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Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS

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November 5, 2008

Reply to:
Chris Schenkenberger
The Lubrizol Corporation
29400 Lakeland Blvd.
Wickliffe, OH 44092
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(440) 347-2878 (FAX)
Chris.Schenkenberger@lubrizol.com

ASTM D02.B0.03 L-60-1 Surveillance Panel
Members and Guests:

Attached for your review and comment are the unconfirmed minutes of the February 13, 2008 L-60-1 Surveillance Panel meetings held at the PRI Headquarters in Warrendale, PA. Please direct any corrections or comments to my attention.

Sincerely,

Chris Schenkenberger
Chairman
L-60-1 Surveillance Panel

Attachments

**Report of Meeting
L-60-1 Surveillance Panel
PRI Headquarters, Apollo Room, Warrendale, Pa.
February 13, 2008**

Sign-in/Review of Membership: The meeting was called to order at 9:43 am. The sign-in sheet is ***Attachment # 1***. The membership list was reviewed. Ron Duckstein, formerly with PARC and recently retired, was removed from the mailing list. Dale Smith remains the voting member from PARC. With respect to Afton Chemical, Clair Whitton was removed and Don Bell added as non-voting in her place. Also for Afton, Sam Higuchi was added to the mailing list in place of Kevin Layton. Cory Koglin remains the voting member.

Meeting Agenda – The meeting agenda is included as ***attachment # 2***.

Approval of minutes:

Motion 1 ⇒ (Mr. Don Lind, Second ⇒ Mr. Salvatore Rae) – Approve the August 8, 2007 and November 7, 2007 meeting minutes be approved as written. The minutes passed unanimously.

Summary of Meeting Discussions

Next L-60-1 hardware batch order: The Chairman reviewed the 2000 hardware batch made by Boston Gear which was procured through Ohio Gear and Transmission. The 1999 batch of gears did not contain lead which had a proven severity affect on average carbon varnish. This batch was determined to be unusable and a 2000 batch was made containing historical levels of lead. The batch was meant to be a 5-year order but has lasted much longer due to lower than predicted test volume.

The industry ordered approximately 4000 gears at a cost of approximately \$19.00 a set. The chairman had worked closely with the distributor to analyze and certify the lead content of each bar. Other key services included serializing the gears (stamped bar stock number), randomizing the lot and the distributing them equally to the L-60-1 industry customers who placed orders.

The Chairman has met with Boston Gear and the Ohio Gear and Transmission company. Boston can still make the gears to the same specification for the 2000 hardware batch. Ohio Gear and Transmission can also offer the same services. At the time of the meeting, the chairman was not able to get a firm quote for another order based on 4000 gears. Indications were that the cost would be more than double that of the previous batch. Boston Gear could also make a pilot run of about 20 sets if the industry desires.

Prior to getting an industry count on future hardware needs, SwRI said that they had an abundant supply of gears and could work with other labs in order to keep them testing. They also felt the amount of gears could parlay an order for at least one year if not more. This discussion was taken offline and the surveillance panel agreed to revisit the industry hardware needs in future meetings. The chairman mentioned that any lab or panel member could request this issue be placed on future meeting agendas.

L-60-1 Control Charts – TMC: The chairman had requested that Mr. Lind lead the surveillance panel through an overview of the current LTMS charts. The control charts are included as **attachment # 3**. The majority of the discussion focused on average carbon varnish. Lab to lab variability along with stand to stand variability is still present. The following summarizes main points from the discussion.

- Industry average carbon varnish charts –
 - Lab A is in on target with respect to severity and starting to trend mild, precision slightly less than Lab B/Lab D
 - Lab B is in control precision good, trending severe
 - Lab D is similar to B. It is in control, precision is good and trending severe
- Industry sludge charts – Overall, up until recently when we spiked severe (one result from a new rater in the system in one lab), we have been slowly trending severe over a long time but not at the same magnitude as ACV
 - Lab A moved the rigs to a new location within its facility recently. Results may have improved over previous stand charts but more time is needed to confirm.
 - Lab B has one of the most consistent stands within the industry. The second stand is trending severe since July of 2006. It is in control with good precision but trending severe.
 - Lab D, in general the stands are in control, precision is good but trending severe.
- TMC comments:
 - The lab that is concise has stands that have been moved and their control of ambient air temperature has been improved.
 - All chemical labs are following procedure and data consistency is good.
 - Based on the most recent industry workshops, rater variability is increasing and appears to be a growing factor in overall L-60-1 reference test variability. This is counter to workshop results from 2 to 3 years ago. The improvement experienced during that time was felt to be a result of clarifications made to the rating method that was inserted into the D5704. Improvements have been made to the stand and operation as well.

Action Item: (All L-60-1 Lab Engineers/Management) If they haven't already done so, the surveillance panel requested they contact TMC for rater designations and start working with rater discrepancies that are present within labs in some cases.

Action Item Review from 11/7/08 SP Meeting

(Chris Schenkenberger) – Based on the fact that the current AC Delco alternator specified in the D5704 can no longer be purchased, the chairman was tasked with asking two former chairmen to see if they were aware of any issues in switching from the old alternator to a new model that is readily available. Mr. John Huron and Mr. Ed Akucewich's responses are captured as **attachment # 4**. Both were not aware of any severity concerns provided that shaft speed doesn't change and the DC heater output is locked at 128 watts. However they agreed that all labs should move in lockstep fashion and make the change at the same time whenever the panel makes a final decision on a new model.

Action Item: (Mr. Bartlett) Contact Bowden Industries who is a known industry central parts distributor who could potentially help in procurement of an alternator.

The meeting was adjourned at 15:30 (Cory Koglin/Don Bartlett).

Respectfully submitted,

Chris Schenkenberger
L-60-1 Surveillance Panel Chairman

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: ~~2/13/08~~

2/13/08

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Anderson, Greg	Non-voting	Falex Corporation 1020 Airpark Drive Sugar Grove, Illinois 60554-9585	Phone: 630-556-3669 Fax: 630-556-3679 E-Mail:
	Agusti, Rachel	Voting	AMSTRD-TAR-D/2/10 6501 E. 11 Mile Rd Warren, MI 48397-5000	Phone: 586-574-4222 Fax: 586-574-4244 E-Mail: rachel.jackman@us.army.mil
<i>DB</i>	Bartlett, Don	Non-voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-2388 Fax: 440-347-2878 E-Mail: dtb@lubrizol.com
<i>DRB</i>	Bell, Don	Non-voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-6332 Fax: 804-788-6342 E-Mail: Don.Bell@attonchemical.com
	Boscher, Tom	Non-voting	Afton Chemical Corporation 2000 Town Center, Suite 1750 Southfield, MI 48075	Phone: 248-350-0640 Fax: 248-350-0025 E-Mail: tom_boscher@ethyl.com
	Bryson, Tom	Voting	Mack Trucks 13302 Pennsylvania Avenue Hagerstown, Maryland 21740	Phone: 301-790-5454 Fax: 301-790-6744 E-Mail: tom.bryson@macktrucks.com
	Buitrago, Juan	Voting	Chevron Oronite Co. 100 Chevron Way Richmond, California 94802-0627	Phone: 510-242-1161 Fax: 510-242-3392 E-Mail: jabu@chevrononite.com
<i>FA</i>	Chambers, Harold	Non-voting	<i>Ford ATNPL</i> Cable-C290 St MD 214 17000 Forterra Drive 35500 Pym Dearborn, MI 48420 Livonia MI 48150	Phone: (313) 756-1246 805-8591 E-Mail: hchamber@astm.com <i>Ford.com</i>

* Initial to indicate attendance at subject meeting

Attachment Page Reference

L-60-1

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: ~~2/13/08~~

2/13/08

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Comfort, Allen	Non-voting	AMSTA-TR-D/210 (Allen Comfort) U S Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000	Phone: 586-574-4225 Fax: 586-574-4244 E-Mail: comforta@cc.tacom.army.mil
	De La Fuente, Hector	?	Oronite	
	Purnell, Keith	Non-voting	Performance Review Institute 161 Thornhill Road Warrendale, Pennsylvania 15086-7527	Phone: 724-772-1616 X8182 Fax: 724-772-1699 E-Mail: kpurnell@sae.org
	Duckstein, Ron	Non-voting	Parc Technical Services, Inc. 1000 William Pitt Way Pittsburgh, Pennsylvania 15238	Phone: 412-826-5115 Fax: 412-826-5443 E-Mail: rhd@usaot.net
	Eliot, Stephen W.	Non-Voting	Commercial Vehicle Lubricants Exxon/Mobil Lubricants & Specialties Leesburg, Virginia	Phone: 703-669-9916 Fax: 703-669-9917 E-Mail: stephen.w.eliot@exxonmobil.com
	Farber, Frank	Non-voting	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	Phone: 412-365-1030 Fax: 412-365-1047 E-Mail: fmf@astmtrc.cmu.edu
	Felt, Gregory	Voting	3939 Technology Drive Maumee, Ohio 43537	Phone: (419) 887-3296 Fax: E-Mail: greg.felt@dana.com
	Gropp, Jerry	Non-voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-1223 Fax: 440-347-1555 E-Mail: jlg@lubrizol.com

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JF





* Initial to indicate attendance at subject meeting

Attachment 1
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ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: ~~2/13/05~~

2/13/05

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Guzzkowski, Joe	Non-voting	P.O. Box 955 Toledo, Ohio 43697 3939 Technology Drive Maumee, Ohio 43537	Phone: 419-887-3425 Fax: E-Mail: joe.guzzkowski@dana.com
	Huron, John	Non-voting	Chevron Oronite 4502 Centerview Drive, Suite 210 San Antonio, Texas 78228	Phone: 210-731-5609 Fax: 210-731-5699 E-Mail: HURCO@ChevronTtaxaco.com
	Kanga, Percy R.	Non-Voting	Commercial Vehicle, Marine & Gas & Engine Lubricants ExxonMobil Research & Engineering 600 Billingsport Road Paulsboro, NJ 08066	Phone: 856-224-2094 Fax: 856-224-3613 E-Mail: percy.r.kanga@exxonmobil.com
	Koehler, Brian	Voting	Southwest Research Institute Culebra Road Bldg. 61 San Antonio, TX 78238-5166	Phone: (210) 522-3588 Fax: (210) 699-4444 684-7523 E-Mail: bkoehler@swri.org
	Koglin, Cory	Non-voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-5305 Fax: 804-788-6368 E-Mail: cory.koglin@aftonchemical.com
	Layton, Kevin	Voting	Afton Chemical Corporation 500 Spring Street Richmond, Virginia 23219	Phone: 804-788-5363 Fax: 804-788-6368 E-Mail: kevin.layton@aftonchemical.com
	Lind, Don	Voting	ASTM Test Monitoring Center 6555 Penn Avenue Pittsburgh, Pennsylvania 15206	Phone: 412-365-1034 Fax: 412-365-1047 E-Mail: donl@astmtmc.cmu.edu
	Marougy, Thelma	Voting	Eaton Corporation 26201 Northwestern Highway Southfield, Michigan 48037	Phone: 248-364-6985 Fax: 248-364-2739 E-Mail: thelmaemarougy@eaton.com

* Initial to indicate attendance at subject meeting

Attachment 1
Page 3 of 5
Reference L-60-1

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: ~~2/13/08~~

2/13/08

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Marty, Steve	Non-voting	Southwest Research Institute 6220 Culebra Road San Antonio, Texas 78238	Phone: 210-522-5929 Fax: 210-680-1777 E-Mail: smarty@swri.edu
	McClone, Bruce	Voting	Avril/Meritor 2135 West Maple Troy, Michigan 48084	Phone: 248-435-9929 Fax: 248-435-1411 E-Mail: mcclonb@meritorauto.com
SR	Rea, Salvatore	Voting	Infneum USA L.P. 1900 East Linden Avenue PO Box 536 Linden NJ, 07036	Phone: 908-474-6602 Fax: 908-474-3597 E-Mail: Salvatore.Rea@Infneum.com
	Reitmann, Kevin	Non-voting	PerkinElmer Fluid Sciences 5404 Bandera Road San Antonio, Texas 78238	Phone: 210-706-1546 Fax: 210-523-4614 E-Mail: Kevin.Reitmann@perkinelmer.com
CS	Schenkenberger, Chris	Voting	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, Ohio 44092	Phone: 440-347-2927 Fax: 440-347-2878 E-Mail: csc@lubrizol.com
	Shah, Rajesh	Non-voting	Koehler Instrument Company 1595 Sycamore Avenue Bohemia, New York 11716	Phone: 516-589-3800 Fax: 516-589-3815 E-Mail:
AS	Smith, Dale	Non-voting	Intertek PRC Parc Technical Services Inc. 100 William Pitt Way Pittsburgh, Pennsylvania 15238	Phone: 412-423-1120 X 403 Fax: 412-826-5444 E-Mail: Dale.Smith@intertek.com
	Sullivan, Bill	Voting	WTSullivan, Inc. 5 Schreiber Drive Brick, New Jersey 08723	Phone: 908-930-3512 Fax: 267-220-7750 E-Mail: wtsullivan@comcast.net

* Initial to indicate attendance at subject meeting

ASTM L-60-1 Surveillance Panel Membership/Mailing List

Meeting Date: ~~2/13/08~~

2/13/08

Initials*	Name	Voting Status	Company Name & Address	Phone & Fax & E-Mail
	Vettel, Paula	Voting	D. A. Stuart Company 4580 Weaver Parkway Warrenville, Illinois 60555	Phone: 630-393-8859 Fax: 630-393-8577 E-Mail: pvettel@dasstuart.net
	Villahermosa, Luis	Non-voting	AMSTA-TR-D/210 (Luis Villahermosa) U.S. Army Tank, Automotive, and Armament Command Warren, Michigan 48397-5000	Phone: 586-574-4207 Fax: 586-574-4123 E-Mail: villahel@cc.tacom.army.mil
	Whitton, Claire	Non-voting	Ellyl Research Center 560 Spring Street P. O. Box 2158 Richmond, Virginia 23218-2158	Phone: 804-788-5052 Fax: 804-788-6749 E-Mail: Claire_Whitton@ellyl.com
	Zakarian, Jack	Non-voting	Chevron Products Company 100 Chevron Way Richmond, California 94802-0627	Phone: 510-242-3595 Fax: 510-242-3758 E-Mail: jaza@chevron.com

Mike Haire NV

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SSH Higuchi, Sam NV

Same as C. Koglin
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John Dhanraj V

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* Initial to indicate attendance at subject meeting

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L-60-1 Surveillance Panel

February 13, 2008
11:00 a.m. – 12:00 p.m.
PRI Apollo Room – Warrendale, PA

Agenda

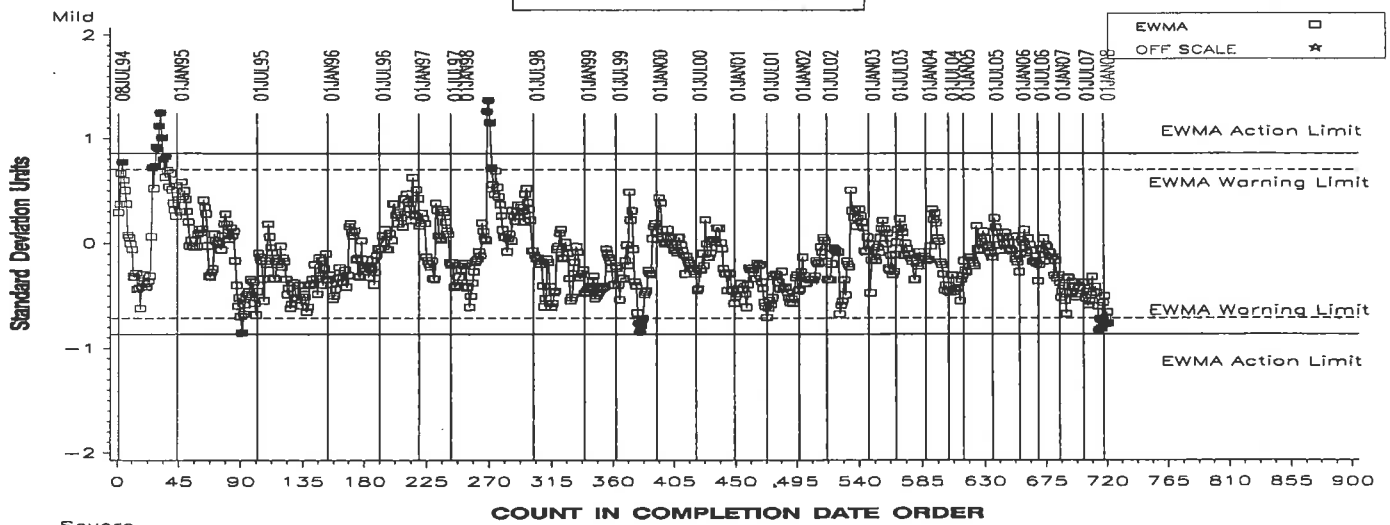
- I. Call to order
- II. Review Agenda
- III. Approval of meeting minutes
 - August 8, 2007 L-60-1 Surveillance Panel Meeting
 - November 7, 2007 L-60-1 Surveillance Panel Meeting
- IV. Plans for next industry gear batch order
- V. L-60-1 Control Charts
- VI. Gear ratings from Rater Workshop
- VII. Action Item Review from 11/7/07
- VIII. Adjournment

Attachment	<u>2</u>
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Reference	<u>L-60-1</u>

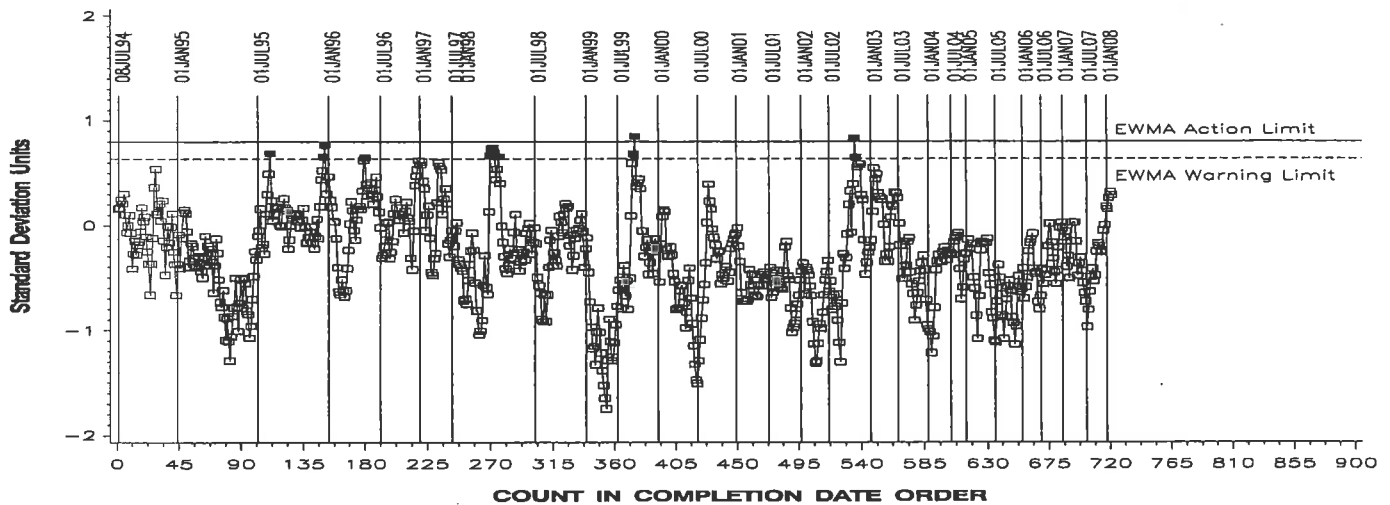
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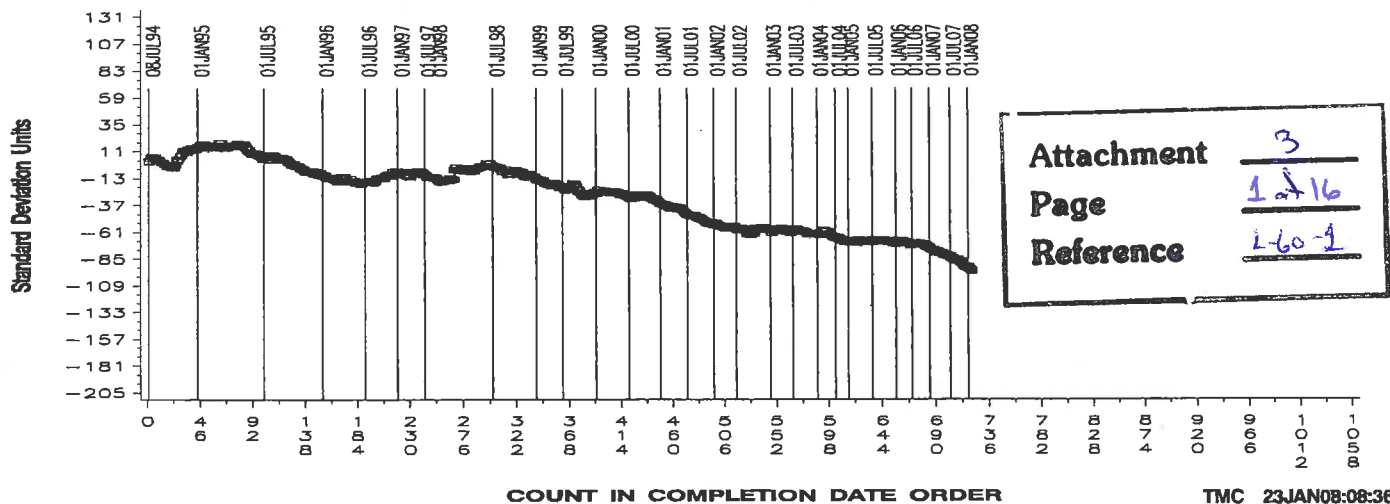
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LTMS Precision Analysis



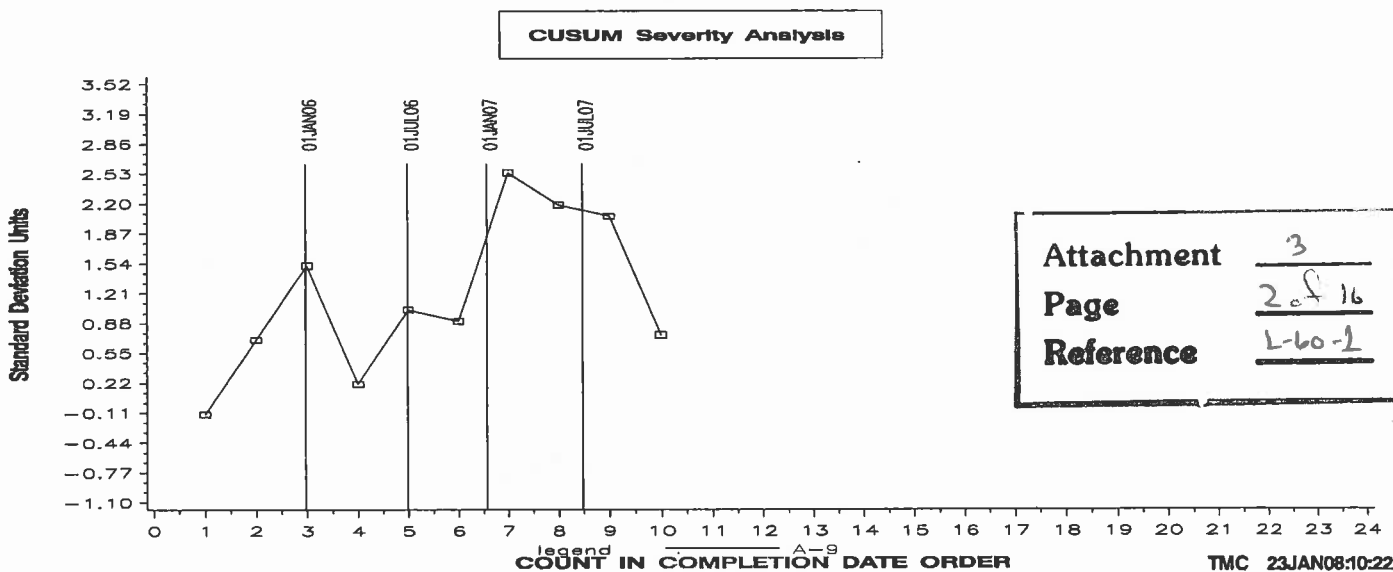
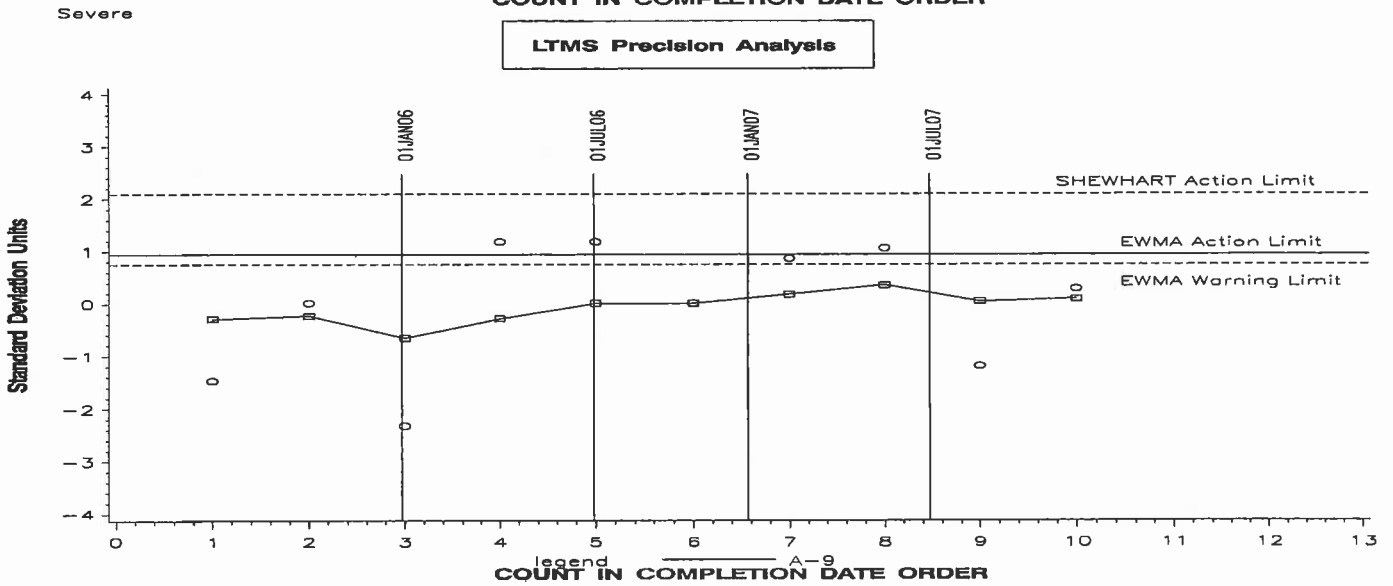
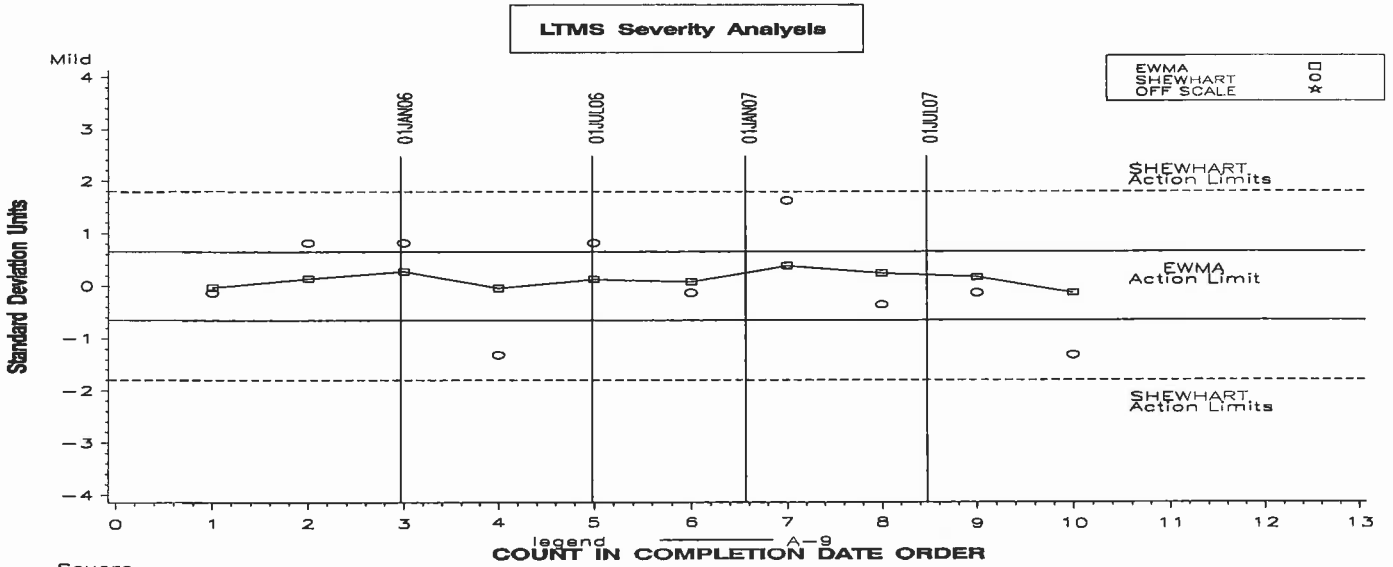
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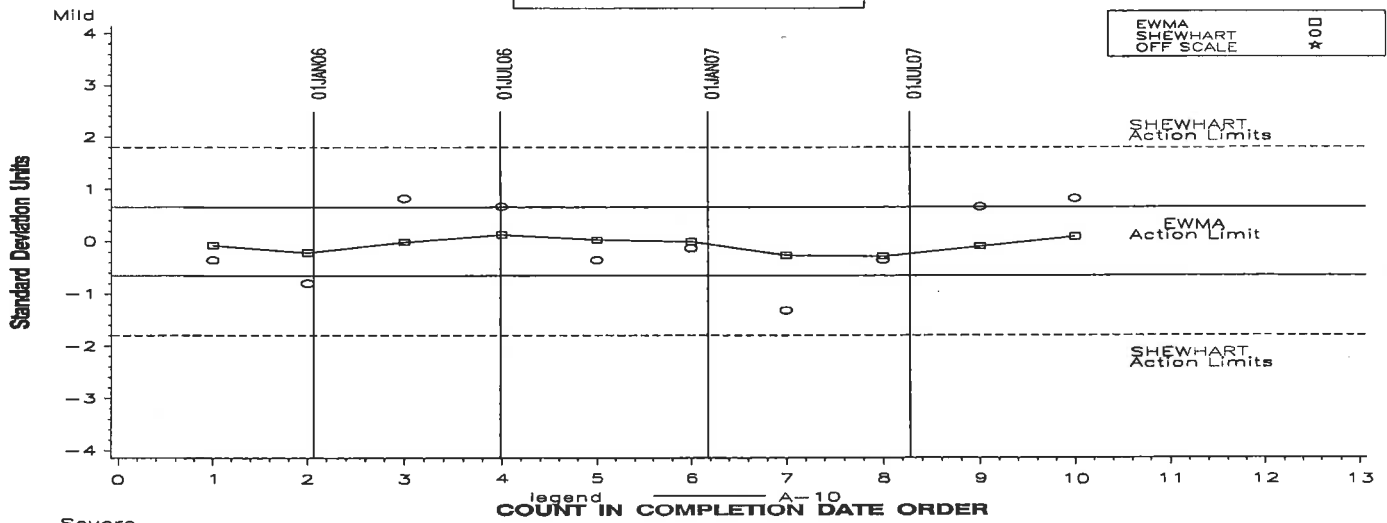


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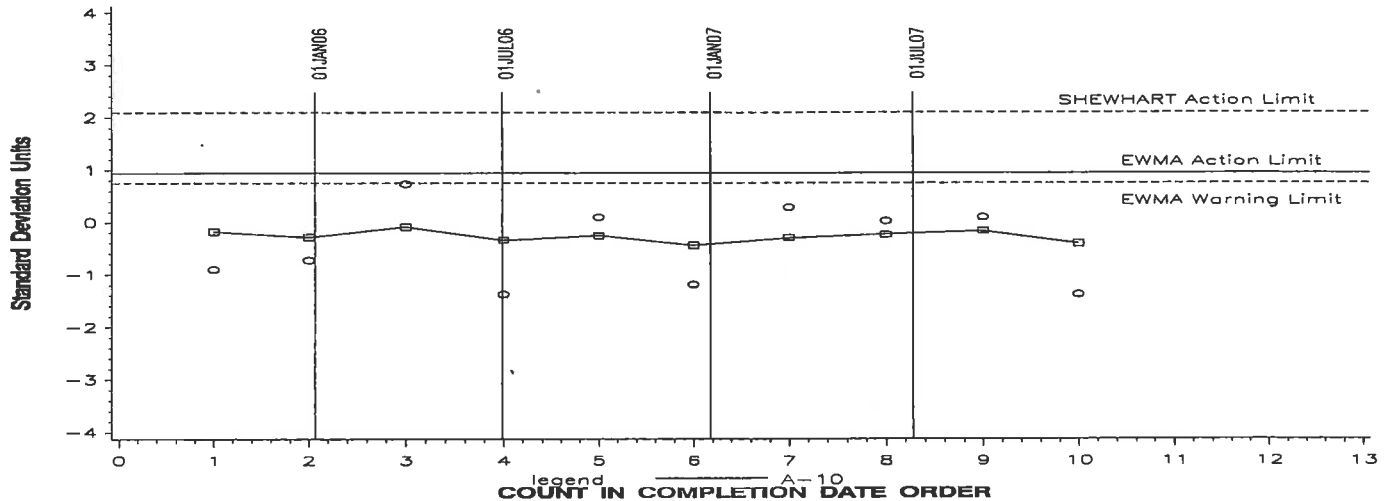
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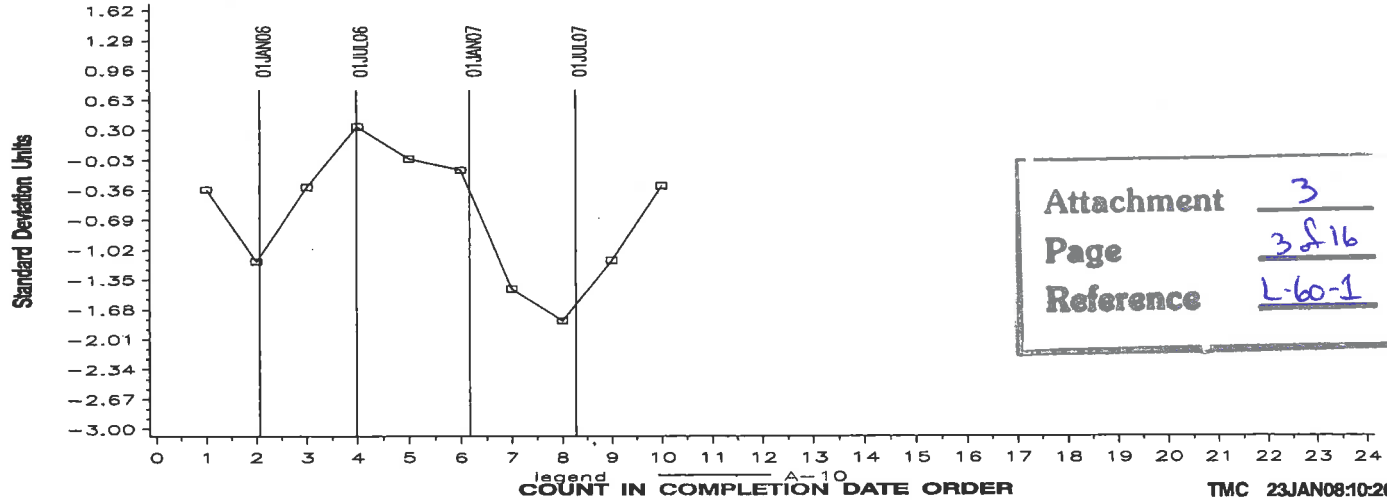
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LTMS Precision Analysis



CUSUM Severity Analysis

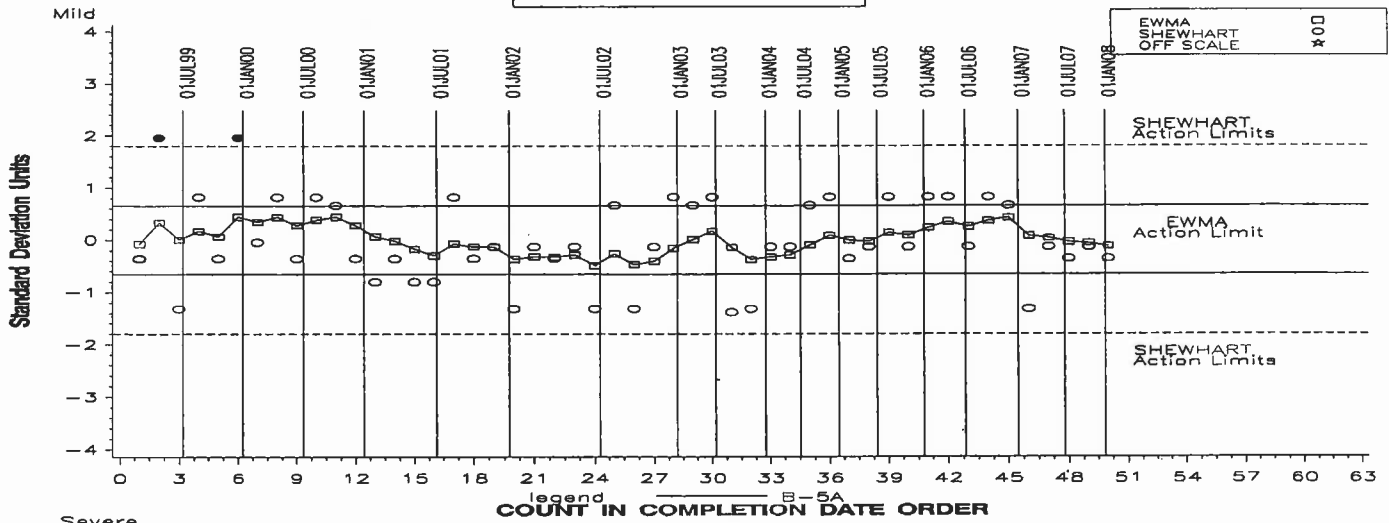


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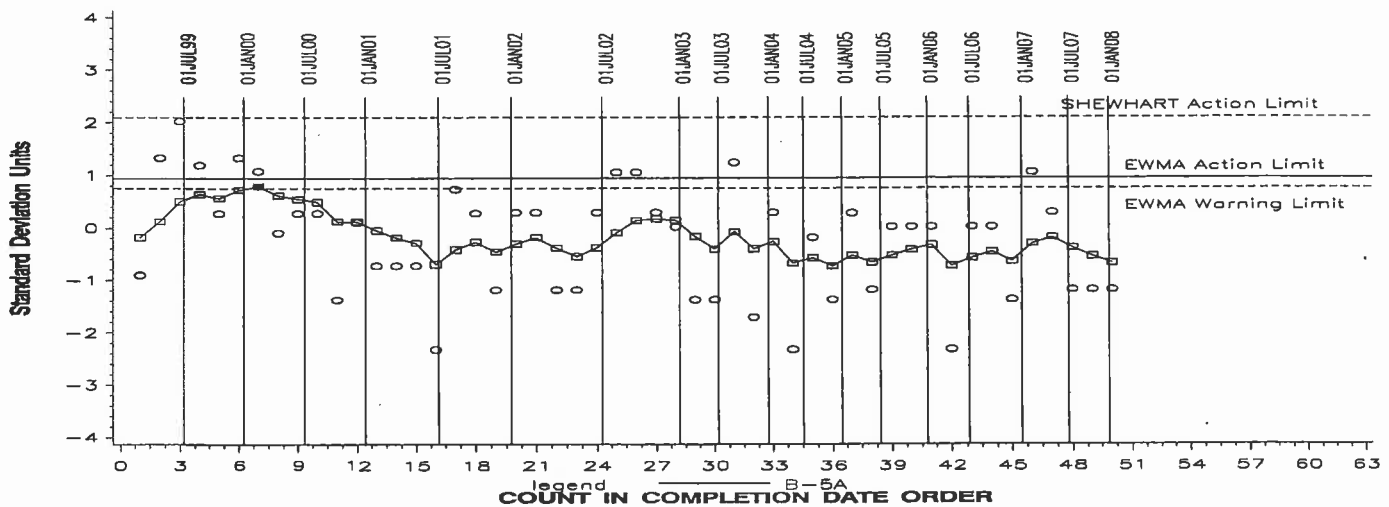
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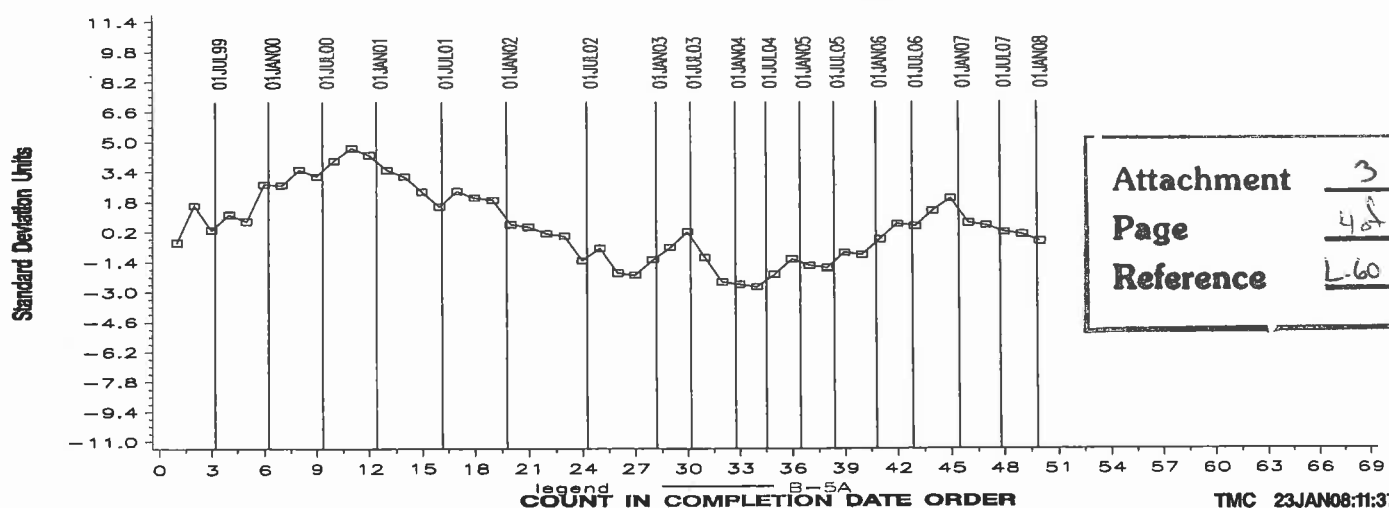
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LTMS Precision Analysis



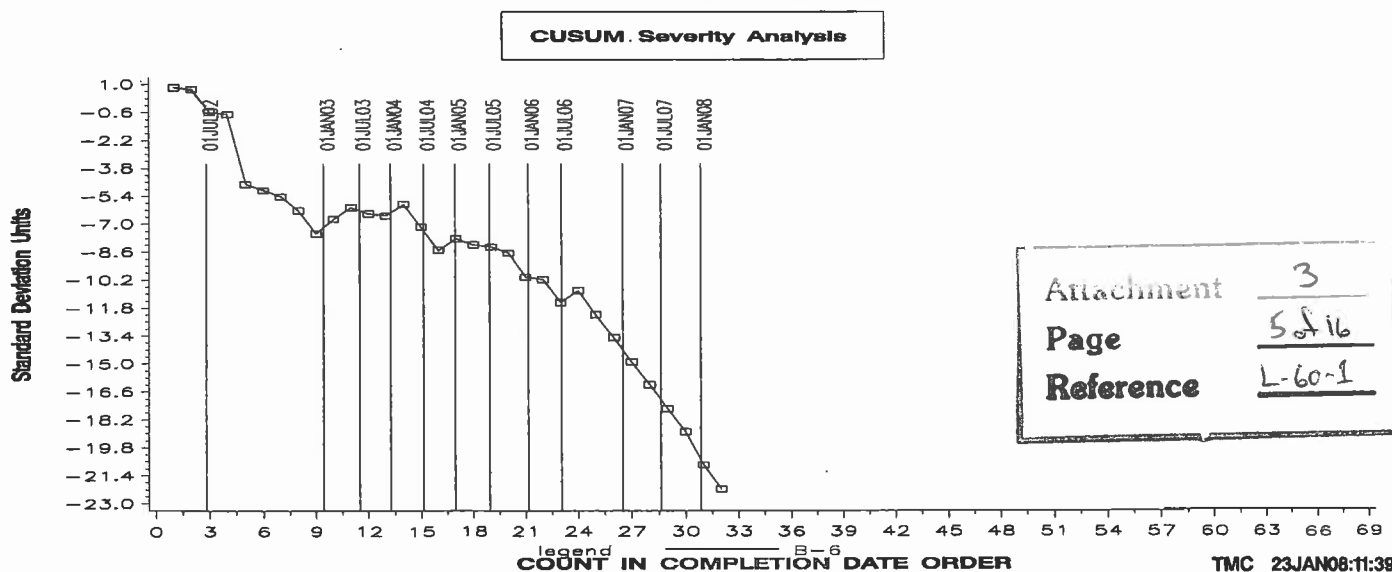
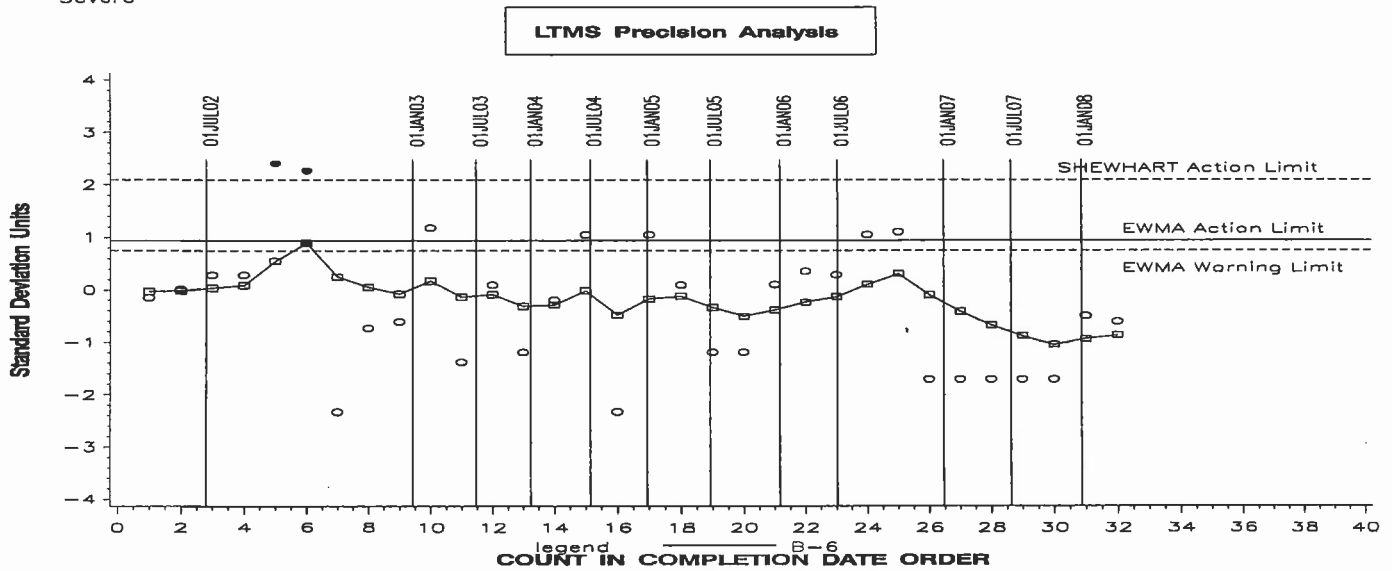
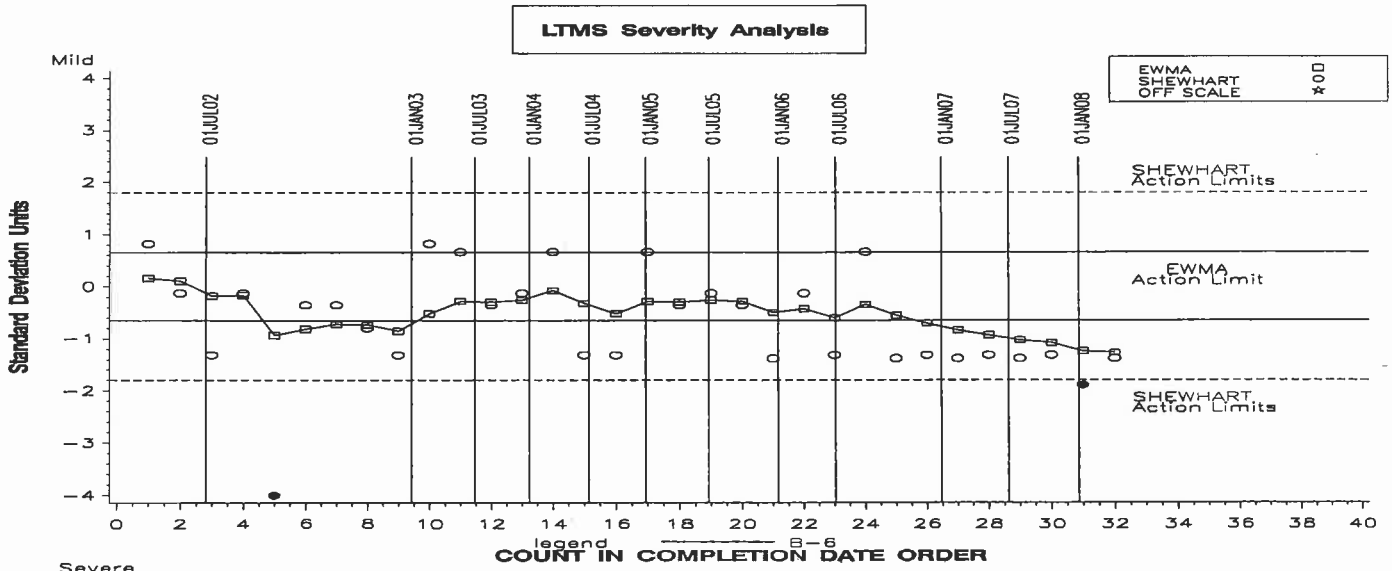
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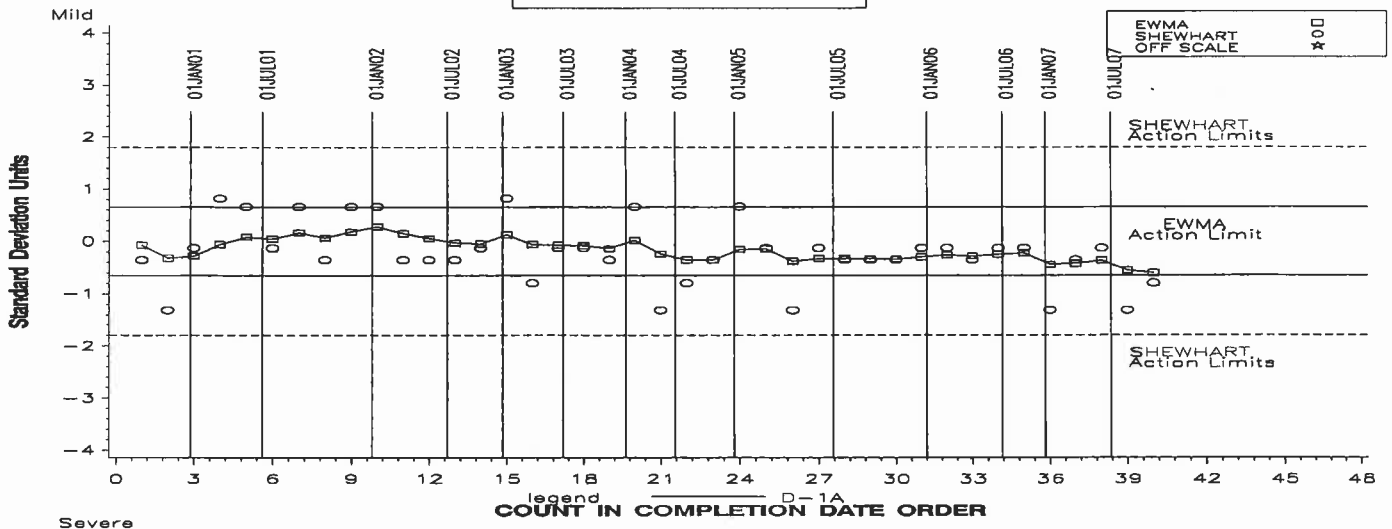


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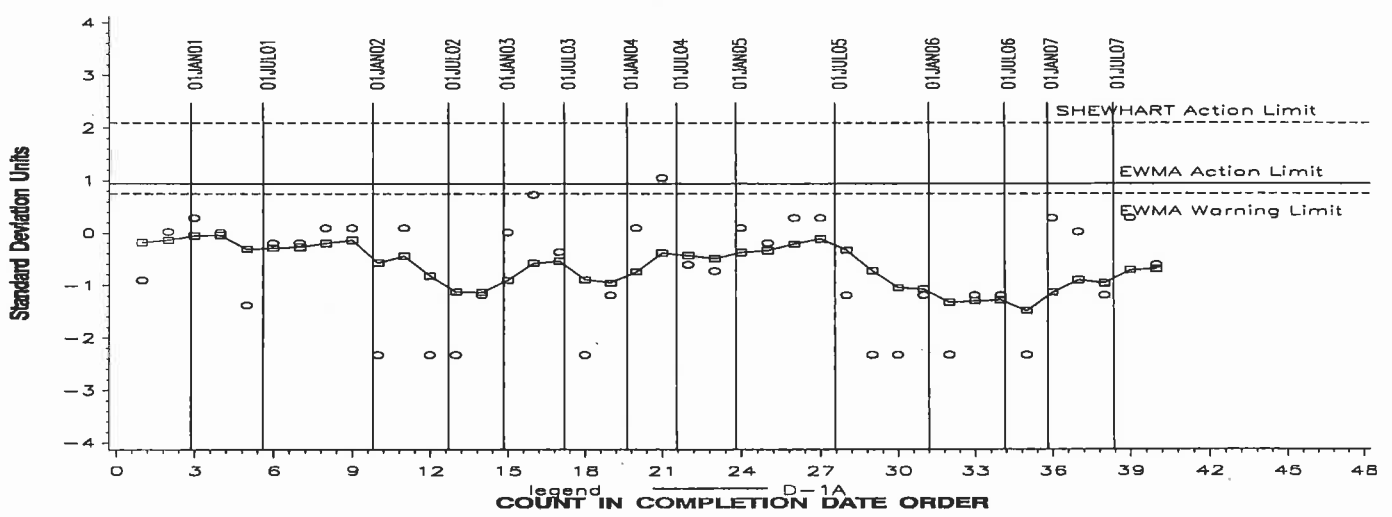
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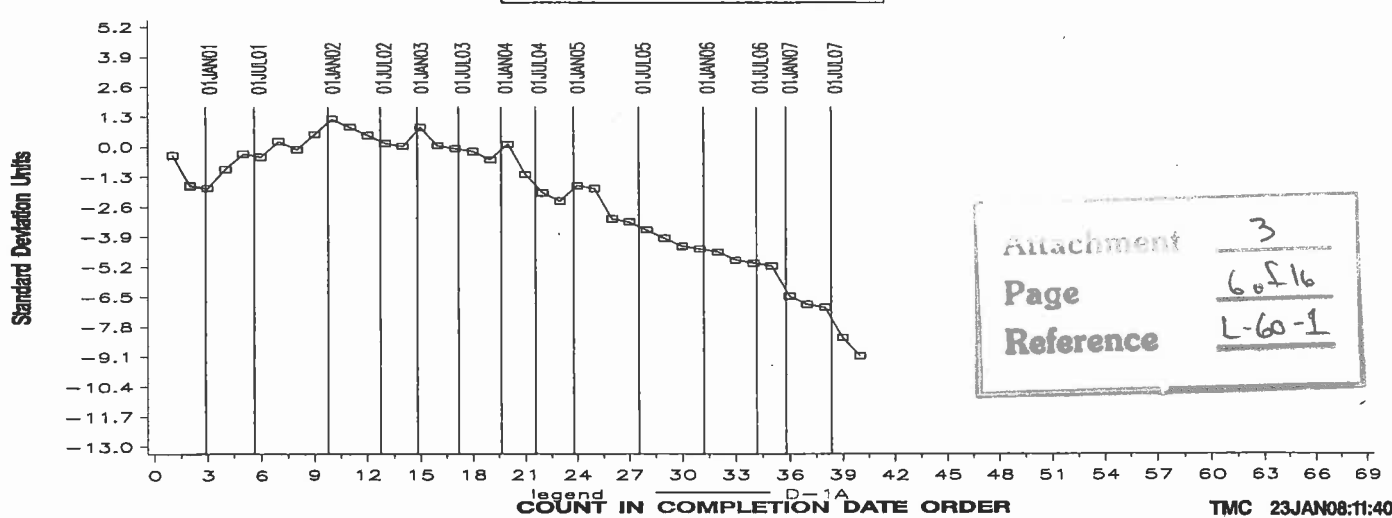
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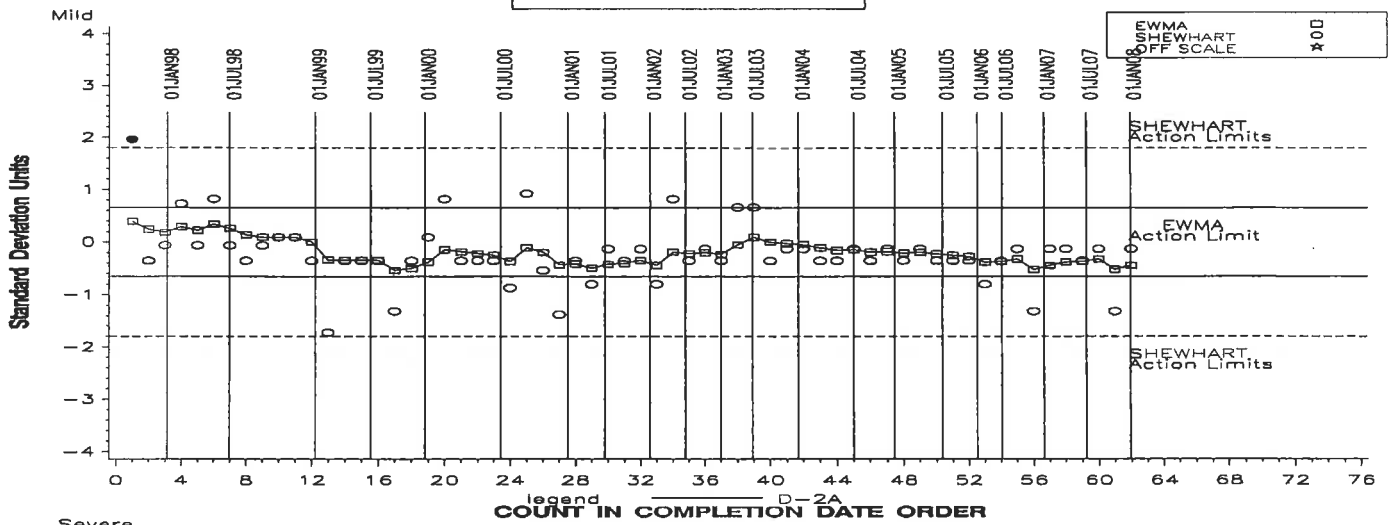
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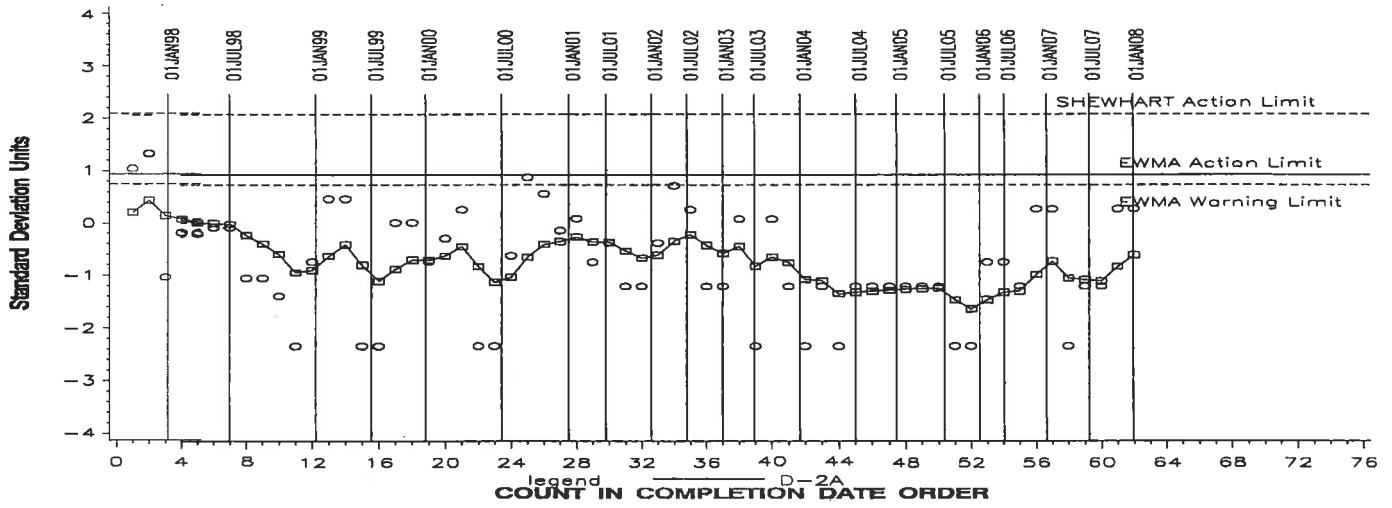
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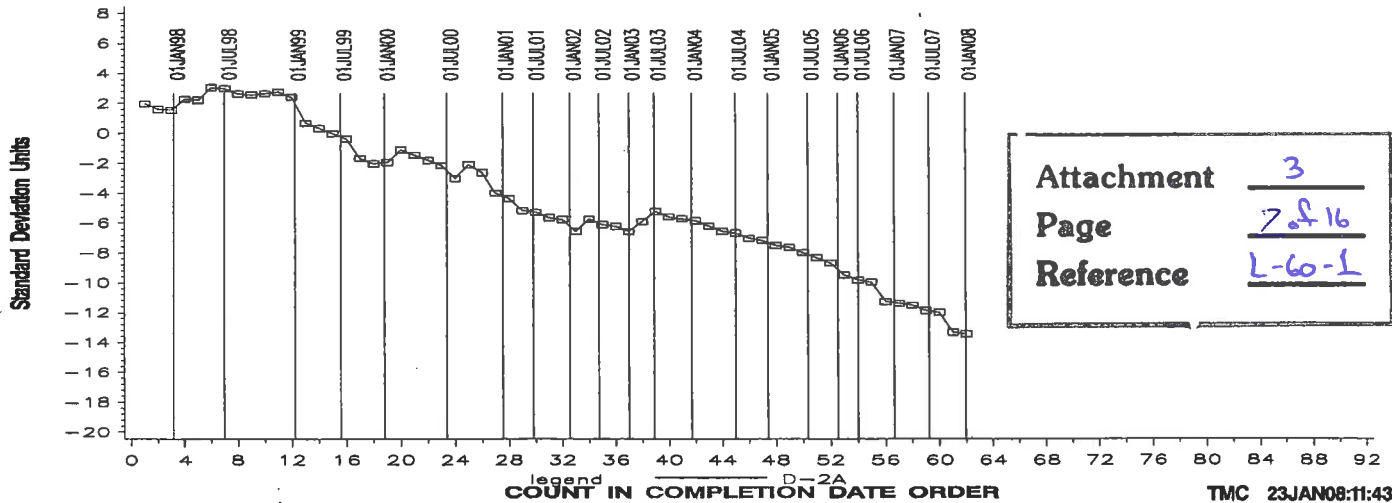
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LTMS Precision Analysis

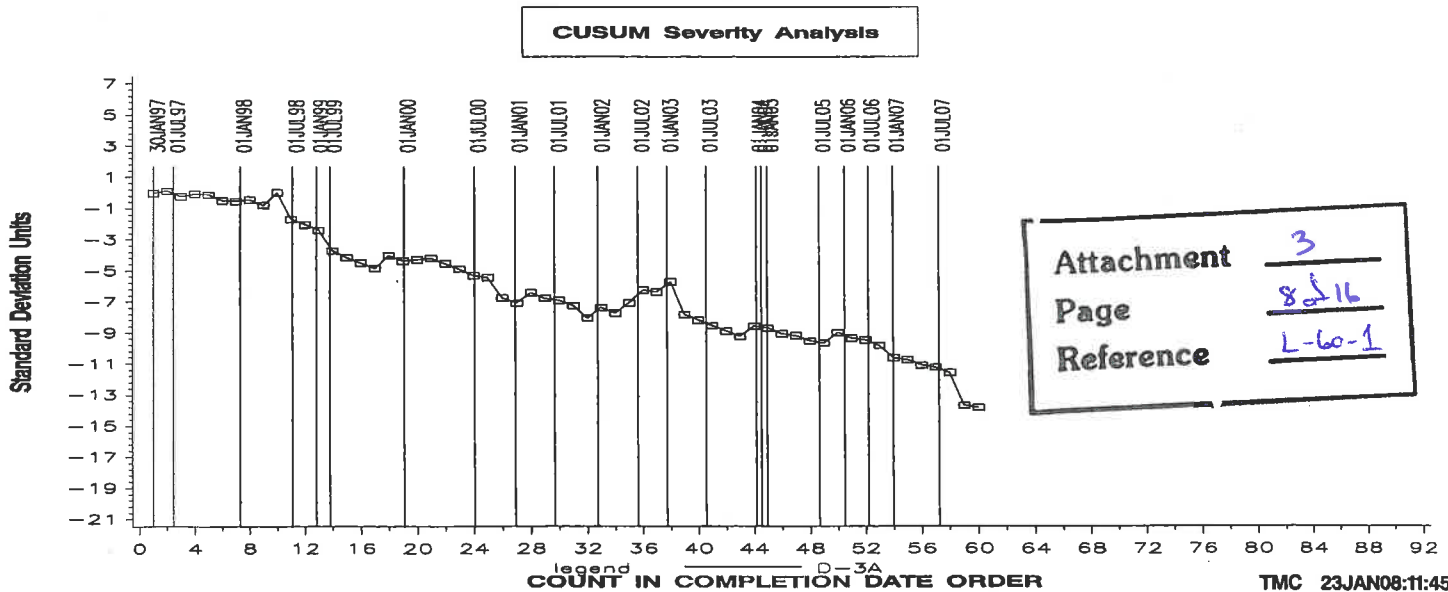
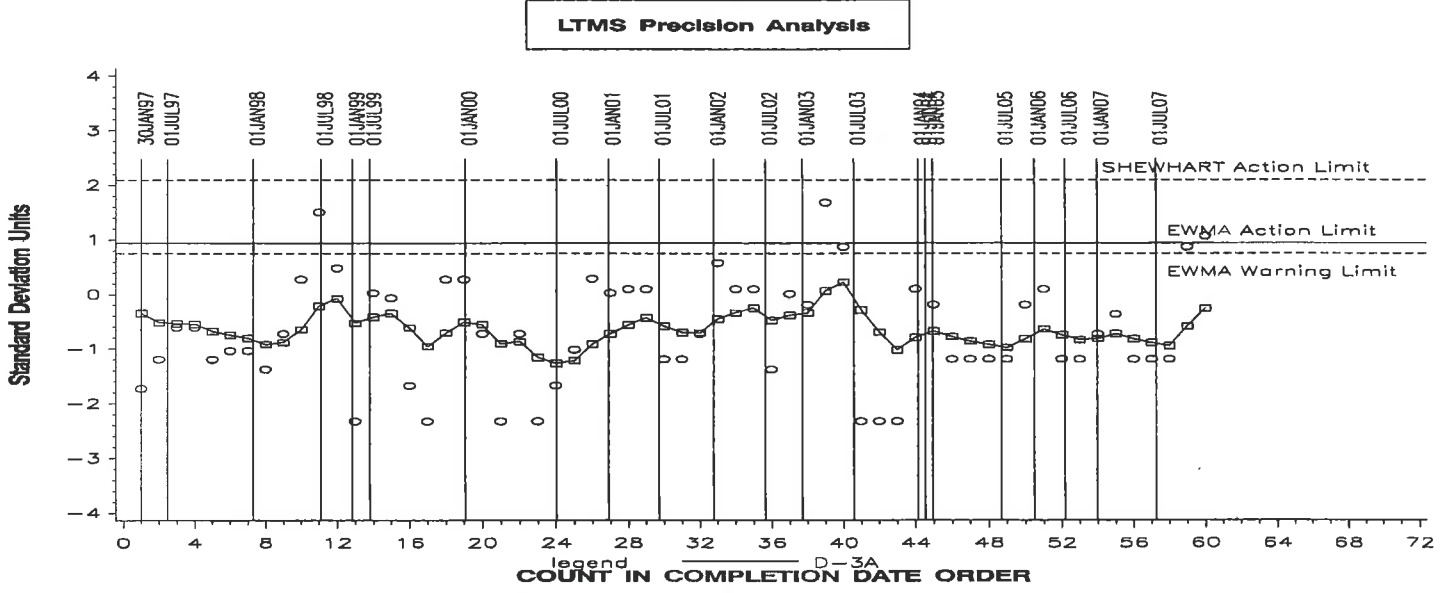
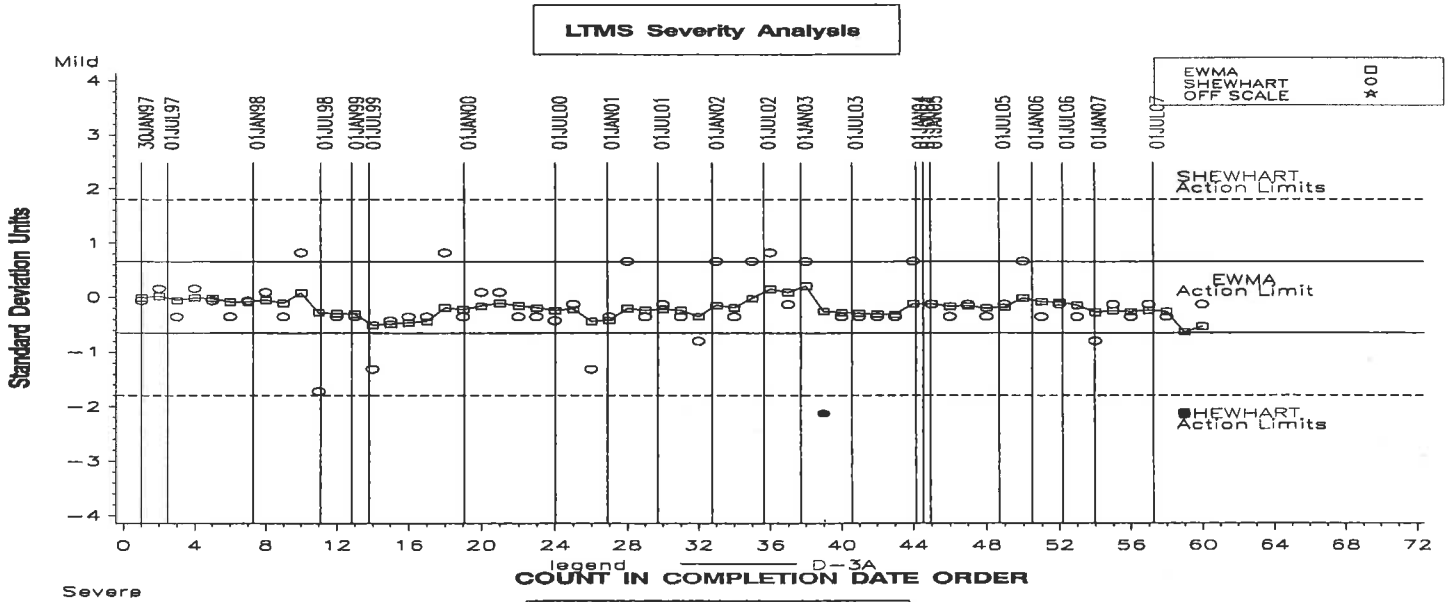


CUSUM Severity Analysis



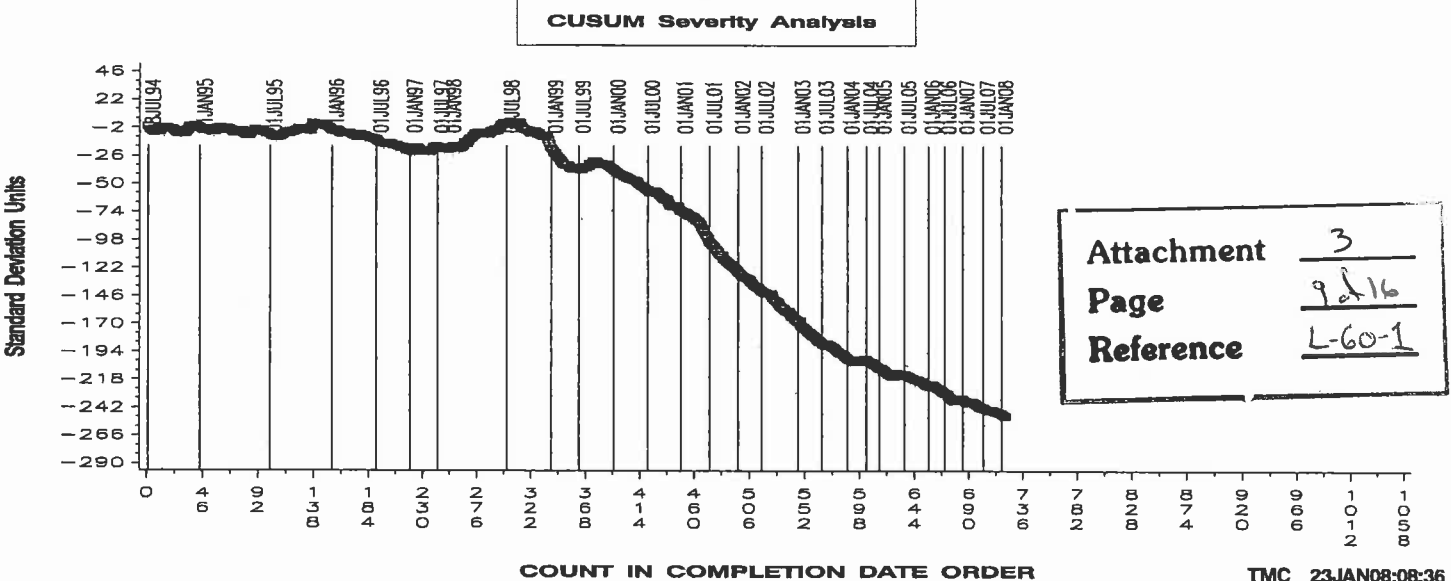
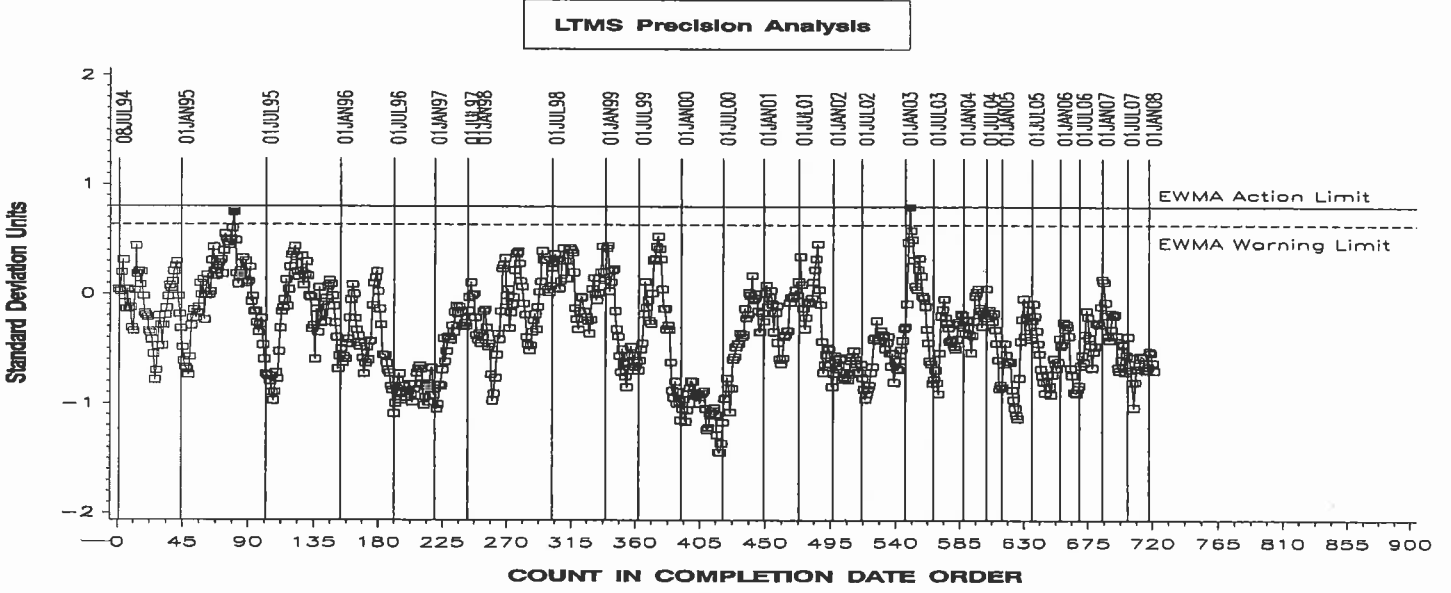
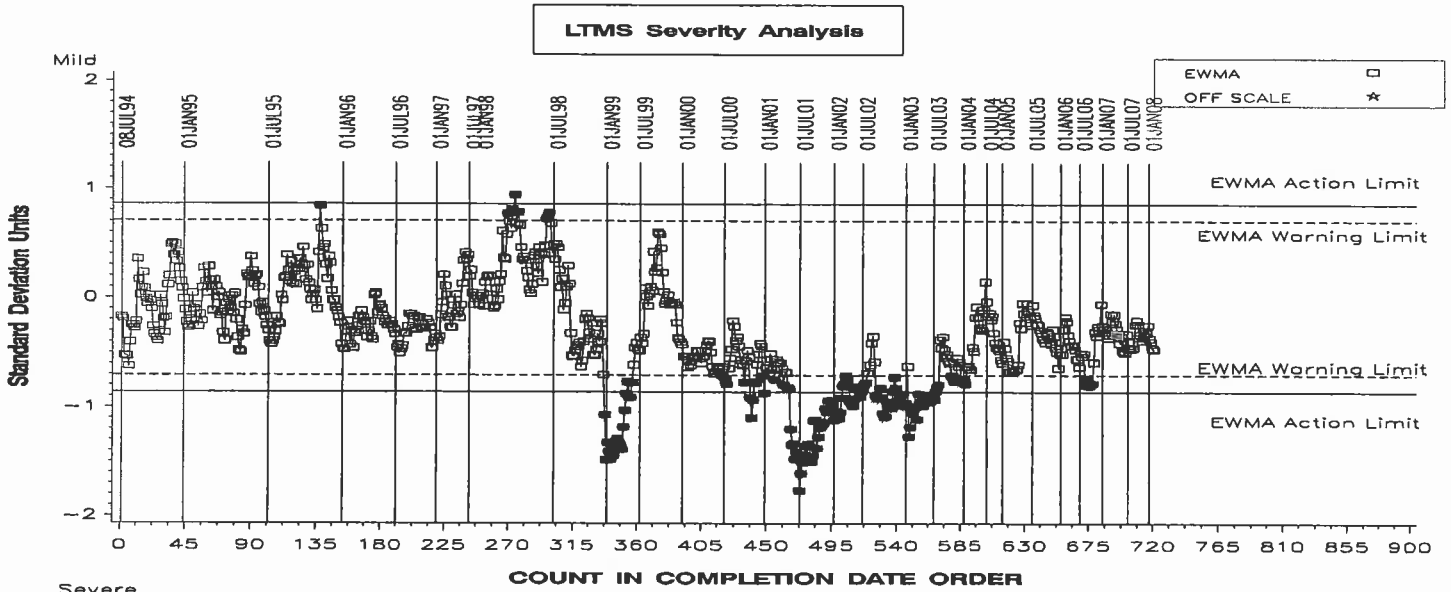
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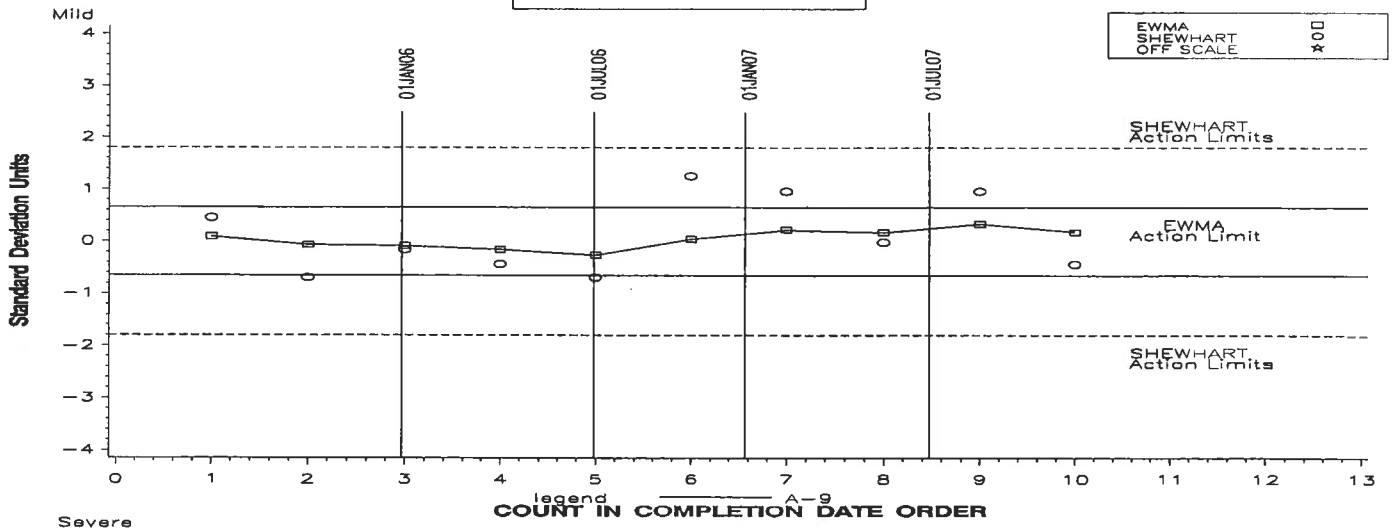
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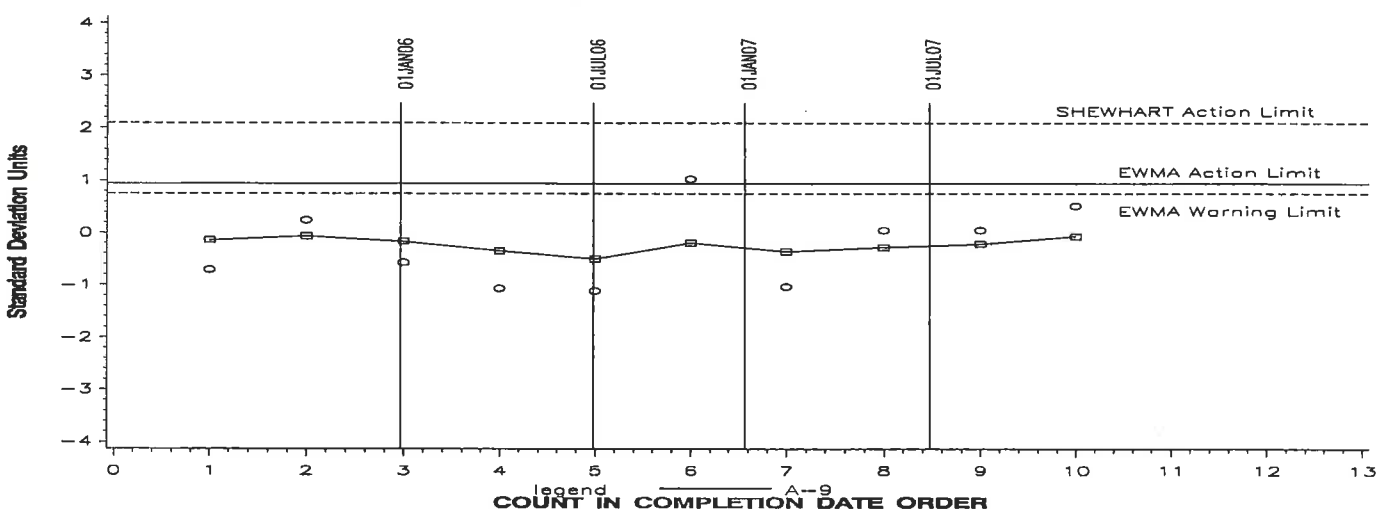
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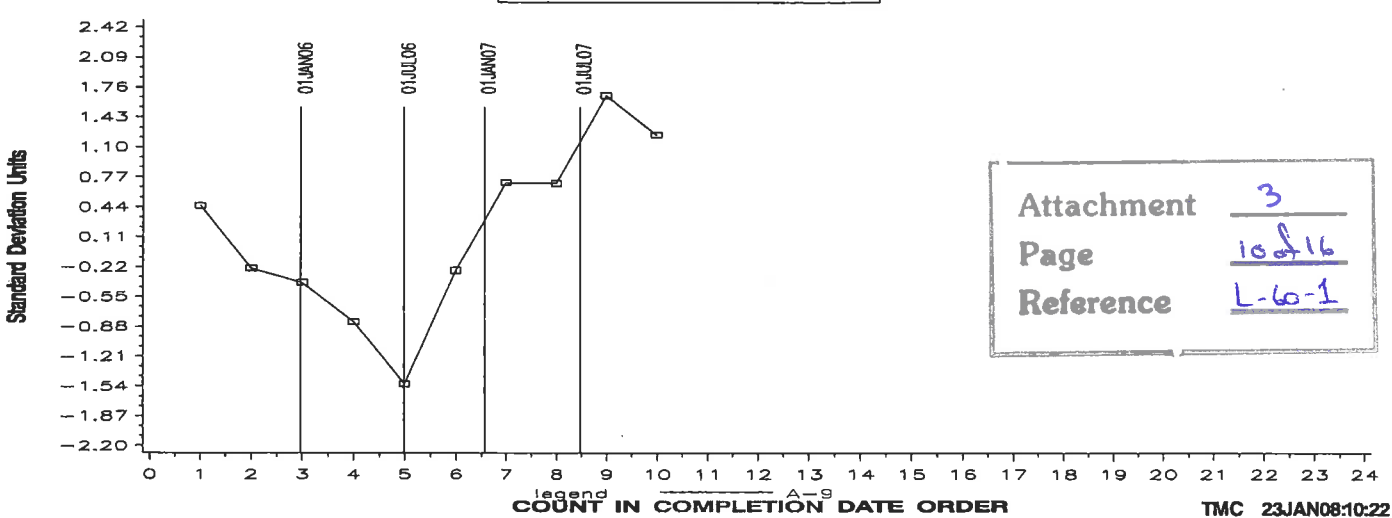
LTMS Severity Analysis



LTMS Precision Analysis



CUSUM Severity Analysis

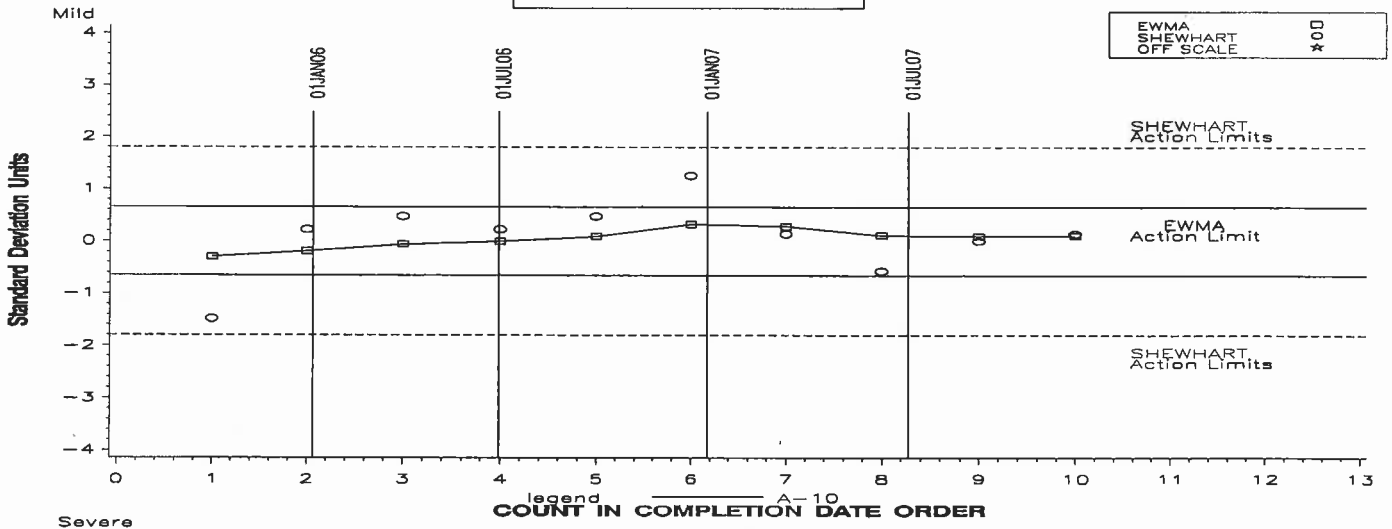


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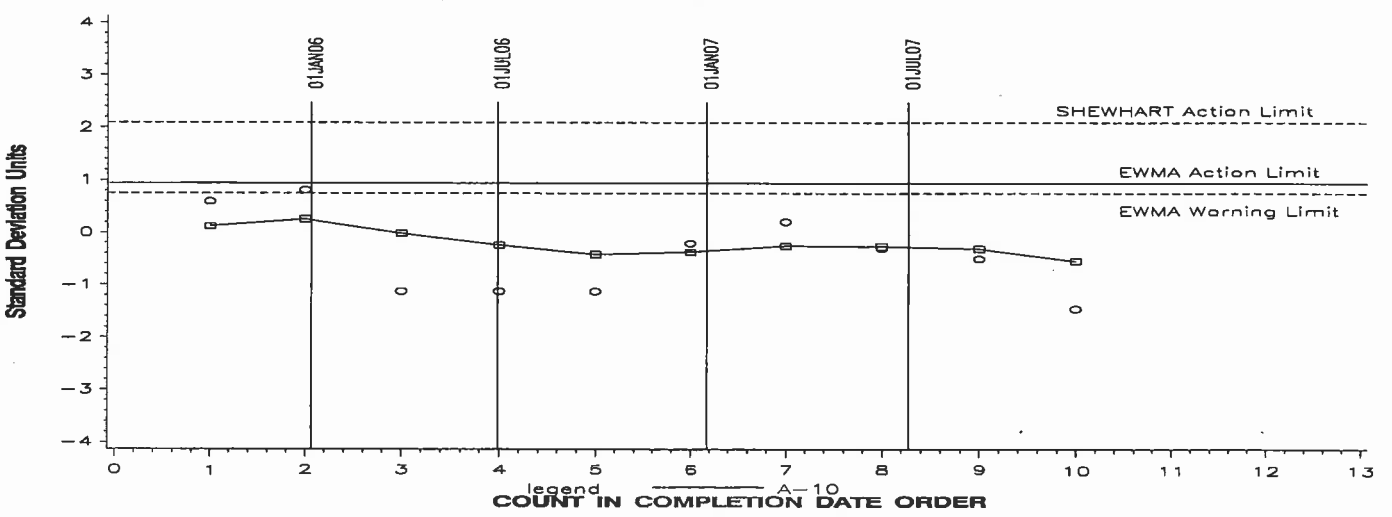
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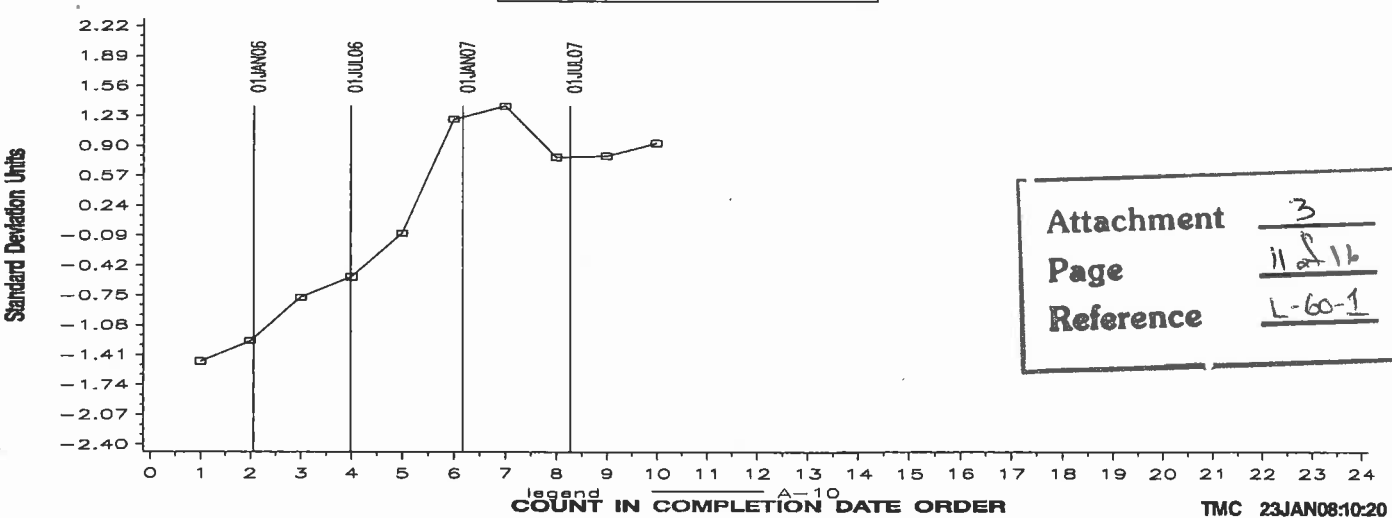
LTMS Severity Analysis



LTMS Precision Analysis



CUSUM Severity Analysis

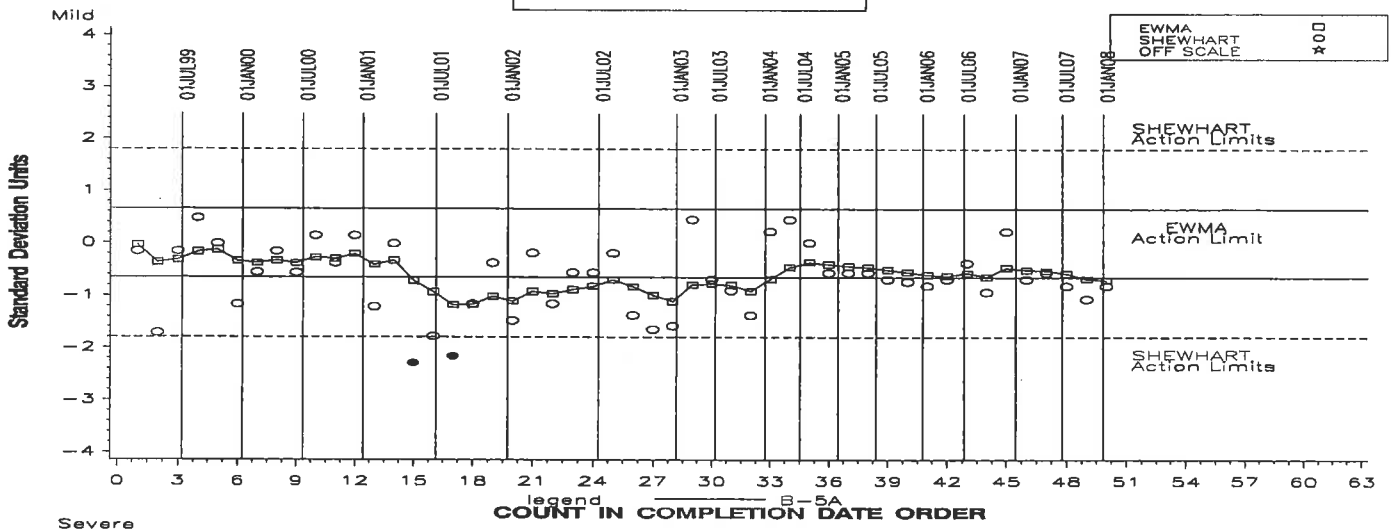


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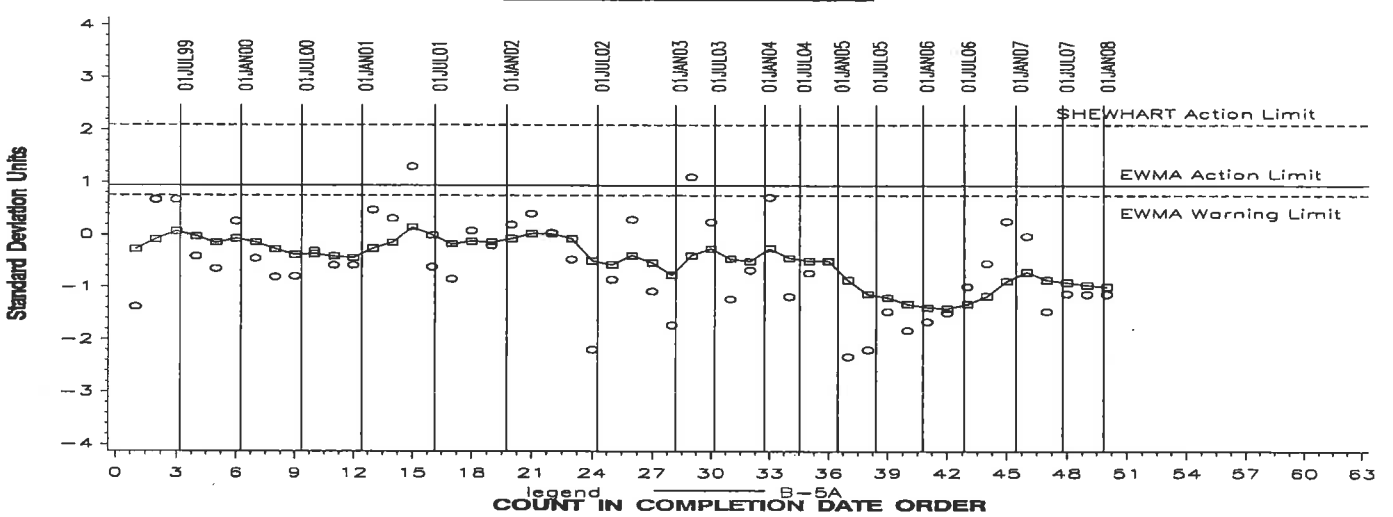
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REFERENCE FINAL AVERAGE CARBON/ VARNISH

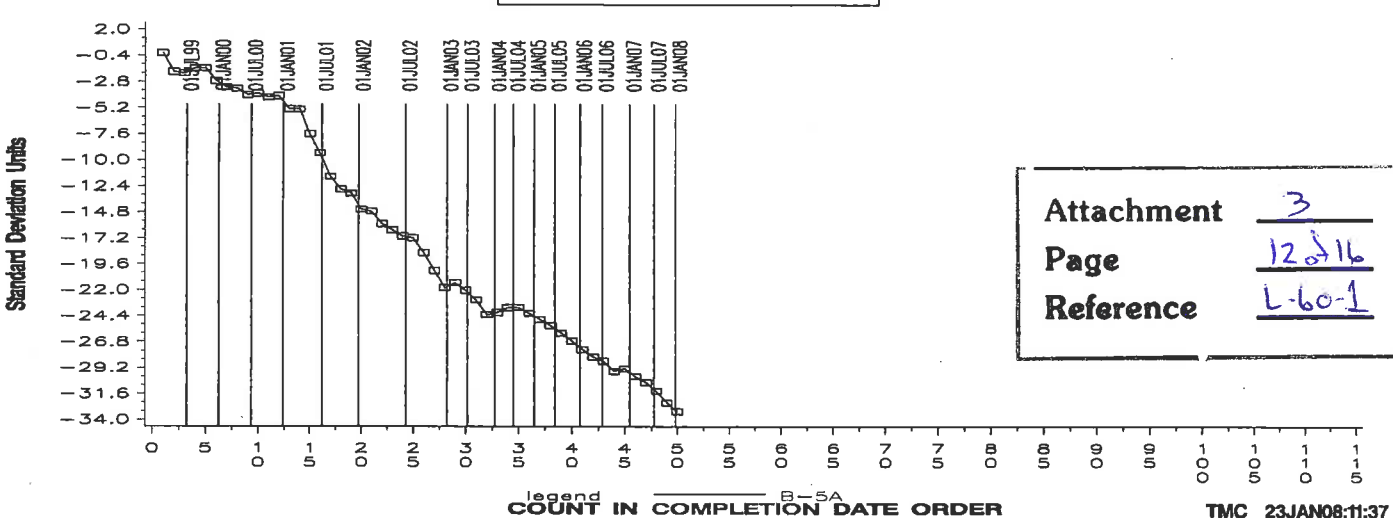
LTMS Severity Analysis



LTMS Precision Analysis



CUSUM Severity Analysis

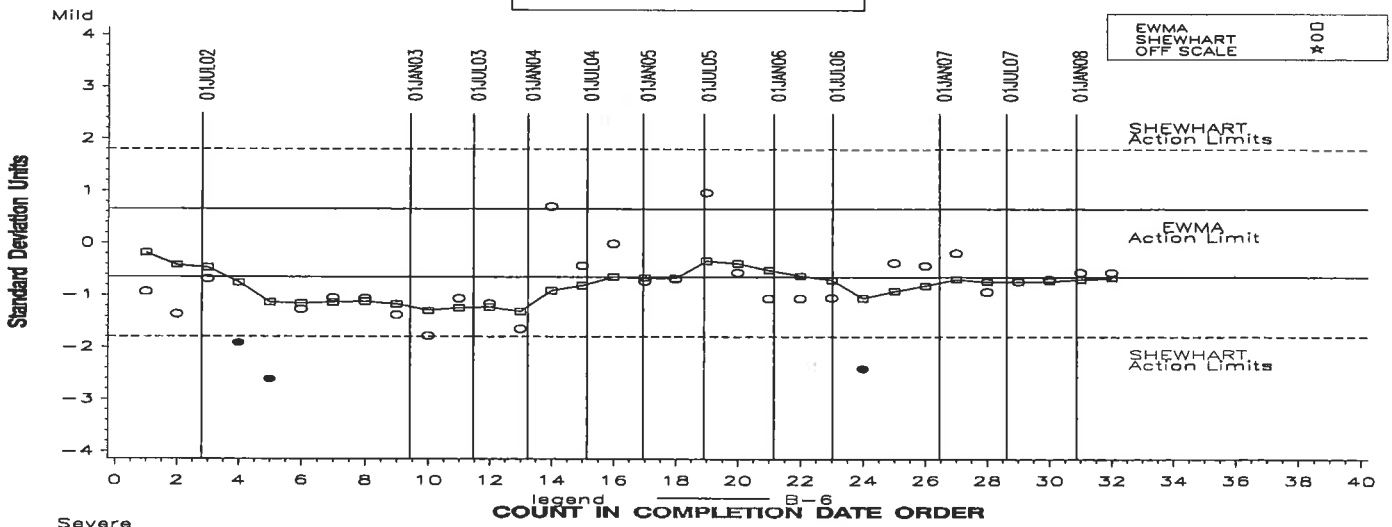


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 Reference L-60-1

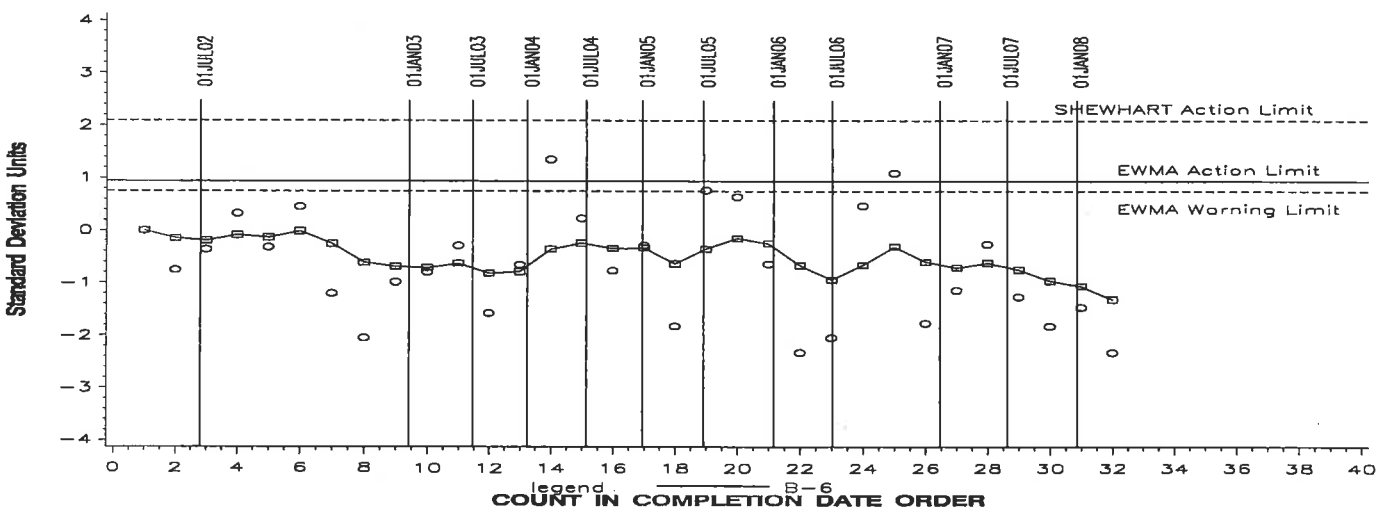
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REFERENCE FINAL AVERAGE CARBON/ VARNISH

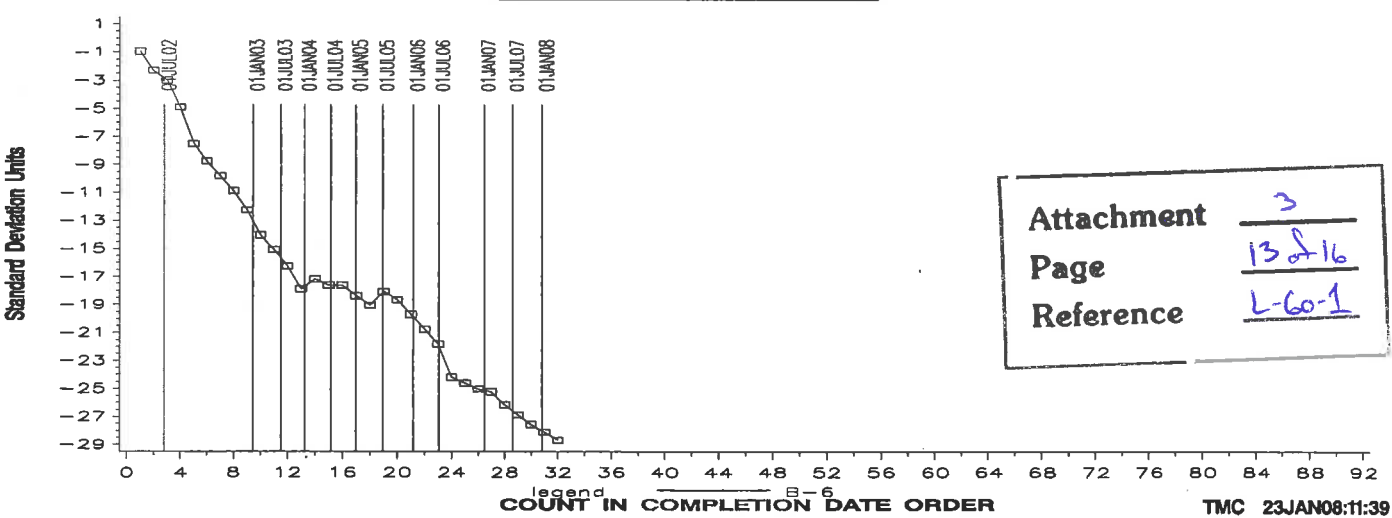
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LTMS Precision Analysis



CUSUM Severity Analysis

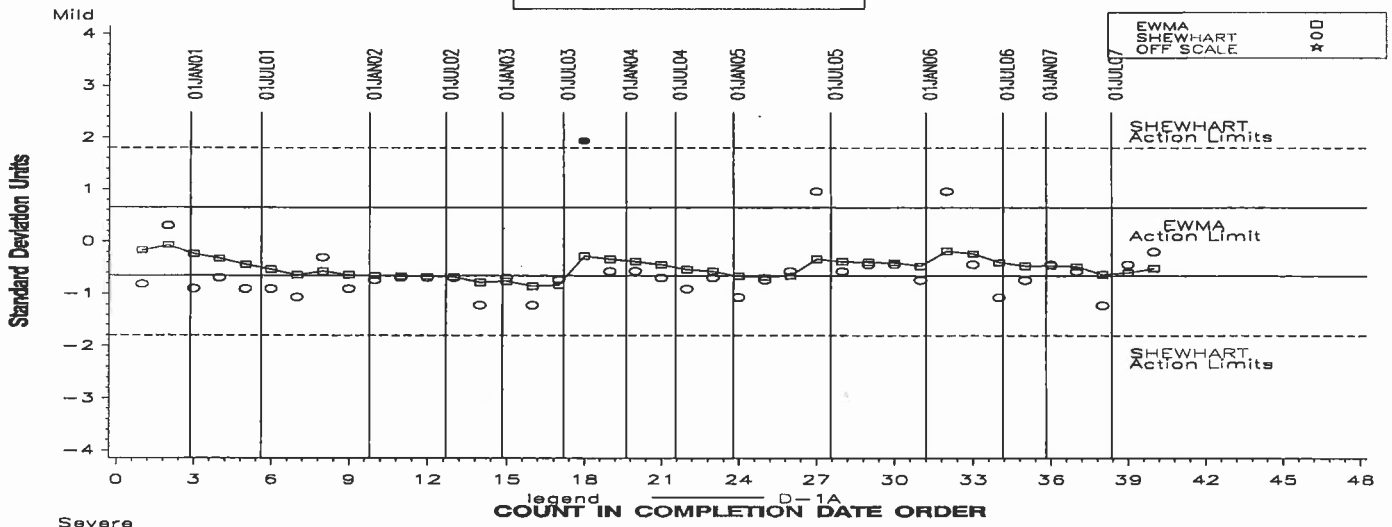


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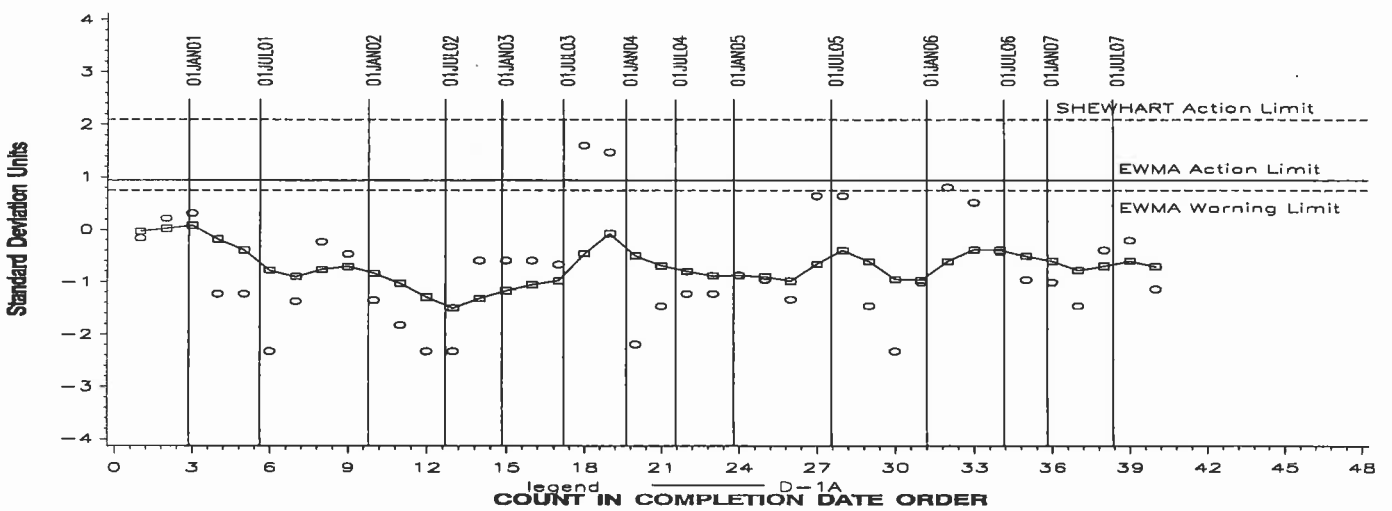
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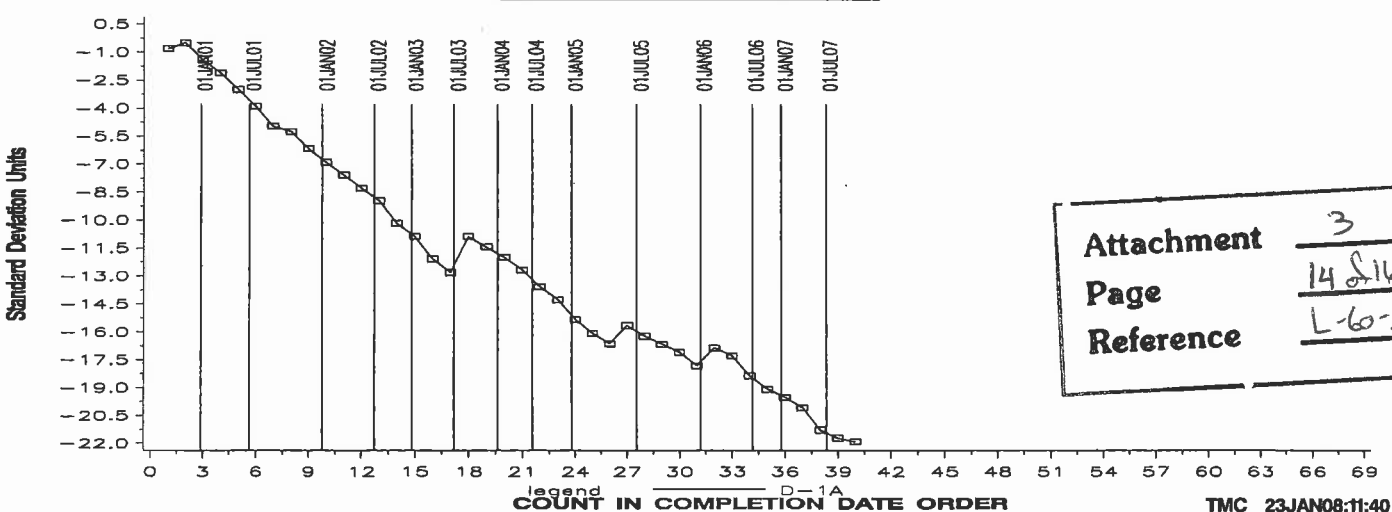
LTMS Severity Analysis



LTMS Precision Analysis



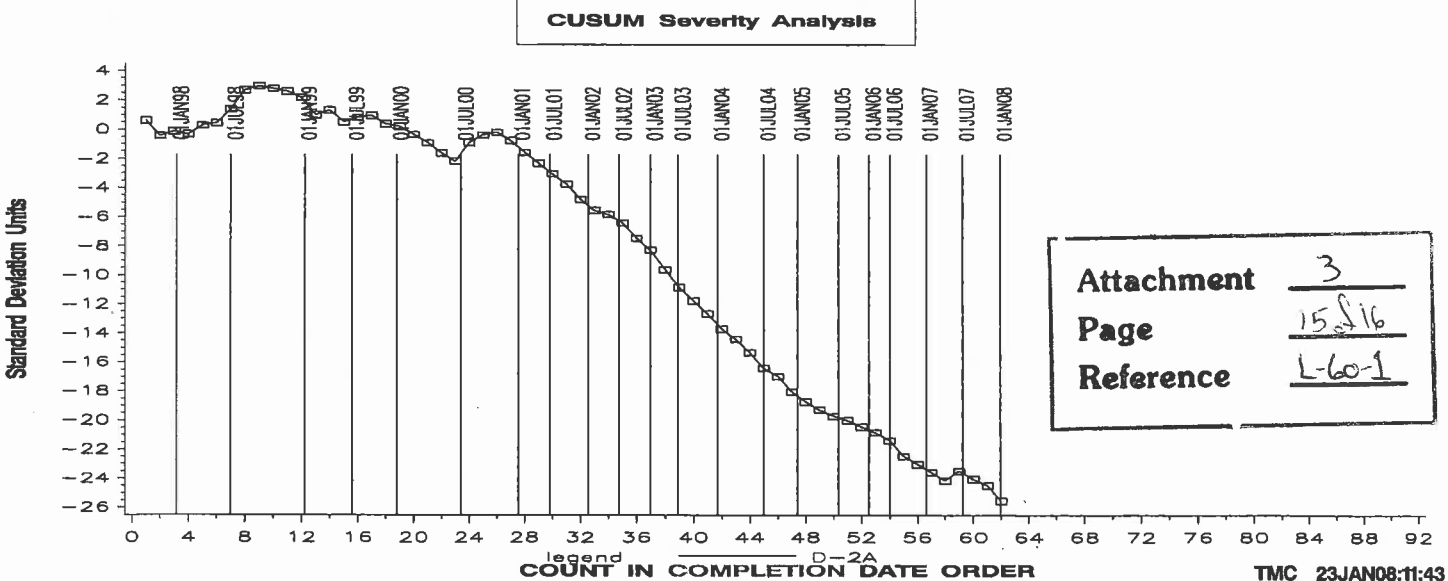
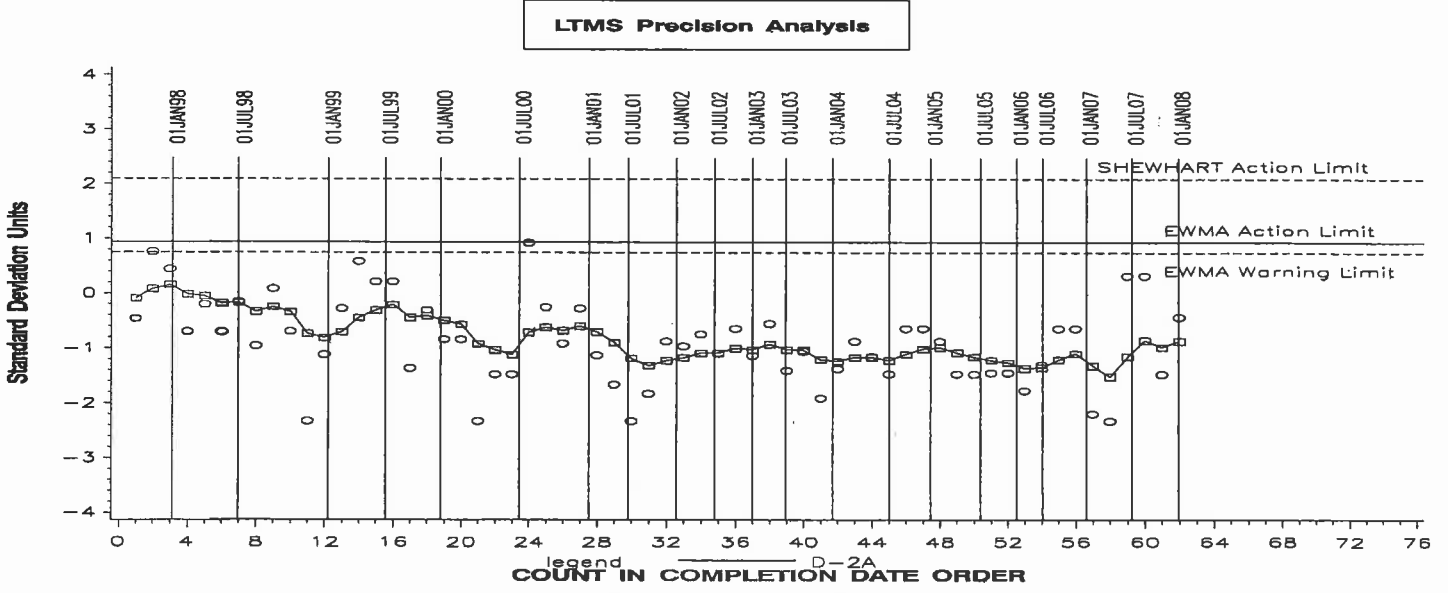
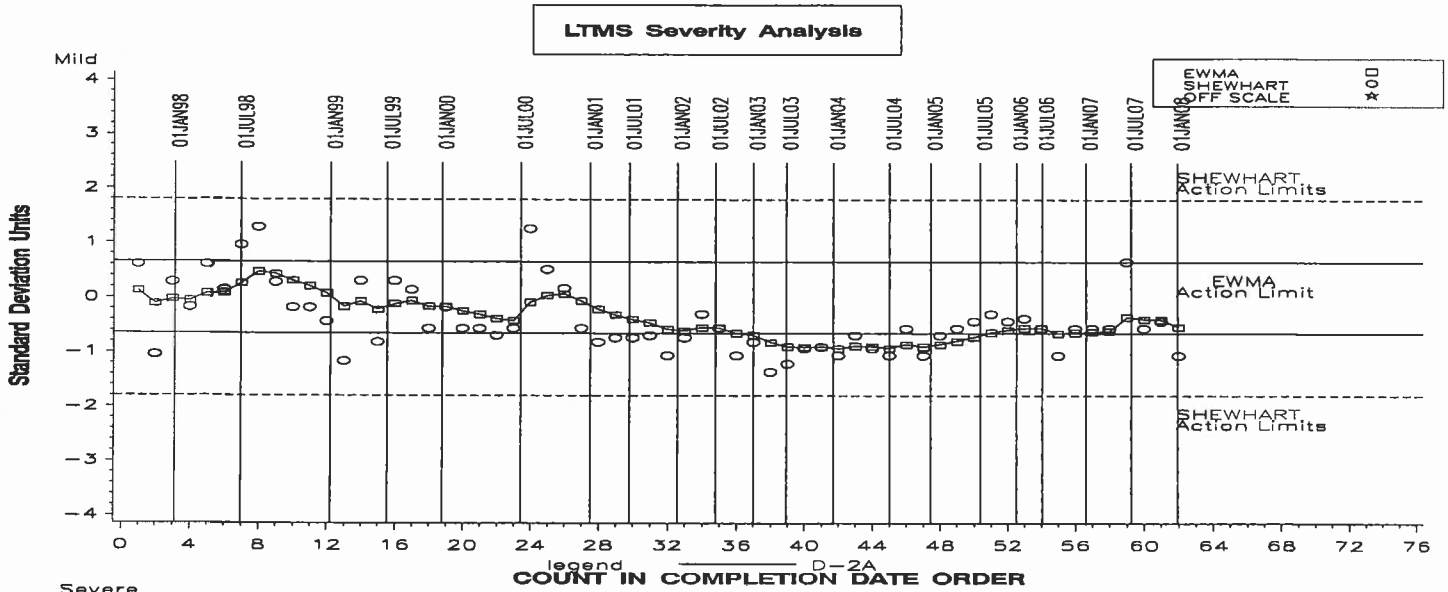
CUSUM Severity Analysis



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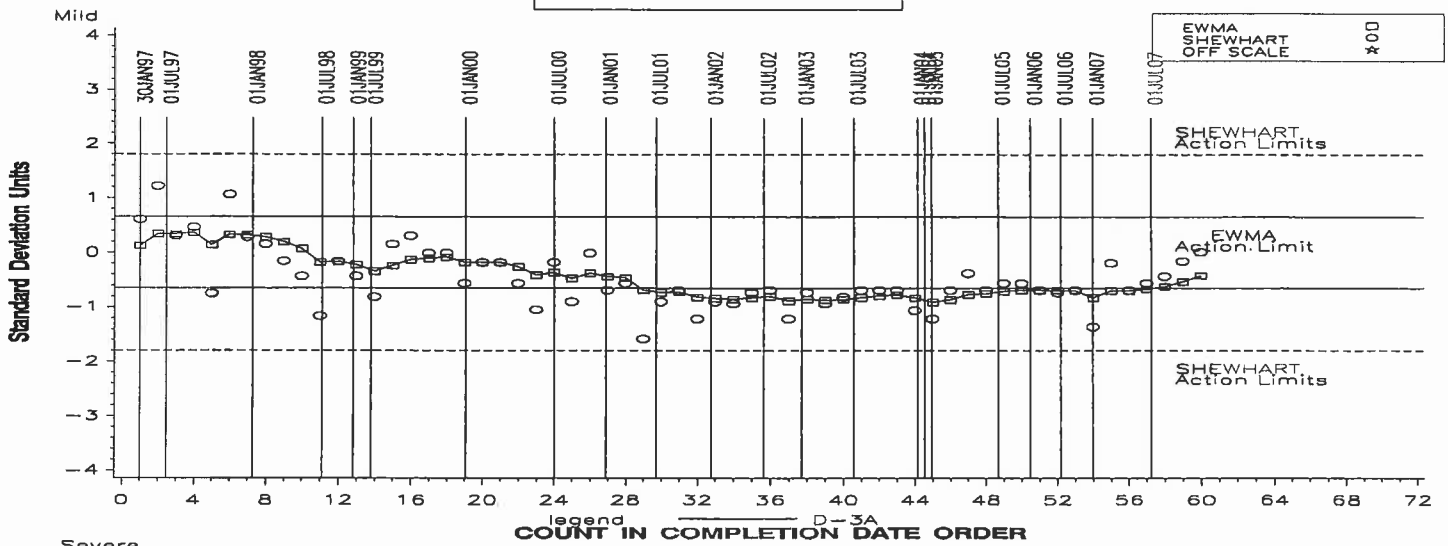
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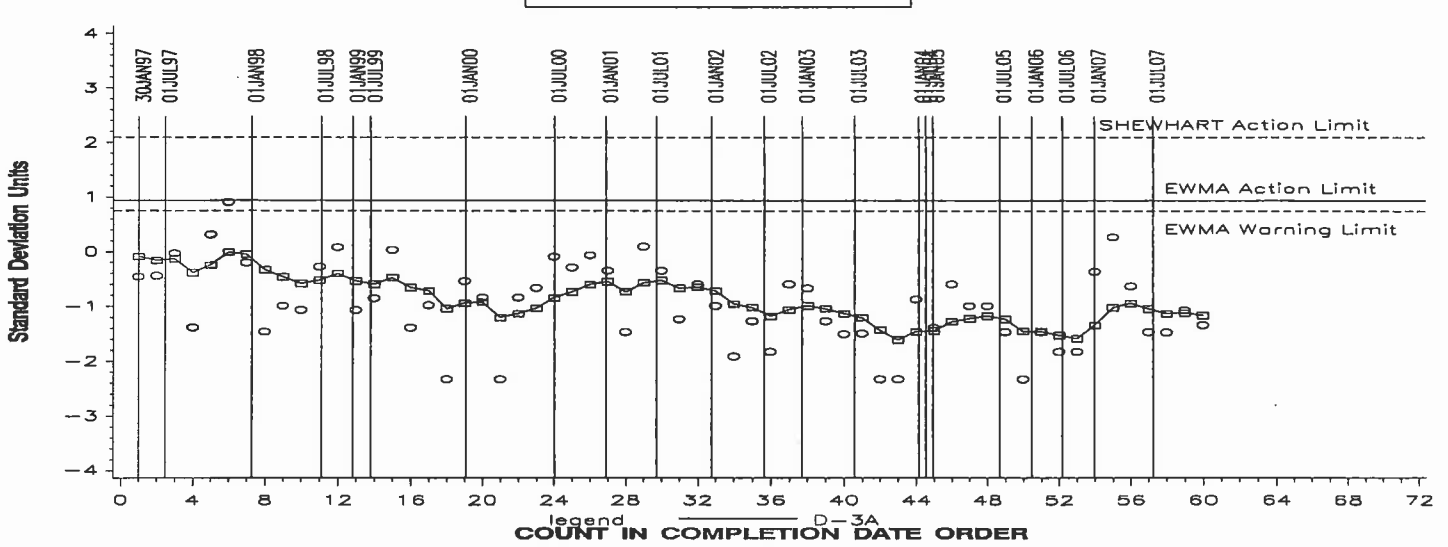
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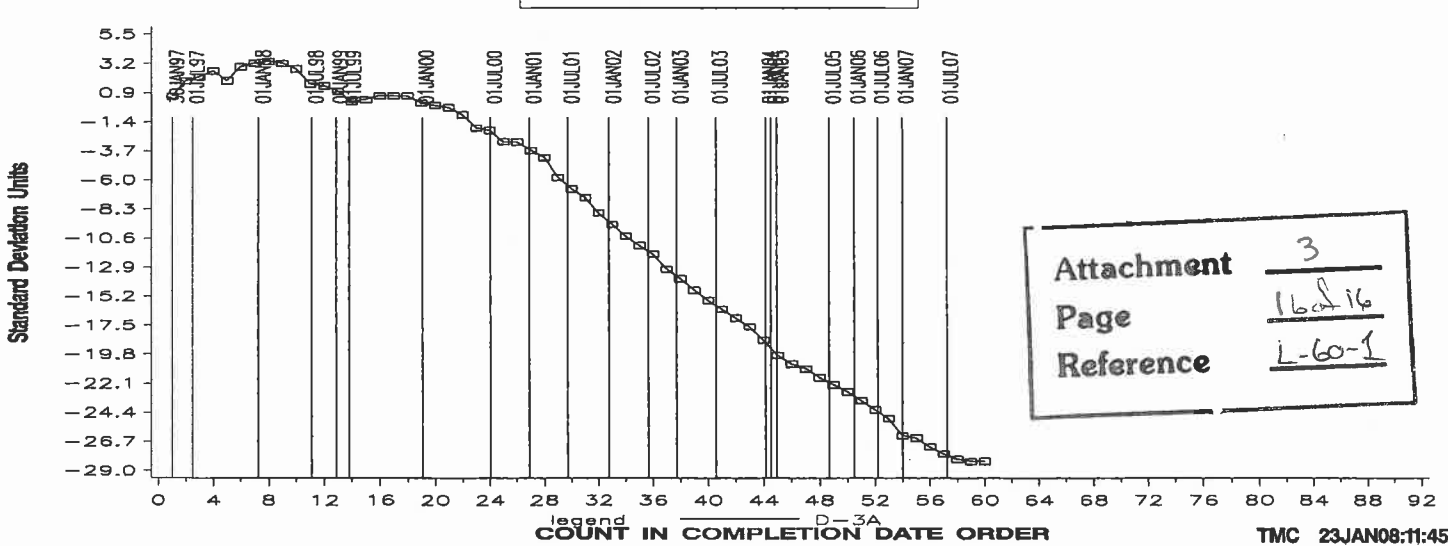
LTMS Severity Analysis



LTMS Precision Analysis



CUSUM Severity Analysis



Attachment	3
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Reference	L-60-1

To: Allen Comfort; Brian Koehler; Chambers, Harold (H.L.); Chris Barker (Chris.Barker@swri.org); Chris Schenkenberger; Dale Smith; Don Bartlett; Don Bell; Ed Akucewich (E-mail); Jack Zakarian; Jerry Gropp (E-mail); Joe Guzikowski (joe.guzikowski@dana.com); Kampe, Peter; Keith Purnell (kpurnell@sae.org); Prengaman, Christopher; Bill Sullivan; Bruce McGlone (Bruce.McGlone@ArvinMeritor.com); Cory Koglin (cory.koglin@aftonchemical.com); Don Lind (dml@astmtmc.cmu.edu); greg.fett@dana.com; Juan Buitrago; Paula Vettel (E-mail) (pvettel@dastuart.net); Percy Kanga; Rachel Agusti (rachel.agusti@us.army.mil); Salvatore Rea; Steve Eliot; Thelma Marougy (thelmaemarougy@eaton.com); Tom Bryson (Tom.bryson@macktrucks.com)

Subject: L-60-1 Surveillance Panel Meeting

All,

I have attached the agenda for the upcoming L-60-1 SP meeting scheduled to be held on February 13th at PRI. You can find the prior meeting minutes on the TMC website through the following link: <ftp://ftp.astmtmc.cmu.edu/docs/gear/l601/minutes/>

Best regards,

Chris Schenkenberger

<< File: 2-13-08_L-60-1_Agenda.doc >>

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Reference	<u>L-60-1</u>

Schenkenberger, Chris

From: Huron, John (HURO) [HURO@chevron.com]
Sent: Monday, February 11, 2008 11:32 AM
To: Akucewich, Edward; Schenkenberger, Chris
Subject: RE: L-60-1 Surveillance Panel Meeting

Chris,

I ALWAYS have severity concerns... just my nature I guess.

My recollection/opinion is the same as Ed's. The only caveat is what you touch on about alternator efficiencies. Intuitively, I wouldn't think that there would be a lot of difference. I would think worst case is that there could be a slight shift in severity but if everyone uses the same alternator, the whole industry should shift. In theory the LTMS system should catch any shift that might happen. I'm sure you guys would do this anyway but I would recommend when/if you change alternators that you do it prior to referencing and the Surveillance Panel/TMC should closely monitor the data. Like Ed, I would be very surprised if something shifted but you never know...

Best regards,

John

From: Akucewich, Edward [mailto:Edward.Akucewich@lubrizol.com]
Sent: Monday, February 11, 2008 9:45 AM
To: Schenkenberger, Chris; Huron, John (HURO)
Subject: RE: L-60-1 Surveillance Panel Meeting

Chris,

Your thoughts on this are correct. The load would be the same locking down the power and speed. Allowing different loading devices doesn't really matter from an engineering point of view. However, it is always more complicated than that. Back when the standard was put together this alternator was chosen because everyone was using it and it made sense to go with it to simplify and to remove confusion over this aspect of the standard. We wanted to standardize as many things as possible.

I don't think going with new units would cause any shifts in the test as long as they do the same thing as the old one. I would suggest that the panel require that all test stands go to the same new unit to make it easy and to remove any confusion in comparing results for different stands.

Regards,

Ed

Edward Akucewich
re: (440) 347-2415
Fax: (440) 347-2878
E-mail: esak@lubrizol.com

From: Schenkenberger, Chris
Sent: Monday, February 11, 2008 8:58 AM
To: Akucewich, Edward; John Huron (HURO@chevron.com)
Subject: FW: L-60-1 Surveillance Panel Meeting

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Reference	<u>L-60-1</u>

John & Ed,

Hello guys...I could use a little history lesson here. Not that you need to read the minutes, but in the last meeting the surveillance panel discussed the fact that the Delco alternator has been cross-referenced to a new/different Delco model. We can rebuild the

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units for a while but I want to get your thoughts on the new units.

Would you have any severity concerns with the new models? The D5704 is very explicit in not allowing any substitutions and some feel this is indicative of being a critical part. Knowing that the L-60-1 procedure locks down the power requirement across the heater (128 watts) and shaft speed, then the load would also be the same? This assumes the alternator efficiencies are the same (new vs. old) but then again, I'm sure there are differences between units of the same model number. I'd be curious to get your thoughts.

Best regards,
Chris

From: Schenkenberger, Chris
Sent: Friday, February 08, 2008 1:50 PM
To: Allen Comfort; Brian Koehler; Chambers, Harold (H.L.); Chris Barker (Chris.Barker@swri.org); Chris Schenkenberger; Dale Smith; Don Bartlett; Don Bell; Ed Akucewich (E-mail); Jack Zakarian; Jerry Gropp (E-mail); Joe Guzikowski (joe.guzikowski@dana.com); Kampe, Peter; Keith Purnell (kpurnell@sae.org); Prengaman, Christopher; Bill Sullivan; Bruce McGlone (Bruce.McGlone@ArvinMeritor.com); Cory Koglin (cory.koglin@aftonchemical.com); Don Lind (dml@astmtmc.cmu.edu); greg.fett@dana.com; Juan Buitrago; Paula Vettel (E-mail) (pvettel@dastuart.net); Percy Kanga; Rachel Agusti (rachel.agusti@us.army.mil); Salvatore Rea; Steve Eliot; Thelma Marougy (thelmaemarougy@eaton.com); Tom Bryson (Tom.bryson@macktrucks.com)
Subject: L-60-1 Surveillance Panel Meeting

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Best regards,
Chris Schenkenberger

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- <http://www.lubrizol.com/disclaimer/Chinese.htm>
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Reference	<u>L-60-1</u>