

***4es Jornades Catalanes de Revistes  
Científiques***

**Preparació d'originals en angles.  
Claus per a editors no-angloparlants**

Frances Luttikhuisen

- **Does the title clearly describe the content?**
- **What should the reader find in the Abstract?**
- **What should the reader find in the Introduction?**
- **What should the reader find in the Conclusion?**
- **How can the editor reduce redundancies?**
- **How can the editor detect superfluous details?**
- **How succinct should a scientific article be?**
- **What grammar mistakes are the most frequent?**

## **Text 1**

**Presence of arsenic in groundwater in La Pampa, Argentina**

## **Text 2**

**Arsenic abatement in water using natural geologic materials**

# Text 1

## **“PRESENCE OF ARSENIC IN GROUNDWATER IN LA PAMPA, ARGENTINA” (1900 words)**

ABSTRACT (170 words)

INTRODUCTION (240 words)

DRINKING WATER IN THE PROVINCE OF LA PAMPA

ARSENIC IN GROUNDWATER

CONCLUSIONS (190 words)

# What grammar mistakes are the most frequent?

- The occurrence of concentrations of arsenic **has given rise to the need of develop** new criteria for the control...
- Areas such as ... **highlight** by **the** very high arsenic contents **on** groundwater
- The determination of spatial distribution patterns of arsenic contents **has been revealed** a very complex task
- arsenic concentration can vary **since** less than 0.05 to more than ...
- **the** quality management **must to take in** consideration **such** stochastic processes **which** are **both** governed by **the** change.
- There are 300,000 inhabitants in the province, **being** more than one half urban population.
- uncertainty prevails when we **treat** to define and predict ...
- exploitation is restricted due to the difficulty **of determine** the distribution
- From **the** geomorphologic point of view, ...
- Recharge areas **lay** in high parts, while discharge areas **lye** in sandy lowlands

# Using Lay and Lie

- **Lay** means *to put something [or someone] down*. Because **lay** is a transitive verb, a direct object will come after it.
- **Lie** means *to rest or recline*. **Lie** is an intransitive verb, so no direct object will follow.

PRESENT

PAST

PARTICIPLE GERUND

- |          |      |      |        |
|----------|------|------|--------|
| • lay(s) | laid | laid | laying |
| • lie(s) | lay  | lain | lying  |

# How succinct should a scientific article be?

- Water may be considered from a three perspectives: 1) as a resource for human activities; 2) as a medium for waste disposal, and 3) as part of the ecosystem. As a resource, water is rated in terms of the quantity and quality needed for a determined use.
- As a resource, water is rated in terms of the quantity and quality according to a determined use: 1) as a resource for human activities; 2) as a medium for waste disposal; and 3) as part of the ecosystem.
- It is crucial to find the media to broadcast the basic information so as to create collective awareness on the seriousness of the presence of high contents of arsenic in groundwater.
- It is crucial to find a way to create collective awareness of the seriousness of high arsenic content in groundwater.
- The occurrence of concentrations of arsenic has given rise to the need to develop new criteria for the control...
- The awareness of high concentrations of arsenic requires new criteria for the control...

# How can the editor reduce redundancies?

- as a **general** trend, we have found that **generally** the water quality...
- quality management must take into consideration those **stochastic** processes that are **governed by the change**.
- Groundwater exploitation is restricted in many areas due to the difficulty of **determine the spatial distribution** of the high concentrations of arsenic, fluoride and vanadium. The **determination of spatial distribution patterns** of arsenic contents is complex due to irregular horizontal and vertical trends ...
- **The occurrence of** concentrations of arsenic **in** the groundwater



## How can the editor detect superfluous/confusing details?

- the quality of the water is a random variable from the point of view of ~~the~~ management. **On the other hand, ~~the~~ water quality as environmental quality is a human interpretation.**
- The drinking water and sewage services reflect the development level in any society. Thereby, **communal participation** is crucial to avoid diseases caused by the lack of these services, which can affect all community members. More than 80% of the drinking water services are administered by **cooperatives** in La Pampa whereas the rest is provided by municipalities and **communal organizations**.
- **The presence of** high contents of arsenic in drinking water in Argentina was revealed many years ago when epidemiologists of Cordoba and other places detected the first symptoms of symptoms of the skin diseases **of** Regional Chronic Endemic Hydroarsenicism (RCEHA) **or Hidroarsenicismo Crónico Regional Endémico (HACRE) in Spanish.**

# GENERAL GUIDLINES

## **Abstract (120 word maximum),**

- Should include: 1) the problem investigated, 2) the method(s), 3) the result(s) and 4) their implication(s).
- Only the most important concepts, findings, or implications.
- Avoid citing references.
- Do not include information that is not in the body
- Active rather than passive voice (no personal pronouns).

# What should the reader find in the Abstract?

- The occurrence of concentrations of arsenic and other undesirable elements in the groundwater of the Province of La Pampa (Argentina), that exceeds the standard drinking water guidelines, has given rise to the need of develop new criteria for the control and abatement of these components. Areas such as Arata, Luan Toro, Conelo, and the northern area of Santa Rosa highlight by the very high arsenic contents on groundwater. The determination of spatial distribution patterns of arsenic contents has been revealed a very complex task due to both horizontal and vertical trends are irregular. The arsenic concentration can vary since less than 0.05 to more than 0.30 mg l<sup>-1</sup> in very short distances. Despite that, as a general trend, we have found that generally the water quality of the shallower aquifers (phreatic) could be rated as excellent, except for the high concentrations of arsenic. On the other hand, in deep aquifers the arsenic content of groundwater decreases while increase the sulphate and hardness concentrations, especially where these aquifers are separated by impermeable layers. (170 words)

## [suggested Abstract]

- Concentrations of arsenic in the groundwater of the Province of La Pampa (Argentina) exceed standard drinking water guidelines. Groundwater exploitation is restricted in many areas because of the difficulty to determine the spatial arsenic distribution patterns due to irregular horizontal and vertical trends and concentrations that can vary from less than 0.05 to more than 0.30 mg l<sup>-1</sup> in very short distances. This paper describes initiatives to establish zones of distribution of arsenic-rich waters and the need to inform the general public of the consequences of arsenic in drinking water. (80 words)

# GENERAL GUIDLINES

## **Introduction (four paragraphs minimum)**

- Should include: 1) the general introduction, 2) the literature review, 3) the connection of the present study to the literature and 4) the statement of purpose.
- Tell why you performed the study and how it is unique.
- Make a clear connection between previous research and your work.

# What should the reader find in the Introduction?

Water may be considered from a three perspectives: 1) as a resource for human activities; 2) as a medium for waste disposal, and 3) as part of the ecosystem. As a resource, water is rated in terms of the quantity and quality needed for a determined use.

The water quality is the result of the spatial and temporal dynamics of the hydrologic cycle and the anthropogenic influences. Thus, the quality management must take in consideration such stochastic processes which are both governed by the change. In this way, the quality of the water is a random variable from the point of view of the management. On the other hand, the water quality as environmental quality is a human interpretation (Castro and Schulz, 1997).

Groundwater is the main source of drinking water in extensive regions of Argentina as in the province of La Pampa, the province of Córdoba and the West of Buenos Aires. All these areas depend on this resource for their survival and development (Schulz et al., 1998). A common question in wide areas of these regions is the bad quality of water due to the occurrence of natural high contents of arsenic, fluoride and vanadium.

The presence of high contents of arsenic in drinking water in Argentina was revealed many years ago when epidemiologists of Córdoba and other places detected the first symptoms of the skin diseases of Regional Chronic Endemic Hydroarsenicism (RCEHA) or Hidroarsenicismo Crónico Regional Endémico (HACRE) in Spanish. (240 words)

# What should the reader find in the Introduction?

The presence of high contents of arsenic in drinking water in Argentina was revealed many years ago (in the 80s) when epidemiologists of Cordoba and other places detected the first symptoms of the skin diseases of Regional Chronic Endemic Hydro-arsenicism (RCEHA). (Tello E. 1981, 1984, 1986; Hopenhayn-Rich C. et al. 1996, 1998)

Groundwater is the main source of drinking water in extensive regions of Argentina as in the province of La Pampa, the province of Córdoba and the West of Buenos Aires. ~~All these areas depend on this resource for their survival and development~~ (Schulz et al., 1998). A common question (serious issue) in wide areas of these regions is the bad quality of water due to the occurrence of natural high contents of arsenic, fluoride and vanadium.

# GENERAL GUIDLINES

## **Conclusion (three paragraphs minimum)**

- Start off with a brief, non-technical summary of the results.
- Discuss the implications of the results; how they relate to the literature you cited; limitations of the study; and suggestions for future research.
- A final summary statement of the conclusions you have drawn and the relevance of your findings.



# What should the reader find in the Conclusion?

Vast areas in the central-eastern part of La Pampa Province in Argentina present groundwater with high contents of arsenic. This situation is aggravated by the complexity of the spatial and temporal distribution of arsenic contents.

The geomorphologic configuration determines different groundwater dynamics. Recharge areas lie in high parts, while discharge areas lie in sandy lowlands with permanent or temporary shallow water bodies.

The water chemical distribution in the vertical direction presents marked hydrochemical stratification. Low arsenic values are found in areas of rapid infiltration (sandy zones) increasing in the flow direction and in depth (lower sediments of Pampean aquifer). This situation is usually inverse when there are not shallow sandy formations.

No predictable pattern of behaviour that controls the relation between arsenic and other ions has been found. The variations depend on the local and complex configurations of the hydraulic or lithological systems.

Our preliminary results call for the adoption of preventive measures and for further research in this line. It is crucial to find the media to broadcast the basic information so as to create collective awareness on the seriousness of the presence of high contents of arsenic in groundwater. (200 words)

## [suggested Conclusion]

Vast areas in the central-eastern part of La Pampa Province in Argentina present groundwater with high contents of arsenic. This situation is aggravated by the complexity of the spatial and temporal distribution of arsenic contents and the geomorphologic configuration, which determines different groundwater dynamics. No predictable pattern of behaviour controls the relation between arsenic and other ions.

Unavailable alternatives for water supply in rural areas demands urgent solutions to improve the quality of the drinking water, which in turn requires new criteria for the control and abatement of undesired components, as well as campaigns to promote collective awareness regarding the consequences of high contents of arsenic in groundwater. (100 words)

**Does the title clearly describe the content? /  
Do the headings clearly describe the content?**

**PRESENCE OF ARSENIC IN GROUNDWATER IN LA PAMPA, ARGENTINA**

**INTRODUCTION**

**DRINKING WATER IN THE PROVINCE OF LA PAMPA**

**ARSENIC IN GROUNDWATER**

**CONCLUSIONS**

**[suggested]**

**HIGH ARSENIC LEVELS IN GROUNDWATER (LA PAMPA, ARGENTINA)**

**INTRODUCTION**

Water supply system in La Pampa

Arsenic distribution patterns in groundwater

**CONCLUSIONS**

# Text 2

## **ARSENIC ABATEMENT IN WATER USING NATURAL GEOLOGIC MATERIALS (2000 words)**

ABSTRACT (220 words)

INTRODUCTION (650 words)

METHOD

TREATMENT OF THE SOILS SAMPLES

- Soil characterization
- Leaching results

ARSENIC REMOVAL EXPERIMENTS

CONCLUSIONS (260 words)

# What grammar mistakes are the most frequent?

- content in arsenic **overcomes** the maximum limit **settled down** by the Argentinean Food Code
- abatement of arsenic through XXX **it is** presented as an alternative **been worth of** easy application and at low cost
- **The** laterite **of** Misiones Province showed
- content of volcanic glass in loess can **rise** 12%
- alluvial fans from **[the]** Dulce and Salado rivers
- **XXX** are the most important cities, **where lives** approximately 60% of its population
- **from the points of view** physico-chemical and bacteriological
- **it is common** the exploitation of groundwater with high salinity
- about **a** 50% goes beyond the value allowed
- variation of the phreatic level **put in contact** the water with the sedimentary horizons...

- The arsenic **incorporates** in natural conditions **to** the groundwater by the leaching of soil
- that is the reason **because** below 75 m **there are** water of good quality.
- To characterize **of** soils and sediments with special properties to be used
- a high capacity of adsorption, **standing out** by the practically immediate retention of As
- an appropriate removal method **for arsenic water** using natural geologic materials of the region
- The results **allowed to** select the soils with higher contents of oxides and ... that are the most suitable **to apply for** arsenic removal.
- .... showing **a high devitrification degree**
- with high contents of potentially toxic trace elements **as** arsenic.
- [arsenic is] blended with the loess as volcanic glass **in a 10 to 25% rate**
- **The** Table 3 shows ...

# How succinct should a scientific article be?

the population is dispersed in the rural area, making it necessary to propose simple and economic technical solution that can be applied particularly in each one of the houses of those affected.

the population is dispersed in the rural area, making it necessary to find simple, economic solutions that can be applied individually

It was possible to notice that in the samples of Santiago del Estero Province, the pH values are neutral to slightly alkaline in contrast with the sample of Misiones (M1) that presents an acidic pH and a low specific conductivity of  $72 \mu\text{S cm}^{-1}$  compared with the high values of many samples of Santiago del Estero, with ranges of 1,250 to 6,210  $\mu\text{S/cm}$ .

The slightly alkaline and neutral pH values of the Santiago del Estero samples contrast with the acidic pH of the Misiones sample (M1) and its low specific conductivity ( $72 \mu\text{S cm}^{-1}$ ), which, in turn, contrasts with the high values (1,250 to 6,210  $\mu\text{S/cm}$ ) of many of the Santiago del Estero samples.

## How can the editor reduce redundancies?

- The laterite of Misiones Province showed a capacity of adsorption of 99%, while using the clays of Santiago del Estero, the answer was not so extraordinary with values between the 40 and 53%.
- **Misiones Province laterite** showed a capacity of adsorption of 99%, **whereas the Santiago del Estero clays only showed adsorption** values of between 40 and 53%.
- The provision of drinking water without arsenic to population nuclei with arsenic groundwater is solved by traditional methods such as deep perforations, reverse osmosis plants, aqueducts, surface water treatment, etc
- **Arsenic-free drinking water is supplied to urban populations using standard abatement** methods such as deep perforations, reverse osmosis plants, aqueducts, surface water treatment, etc
- [techniques] ~~to be used~~ for ... / ~~in order~~ to ...



# GENERAL GUIDLINES

## **Abstract (120 word maximum),**

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- Only the most important concepts, findings, or implications.
- Do not include information that is not in the body
- Avoid citing references.
- Active rather than passive voice (no personal pronouns).

# What should the reader find in the Abstract?

An important percentage of the rural population of Santiago del Estero Province in Argentina consumes water whose content in arsenic overcomes the maximum limit of  $50 \mu\text{g l}^{-1}$ , settled down by the Argentinean Food Code. The provision of drinking water to population nuclei is made by traditional methods (deep wells, plants of reverse osmosis, aqueducts), but the population is dispersed in the rural area; it makes necessary to propose simple and economic technical solution that can be applied particularly in each one of the houses of those affected. The abatement of the arsenic from the water through the contact of this with natural geologic materials (regional soils) it is presented as an alternative been worth of easy application and at low cost.

Natural clays of the Santiago del Estero and Misiones Provinces were tested as absorbents for the removal of arsenic from groundwater. The experiments were carried out with different pH values, arsenic (As (V)) concentrations and times of contact. The laterite of Misiones Province showed a capacity of adsorption of 99%, while using the clays of Santiago del Estero, the answer was not so extraordinary with values between the 40 and 53%. The results showed that the maximum arsenic adsorption takes place in 90 minutes of water-soil contact, independently of the material type, the pH and the initial concentration. (220 words)

## [suggested Abstract]

A large percentage of the rural population of Santiago del Estero Province (Argentina) consumes water whose content in arsenic surpasses the maximum limit of  $50 \mu\text{g l}^{-1}$ , set down by the Argentinean Food Code. Whereas in urban areas safe drinking water is provided by traditional methods (deep wells, plants of reverse osmosis, aqueducts), for the population dispersed in the rural area simple, economical solutions that can be applied individually must still be found. Arsenic removal from groundwater using natural clays from the Santiago del Estero and Misiones Provinces is both a valid and feasible alternative. Experiments carried out on clays with different pH values, arsenic (As (V)) concentrations and times of contact showed that laterite from Misiones Province was capable of adsorbing 99% of the arsenic, while clays from Santiago del Estero absorbed between 40 and 53%. Maximum adsorption took place within 90 minutes of water-soil contact, independent of the material type, the pH, and the concentration. (155 words)

# GENERAL GUIDLINES

## **Introduction (four paragraphs minimum)**

- Should include: 1) the general introduction, 2) the literature review, 3) the connection of the present study to the literature and 4) the statement of purpose.
- Tell why you performed the study and how it is unique.
- Make a clear connection between previous research and your work.

# What should the reader find in the Introduction?

The objectives of this work are:

- To provide water with arsenic concentrations under the CAA threshold ( $0.50 \text{ mg l}^{-1}$ ) for disperse rural consumers.
- To characterize of soils and sediments with special properties to be used for groundwater arsenic abatement.
- To analyse and apply filtration techniques to the water using natural sediments of the region, in order to achieve the easy and low cost abatement of arsenic.

[suggested Introduction]

The purpose of this study is:

- To present a low-cost, efficient method for rural consumers to lower arsenic concentrations in drinking water.
- To characterize soils and sediments with special properties for groundwater arsenic abatement.
- To apply filtration techniques to arsenic-rich water using natural local sediments.

# GENERAL GUIDLINES

## **Conclusion (three paragraphs minimum)**

- Start off with a brief, non-technical summary of the results.
- Discuss the implications of the results; how they relate to the literature you cited; limitations of the study; and suggestions for future research.
- A final summary statement of the conclusions you have drawn and the relevance of your findings.

# What should the reader find in the Conclusion?

The conclusions of this work are:

- The presence of arsenic in the groundwater of Santiago el Estero Province, Argentina, is associated with eolian sediments with high contents of pyroclastic volcanics.
- The geologic materials used in the experiments of arsenic removal present high concentrations of Fe and Al, specially the sample of laterite of Misiones, with a high content of amorphous iron oxides and aluminium hydroxides.
- The sample of laterite from Misiones Province (M1) has a high capacity of adsorption, standing out by the practically immediate retention of As: an efficiency better than 99% has been observed in half an hour of contact water-soil.
- The samples of Santiago del Estero Province, Sol de Mayo and Lomas Coloradas (M4 and M8), removed 40 and 53% of arsenic, respectively. The maximum abatements were obtained after 24 hours.
- It was observed that the removal efficiency is independent of the pH and the initial concentration of arsenic in the water.

These conclusions allow us to propose the following recommendations:

- It is necessary to identify new deposits of clays suitable for arsenic removal near the areas of application to maintain the envisaged process as a low cost method. Transportation is one of the main factors determining the final cost of this kind of products.
- To carry out removal assays in situ with water sampled in the wells where the process should be applicable.
- To systematize an appropriate removal method for arsenic water using natural geologic materials of the region as an efficient alternative because of its simplicity and low cost. (260 words)

## Suggested Conclusions

The conclusions of this work are:

- The geologic materials used in the experiments of arsenic removal present high concentrations of amorphous iron oxides and aluminium hydroxides, specially the sample of laterite from Misiones (M1).
- Laterite from Misiones Province presents an extremely high capacity of adsorption of As; an efficiency of 99% was observed in the first half hour.
- The samples from Santiago del Estero Province, Sol de Mayo and Lomas Coloradas (M4 and M8), removed 40 and 53% of arsenic, respectively, with maximum abatement after 24 hours.
- In all cases, removal efficiency is independent of pH and the initial concentration of arsenic in the water.

These conclusions allow us to propose the following recommendations:

- New deposits of clays suitable for arsenic removal must be identified near the areas of application since transportation is one of the main factors determining the final cost.
- More in situ arsenic removal assays should be carried out in affected wells.
- Appropriate arsenic removal methods, using local natural geologic materials, should be systematized as an efficient alternative because of their simplicity and low cost. (180 words)



**Does the title clearly describe the content? / Do the headings clearly describe the content?**

**ARSENIC ABATEMENT IN WATER USING NATURAL GEOLOGIC MATERIALS**

ABSTRACT

INTRODUCTION

METHOD

TREATMENT OF THE SOILS SAMPLES

Soil characterization

Leaching results

ARSENIC REMOVAL EXPERIMENTS

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