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To: Andy Taylor
Company:
Phone No.:
Fax No:

From: Morshedi
Phone No.:
Fax No.: 281-654-5300

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The State of Texas

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Dial 7-1-1 For Relay Services
(800) 252-VOTE (8683)

Hope Andrade
Secretary of State

June 9, 2010

Mr. Thomas Muhammad, Co-Chair
Green Party of Texas
305 Willow Creek Dr.
Glenn Heights, Texas 75154

Ms. Christine Morshedi, Co-Chair
Green Party of Texas
19542 Juergen Rd.
Tomball, Texas 77377

Dear Mr. Muhammad and Ms. Morshedi:

Our office has completed the review of the ballot access petition filed by the Green Party of Texas. According to the statistical sample taken pursuant to Sections 181.006 and 141.069 of the Texas Election Code, the petition has a sufficient number of signatures to qualify the Green Party of Texas on the ballot in Texas. I have enclosed a copy of the report my office received from the statistician who analyzed the results of the random sample taken. Accordingly, the Green Party has ballot access for the November 2, 2010 general election and the party's duly nominated candidates will appear on the ballot in Texas.

If you have any questions regarding the upcoming general election, please feel free to contact our office toll free at 1-800-252-VOTE(8683).

Sincerely,

Ann McGeehan
Director of Elections

Enclosure

AM:ket

Overview of Sampling Procedure

A simple random sample was selected and signatures were thoroughly checked to determine if they satisfied the conditions under the election code. Since the petitions consisted of 9,626 pages with up to 10 signatures per page, a set of pairs of random numbers (one for the page and the other for the signature on that page) was selected using a random number generator. If a blank was encountered, that pair was ignored. If a name was associated with a pair of numbers, it was considered a hit. Of the 500 random pairs generated, 477 were hits.

Conclusions

Of the 477 sampled, 297 were valid signatures. Based on the results from the random sample, with a 95% confidence level, the number of valid signatures is at least 53,558. Details as to how these results were achieved can be found in Appendix 1. A hypothesis test for the validity of the petition can be found in Appendix 2. . Evidence suggests that the petition does contain the required number of valid signatures.

Appendix 1

Let

N = number of signatures = 91,579
n = sample size = 477
p' = estimated proportion of valid signatures = 297/477=0.6226
V'= estimated number of valid signatures = N p'= 57,020

Taking into consideration the margin of error, a lower bound for the proportion of valid signatures can be found by

$$V' - N Z (p' (1-p')/n)^{1/2}$$

with Z = 1.645 associated with a 95% confidence level. We conclude that with confidence level .95, the petition contains at least 53,558 valid signatures.

Appendix 2

Let

N = number of signatures submitted= 91,579
n = sample size = 477
V = number of valid signatures on the petition
p = true proportion of signatures that are valid = V/N
p' = estimated proportion of valid signatures = 297/477=0.6226
p_0= 43,992/91,579=0.4804

A hypothesis test for the petition's validity follows:

H_0: $p \leq p_0$ (The petition is not valid.)
H_1: $p > p_0$ (The petition is valid.)

The test statistic is $Z= (p'-p_0)/(p_0 (1- p_0)/n)^{1/2} = 6.219$.
We reject H_0 at the .05 level since $Z>1.645$. Hence, with a p-value less than .0001, there is very strong evidence of the petition's validity.

Report on the Validation of the Texas Green Party Ballot Access Petition 2010

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June 8, 2010

Abstract

This report explains the methodology used in the validation of the Texas Green Party ballot access petition. Evidence suggests that the petition does contain the required number of valid signatures.

Introduction

In order to be placed on the ballot in Texas, the Texas Green Party was required to gather 43,992 signatures of supporters who are registered voters in Texas who had not voted in primaries. The question addressed was "Are there more than the required number of signatures on the petition that satisfy the conditions of the election code?" Since 91,579 signatures were submitted, statistical methods were used to validate the petition submitted.