

# IDENTIFICATION OF THE OIL-WELL GAS CHIMNEY FLAME AS A UNIQUE INFRASOUND SOURCE USING I31KZ DATA

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IS 31-Aktyubinsk" infrasound station has been operating in the North – East of Kazakhstan since 2001. It is part of International Monitoring System of the CTBTO. Data of the station have been transmitting in real-time-mode to Kazakh National Data Center (KNDC), Almaty since 2003.

Method of Progressive Multi-Channel Correlation (PMCC) is used extensively in infrasound array data processing in recent years.

All infrasound data coming to KNDC have been automatically processing since March of the year 2005. Processing results are presented as bulletins of infrasound events. Analysis of detected event azimuthal distribution allows establishing there are many standing infrasound sources around the station. Most of them are quarry blasts. Registration of these signals at the close time by the close seismic stations confirms this fact. We localized these sources with the aid of satellite images interpretation.

But there are some directions for example 185 – 190 degrees when we cannot find corresponding quarry on the satellite images. Signals from this direction have got unusual duration. We register this signal at any daytime and week day at windless weather. Accurate interpretation of the satellite image shows that there is Zhanazhol oil-and-gas field at 235 km from station in this direction. It is well known that under the crude oil production operators burn huge amount of oil-well gas. Infrasound must be generated in such circumstances. We have made unsuccessful attempt to localize the source using Akbulak seismic array data. Attempt failure shows that source has got insignificant seismic effect.

Results of correlation between gas chimneys burning regime and signal registration changing are presented.