UK Health Security Agency

Summary of Results

External Quality Assessment of Food Microbiology

Pathogenic *Vibrio* Scheme

Distribution Number: V064 **Sample Numbers: V0168, V0169**

Distribution Date:	**November 2022**
Results Due:	**09 December 2022**
Report Date:	**14 December 2022**
Samples prepared and quality control tested by:	**Divya George** **Nafeesa Hussain** **Cansev Katar** **Margaret Njenga** **Zak Prior** **Jake Videlefsky**
Data analysed by:	**Joanna Donn** **Nita Patel**
Report compiled by:	**Joanna Donn** **Nita Patel**
Authorised by:	**Nita Patel**

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For general information about the scheme please refer to:
Scheme Guide: https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide

For more specific information about results assessments, scoring systems, statistics, and guidance on analysing your results for the proficiency testing samples please refer to:
Guide to Scoring :
https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scoring-systems-and-statistics

All strains of *V.cholerae* are covered by the Anti-terrorism, Crime and Security Act, 2001.
UK Health Security Agency holds a licence from the United Kingdom Department of Trade and Industry for exporting *V.cholerae* to countries in the European Union only. None of the samples will contain strains of *V.cholerae* O1 or O139.

Non-O1 *V.cholerae* does not seem to cause sweeping epidemics, unlike *V.cholerae* O1 and *V.cholerae* O139, but explosive outbreaks have been caused by a few non O1-strains.

European Union (EU) participants
Please be aware that samples containing *V.cholerae* may require an export licence if exported outside the EU.

United Kingdom (UK) participants
The samples contain an organism (*V.cholerae*) that appears on Schedule 5 of the Anti-Terrorism, Crime and Security Act, 2001 and is therefore subject to control if you keep this organism. We strongly recommend that you destroy the isolate as soon as you have completed your investigations.

FEPTU Quality Control: To demonstrate stability of the sample, a minimum of six freeze-dried vials, selected randomly from a batch, are examined throughout the distribution period, either for enumeration or for pathogen detection.

FEPTU results are determined using methods based on ISO methods and are included in the 'intended results' letters which provide guidance for participants regarding the assigned values.

Intended results letters are posted on the website immediately after every distribution; electronic notification of their availability is sent to all participants.

Refer to section 17.0 of the Scheme Guide if you have experienced difficulties with any of the examinations .

https://www.gov.uk/government/publications/food-and-water-proficiency-testing-schemes-scheme-guide

All participants are reminded that incorrect or incomplete identification of vibrios isolated from food samples could have serious public health implications. Similarly, the levels of vibrios reported in the sample may affect the subsequent outcome for the product.

Scores are not allocated for results reported for the Pathogenic *Vibrio* Scheme.

Please contact FEPTU staff for advice and information:

Repeat samples	Carmen Gomes or Kermin Daruwalla	**Tel:** **+44 (0)20 8327 7119**
Data Analysis	Nita Patel	**Fax:**
Microbiological advice	Nita Patel or Zak Prior	**Email:** **foodeqa@ukhsa.gov.uk**
General comments and complaints	Nita Patel or Zak Prior	FEPTU's website
Scheme consultants	Melody Greenwood	
Scheme Co-ordinator	Nita Patel	

Accreditation: UKHSA Food EQA Scheme for Pathogenic *Vibrio* is accredited by the United Kingdom Accreditation Service (UKAS) to ISO/IEC 17043:2010.

UKAS PROFICIENCY TESTING
0006

Sample: V0168

Contents

Vibrio parahaemolyticus ($9.3x10^4$) (wild strain), *Vibrio cholerae* ($3.3x10^2$) (wild strain), *Escherichia coli* ($4.3x10^4$) (wild strain), *Staphylococcus xylosus* ($1.6x10^4$) (wild strain)

All levels are presented as colony forming units (cfu) per ml reconstituted sample

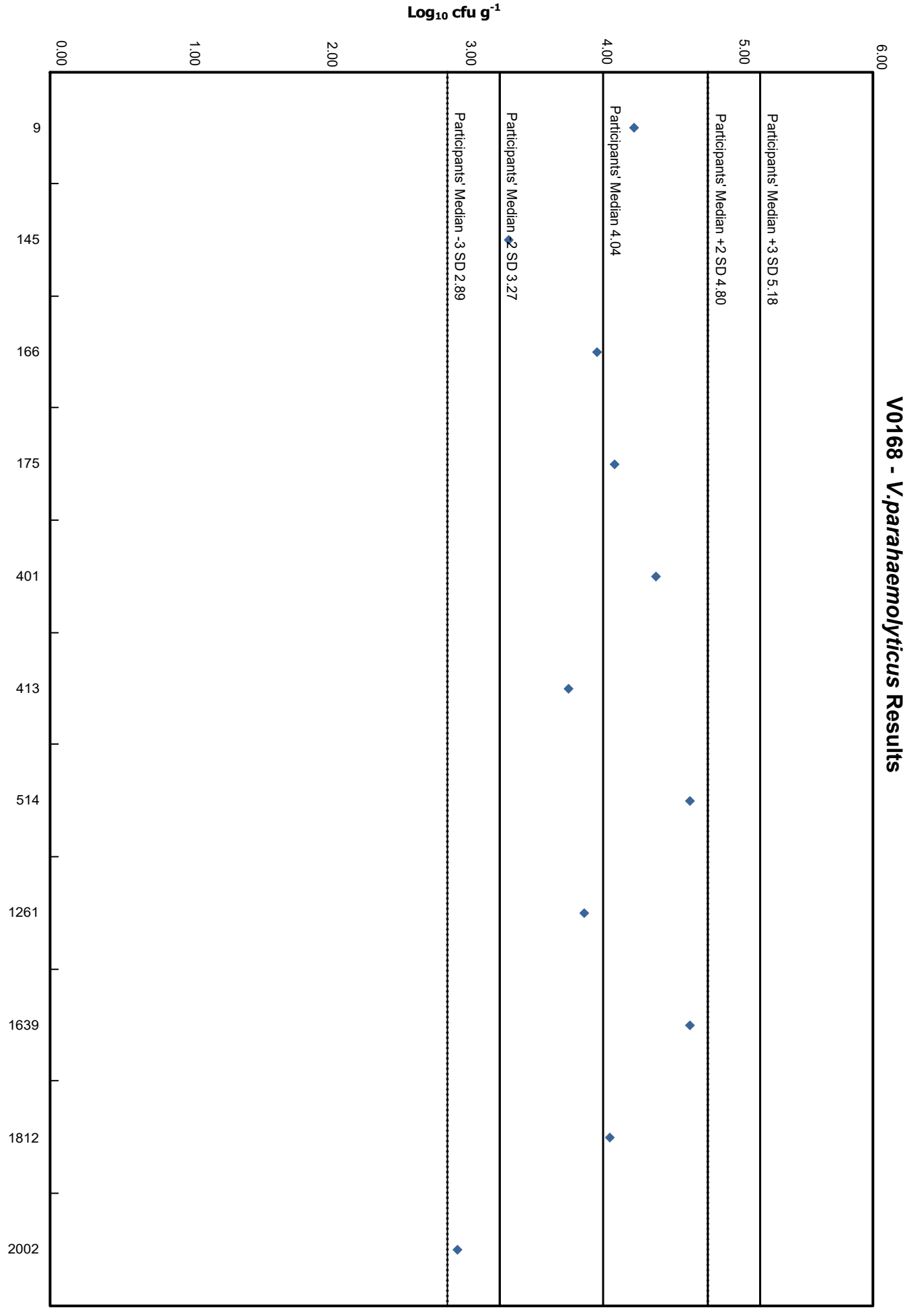
Expected Results:

Examination	Expected Result	Your Result	UKHSA Comment
V.cholerae	Detected		
V.parahaemolyticus	Detected		
V.vulnificus	Not detected		

Total participants reporting for pathogenic vibrios	36
Participants who examined for *V.cholerae*	32
Participants reporting correctly *V.cholerae* as present	31 (97%)
Participants who examined for *V.parahaemolyticus*	34
Participants reporting correctly *V.parahaemolyticus* as present	33 (97%)
Participants who examined for *V.vulnificus*	26
Participants reporting correctly *V.vulnificus* as absent	25 (96%)
Total participants enumerating *V.parahaemolyticus*	14
Participants' reporting low censored values	1
Participants' reporting high censored values	1
Assigned value (Participants' median)	$1.1x10^4$ cfu g^{-1} (4.04 log_{10})
No. of outlying counts	2 (2 low / 0 high)
Participants' mean	$1.0x10^4$ cfu g^{-1} (4.01 log_{10})
Standard deviation (*MADe*) of participants' results *	0.38 log_{10} unit per 100g
FEPTU QC median	$5.4x10^4$ cfu g^{-1} (4.73 log_{10})

Total sent sample	38
Non-returns	0
Not examined	2

* Robust S^* based on median absolute deviation about the participants' median (*MADe*).


V0168 - V.parahaemolyticus Results
Log10 cfu g-1
0.00
1.00
2.00
3.00
4.00
5.00
6.00
Participants' Median +3 SD 5.18
Participants' Median +2 SD 4.80
Participants' Median 4.04
Participants' Median -2 SD 3.27
Participants' Median -3 SD 2.89
Laboratory number
9
145
166
175
401
413
514
1261
1639
1812
2002

Sample: V0169

Contents

Vibrio parahaemolyticus ($9.3x10^4$) (wild strain), *Vibrio vulnificus* ($3.3x10^2$) (wild strain), *Enterobacter aerogenes* ($6.6x10^5$) (wild strain) - see comment on page 9

All levels are presented as colony forming units (cfu) per ml reconstituted sample

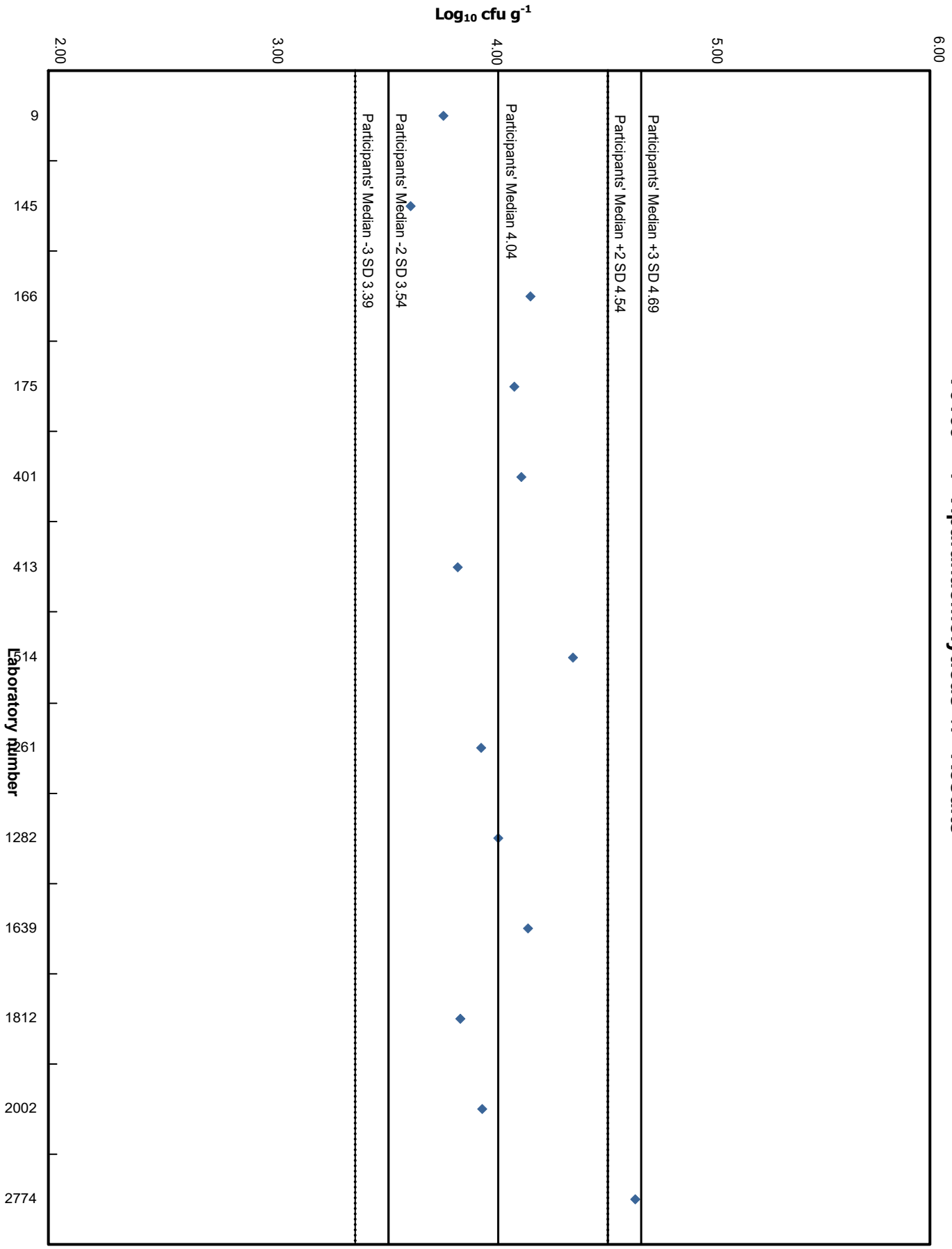
Expected Results:

Examination	Expected Result	Your Result	UKHSA Comment
V.cholerae	Not detected		
V.parahaemolyticus	Detected		
V.vulnificus	Detected		

Total participants reporting for pathogenic vibrios	36
Participants who examined for *V.cholerae*	31
Participants reporting correctly *V.cholerae* as absent	31 (100%)
Participants who examined for *V.parahaemolyticus*	35
Participants reporting correctly *V.parahaemolyticus* as present	34 (97%)
Participants who examined for *V.vulnificus*	26
Participants reporting correctly *V.vulnificus* as present	15 (58%)
Total participants enumerating *V.parahaemolyticus*	14
Participants' reporting low cencored values	0
Participants' reporting high cencored values	1
Participants' median	$1.1x10^4$ cfu g^{-1} (4.04 log_{10})
No. of outlying counts	1 (0 low / 1 high)
Participants' mean	$1.2x10^4$ cfu g^{-1} (4.06 log_{10})
Standard deviation (*MADe*) of participants' results	0.22 log_{10} unit per 100g
FEPTU QC median	$2.2x10^4$ cfu g^{-1} (4.34 log_{10})

Total sent sample	38
Non-returns	0
Not examined	2

* Robust S^* based on median absolute deviation about the participants' median (*MADe*).


V0169 - V.parahaemolyticus Results
Log10 cfu g-1
2.00
3.00
4.00
5.00
6.00
Participants' Median +3 SD 4.69
Participants' Median +2 SD 4.54
Participants' Median 4.04
Participants' Median -2 SD 3.54
Participants' Median -3 SD 3.39
Laboratory number
9
145
166
175
401
413
514
761
1282
1639
1812
2002
2774

Sample specific comment

V0169 – *Vibrio vulnificus*

This sample contained both a *Vibrio parahaemolyticus* and a *V. vulnificus*. 11/26 (42%) of the laboratories failed to report that a *V. vulnificus* was present in the sample. The levels of *V. parahaemolyticus* was much higher than the *V. vulnificus* and as both species produce morphically similar colonies on Thiosulfate citrate bile salts sucrose agar (TCBS), this may have accounted for laboratories not being to observe and differentiate the *V. vulnificus.*

In the FEPTU laboratory *V. parahaemolyticus* grew as round 0.5mm dark green colonies whilst the *V. vulnificus* grew as 1.5mm green colonies. Participants are advised to use a magnifying glass to when reading agar plates for this proficiency testing scheme.

Laboratories not reporting a *V. vulnificus*: your result for this sample can be considered as being correct.

General distribution comment

If you do not return a result for a distribution, you will not be able to view all the participants' results data in your individualised report. To access this missing data contact us on foodeqa@ukhsa.gov.uk.

Statistical evaluation

Participants are advised that for a robust statistical evaluation at least 20 reported results are required for a parameter. When statistical calculation is based on 10 – 19 results, they should be interpreted with caution as they may be overly influenced by outlying results. This is the reason why the standard deviation of the enumeration results reported can be wide.

End of report.