CONSERVATION PLAN ADOPTION & ENFORCEMENT

Public Input

Austin Water conducted an extensive public input process over a three-year period as part of developing the Water Forward integrated water resource plan. This plan provides the framework for determining the conservation planning measures and water savings goals that will be implemented over the next century. In developing Water Forward, the utility got input from the Austin Water Integrated Resources Planning Community Task Force, which was composed of Mayor and Council-appointed community leaders and Ex Officio members from several City departments. The Water Forward planning process also included extensive input from the public. Austin Water collected public input at more than 80 outreach events, including five Water Forward Public Workshops, four Targeted Stakeholder Meetings, and 10 Summer Series events (*one in each City Council district)*. Austin Water delivered presentations and/or outreach materials at more than 60 community events, information sharing sessions, community group meetings/seminars/professional events, and district town halls. The input received was used throughout the process of developing the plan and preparing the draft recommendations.

The Utility Profile and Water Conservation Plan was anticipated to be presented at a meeting of the Resource Management Commission in March 2019 (*did not meet due to lack of quorum*). It was presented to and approved by the Water and Wastewater Commission on April 10, 2019.

Plan Adoption

Authority to implement this plan is granted by the Austin City Council. Austin City Council approved the 2019 Utility Profile & Water Conservation Plan for Municipal and Wholesale Water Use on April 11, 2019. The signed resolution showing plan adoption can be found in Appendix E.

Enforcement

Austin Water enforces the Water Conservation Code though routine patrols by its dedicated enforcement staff and by following up on water waste reports received through the Austin 3-1-1 hotline. Customers found to be in violation of this code may be penalized by having an administrative fine placed on their water bill or by being charged with a Class C Misdemeanor in municipal court. Failure to submit a required efficiency inspection by its due date may also result in customer fines.

COORDINATION WITH REGIONAL WATER PLANNING GROUP(S)

The Austin Water service area is located within the Region K Planning Group. Austin Water has provided a copy of this water conservation plan to the Region K Planning Group. A copy of the transmittal letter can be found in Appendix F.

PLAN REVIEW & UPDATE

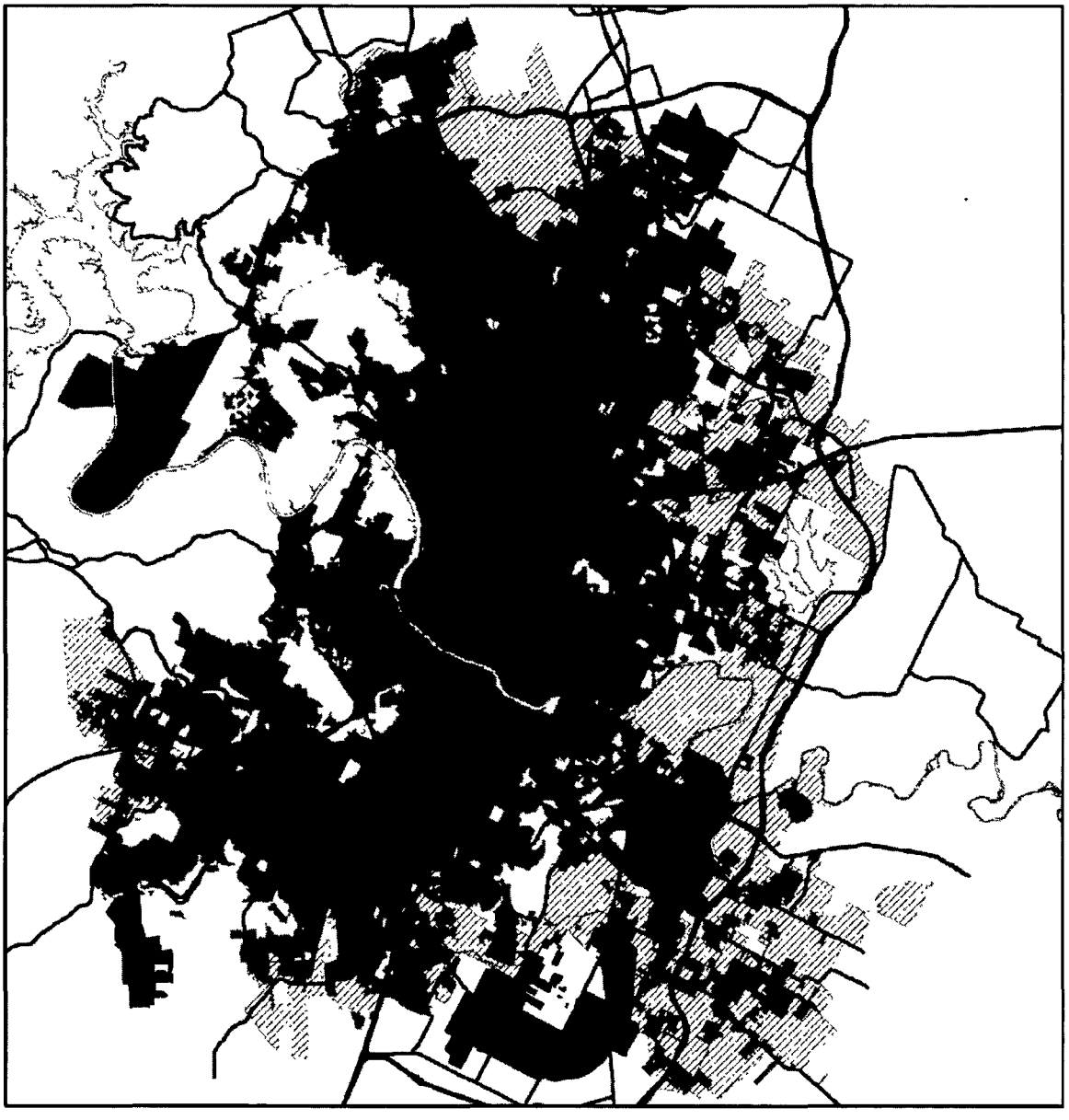
Austin Water staff review conservation programs and targets annually. The Utility Profile and Water Conservation Plan for Municipal and Wholesale Water Use is reviewed and updated every five years according to TCEQ requirements under Title 30 Texas Administrative Code §288.30 or more frequently as needed to reflect changes in water conservation policy. Wholesale customers are provided any updates of the City's water conservation ordinance(s). The next revision of the plan is expected not later than May 1, 2024.

EXHIBIT DM-5

APPENDIX A

Map of Service Areas & Certificate of Convenience and Necessity Area

EXHIBIT DM-5



Legend

- AW Retail Service
- AW Emergency Service
- AW Wholesale Service
- AW Water CCN

N

0 1.25 2.5 5 Miles

City of Austin
Austin Water
February 2019

Austin WATER

Austin Water Service Area Map

Produced by Systems Planning

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. This product has been produced by Austin Water for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness

EXHIBIT DM-5

APPENDIX B

Wastewater Treatment Plants and Permits

City of Austin (CN600135198)
Austin Water

Plants 1 through 8 are permitted to discharge to a stream. Plants 9 through 12 are not permitted to discharge to the waters of the state.

Permitted flows are expressed as monthly averages unless specified otherwise. Effluent quality is expressed as monthly average (unless specified otherwise) and written after the permitted average flow in the following order: 5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)/Total Suspended Solids (TSS)/Ammonia-Nitrogen (NH_3-N)/Total Phosphorus (TP), when applicable. For Balcones, Onion Creek, Lost Creek, River Place and Thoroughbred Farms, the effluent limit is on 5-Day Biochemical Oxygen Demand (BOD_5), and not on $CBOD_5$.

1. Walnut Creek Wastewater Treatment Plant, TPDES Permit No. WQ0010543011, EPA ID No. TX0046981, RN101607901, 75 MGD (annual average), 10/15/2 (monthly average) and 5/5/2 (annual average) to the Colorado River

2. South Austin Regional Wastewater Treatment Plant, TPDES Permit No. WQ0010543012, EPA ID No. TX0071889, RN101607794, 75 MGD (annual average), 10/15/2 (monthly average) and 5/5/2 (annual average) to the Colorado River

3. Wild Horse Ranch Wastewater Treatment Plant, TPDES Permit No. WQ0010543013, EPA ID No. TX0124800, RN103014577, 0.75 MGD, 5/5/2/1 to a tributary of Gilleland Creek

4. Taylor Lane Wastewater Treatment Plant, TPDES permit No. WQ0010543014, EPA ID No. TX0129950, RN105331755, 0.1 MGD, 5/5/2/1 to Gilleland Creek

5. Pearce Lane Wastewater Treatment Plant, TPDES Permit No. WQ0010543015, EPA ID No. TX0132934, RN106066715, 0.15 MGD, 5/5/2/1 to a tributary of Dry Creek

6. Thoroughbred Farms Wastewater Treatment Plant, TPDES Permit No. WQ0014459001, EPA ID No. TX0067466, RN101265254, 0.065 MGD, 20/20 to Dry Creek

7. Dessau Wastewater Treatment Plant, TPDES Permit No. WQ0012971001, EPA ID No. TX0097870, RN102077328, 0.5 MGD, 10/15/3 to a tributary of Harris Branch

8. Brushy Creek Regional Wastewater Treatment Plant (Co-permittee with City of Round Rock, City of Cedar Park, and Brazos River Authority), TPDES Permit No. WQ010264002, EPA ID No. TX0101940, RN10082260, 21.5 MGD (annual average), 10/15/2, to Brushy Creek

9. Balcones Water Reclamation Plant, TCEQ Permit No. WQ0011363001, RN102095114, no discharge, irrigation of golf course, 0.292 MGD/10

10. Lost Creek Water Reclamation Plant, TCEQ Permit No. WQ0011319001, RN100641653, no discharge, irrigation of golf course, 0.42 MGD, 10/15

11. River Place Water Reclamation Plant, TCEQ Permit No. WQ0011514001, RN100843283, no discharge, irrigation of golf course, 0.207 MGD, 5/5

12. Hornsby Bend Biosolids Management Plant, TCEQ Permit No. WQ0003823000, EPA ID No. TXL0050005, RN100816685, biosolids treatment plant, no discharge

EXHIBIT DM-5

APPENDIX C

Map of Large Wastewater Treatment Plants

EXHIBIT DM-5

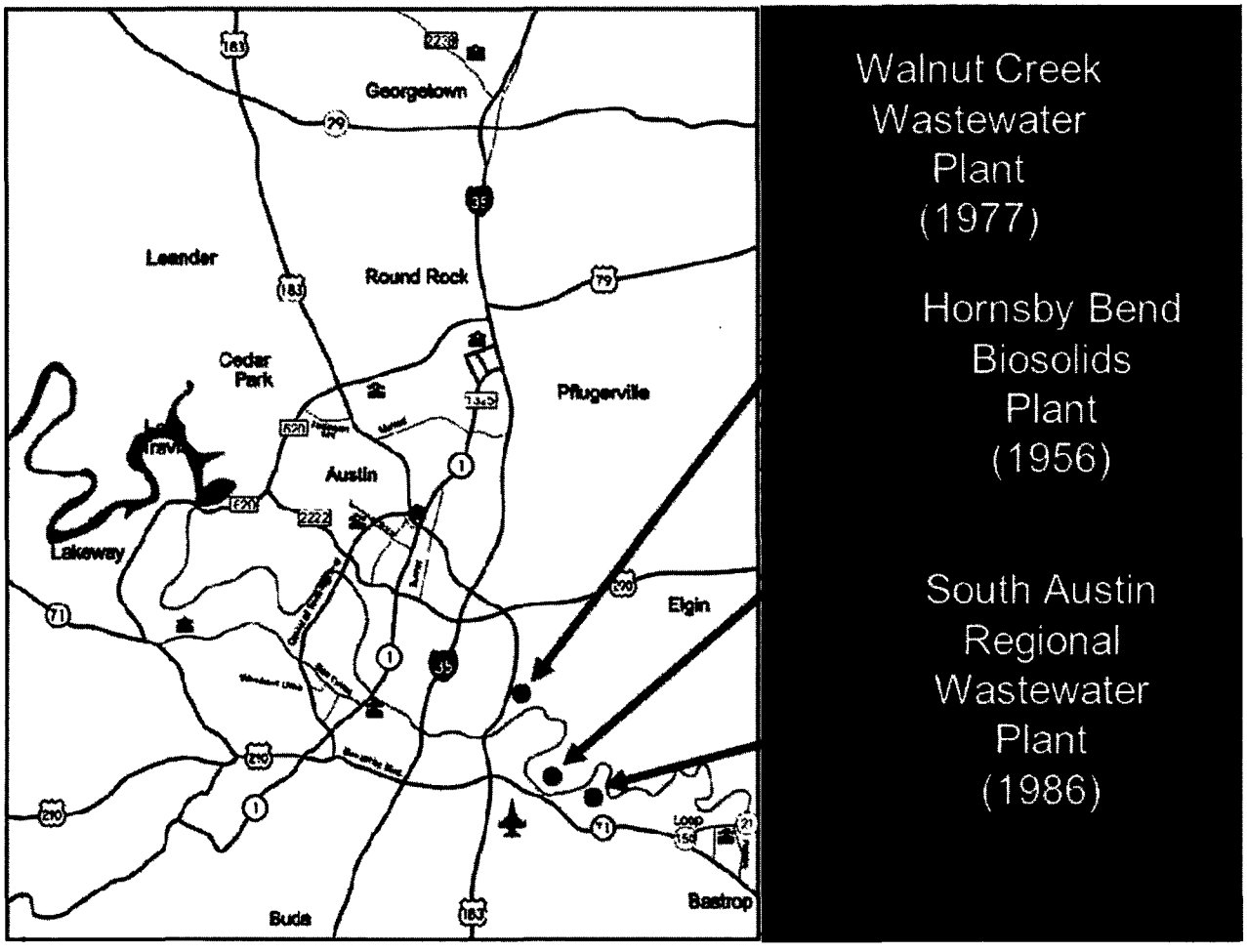
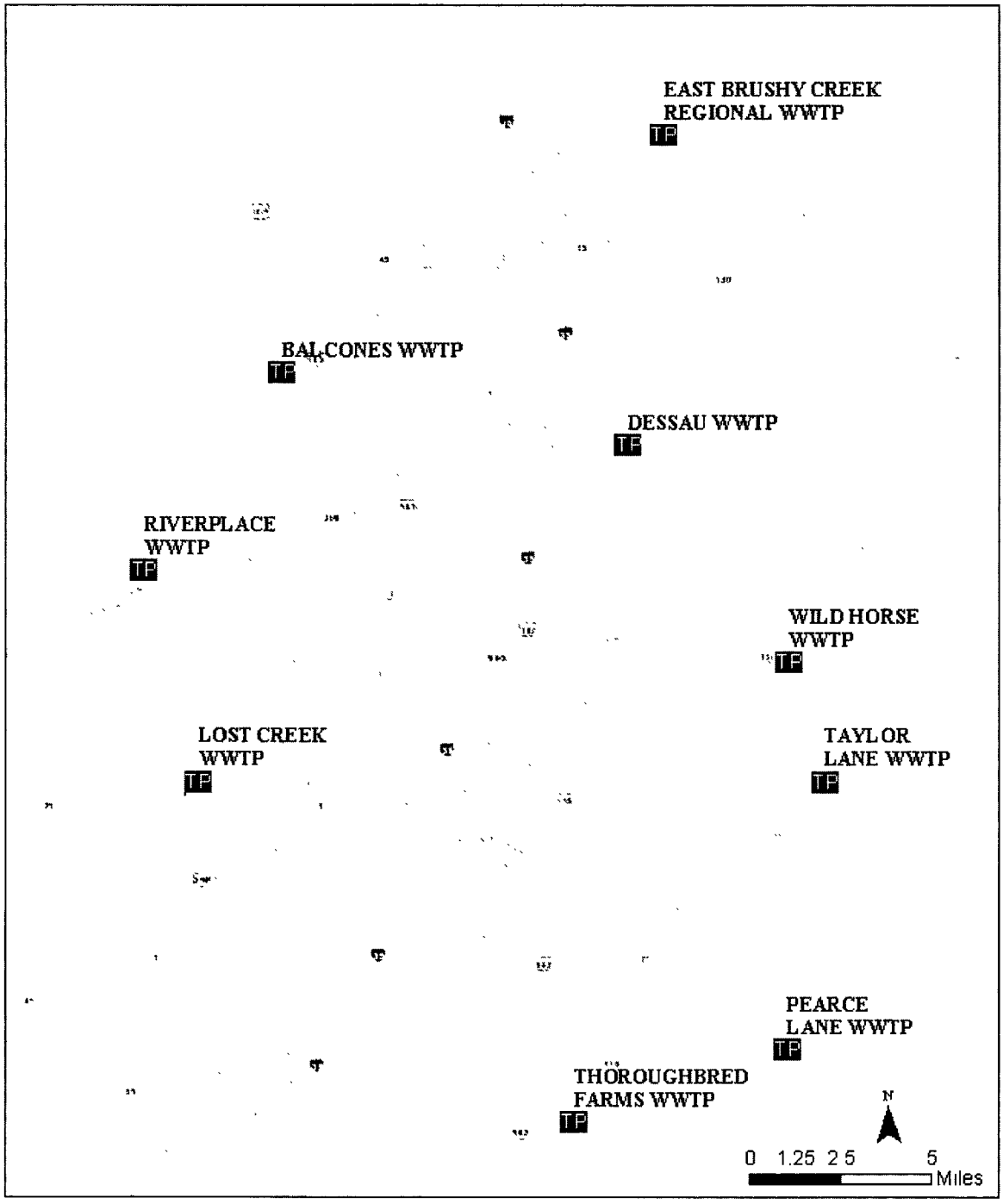

Georgetown
Leander
Round Rock
Cedar Park
Pflugerville
Austin
Lakeway
Elgin
Buda
Bastrop
Walnut Creek Wastewater Plant (1977)
Hornsby Bend Biosolids Plant (1956)
South Austin Regional Wastewater Plant (1986)

EXHIBIT DM-5

APPENDIX D

Map of Small Wastewater Treatment Plants

EXHIBIT DM-5



Austin's Small WWTP

City of Austin
Austin Water

February 2019

Produced by GIS Services

EXHIBIT DM-5

APPENDIX E

Signed Resolution Showing Plan Adoption

EXHIBIT DM-5

RESOLUTION NO. 20190411-002

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:

Council repeals Resolution Number 20140417-004, and adopts the City of Austin Utility Profile & Water Conservation Plan for Municipal and Wholesale Water Use as shown in Exhibit A. This plan is a requirement of the Texas Commission on Environmental Quality.

ADOPTED: April 11, 2019 **ATTEST:** Jannette S. Goodall
City Clerk

Page 1 of 1

EXHIBIT DM-5

APPENDIX F

Copy of Transmittal Letter to Regional Planning Group

EXHIBIT DM-5

Austin WATER

City of Austin | Austin Water
P.O. Box 1088 Austin, TX 78767
AustinWater.org

April 24, 2019

Lower Colorado River Authority (LCRA)
Attn. Region K
John Burke, Chair
P.O. Box 220
Austin, TX 78767-0220

Re: City of Austin's 2019 Utility Profile & Water Conservation Plan

Dear Mr. Burke:

The enclosed Utility Profile & Water Conservation Plan for Municipal and Wholesale Water Use was developed by the City of Austin to fulfill Texas Commission on Environmental Quality (TCEQ) requirements as outlined in Texas Administrative Code Title 30, Chapter 288. This plan, which the Austin City Council approved on April 11, 2019, is being forwarded to TCEQ.

If you have any questions on the enclosed plan, please contact me at 512-974-2787.

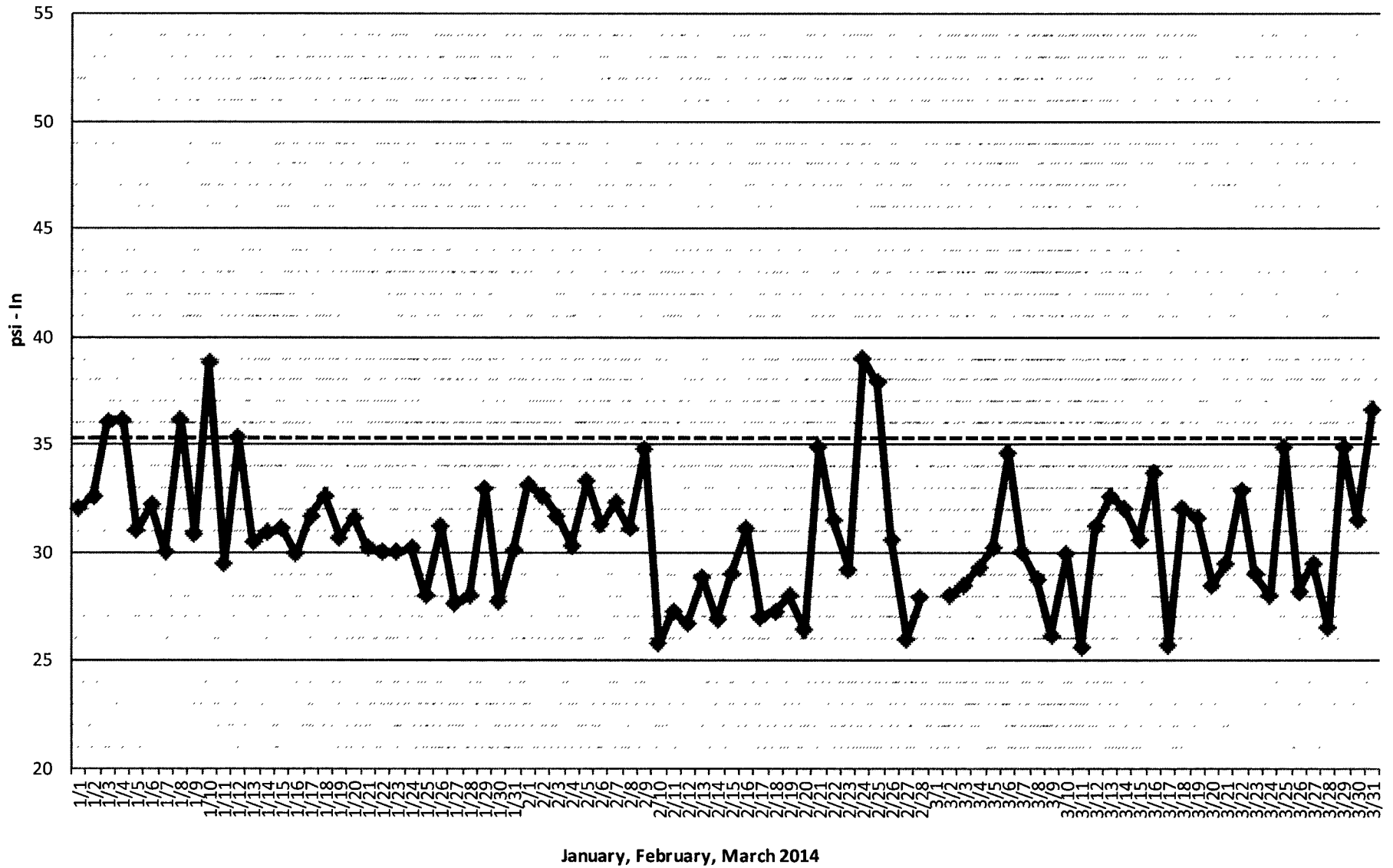
Sincerely,

Drema Gross
Austin Water
Water Conservation Division Manager

The City of Austin is committed to compliance with the Americans with Disabilities Act (ADA)
Reasonable modifications and equal access to communications will be provided upon request.

EXHIBIT DM-6

Travis County WC&ID #10
Red Bud Pump Station Pressure Readings



January, February, March 2014

Travis County WC&ID #10
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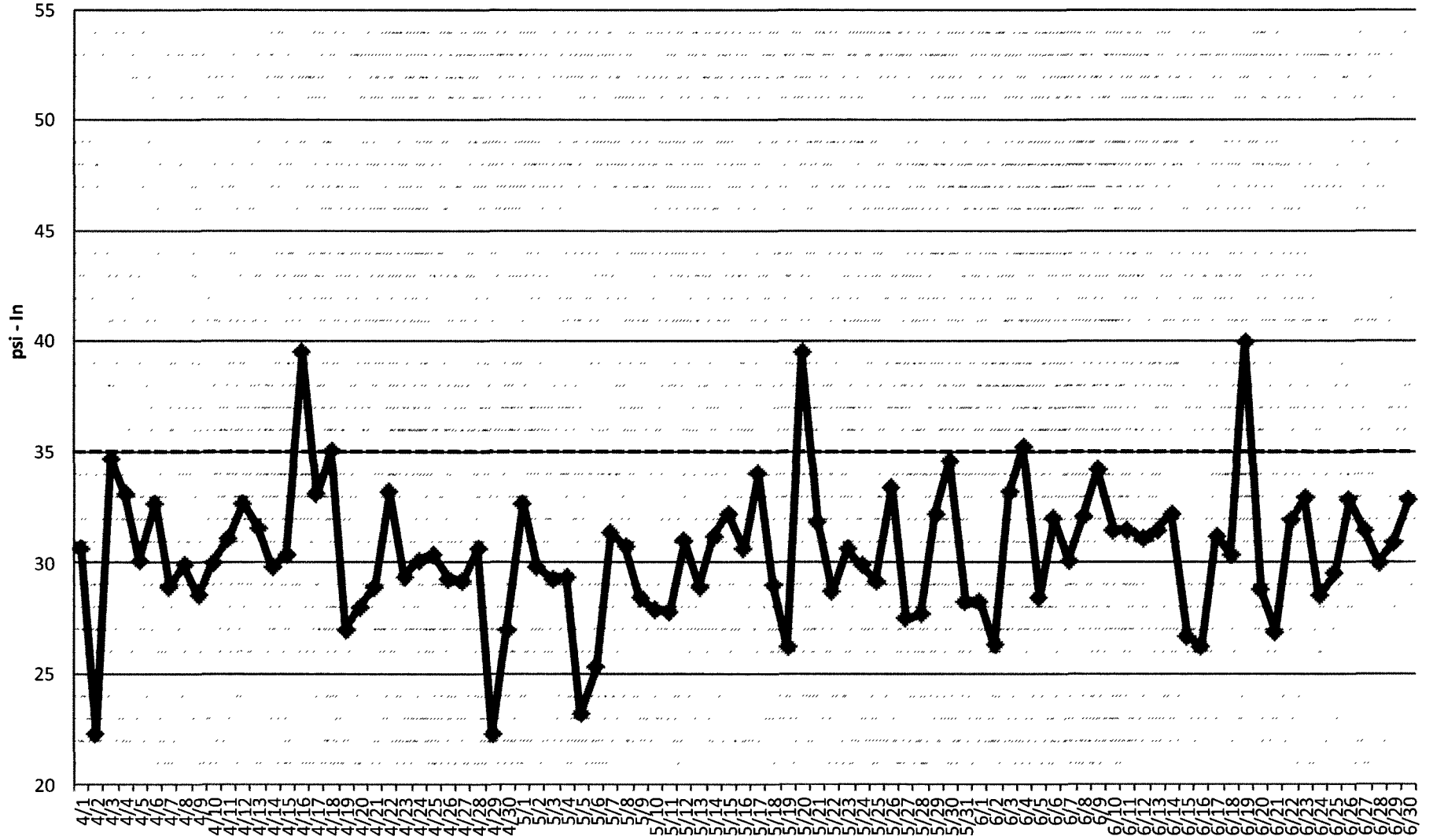

April, May, June 2014

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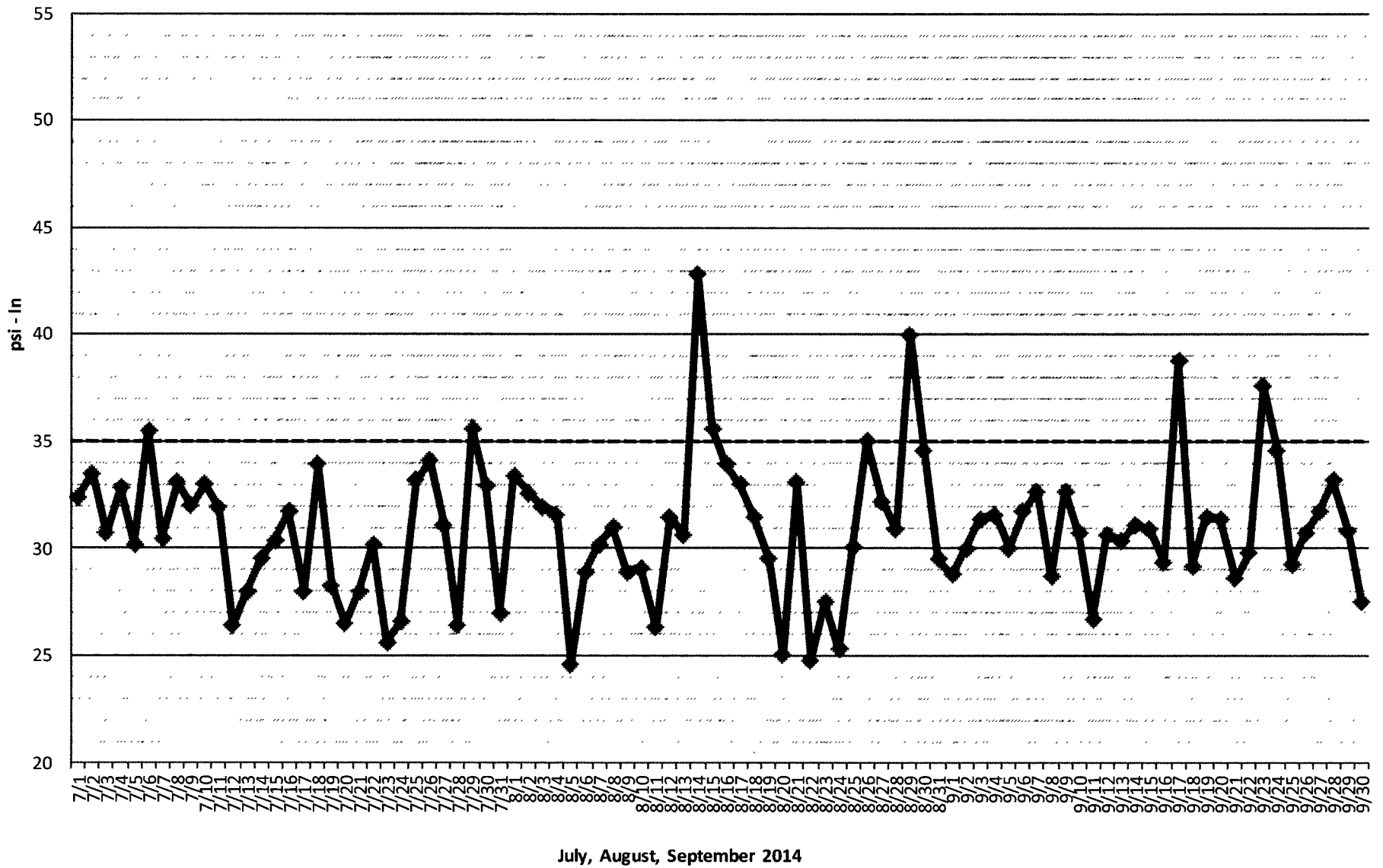

July, August, September 2014

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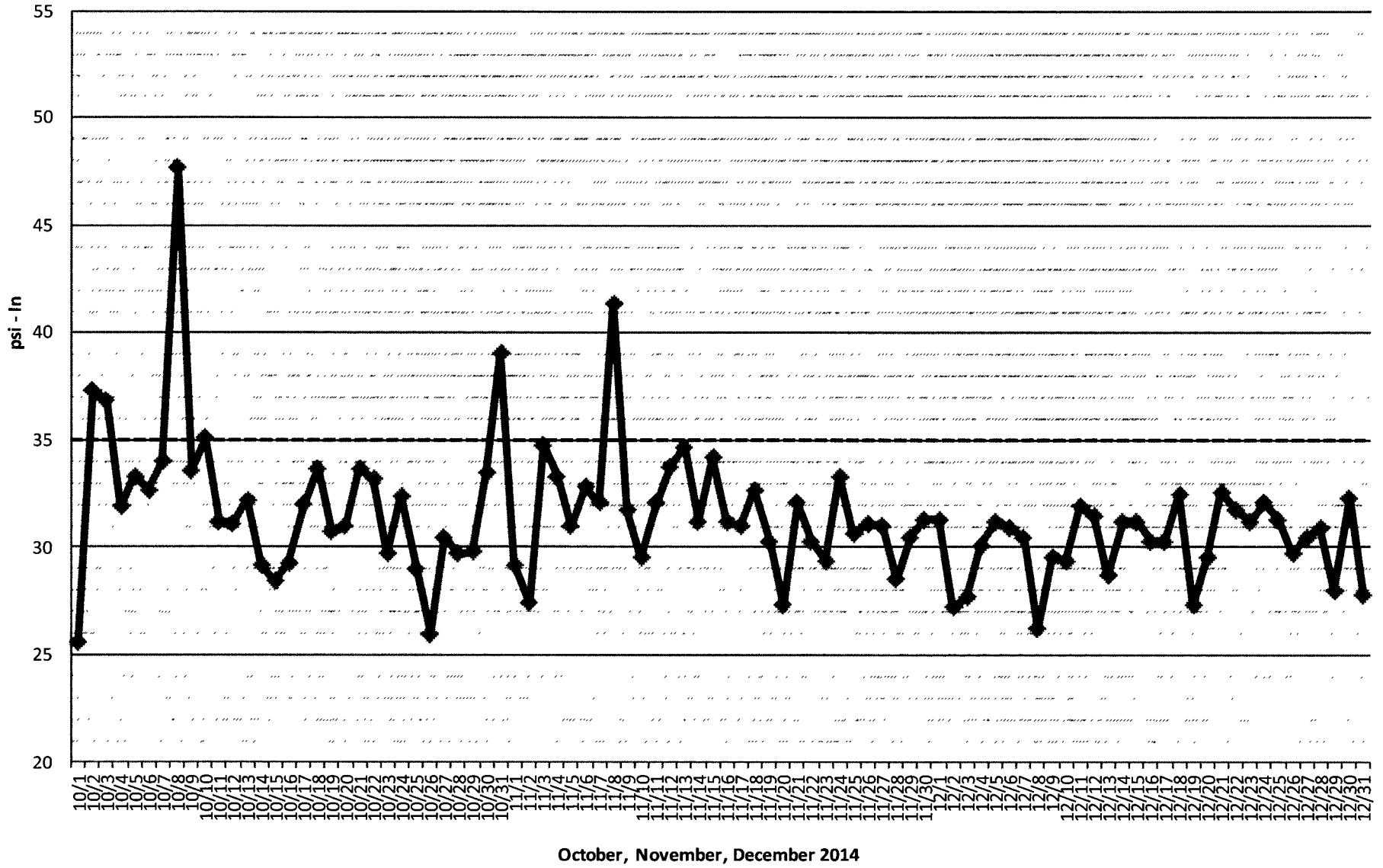

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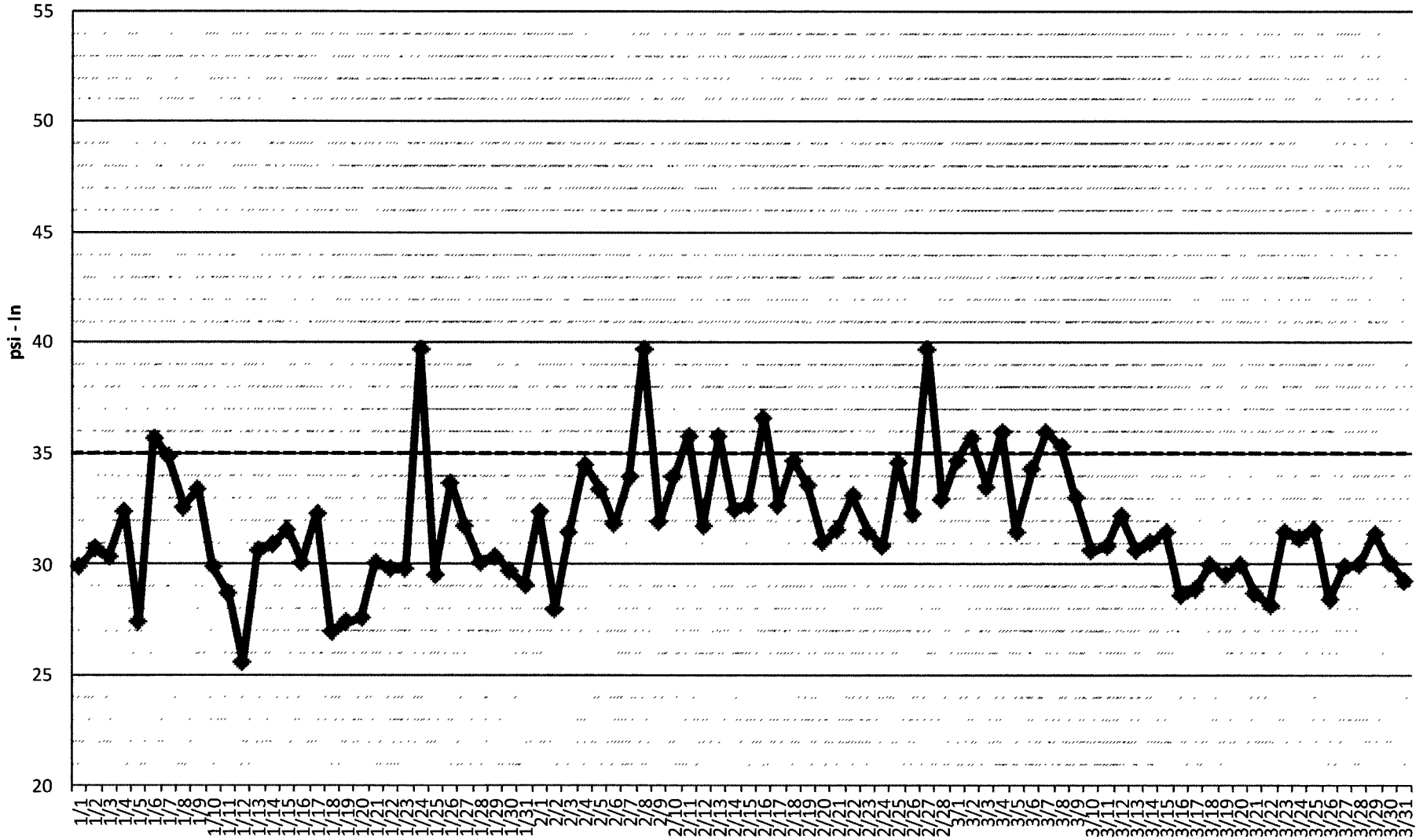

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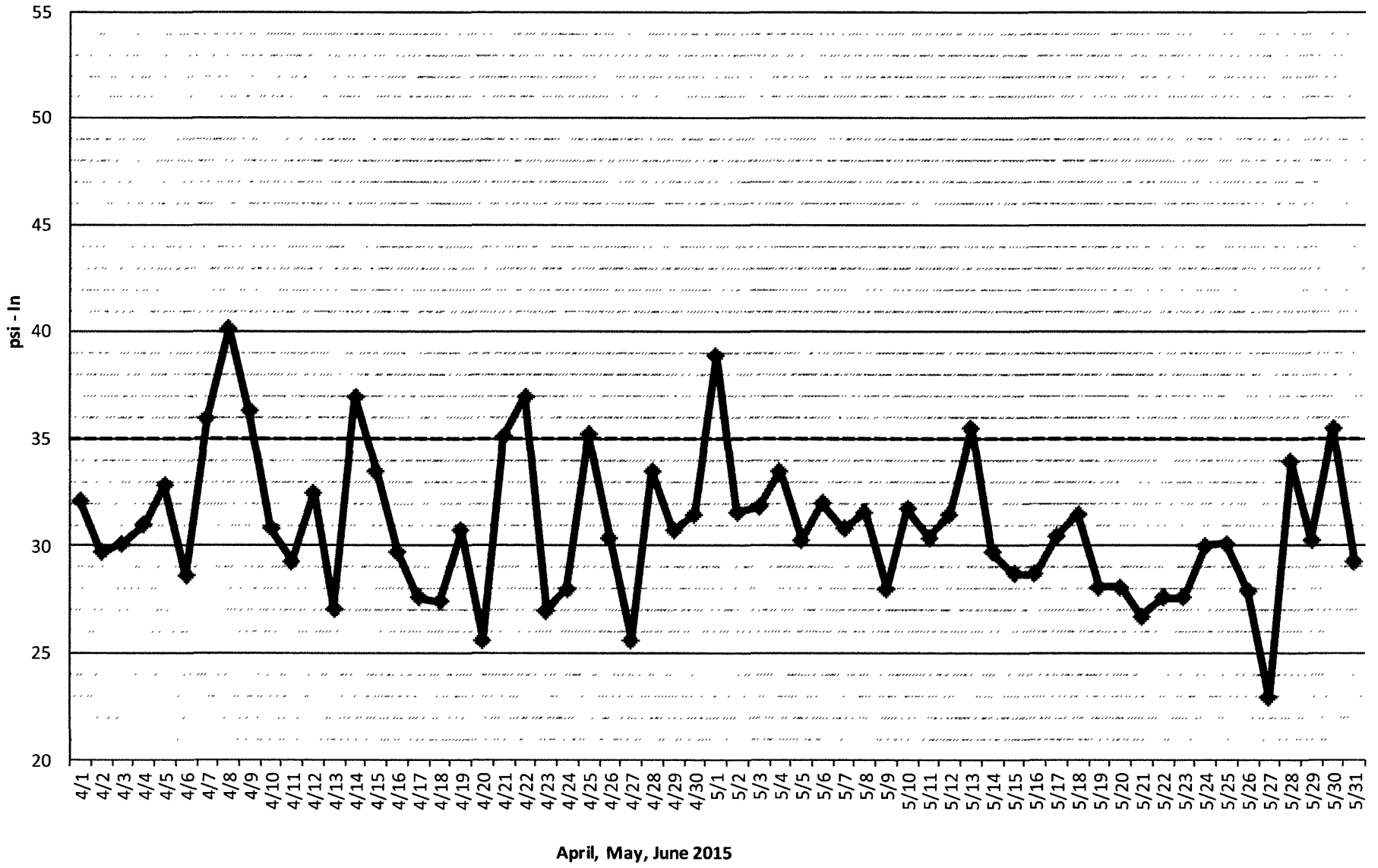

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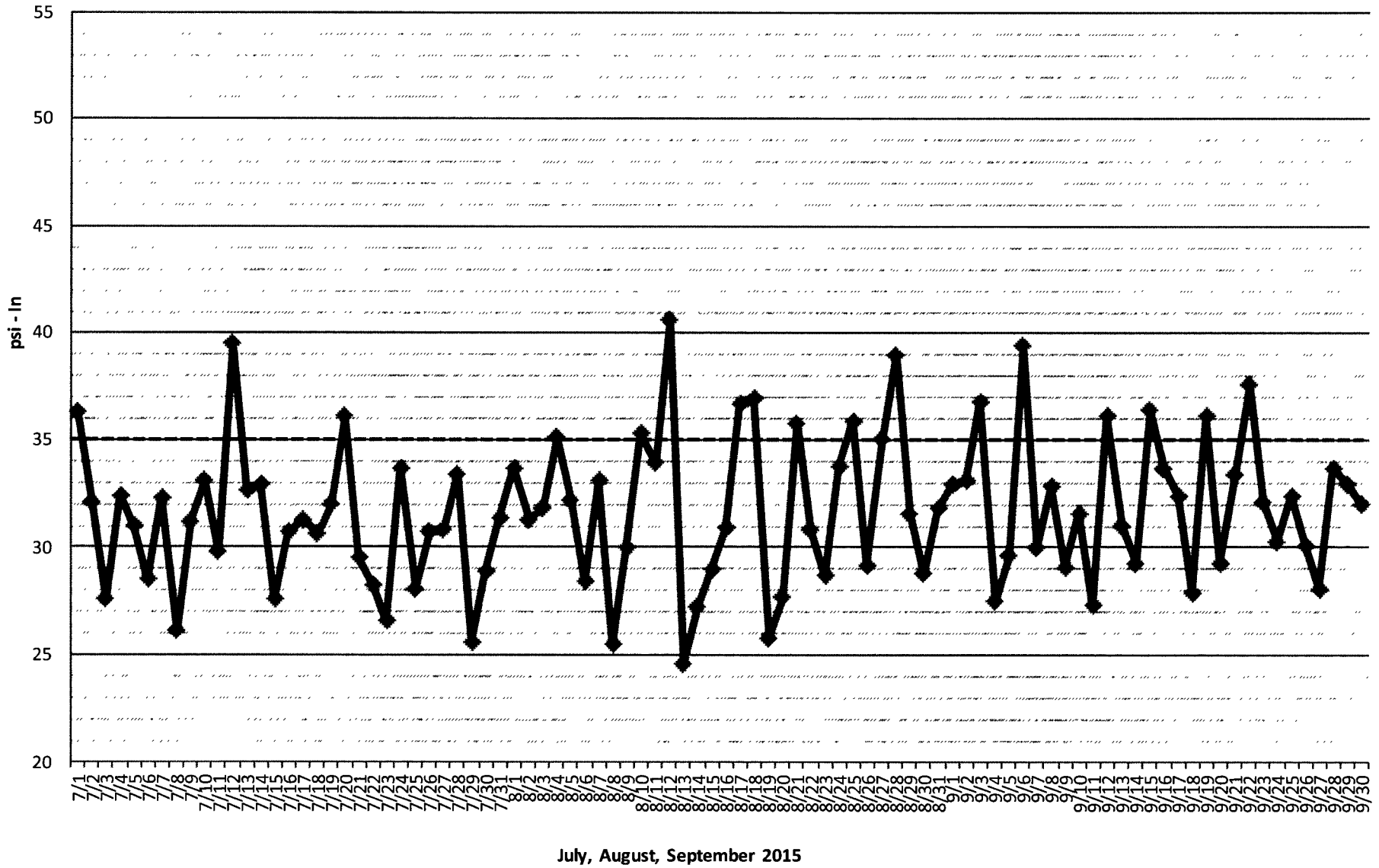

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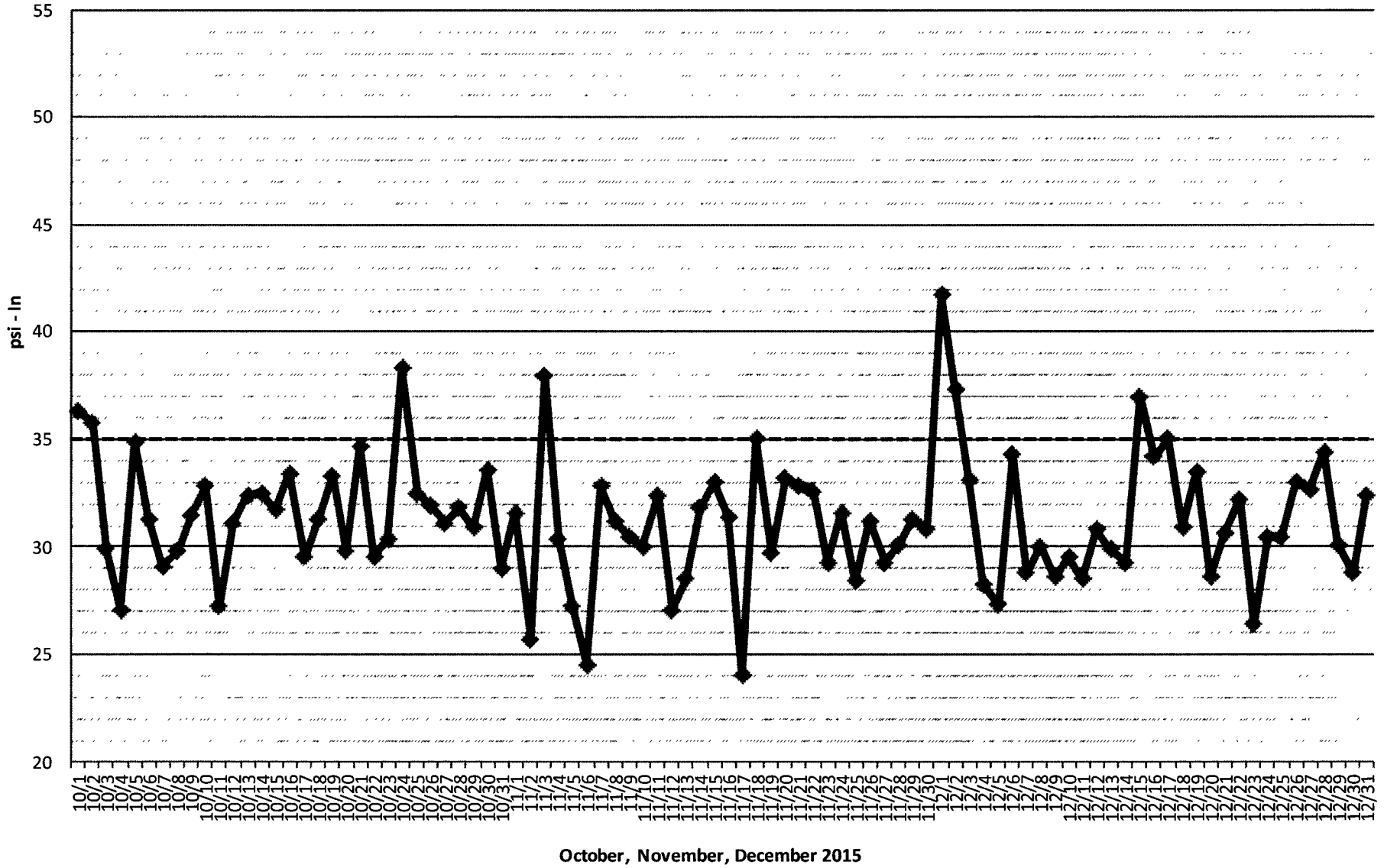

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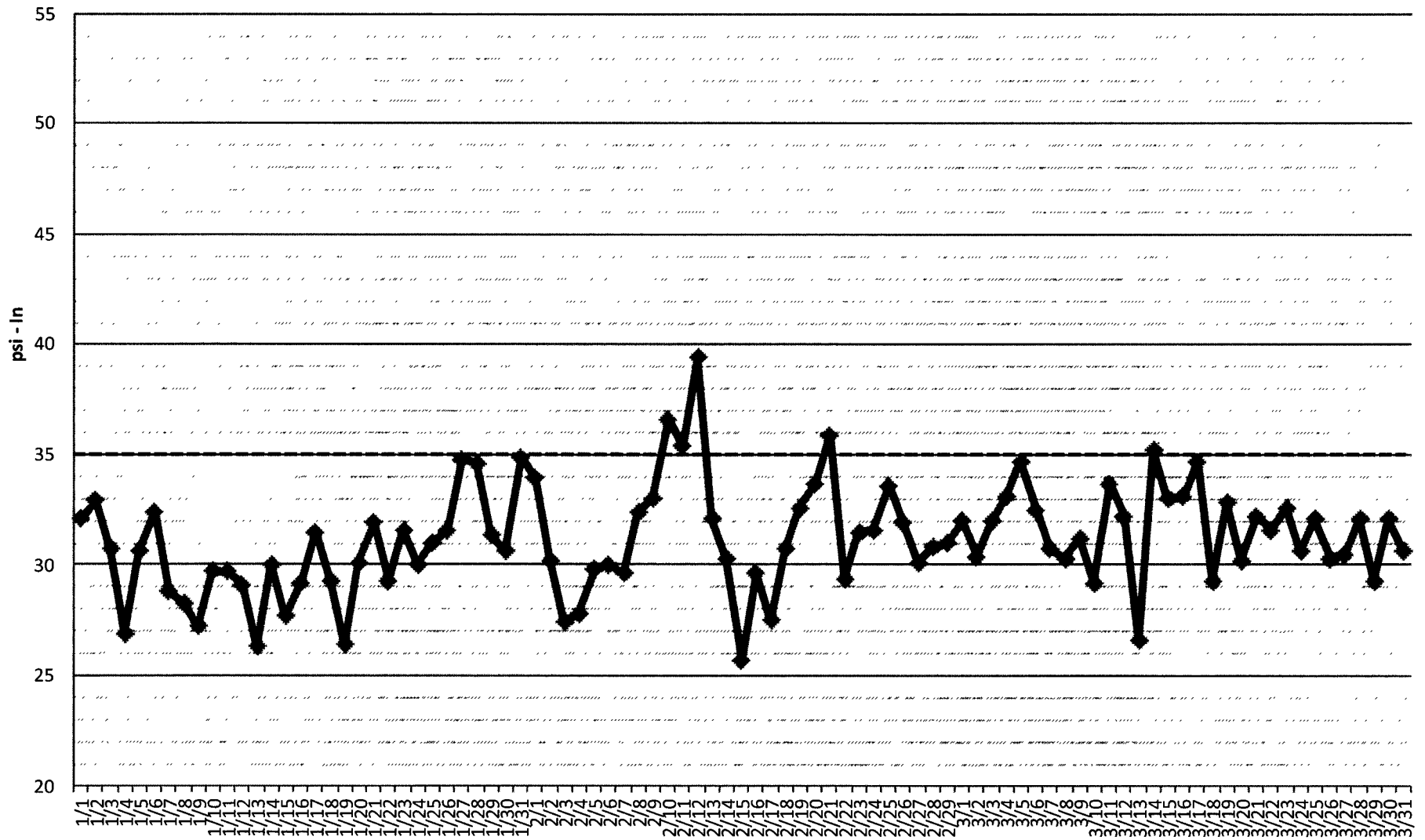

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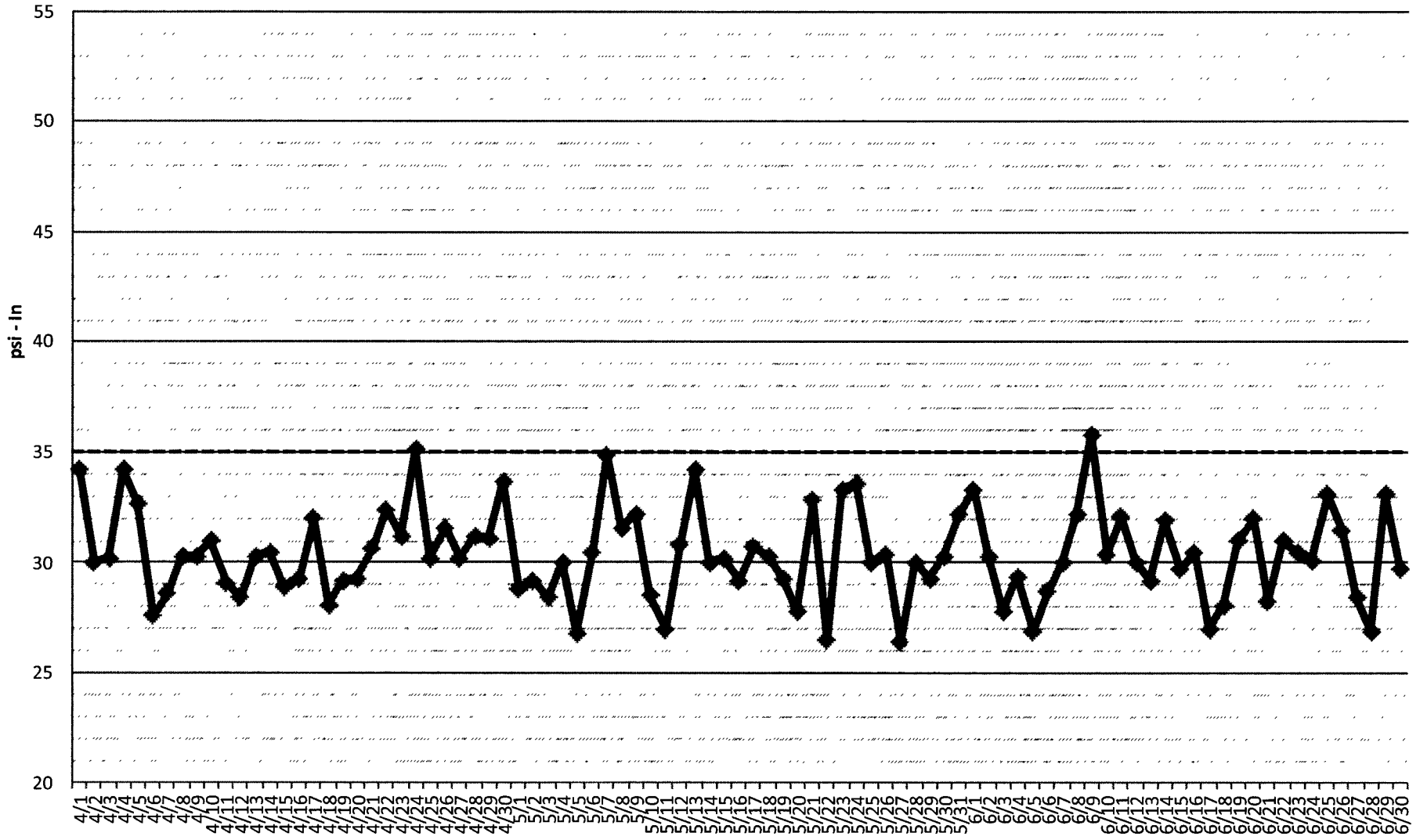

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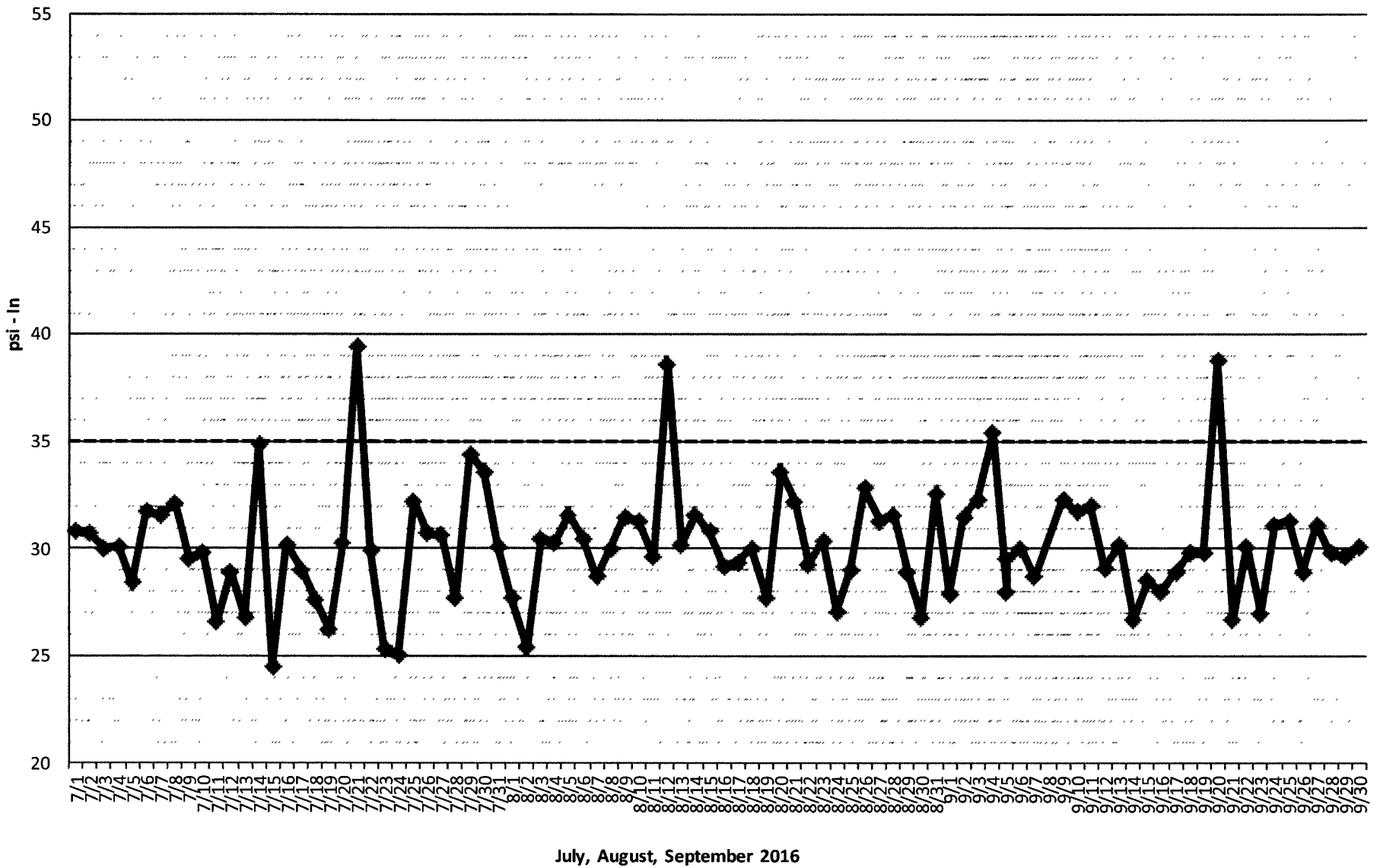

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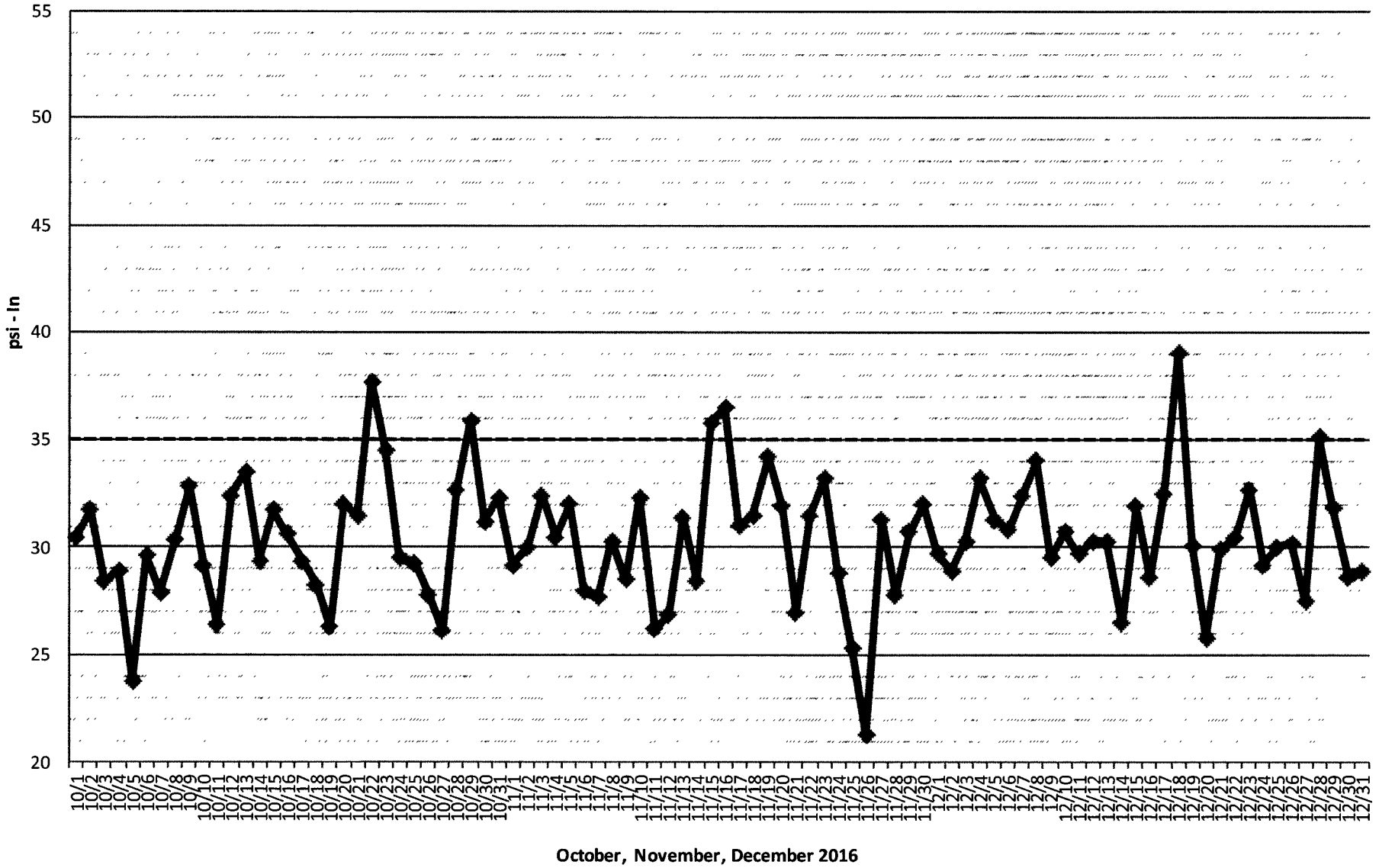

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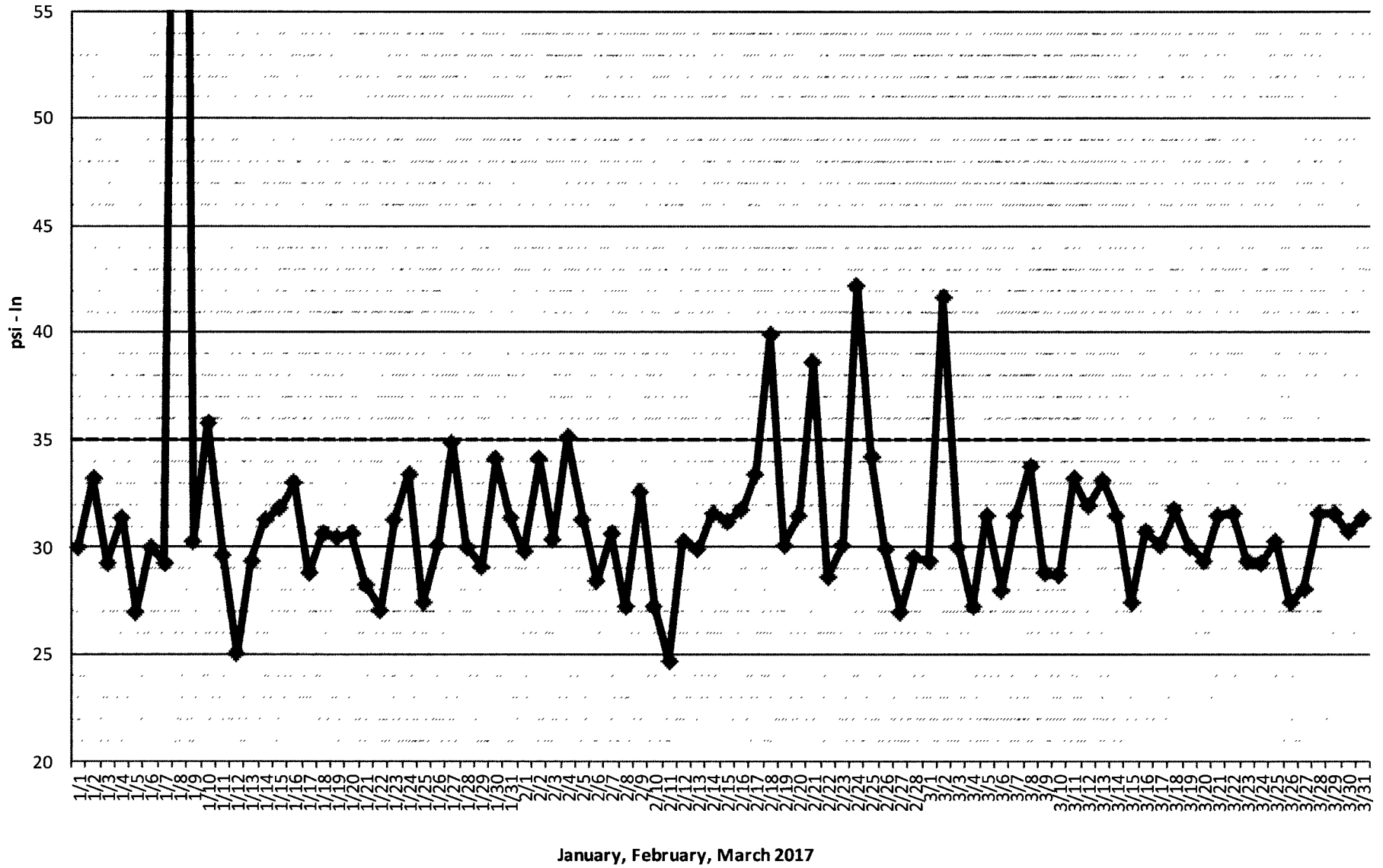

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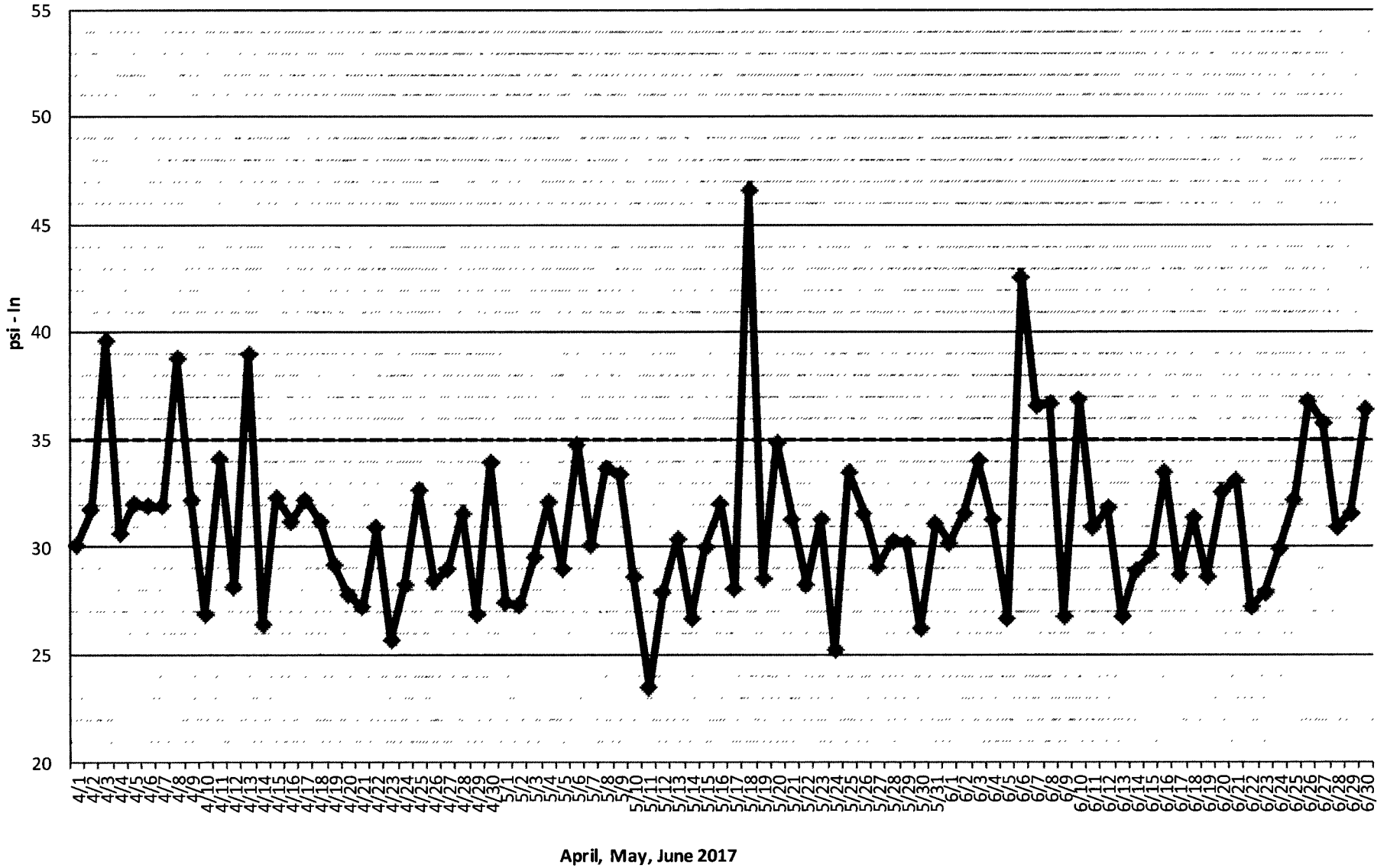

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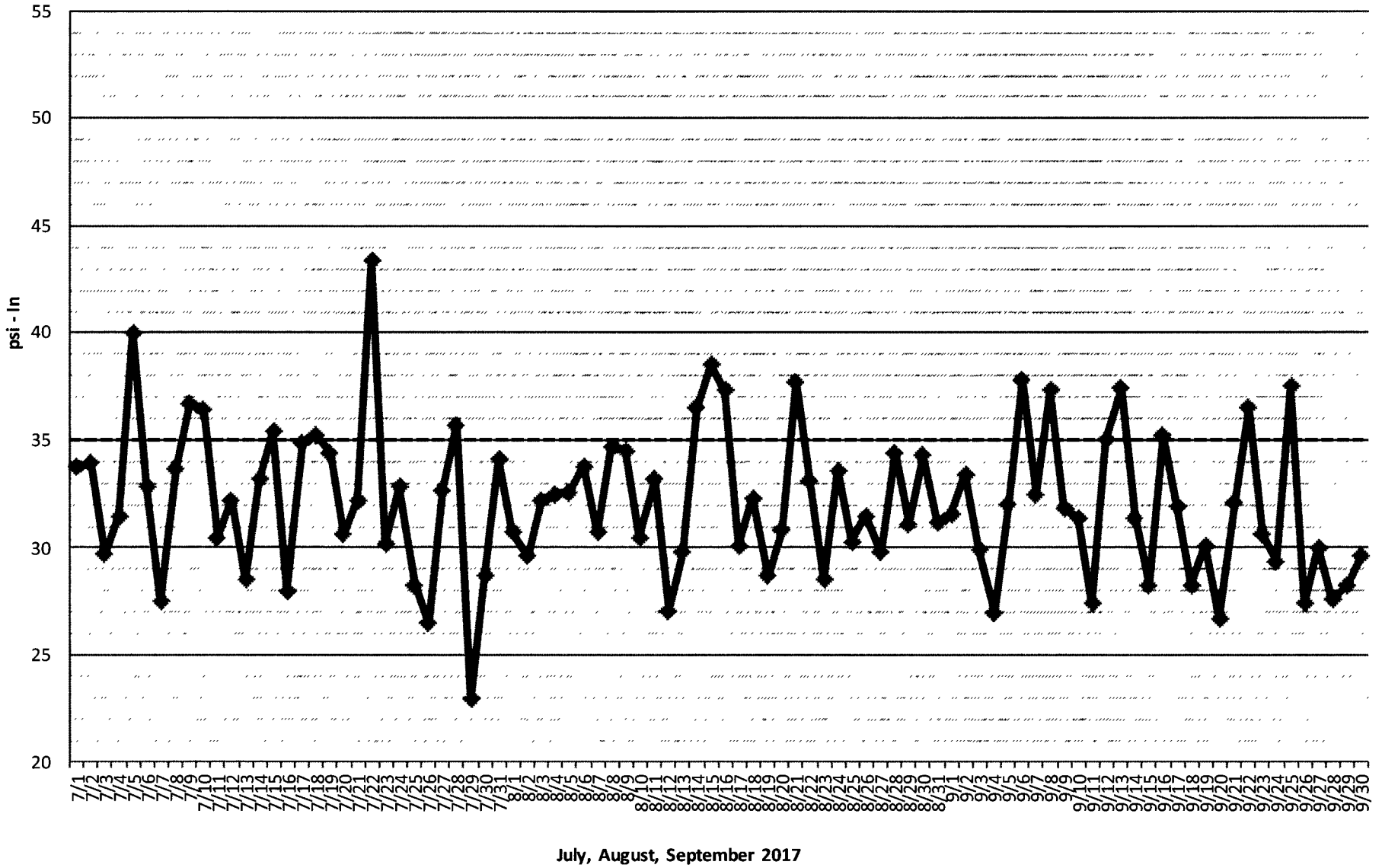

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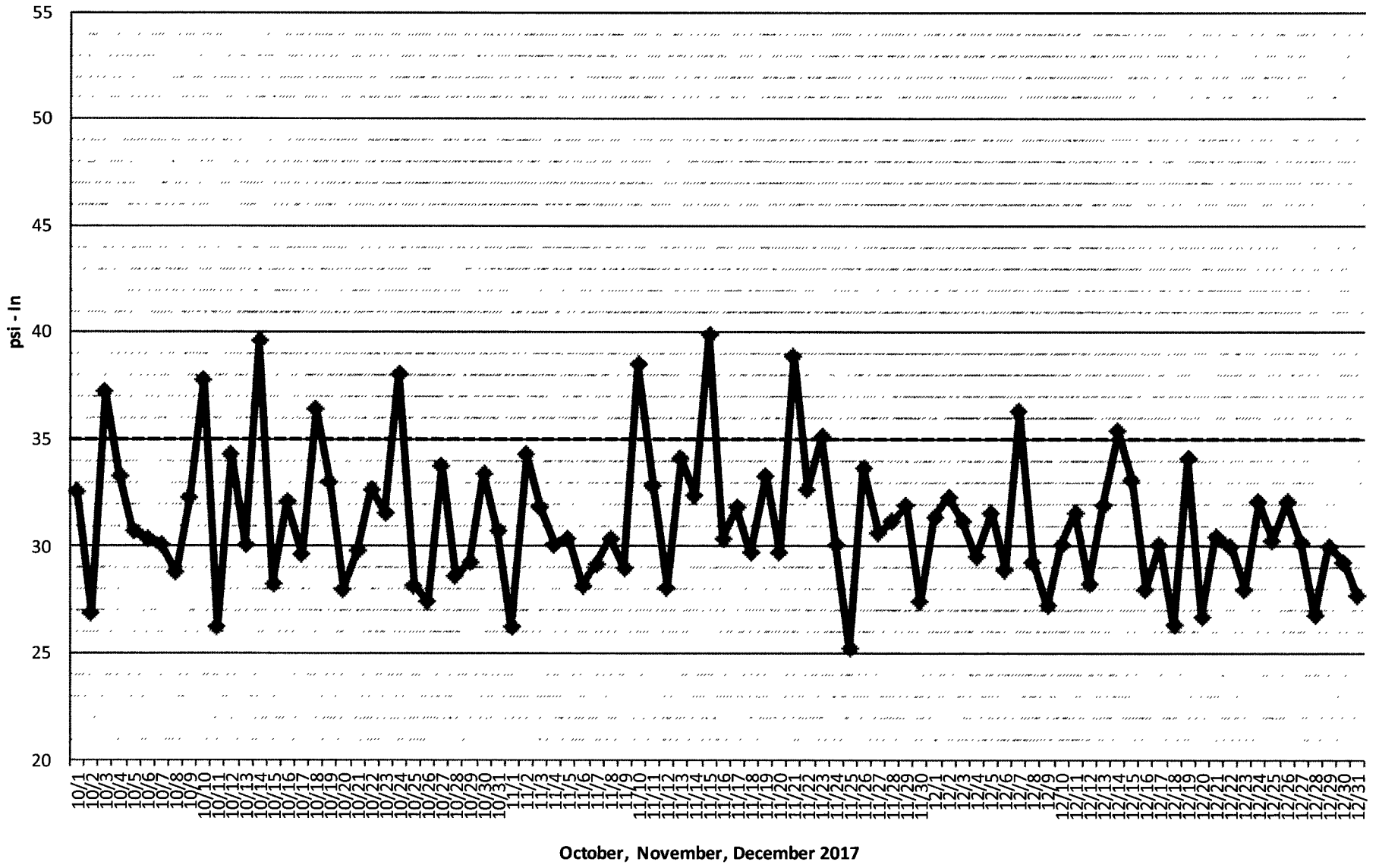

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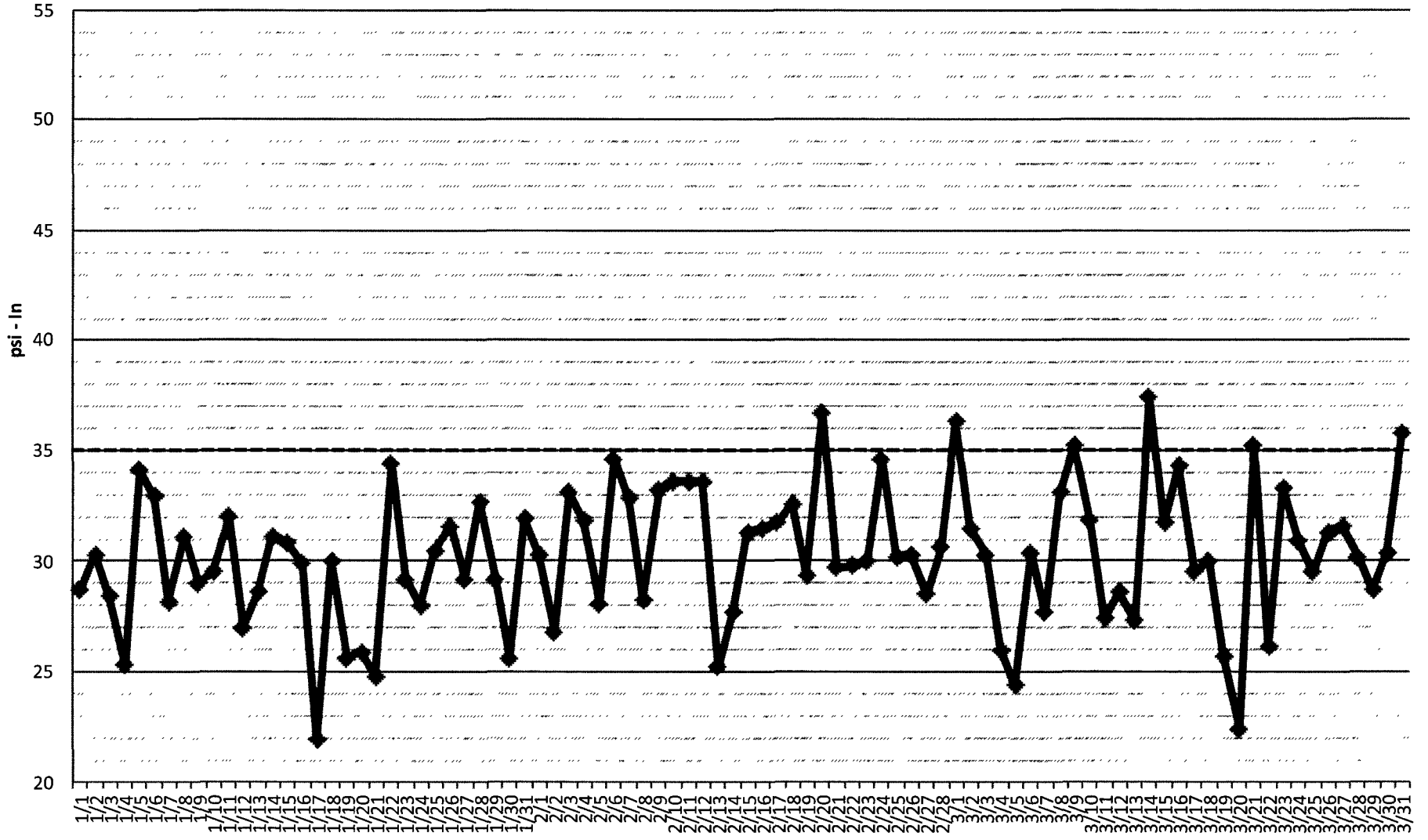

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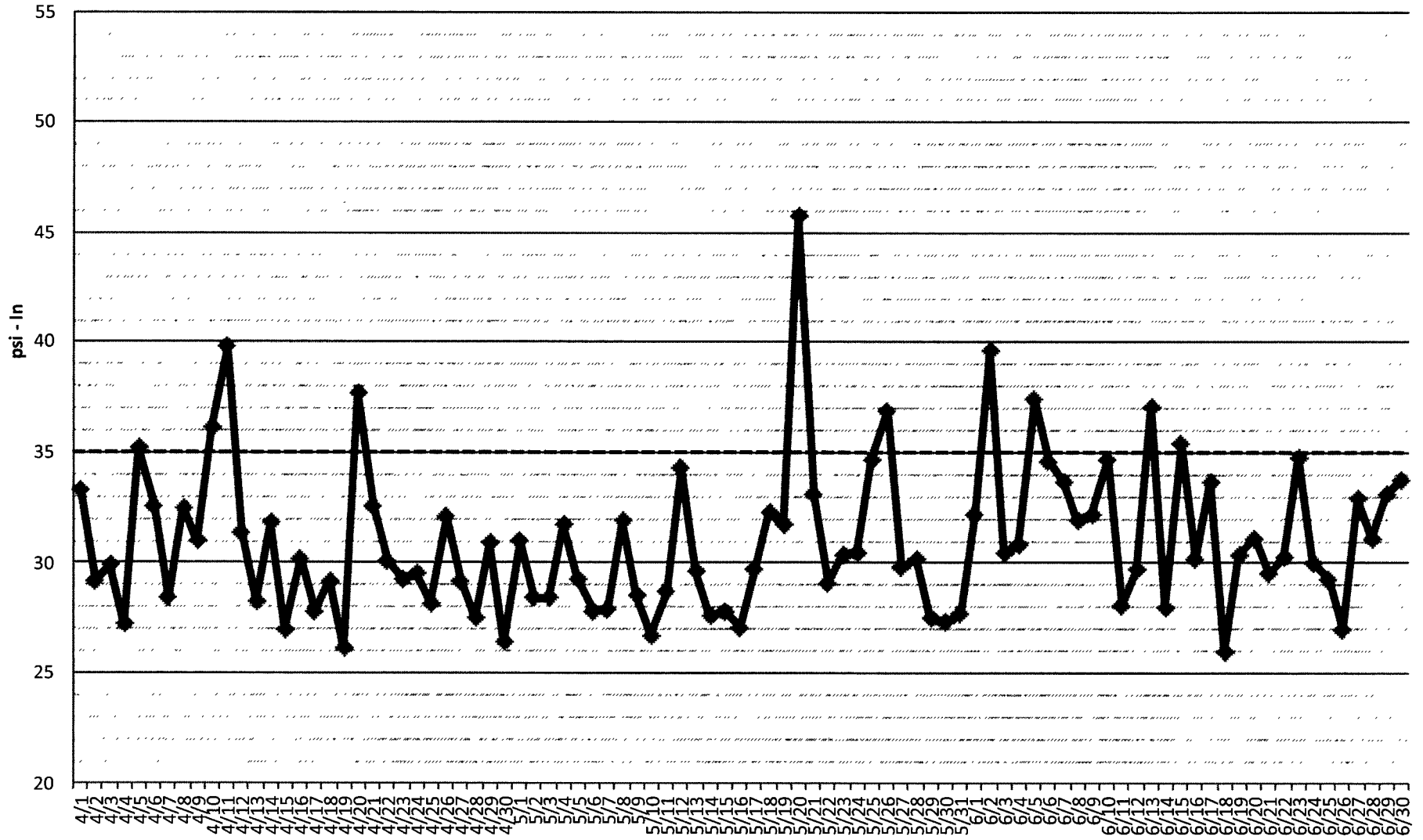

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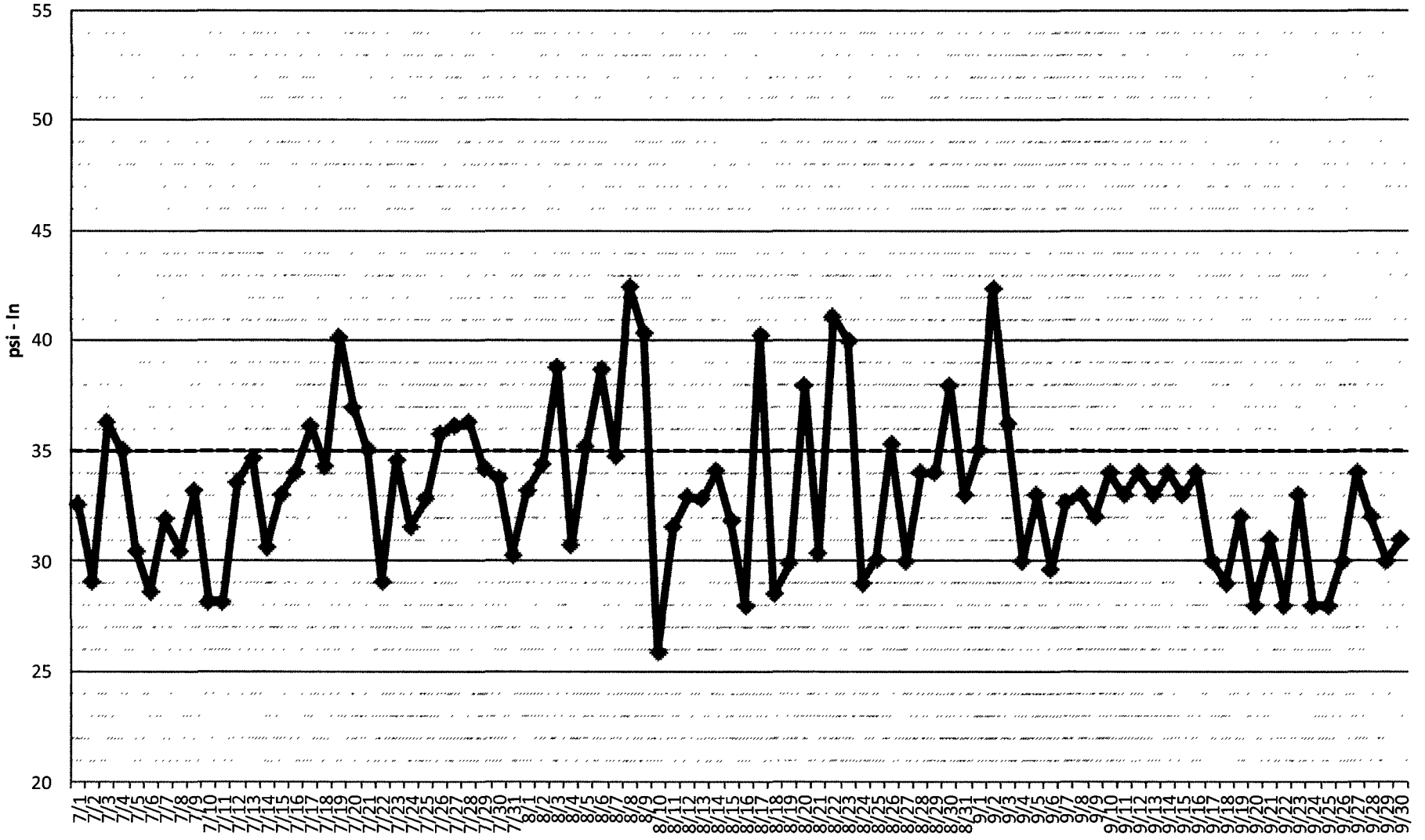

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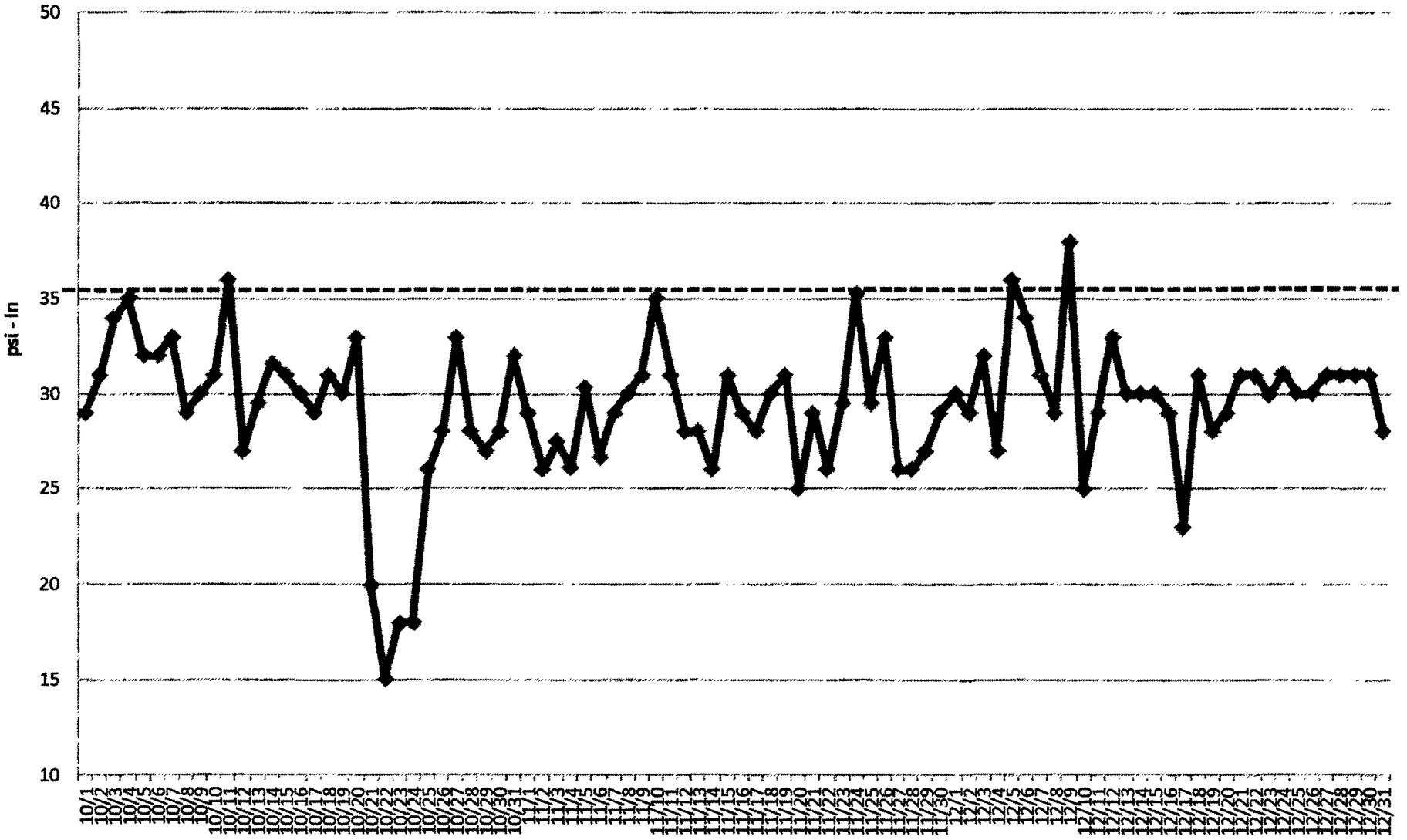

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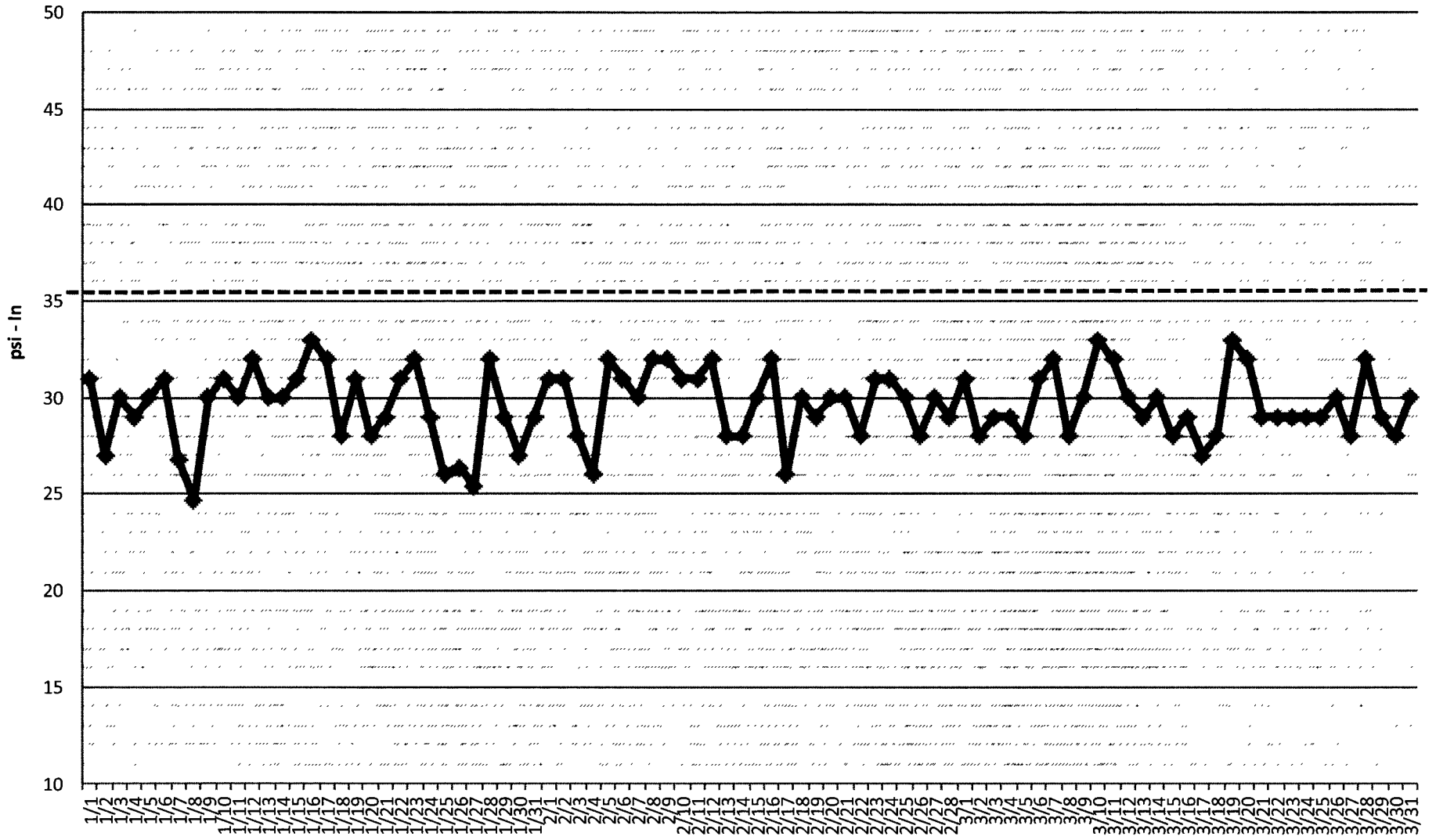

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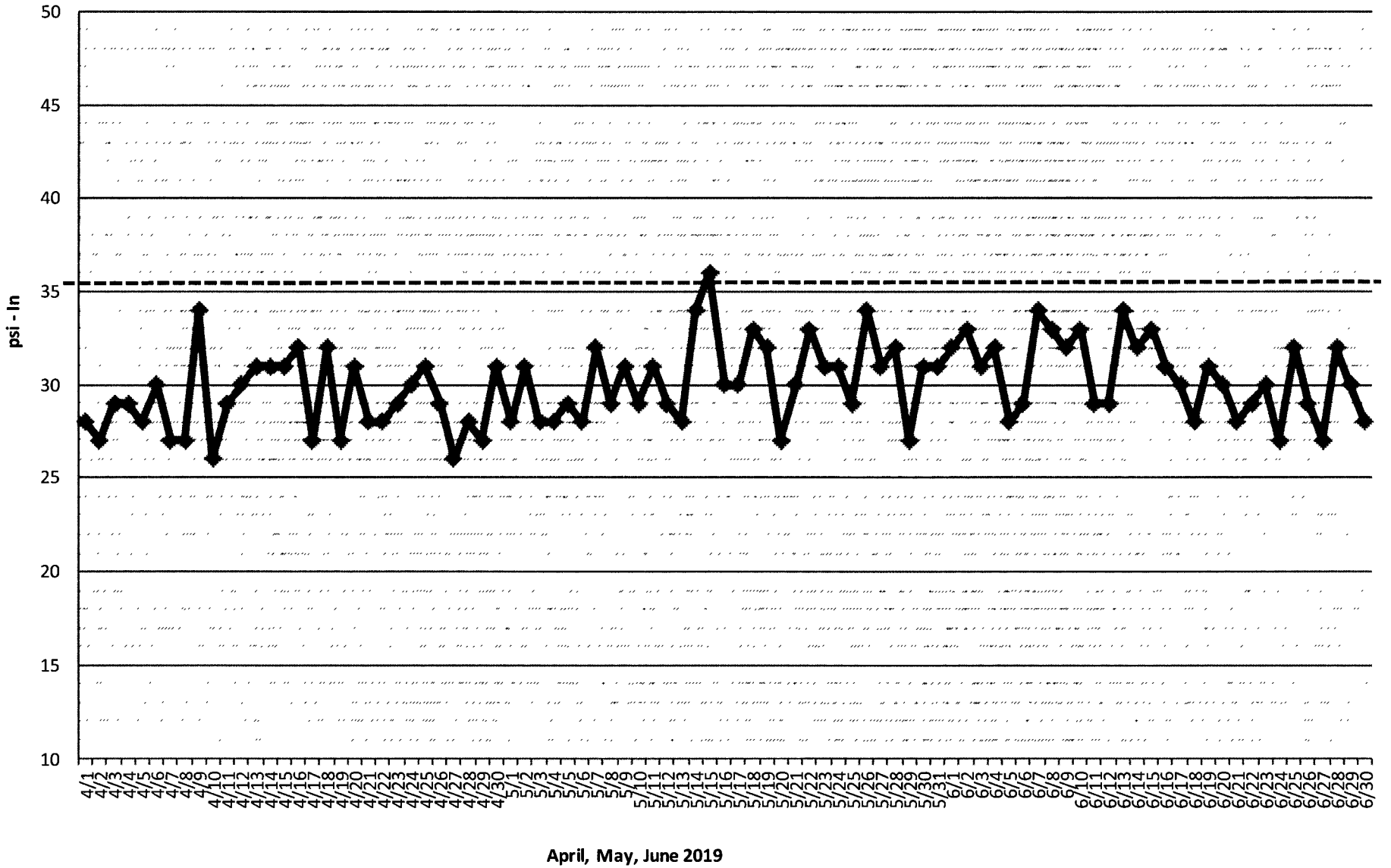

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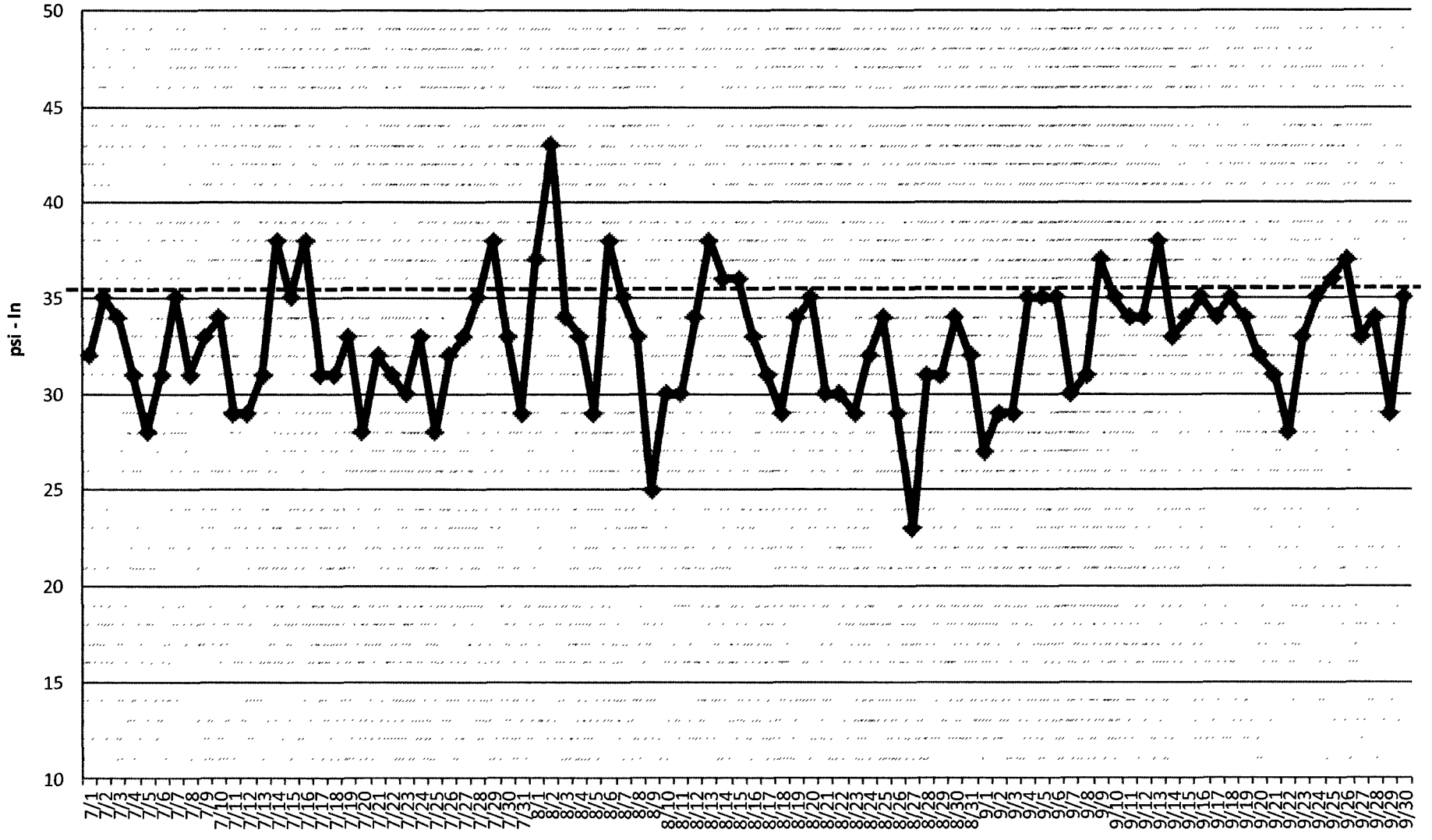

July, August, September 2019

BUSINESS RECORDS AFFIDAVIT

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

Before me, the undersigned authority, personally appeared Carla Glass, who, being by me duly sworn, deposed as follows:

1. "My name is Carla Glass. I am over 18 years of age, of sound mind, and capable of making this affidavit. The facts stated in this affidavit are within my personal knowledge and are true and correct.

2. "I am the General Manager and Custodian of Records for Travis County Water Control and Improvement District No. 10 (the "District"), and I am familiar with the manner in which its records are created and maintained by virtue of my duties and responsibilities.

3. "Attached to this affidavit are 24 pages of records from the District. These are exact duplicates of the original records.

4. "It is the regular practice of the District to make these types of records at or near the time of each act, event, condition, or record.

5. "The records were made by, or from information transmitted by, a person with knowledge of the event or act the person was recording.

6. "The records were kept in the course of the District's regularly conducted business."

Carla Glass, General Manager and Custodian of Records
Travis County Water Control and Improvement District No. 10

SWORN TO AND SUBSCRIBED before me on the 5th day of November 2019.

Notary Public, State of Texas

LOUISE B WINDER
NOTARY PUBLIC
ID# 130938716
State of Texas
Comm. Exp. 12-20-2020

EXHIBIT DM-7

Water Loss Audit Manual for Texas Utilities

by Mark Mathis • George Kunkel, P.E. • Andrew Chastain Howley

Report 367
March 2008

Texas Water Development Board
www.twdb.state.tx.us

EXHIBIT DM-7

Texas Water Development Board
Report 367

Water Loss Audit Manual for Texas Utilities

by
Mark Mathis
Texas Water Development Board

George Kunkel, P.E.
American Water Works Association
Water Loss Control Committee, Active Member

Andrew Chastain Howley
American Water Works Association
Water Loss Control Committee, Active Member

March 2008

EXHIBIT DM-7

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non-revenue water (unbilled authorized consumption, apparent loss, and real loss) should be assigned a cost value.[1]

Apparent losses differ from real losses in the manner in which they occur but, perhaps more dramatically, in the financial impact that they impart to the water utility. Apparent losses occur when water has reached the customer, but by not accurately recording the consumption, a portion of the revenue is not captured. Apparent losses are, therefore, valued at the customer retail rate. Water utilities often use rate structures with different rates for different customer classes, such as residential and industrial, and for different tiers of water consumption. For purposes of simplicity in compiling the water audit, utilities can use a single, composite rate for all customer classes to determine the cost impact of apparent losses.

Real losses cause a portion of the treated, pressurized water to be lost from the distribution system before customer use. In effect, the utility treats a greater volume than its customer base requires, hence incurring excess production costs. The cost for real losses is, therefore, typically valued at the variable production cost and/or the purchase cost of imported bulk water supply. The variable production cost is defined as the cost of raw water, electricity to treat and distribute water, and chemicals to treat the water for the year. One way to calculate the variable production cost is to divide the sum of the raw water, energy, and chemical costs by the corrected input volume. In cases of water shortage where any real loss reduction results in additional customer sales, then the real losses should be valued at the customer retail rate.

1 When compiling the water audit, utilities should use consistent volume units throughout the audit. Often water utilities measure their water supply in one unit (for example, gallons) and their customer consumption in another unit (for example, cubic feet). Typically, the customer consumption values must be converted to align with the units of measurement for the water supplied

3.2 PERFORMANCE INDICATORS

The water audit method features a number of performance indicators that allow water utilities to reliably assess their water loss standing and track their performance. The performance indicators are designed specifically to

- track the water utility's progress on a year-to-year basis,
- set performance targets, and
- benchmark performance with other water utilities.

The complete list of performance indicators is shown in Table 3-2. The indicators are categorized as operational or financial in nature. The level of detail they project is also identified as 1) basic level indicators, 2) intermediate indicators, and 3) detailed indicators. An array of operational performance indicators exists—one for apparent losses and four for real losses. The operational performance indicators are well suited to evaluate operational efficiency, track progress, and benchmark with other water utilities. Also shown are financial performance indicators included in the International Water Association and American Water Works Association Water Audit Method, including non-revenue water by volume and non-revenue water by cost.

Water utilities can track their performance in controlling apparent losses by using the apparent loss indicator (Op23), which reflects the volume of apparent losses quantified in the water audit, normalized by dividing this volume by the number of service connections per day.

For real losses, the water utility can likewise track performance using two normalized indicators of real losses (Op24). Dividing the quantity of real losses from the water audit by the number of service connections (or miles of pipe for low density systems) per day gives the Op24 indicator. A second variation of this indicator can also be calculated by dividing the result by the

average pressure across the system. These performance indicators are good for setting specific leakage reduction targets and tracking performance.

The unavoidable annual real losses are another performance indicator. These losses are a theoretical reference for low-level leakage that recognizes even the best maintained water distribution systems in the world have some leakage. Unavoidable annual real losses are calculated from the equation in Table 3-2 by using the most influential factors in system leakage: length of piping in the water distribution system, number of customer service connections, and average system pressure. Note that age of the piping is not an influential factor.

The primary performance indicator used for comparing performance with other water utilities (benchmarking) is the infrastructure leakage index. This index provides utility managers with the ability to weigh leakage efficiency relative to the ideal low level that might exist in the water utility (Appendix 1.4). The Water Loss Control Committee of the American Water Works Association also gives guidelines for using the infrastructure leakage index as a preliminary leakage reduction target-setting tool.

The index takes into account system-specific attributes, including the length of mains, number of customer service connections, and average pressure; therefore, leakage efficiency can be compared among water utilities in an objective manner. This avoids a "one size fits all" approach to target setting. The infrastructure leakage index is the ratio of the real loss volume from the water audit over the level of unavoidable annual real losses as calculated for each system using the equation shown in Table 3-2 (Op25). As a ratio, the lower the value of the infrastructure leakage index, the closer the actual level of real losses is to the unavoidable annual real losses. The index represents how efficiently the system's infrastructure upkeep, leakage management, and repair activities are operating at the current pressure, with a validated low infrastructure leakage index value implying that the utility is very efficient.