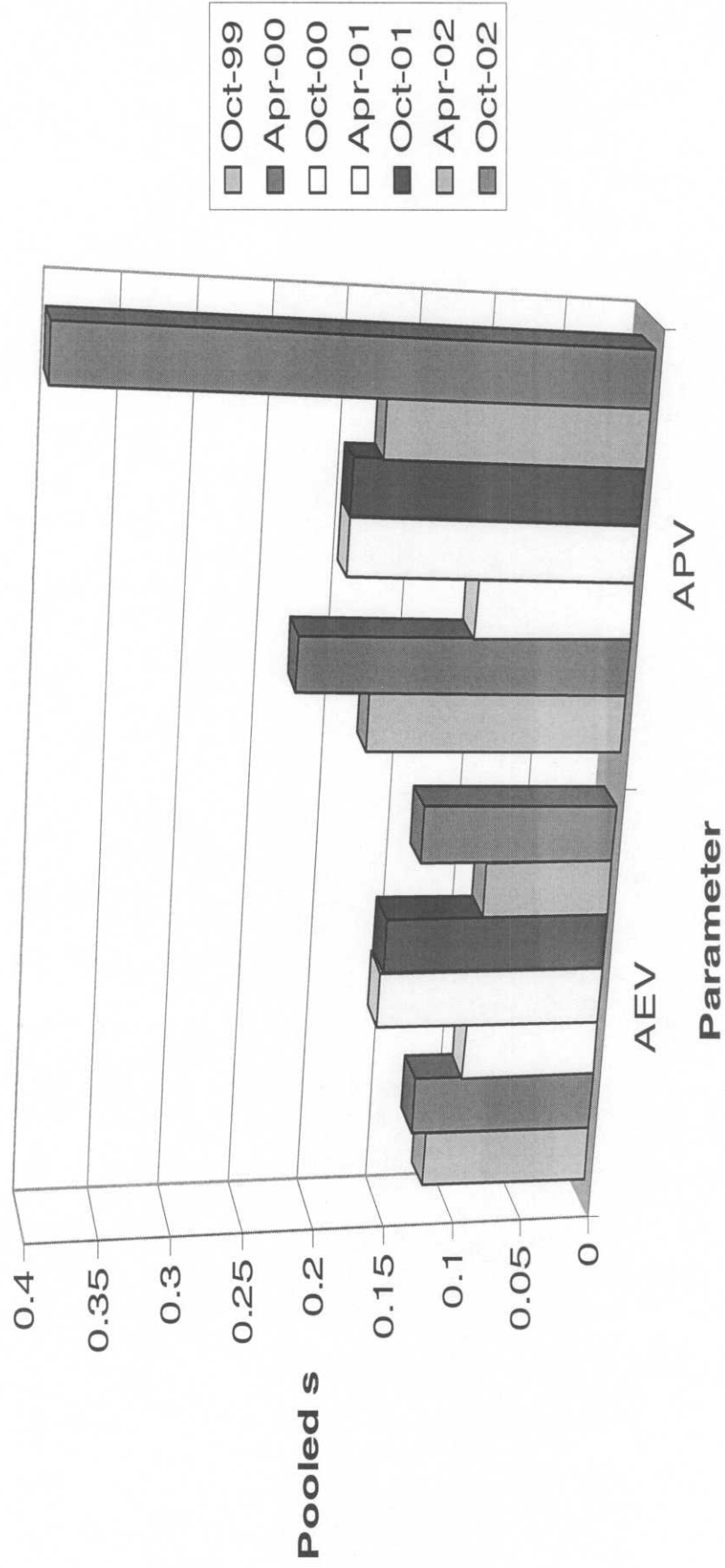
VG INDUSTRY OPERATIONALLY VALID DATA OIL SCREEN SLUDGE



Comparison of Pooled Precision Estimates By ASTM Report Period



Comparison of Pooled Precision Estimates By ASTM Report Period



Information Letters

- Information Letter 02-4 was issued July 8, 2002. This information letter deleted the requirements to measure bore wear, replaced rating of Rocker Arm Covers for varnish with Cam Baffle ratings, allowed use of an alternate power supply to power the EEC module and lambda sensors and revised the frequency for calibration of the lambda sensor.
- Information Letter 02-5 was issued October 25, 2002. This letter removed a number of remedial statements.

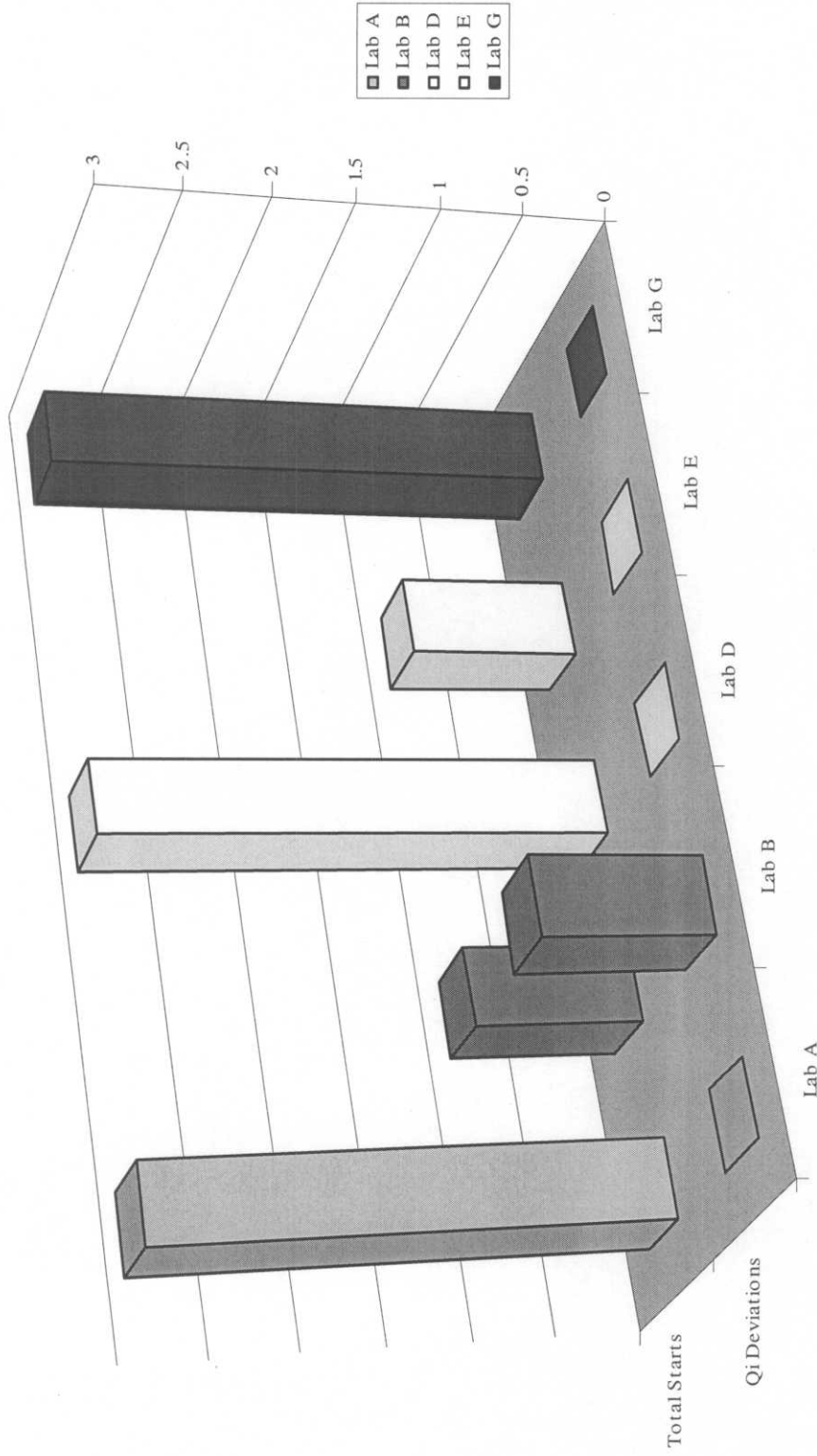
Industry Reference Oil Inventory

Number of Tests, by Oil at Lab and TMC

Oil	TMC Inventory, in gallons	TMC Inventory, in tests	Laboratory Inventory, in tests	Estimated life
925-3	174	58	9	3+ years
1006	0	0	9	< 1 year
1006-2	5154	1718	2	3+ years
1007	504	168	1	3+ years
1009	1015	338	6	3+ years

Reference Oils 1006, 1007 and 1009 are used across multiple test areas, TMC inventory represents total amount of that oil on hand.

Summary of QI Deviations



Parameter	Number of Tests
Speed	1

Summary

- Calibrations per start compares well with the previous period and historical rates, while the lost test per start rate has decreased slightly with respect to the previous period. There were no rejected tests this period.
- AES was on or near target, while APV, AEV and OSCR trended mild and RAC trended severe for the period.
- Precision for AES, AEV, RAC and OSCR compares well with previous period and historical estimates. APV precision has degraded with respect to the previous period and historical estimates.

1009 Targets

- Three Test Targets Issued August 1, 2002
- Updated with two additional tests, updated October 25, 2002
- Next Update at ten tests. Six results reported to date.

1009 Targets (n= 5)

Parameter	Mean	Standard Deviation
AES	7.78	0.36
RAC	9.15	0.22
AEV	8.93	0.11
APV	7.84	0.40
OSCR	2.670	1.303
HSR	None Allowed	

Data Used to Generate Targets

Unadjusted Results

Lab	AES	RAC	AEV	APV	OSCR	HSR
A	8.12	9.33	8.78	7.26	2	0
B	7.74	9.26	8.91	8.16	22	0
G	8.13	9.16	9.09	8.22	5	0
A	7.29	8.78	8.97	7.64	75	0
G	7.60	9.23	8.91	7.90	34	0

Adjusted Results

Lab	AES	RAC	AEV	APV	OSCR	HSR
A	8.12	9.33	8.78	7.26	2	0
B	7.74	9.26	8.91	8.16	12.14	0
G	8.13	9.16	9.09	8.22	5	0
A	7.29	8.78	8.97	7.64	75	0
G	7.60	9.23	8.91	7.90	34	0

Test Monitoring Center

REG

Seq. VG Test

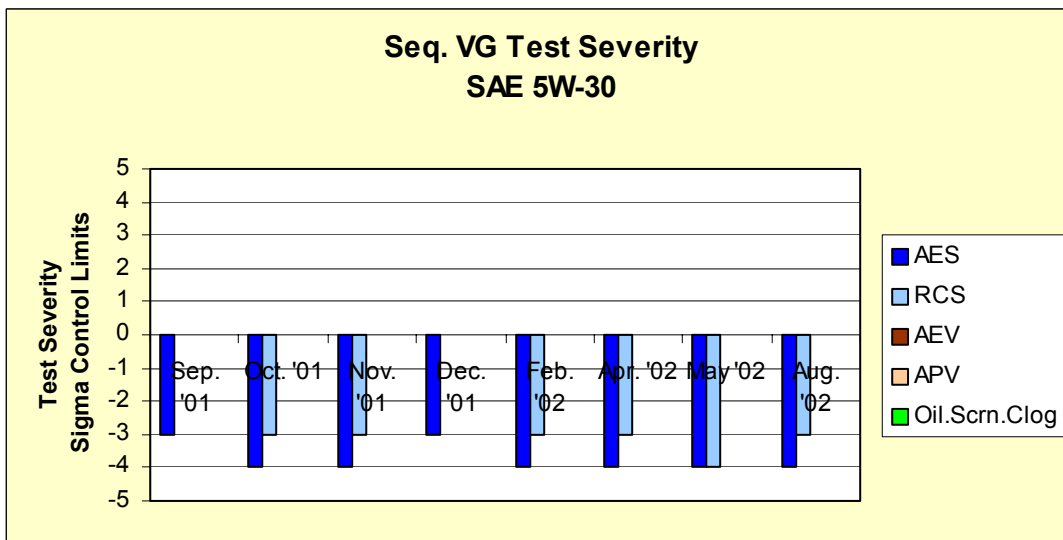
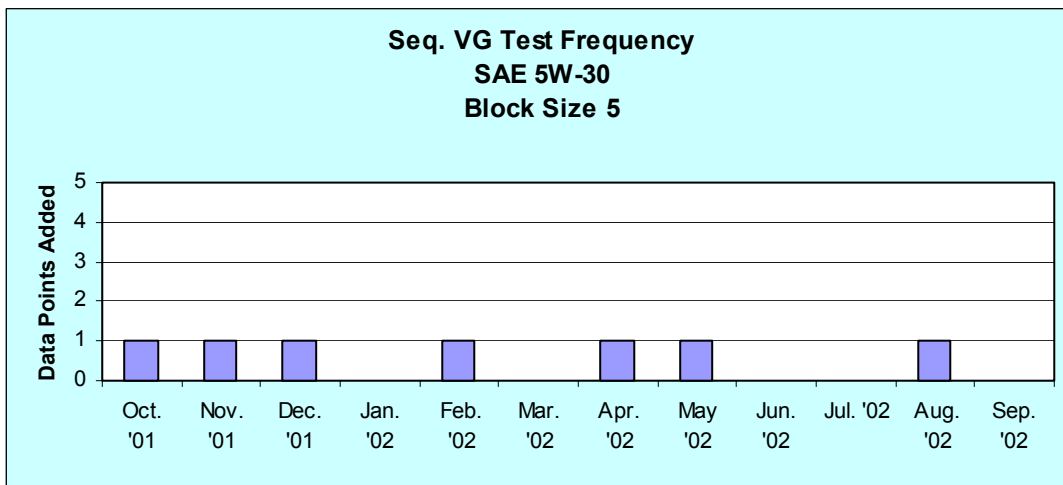
Test Frequency

- No EWMA data points were added in September, but one data point was added for August 2002.

Test Severity

- The last EWMA data point added in August 2002 indicated:
 - Average Engine Varnish (AEV), Average Piston Varnish (APV), and Oil Screen Clogging were in control.
 - Rocker Cover Sludge (RCS) moved back from exceeding the 4-sigma Control Lines to between the 3 and 4-Sigma control in a severe or lower performance direction.
 - Average Engine Sludge continued to exceed the 4-Sigma Control Line in a severe or lower performance direction.

For Detailed Information: <http://www.registration-systems.com/Protected/PCMO.htm>





SEQUENCE VG FUEL REPORT

September 30, 2002

SALEABLE GALLONS AT HALTERMANN PRODUCTS	435,202
GALLONS SHIPPED SIX MONTH PERIOD 4/01/2001 – 9/30/2002	50,550
AVERAGE USAGE PER MONTH	8425
NUMBER OF TESTS SUPPORTED BY PRESENT INVENTORY	621
NUMBER OF MONTHS OF INVENTORY ON HAND	51

HALTERMANN PRODUCTS

ASTM Seq. VG

Nov. 2002

PRODUCT CODE: SVGM2

PRODUCT CODE: HF295

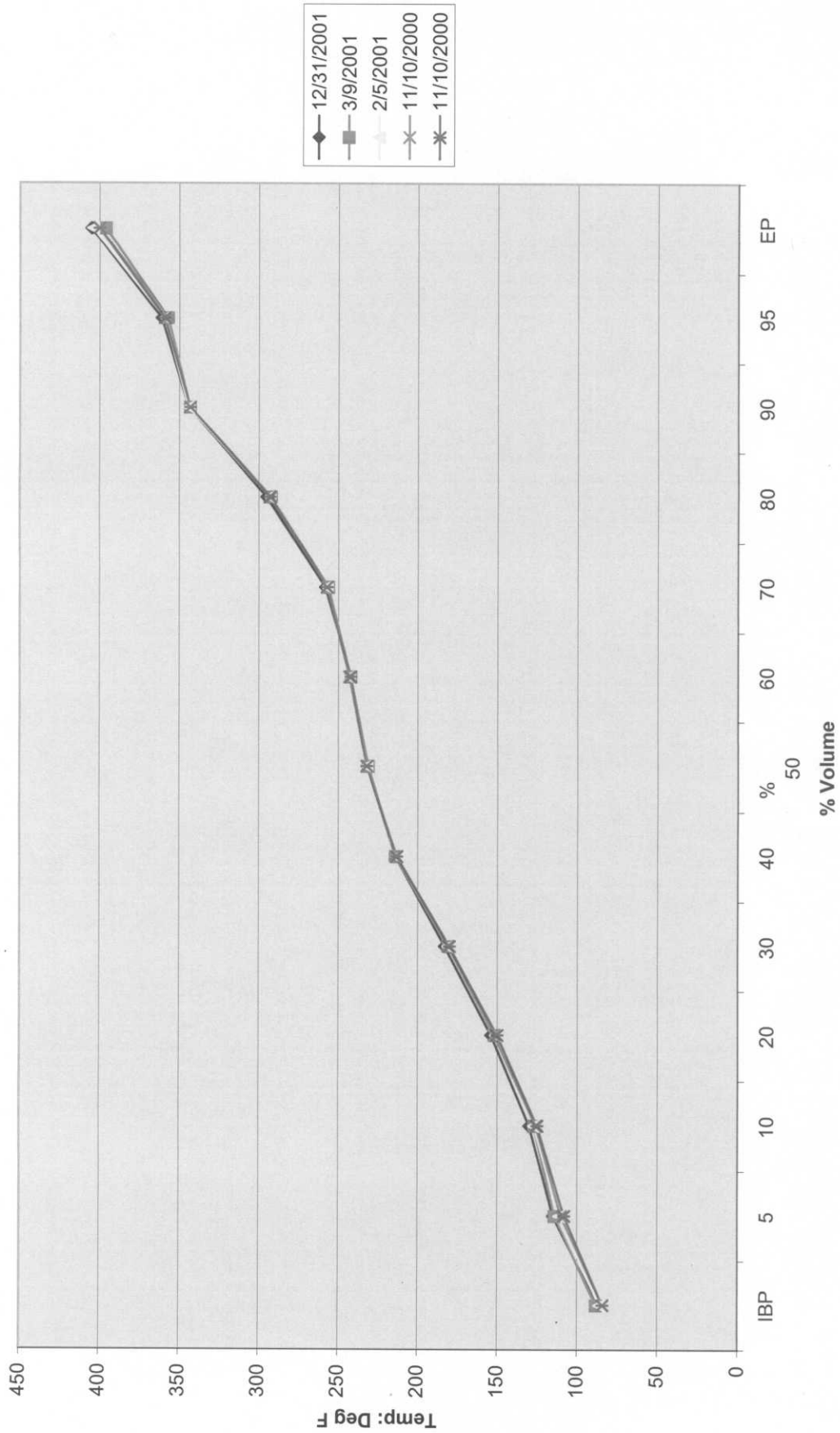
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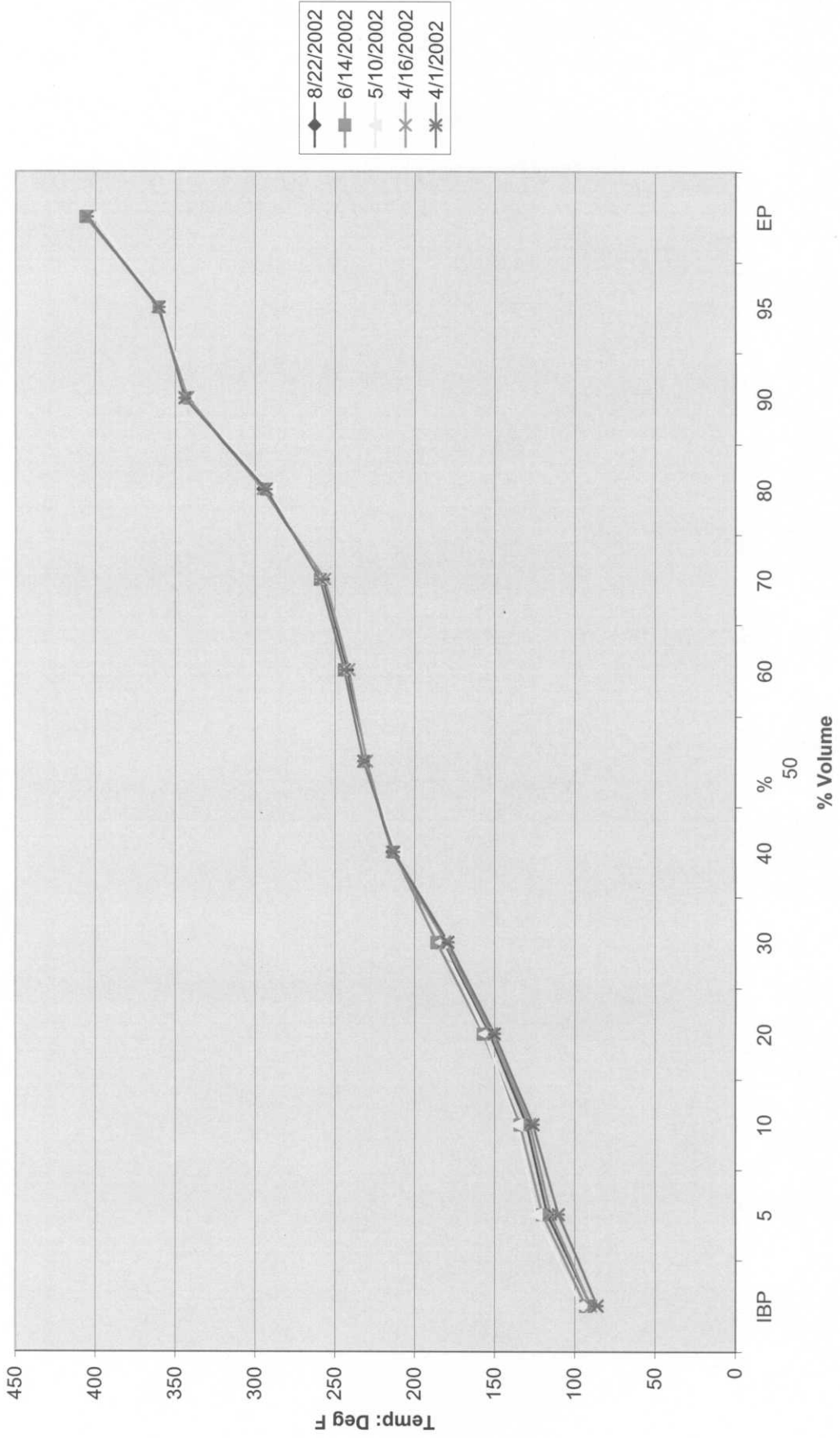
Analysis Date: 8/29/2002 8/1/2002 7/2/2002

TEST	METHOD	UNITS	RESULTS	RESULTS	RESULTS
Distillation - IBP	ASTM D86	°F	84	85	88
5%		°F	112	113	117
10%		°F	125	127	128
20%		°F	148	151	150
30%		°F	177	180	181
40%		°F	212	215	213
50%		°F	230	230	232
60%		°F	241	242	240
70%		°F	255	256	258
80%		°F	292	294	293
90%		°F	343	344	345
95%		°F	360	361	359
Distillation - EP		°F	405	400	398
Recovery		vol %	97.8	98.0	98.5
Residue		vol %	1.0	1.0	1.0
Loss		vol %	1.2	1.0	0.5
Gravity	ASTM D4052	°API	57.3	57.1	57.0
Specific Gravity	ASTM D4052	-	0.7495	0.750	0.750
Reid Vapor Pressure	ASTM D323	psi	9.2	9.1	9.0
Reid Vapor Pressure	ASTM D5191	psi	9.1	9.1	8.9
Sulfur	ASTM D4294	wt %	<0.01	<0.01	<0.01
Oxidation Stability	ASTM D525	minutes	>1440		
Existent gum, unwashed	ASTM D381	mg/100mls	2	3	3
Existent gum, washed	ASTM D381	mg/100mls	<1	<1	<1

Lab 'E' Distillation Summary
Haltermann SVGM



Lab 'D' Distillation Summary
Haltermann SVGM



Lab 'E' Distillation (Deg F) Summary
 Haltermann SVGM

	12/31/2001	3/9/2001	2/5/2001	11/10/2000	11/10/2000
IBP	87	88	86	84	84
5	115	114	111	110	108
10	130	127	127	126	125
20	154	151	151	152	150
30	183	181	181	181	180
40	214	214	213	214	213
50	232	231	232	232	232
60	242	242	243	243	242
70	258	256	257	257	257
80	295	292	293	292	293
90	344	343	344	343	343
95	361	357	359	357	359
EP	405	396	404	400	400

Lab 'D' Distillation (Deg F) Summary
 Haltermann SVGM

	8/22/2002	6/14/2002	5/10/2002	4/16/2002	4/1/2002
IBP	90	93	96	90	86
5	117	120	124	115	110
10	130	134	136	128	126
20	153	157	156	152	150
30	182	186	183	181	179
40	214	213	212	214	213
50	231	231	231	230	232
60	242	244	244	241	244
70	257	259	259	256	259
80	295	291	291	295	293
90	343	342	342	342	344
95	360	360	359	361	360
EP	406	406	401	405	405

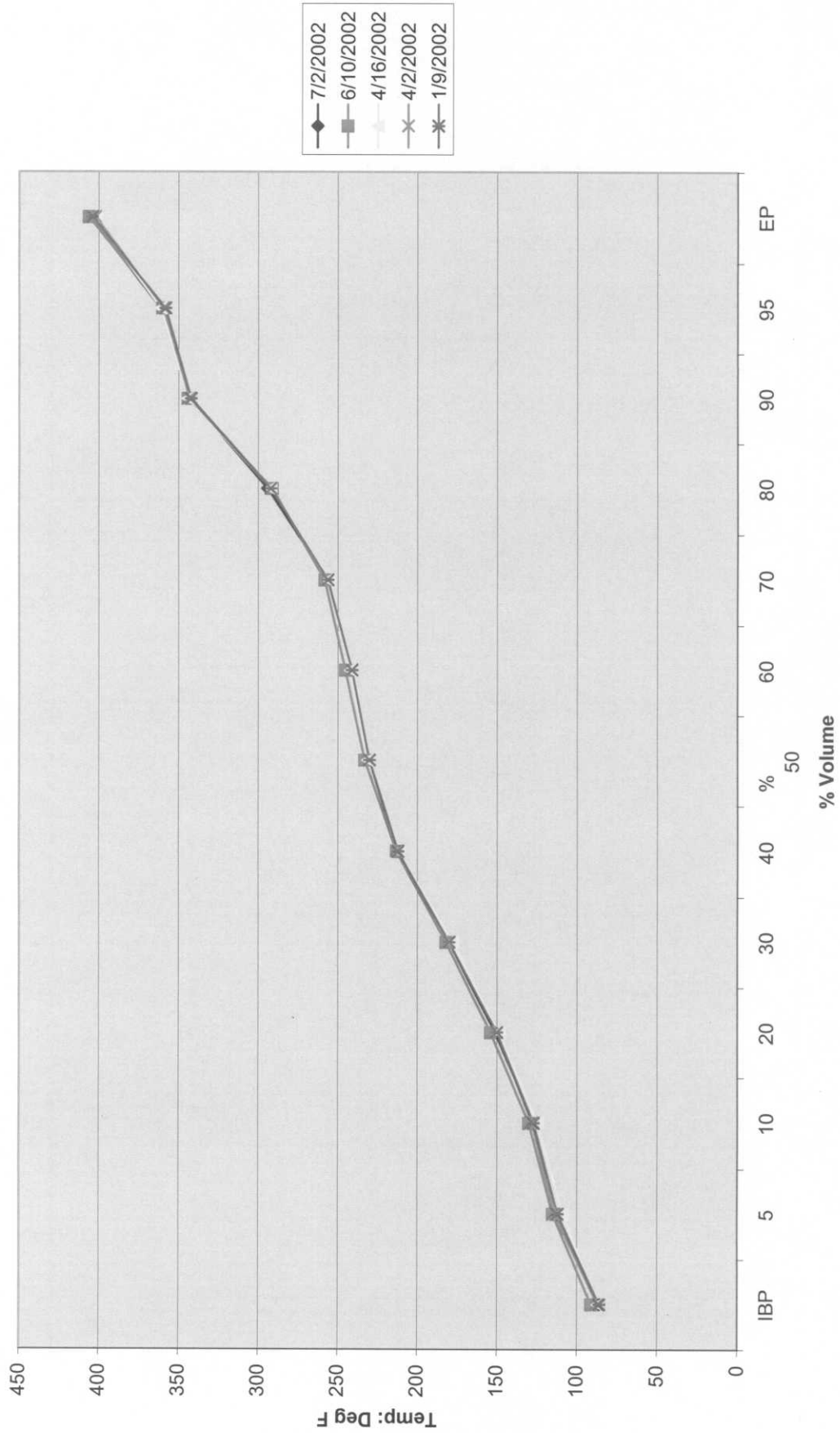
Lab 'C' Distillation (Deg F) Summary
 Haltermann SVGGM

	7/2/2002	6/10/2002	4/16/2002	4/2/2002	1/9/2002
IBP	86	91	87	87	86
5	112	115	109	114	112
10	127	130	125	128	127
20	151	154	149	150	150
30	180	182	178	180	180
40	213	213	212	213	212
50	231	233	231	230	230
60	242	245	242	241	241
70	256	258	256	256	256
80	294	291	292	292	292
90	343	344	344	343	342
95	361	360	361	359	358
EP	405	406	402	402	404

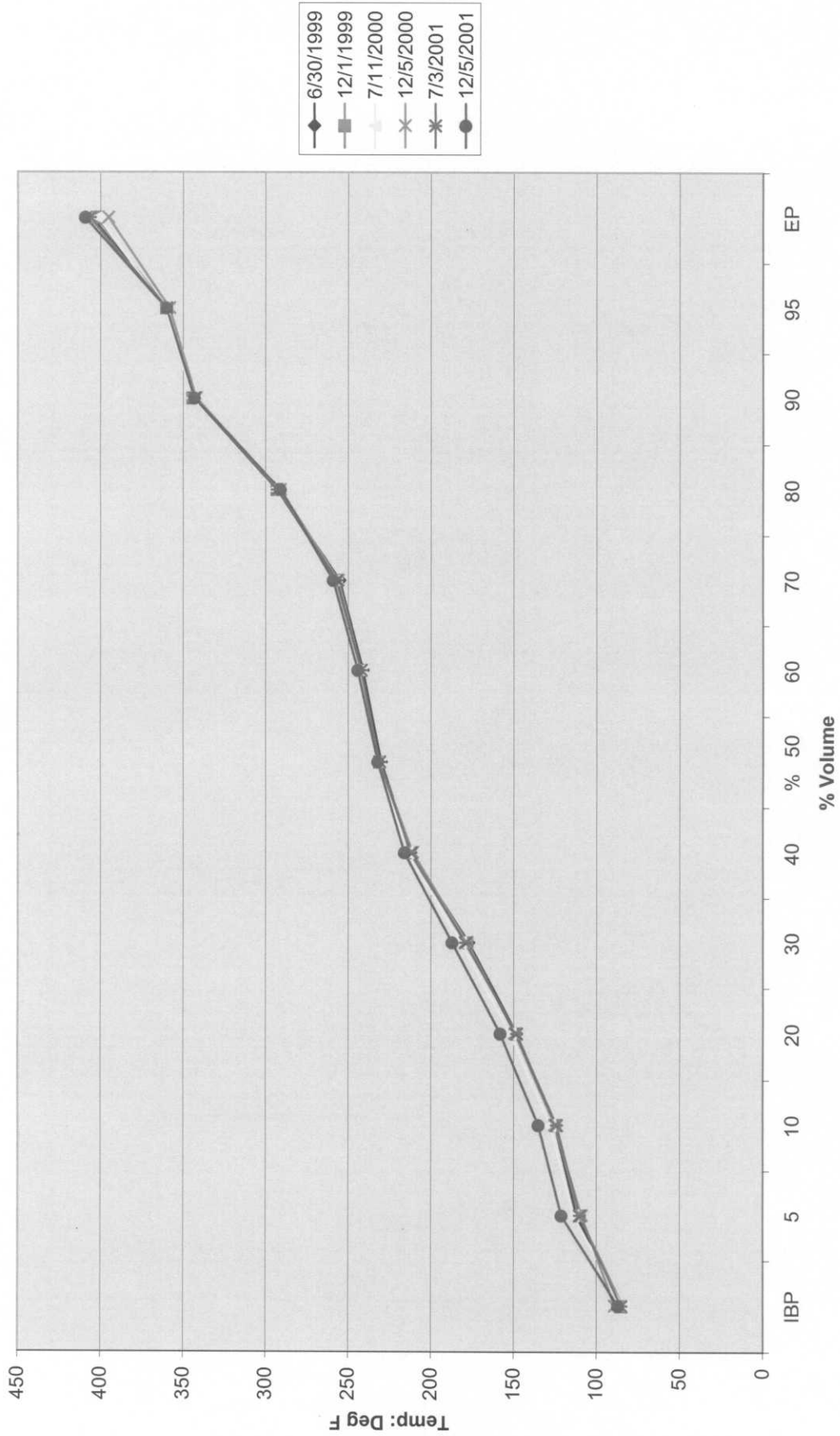
Obs CMIR critical vtext

- 1 43206 Lab Has Marked LABVALID as V
- 2 43206 Lab Has Marked OPVALID as has
- 3 43206 round(wtd,0.5) eq round((1*g1uwd + 10*g2uwd + 35*g3uwd + 70*g4uwd + 3.5*12uwd + 20*13uwd + 35*14uwd),0.5) was NOT true.

Lab 'C' Distillation Summary
Haltermann SVGM



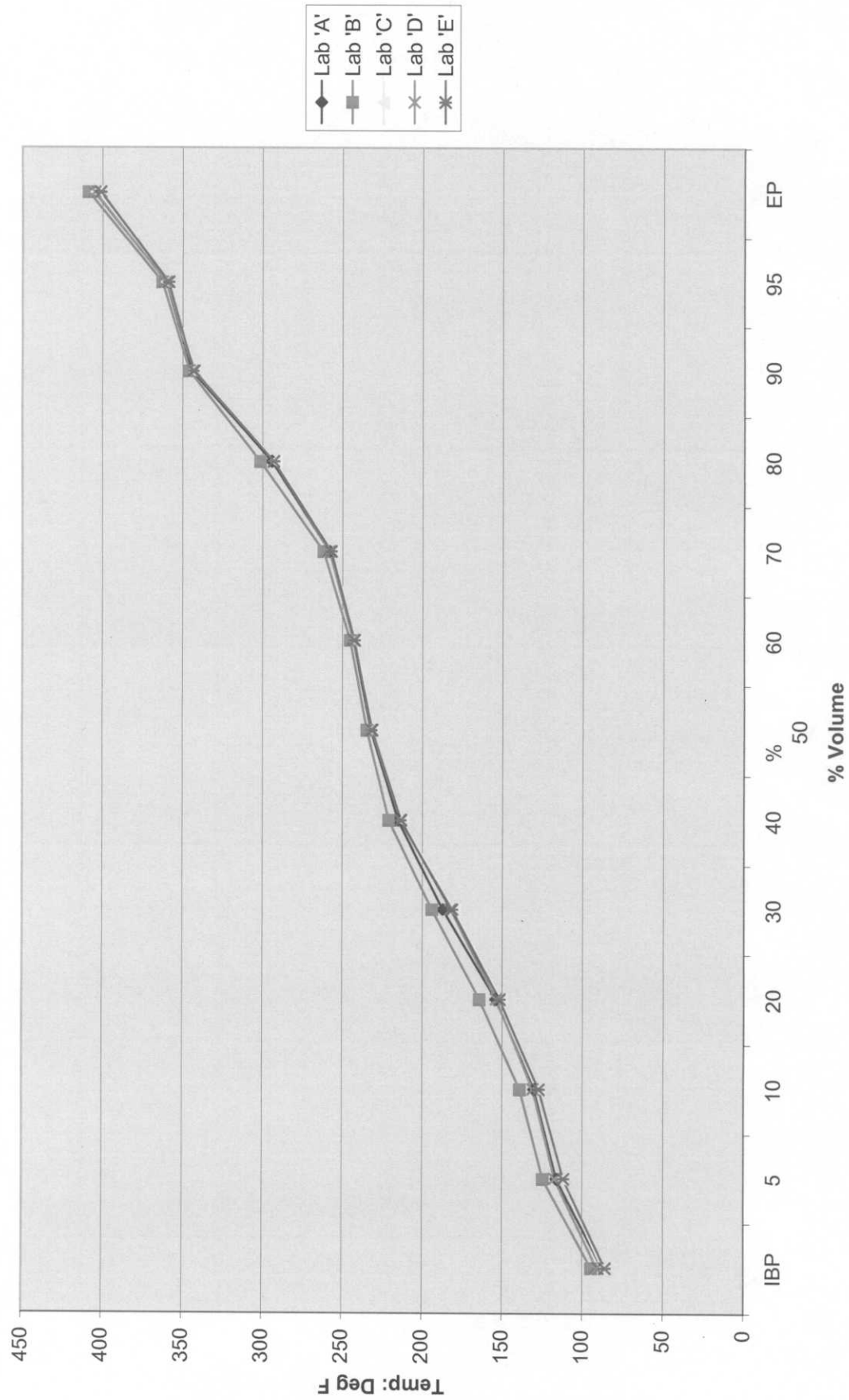
SVGGM Distillation Curves - Initial Semi-Yearly
 Haltermann Products - Tank 74



SVGGM Distillation Curve (Deg F) Summary
 Haltermann Products - Tank 74

	Initial Semi-Yearly					
	6/30/1999	12/1/1999	7/11/2000	12/5/2000	7/3/2001	12/5/2001
IBP	84	84	84	89	85	87
5	112	110	114	109	110	121
10	125	125	128	125	124	135
20	148	149	152	149	148	158
30	177	178	182	178	179	187
40	212	213	214	211	212	216
50	230	231	231	231	231	232
60	241	242	242	242	242	244
70	255	257	257	256	257	259
80	292	293	294	291	293	291
90	343	344	344	342	343	343
95	360	360	361	358	360	360
EP	405	402	401	395	406	409

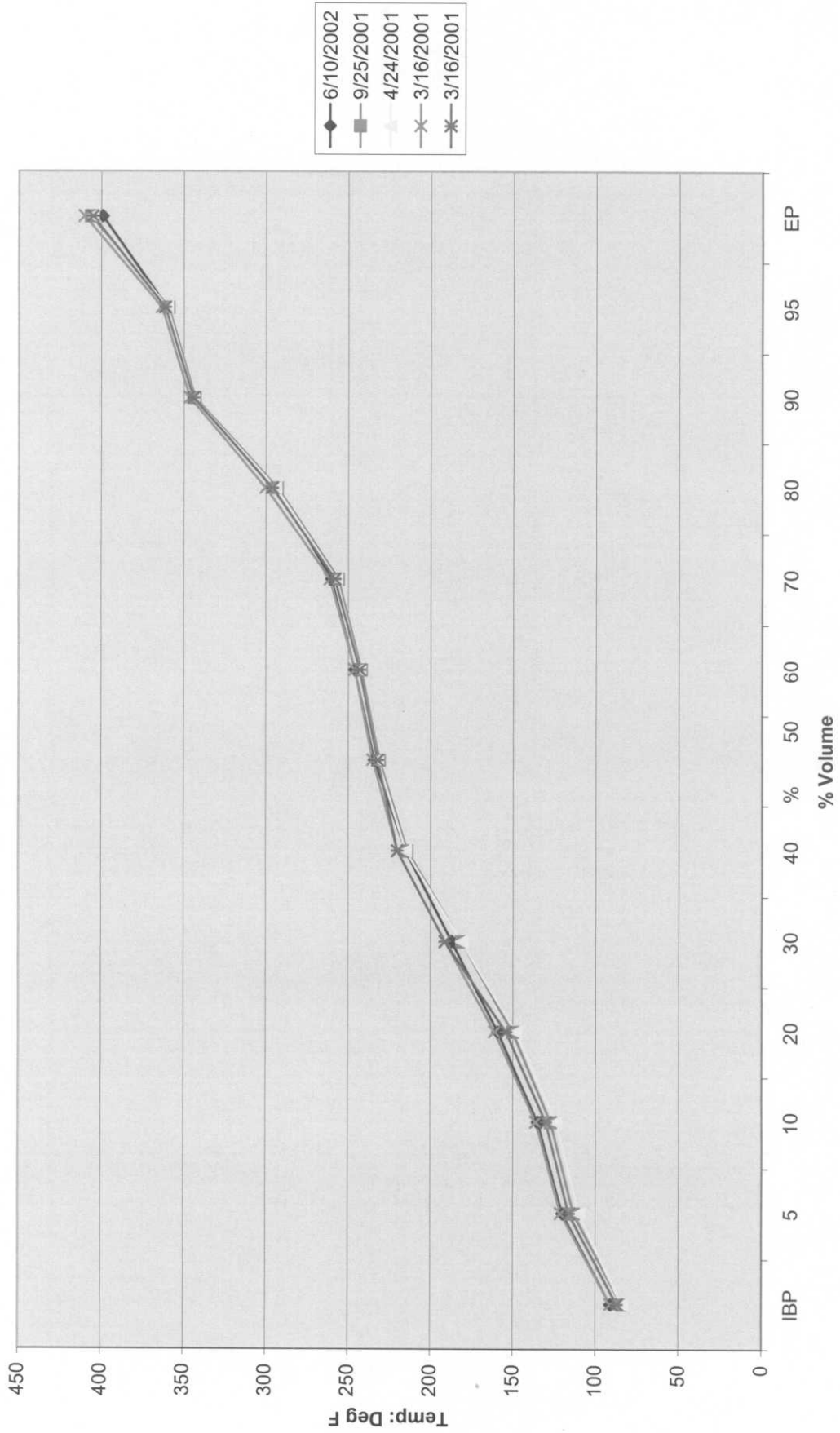
Haltermann SVGM - All Labs Ave Distillation Curves



**All Labs Average Distillation (Deg F) Summary
Haltermann SVGM**

	Lab 'A'	Lab 'B'	Lab 'C'	Lab 'D'	Lab 'E'	All Labs
IBP	87	94	87	91	86	89
5	116	124	112	117	112	116
10	130	139	127	131	127	131
20	154	164	151	154	152	155
30	187	194	180	182	181	185
40	215	221	213	213	214	215
%						
50	232	235	231	231	232	232
60	243	245	242	243	242	243
70	258	262	256	258	257	258
80	294	301	292	293	293	295
90	344	346	343	343	343	344
95	360	363	360	360	359	360
EP	405	409	404	405	401	405

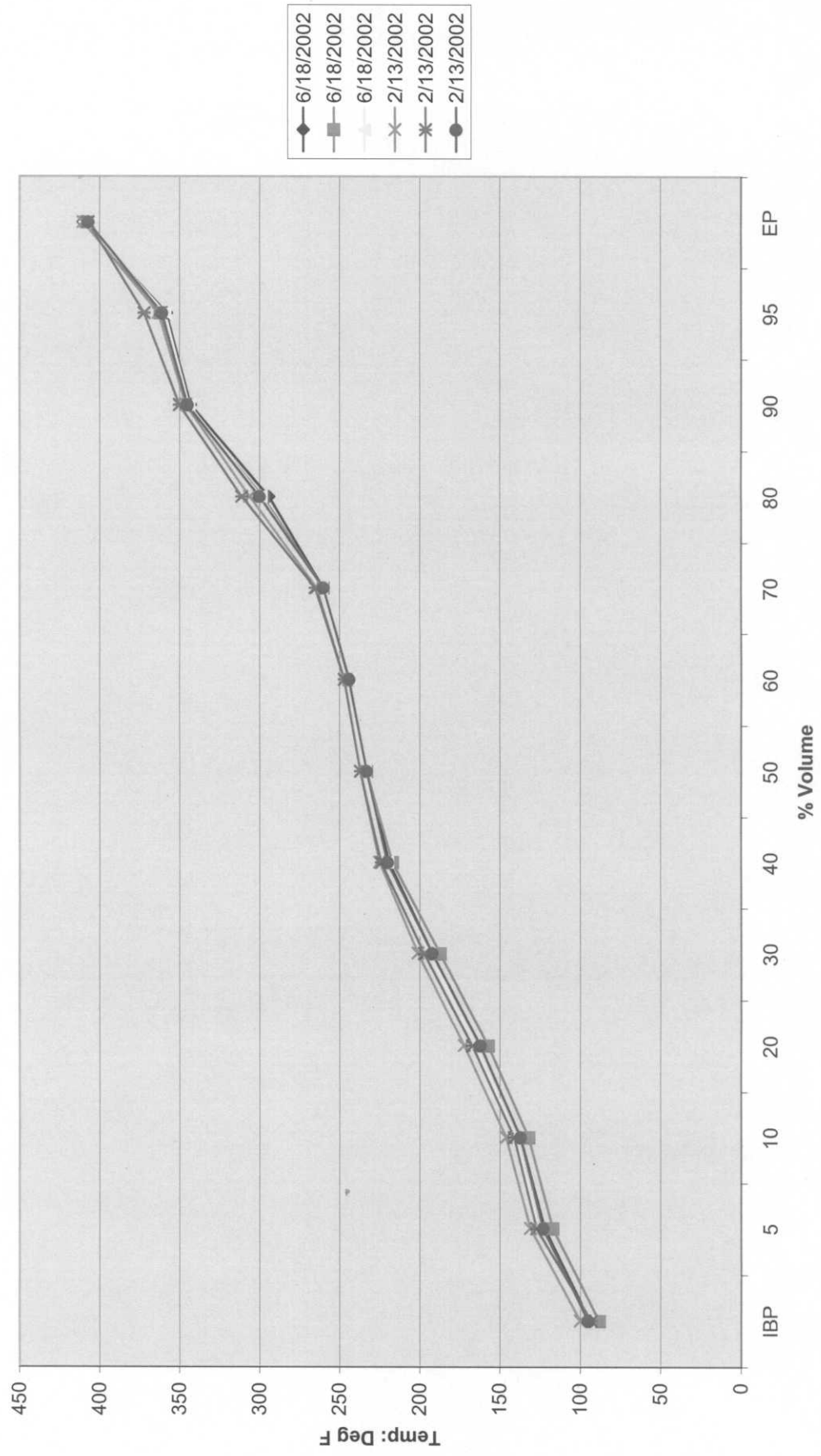
Lab 'A' Distillation Summary
Haltermann SVGM



Lab 'A' Distillation (Deg F) Summary
 Haltermann SVGGM

	6/10/2002	9/25/2001	4/24/2001	3/16/2001	3/16/2001
IBP	91	84	84	91	87
5	120	113	110	121	116
10	135	127	124	136	130
20	159	150	148	161	154
30	187	181	181	191	191
40	215	214	215	220	220
50	234	231	232	235	232
60	246	242	243	246	243
70	260	256	257	261	258
80	293	293	294	300	296
90	344	343	344	346	344
95	360	359	360	363	361
EP	399	406	405	410	405

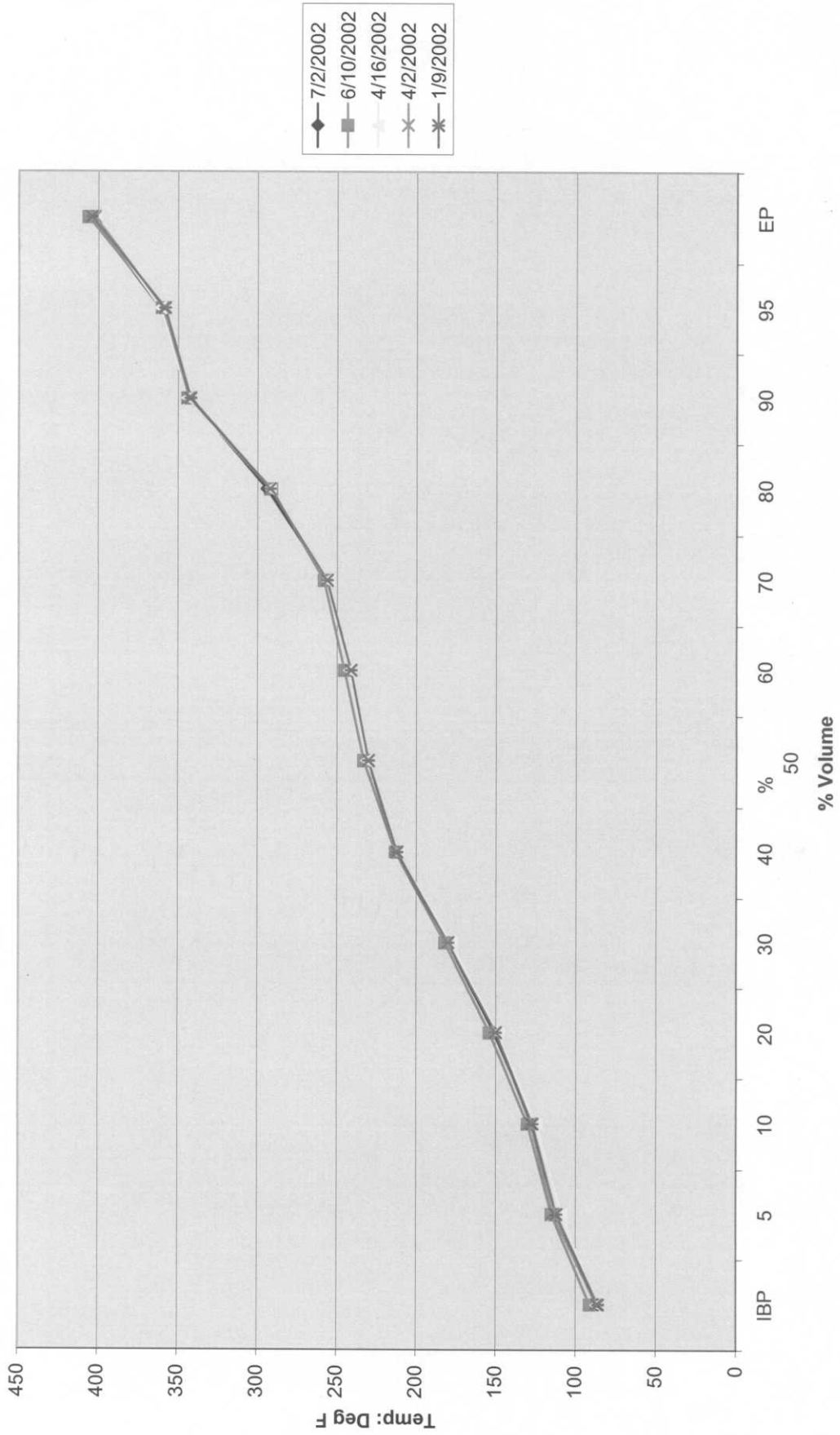
Lab 'B' Distillation Summary
 Haltermann SVGM



Lab 'B' Distillation (Deg F) Summary
 Haltermann SVGM

	6/18/2002	6/18/2002	6/18/2002	2/13/2002	2/13/2002	2/13/2002
IBP	94	88	95	100	93	95
5	122	117	126	131	127	123
10	137	132	140	146	141	137
20	162	157	165	172	167	162
30	192	187	194	201	197	192
40	219	217	220	225	224	220
50	233	233	234	237	237	233
60	244	244	244	247	247	244
70	260	260	261	264	265	260
80	294	298	299	306	311	300
90	343	345	344	346	350	345
95	358	362	359	363	372	361
EP	410	408	409	410	407	407

Lab 'C' Distillation Summary
Haltermann SVGM



Sequence VG Test Report

ASTM Sequence VG Surveillance Panel Meeting

San Antonio, Texas

November 20, 2002

Barry Jeceewski

Ford Motor Company

Fuels and Lubricants Engineering

- **Review support Data For Roller Pin and Ring Wear Measurements:**
- A formal request has been made to RSI for a summary of candidate wear measurements on roller pin and ring wear. As previously stated, the objective of this request is to determine if there is a correlation between candidate oil(s) and roller pin follower wear, ring wear, and bore wear. The topic of bore wear will be discussed below.
- **Review Bore Wear Data on Seq. VG Engines:**
- See attached sheets.
- After the analysis of bore wear on engines run with varies reference oils, a formal request will be made to measure bore wear on candidate engines.
-

Barry Jecewski

Ford Motor Company

Fuels and Lubricants Eng

Seq. VG Test Developer Report

Status of 4.6L-2V Romeo (2000 model year hardware):

As of 11/18/02 (104) model year 2000 Ford Romeo 4.6 engines have been sold for future Sequence VG testing.

Ford Power Products will liquidate any remaining model year 2000 Romeo engines during the first quarter of 2003.

Ford Motor Co. has funded and supplied (8) Ford Romeo 4.6L-2V engines for matrix testing.

Status of Engine Part Kits:

All engines part kits (pistons/rings) are being processed

Barry Jecewski

Ford Motor Company

Fuels and Lubricants Eng

The VG ROMEO MATRIX

11.20.2002

VG SURVEILLANCE PANEL

SAN ANTONIO

AER Engine Supply

May Est.

Current Picture

AER	DATE	USAGE	GF-3	USE	AER	DATE	USAGE
270	May-02	15	May-00	20		May-02	16
255	Jun-02	15	Jun-00	19		Jun-02	9
240	Jul-02	18	Jul-00	22		Jul-02	17
222	Aug-02	20	Aug-00	23		Aug-02	20
202	Sep-02	22	Sep-00	24		Sep-02	9
180	Oct-02	25	Oct-00	39	184	Oct-02	12
155	Nov-02	30	Nov-00	29	172	Nov-02	12
125	Dec-02	35	Dec-00	32	160	Dec-02	12
90	Jan-03	34	Jan-01	26	148	Jan-03	12
56	Feb-03	32	Feb-01	33	136	Feb-03	12
24	Mar-03	24	Mar-01	39	124	Mar-03	15
1000	Apr-03	35	Apr-01	35	109	Apr-03	30
965	May-03	30	May-01	30	79	May-03	30
935	Jun-03	21	Jun-01	21	49	Jun-03	30
914	Jul-03	27	Jul-01	27	19	Jul-03	30
887	Aug-03	27	Aug-01	27	720	Aug-03	25
860	Sep-03	16	Sep-01	16	695	Sep-03	20
844	Oct-03	23	Oct-01	23	675	Oct-03	15

Matrix History

- SWRI and Ford Development
- 01.18.2001 O&H Meeting called to develop Romeo Matrix. Extended length and reduced oil charge are dials.
- 05.15.2002 Reduced oil charge matrix stopped.

Matrix History

- 07.16.2002 selected extended length test and 4 runs per Romeo block.
- 10.2002 Matrix engines received.
- 11.2002 Decision to use AER heads on Romeo block.

Supply of AER Heads

- AER CAN SUPPLY SETS OF F1 & F4 HEADS. THE PRICE WILL BE AVAILABLE SOON.
- TEI WILL LOOK FOR BUYER FOR F5, F8 HEADS. NEW HEADS WILL BE IN THE ROMEO ENGINE KITS.
- INDUSTRY HAS ABOUT 300 HEADS AT LABS FOR REBUILD

Matrix Configuration

- 10 TESTS, 5 LABS, 2 OILS, 2 PISTON/RING SIZES [0.125 and 0.500mm OVERSIZE]
- REGULAR CONFERENCE CALLS ON RESULTS DURING MATRIX
- DUAL RATING AT SWRI AND PEAR

Matrix Design

LABS OILS BORES

A 1006 0.125

B 925-3 0.5

C

D

E

Lab	Oil 1006		Oil 925-3	
	Bore .125	Bore .500	Bore .125	Bore .500
SwRI	X	X		
PEAR	X	X		
LUBRIZOL			X	X
ETHYL			X	X
ASHLAND	X			X

Matrix Status

- FORD HAS SUPPLIED ENGINES AND WILL SUPPLY SOME MAJOR BUILD HARDWARE
- SWRI, PEAR, LUBRIZOL, ETHYL AND ASHLAND WILL RUN MATRIX TESTS
- HALTERMANN WILL SUPPLY MATRIX FUEL
- SWRI AND PEAR WILL START TESTS BY FIRST WEEK OF DECEMBER

MEMORANDUM: 02-117
DATE: November 18, 2002
TO: IIF and VG Surveillance Panels
FROM: Scott Parke
SUBJECT: Light Duty Rating Status Report

The Fall 2002 ASTM Light Duty Rating Workshop was held during the week of September 23, 2002 at Southwest Research in San Antonio, Texas. Raters from all ASTM calibrated VG and IIF testing labs attended. Several raters from client companies were present as well. A total of 20 raters contributed data.

The switch from rocker cover to cam baffle for the VG varnish rating has been completed. Two engines were rated for VG at this workshop. A total of eight pistons were rated by each rater for IIF.

In an effort to reduce the impact to labs of having raters out of the lab on travel, the 2003 Light Duty Rating Workshop is expected to be scheduled for sometime in January or February. While this is short turnaround from the workshop just held, it will put the Light Duty workshop on a staggered schedule with the Heavy Duty workshop traditionally scheduled for the fall. January/February is being targeted in order to avoid ASTM semi-annual activity that consumes so much of the April/May timeframe.

SDP/sdp/ m02-117.sdp.doc

c: F. M. Farber

distribution: Email

ASTM SEQUENCE VE SURVEILLANCE PANEL**SCOPE AND OBJECTIVES****SCOPE**

The Sequence V Surveillance Panel is responsible for the surveillance and continued improvement of the Sequence VE test documented in ASTM Standard D5302-92 and VG ASTM Standard D6593 as updated by the Information Letter System. Data on test precision and laboratory versus field correlation will be solicited and evaluated at least every six months. Improvements in rating technique, test operation, test monitoring and test validation will be accomplished through continual communication with the Test Sponsor, ASTM Test Monitoring Center, ASTM BO.01, Passenger Car Engine Oil Classification Panel, ASTM Light Duty Rating Task Force, ASTM Committee B0.01, CMA Monitoring Agency and CRC Motor Rating Methods Group. Actions to improve the process will be recommended when deemed appropriate based on input from the preceding. Development and correlation of updated test procedures with previous test procedures will be reviewed by the panel. This process will provide the best possible test procedure for evaluating automotive lubricant performance with respect to the lubricant's ability to prevent engine sludge, engine varnish, cam lobe wear, oil screen plugging, oil ring clogging and ring sticking.

Objectives

<u>Objectives</u>	<u>Target Date</u>
1. Establish VG fuel reblend confirmation trial timing	<u>May 2003</u>
2. Approval testing of next VG fuel reblend	Nov. 2003
3. New Romeo engine equivalency testing complete	Feb. 2003
4. Introduce 1009 reference oil	Nov. 2002
5. Cylinder Bore Task Group	June 2003
6. Review need for Rate & Report items	May 2003
7. Current engine distribution plan	Jan. 2002
8. Future engine supply plan	Nov. 2003

G. R. FARNSWORTH, Chairman
Sequence VG Surveillance Panel
pjr

Updated Nov. 20, 2002
San Antonio, Texas

Motions & Action Items
Sequence VG Surveillance Panel
November 20, 2002
As Recorded at the Meeting by Ben Weber

1. Meeting minutes were approved as written.
2. This previous action item still remains open. A Task Force, chaired by Barry J, will be formed to determine an industry method for purchase and procurement of test hardware for the VG and future sequence testing.
3. The TMC report was accepted as presented.
4. The SP chair will request of B1 that the VE test method be withdrawn as an ASTM standard.
5. Much to the surprise of the VG SP, it was discovered at this meeting that Haltermann has been periodically adding light ends to the VG fuel. Haltermann will go back and let the SP know how many times with dates they have added light ends to the VG fuel, what percentage and what the material was. Several members wondered how Haltermann judges when to make this adjustment and how is it verified? Haltermann will notify the SP when they plan on making this adjustment so labs might be able to determine possible severity and precision issues.
6. The roller pin and ring wear measurements will cease at the May 2003 SP meeting, unless the data from references and RSI convince this panel of their value. This presumes that RSI will grant Barry's request to analyze the candidate data.
7. Bill B and Beto A need to get together to firm up the kit parts required now that we are going to AER heads.
8. 1009 will use an assignment rate of 25%.
9. Dan will survey the industry again regarding AER hardware for future redistribution.
10. [Bill B & Jerry B Motion] Besides Ford Power Products, the new Romeo Sequence VG test engine, part number OG-804-AA, can also be procured from AER. Effective date: 11-20-2002. Approval of this motion does not preclude Ford Power Products as a distributor, but merely offers another source for the exact same test engine. The quantities being purchased are left to the various testing laboratories, as in the case of the current request from Ford Power Products. Passed (6 for, 1 against, 3 waives).
11. [Bill B & Jerry B] Motion to change 15.2 to make the photographic requirement optional. Passed (8 for, 1 against, 1 waive).