

# **A Review of the APEGGA Practice Standard for Quality Inspection of Geophysical Data**

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## **Summary**

The oil and gas industry uses geophysical databases for resource exploration and development. Typically, the databases include both proprietary and licensed data. Licensed data is usually acquired through third party brokers who organize quality inspections so that the prospective licensor can inspect the data before signing a license to acquire a copy of the data. APEGGA (The Association of Professional Engineers, Geologists and Geophysicists of Alberta), recognizing the need for written standards, published a Practice Standard for Quality Inspection of Geophysical Data in 2002. The document sets standards and rules for quality inspections in the absence of written rules provided by the licensor. We will discuss some of the issues and how this document can assist a geophysicist and help him or her to clarify the issues to associates and management.

## **Background**

In 1986, the CSEG President's report in a Recorder issue addressed the QI procedure and some common abuses in a QI, most notably, making future use of interpretation derived from the QI without actually licensing the data. The article generated considerable comment and was reprinted in several SEG section newsletters. The Master License Agreement (MLA) in 2001 contained a section on Quality Inspections that laid out rules for procedures and restrictions on the use of information derived from a QI. The MLA did not become a commonly used document but its initial launch and final publication helped focus the industry on the problems, procedures and use of licensed data.

In 2000, after a review of a practice, the Practice Review Board of APEGGA recommended that the Investigative Committee check a possible ethical breach in the use of information acquired in Quality Inspections. The Investigative Committee ultimately ruled against proceeding to a Discipline Hearing but in its report, stated that written guidelines for Quality Inspections would have helped in its investigation. APEGGA then struck a committee to prepare a guideline, Practice Standard for Quality Inspection of Geophysical Data that was released in 2002. This document must be used as a guide for APEGGA members.

A data owner, licensor, may define its own rules governing Quality Inspection of his data and these rules must be adhered to. In the absence of written rules from the licensor, the Practice Standard shall apply in situations where a broker represents the licensor of the geophysical data. The Practice Standard is meant to provide APEGGA members with the criteria governing quality inspections.

## **The Quality Inspection Process**

The oil and gas industry uses geophysical data bases made up of proprietary and licensed data. A prospective licensee usually has a specific geological objective and, before acquiring licensed data, must be confident that the location, quality and recording techniques of the data are consistent with these objectives. The Quality Inspection allows the prospective licensee to verify location, quality, recording and processing techniques of the data and to select the most useful data from various available datasets.

The prospective licensee shall not enter a QI with the objective of forming interpretive opinions. During the course of the QI, the prospective licensee could infer some conclusions in regards to the

subsurface of the earth from his or her observation of the unique characteristics of the seismic data; this is interpretation and is not a goal of the QI process. Given the fact that the drawing of conclusions or opinions when looking at a seismic line – even briefly – might occur so naturally and easily as to be termed a reflex, it is unrealistic to demand that no interpretation of this nature be made during the QI. That would amount to a rule prohibiting thinking. As a result, it is important to define ethical behavior in a QI as it relates to interpretation.

Intentional interpretive use of the seismic data is only granted to the licensee after a license has been obtained and is not a privilege. No interpretive conclusions or opinions shall be used by the prospective licensee, or divulged to others, until a license is confirmed.

### **Obligations of an APEGGA Member In Conducting a Quality Inspection**

Sometimes, there will be several representatives of the prospective licensee in the QI. This could potentially lead to interpretive discussion that goes far beyond the purpose of a quality inspection and the broker should terminate the QI. In a situation like this, an APEGGA member shall be familiar with QI rules and procedures and shall “take charge” of the QI and inform the other representatives of the licensee of what is permissible in a QI. An APEGGA member shall react to any improper QI procedure and shall ensure that this standard of practice is adhered to. If it is not adhered to, he or she shall terminate the QI.

An APEGGA member who uses interpretations made in the QI for exploration purposes - such as land sale recommendations – without licensing the data might find that such practice leads to an investigation for unprofessional conduct.

### **Standards for Conducting Quality Inspections**

A QI shall be restricted to an inspection of the geophysical data for the purpose of establishing quality, location, recording and processing parameters as outlined above.

The data usually consist of prints of seismic sections or other types of geophysical data and “stick” location maps. Computer screen images sometimes substitute for paper sections and maps in the process.

The following may be included in a QI:

- A review of parameters on section side labels, SEGY trace headers or on broker information sheets
- Quality parameters such as signal-to-noise, frequency, continuity
- Brief comparisons of other lines included in the QI with different recording parameters
- Positions of the ends and bends on the seismic lines
- Measuring and locating gaps or areas of poor quality in the data

The following shall not be part of a QI, and engaging in any of these activities might lead to an investigation for unprofessional conduct:

- Intentional interpretation. Also, any opinions of an interpretive nature that might be incidentally formed during a QI shall not be used for business purposes until a license is confirmed. QI notes made by the prospective licensee shall not contain any specific interpretation or interpretive opinions.
- Quantitative measurements such as specific shot point and station coordinates or locations, except ends and bends as noted above. Measuring reflection time and comparing QI data to a synthetic seismogram or an interpreted seismic section are not permitted.
- Making copies of any portion of the data.
- Requests for any data to be removed from the direct physical control of the licensor or broker.
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### **Conclusions**

Most geophysicists understand the standards for Quality Inspections. These APEGGA standard may help to clarify the rules governing the QI process and will be useful in educating Geophysicists in Training and other members of the exploration and development groups who work together in the resource industry.