Online Resource 1

The figures included in this Supplementary Material are the snapshots of the online Questionnaire used in: Cultrera G, Cornou C, Di Giulio G, Bard P-Y (2021) Indicators for site characterization at seismic station: recommendation from a dedicated survey. Bull Earthq Eng. https://doi.org/10.1007/s10518-021-01136-7

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Fig. A1 Presentation page

Fig. A2 Institution and scientific fields of participants.

Fig. A3 Fundamental resonance frequency (f0).

Fig. A4 Frequency peaks of higher modes (f1, f2, f3, …).

Fig. A5 Amplitudes at fundamental frequency (A0) and higher modes (A1, A2, A3, …).

Fig. A6 Site Transfer Function.

Fig. A7 Preferential direction of ground motion.

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Fig. A14 V_S of the seismological bedrock, corresponding to the geological unit that controls the lowest (fundamental) resonance frequency peak (f_0) through the impedance contrast with the upper layers.

Fig. A15 Depth of the seismological bedrock (see figure caption of Fig. A14).

Fig. A16 Depth of the engineering bedrock that corresponds to the depth where a conventional V_S value is first exceeded; the conventional value of V_S generally depends on the seismic code: typical values are 760 m/s for rock and 1500 m/s for hard rock in NEHRP (BSSC 2015) or 800 m/s in EC8 (2004).

Fig. A17 Subsoil velocity profile of shear-wave (Vs) as a function of the depth (z).

Fig. A18 Subsoil velocity profile of shear-wave (Vp) as a function of the depth (z).

Fig. A19 Surface-wave dispersion curve: phase-velocity or slowness as a function of frequency for Rayleigh and/or Love waves.

Fig. A20 Ellipticity curve of Rayleigh waves.

Fig. A21 Soil class according to a specific Seismic Building Code; it is also called “Ground Type” in EC8 (2004) or “Site Class” in some national building codes (BSSC 2015; NTC 2018).

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Fig. A24 Aggravation factor for basin and topography: ratio between 2D/3D/recorded-motion and 1D estimates for a given ground motion intensity measure; it can be scalar (e.g., PGA or Arias intensity) or frequency dependent (e.g. for STF, or amplification factor on response spectra).

Fig. A25 Geometrical parameter: any parameter related with 2D or 3D structure (surface topography or underground lithological heterogeneity).

Fig. A26 Stratigraphic column with geological unit description (1D log model).

Fig. A27 Depth of the water table.

Fig. A28 Non-linear degradation curves: curves characterizing the change of mechanical properties with shear strain (γ), in terms of normalized stiffness modulus (G/G0, where G0 is the small strain modulus), damping ratio (D), and/or excess pore pressure ratio (Ru = Δu/p', where Δu is the excess pore pressure and p' is the mean normal effective stress).

Fig. A29 Geotechnical parameters: Piezocone test (CPTU), Flat dilatometer test (DMT), Standard penetration test (SPT), Dynamic probing super heavy test (DPSH), Vane test (VT), Static laboratory test (SLAB), etc.

Fig. A30 3-degrees priority scale ("mandatory", "recommended" or "optional") for ranking the indicators to be included in the site-characterization database.

Fig. A31 Report if some important site effects were missing or poorly represented by the proposed indicators.

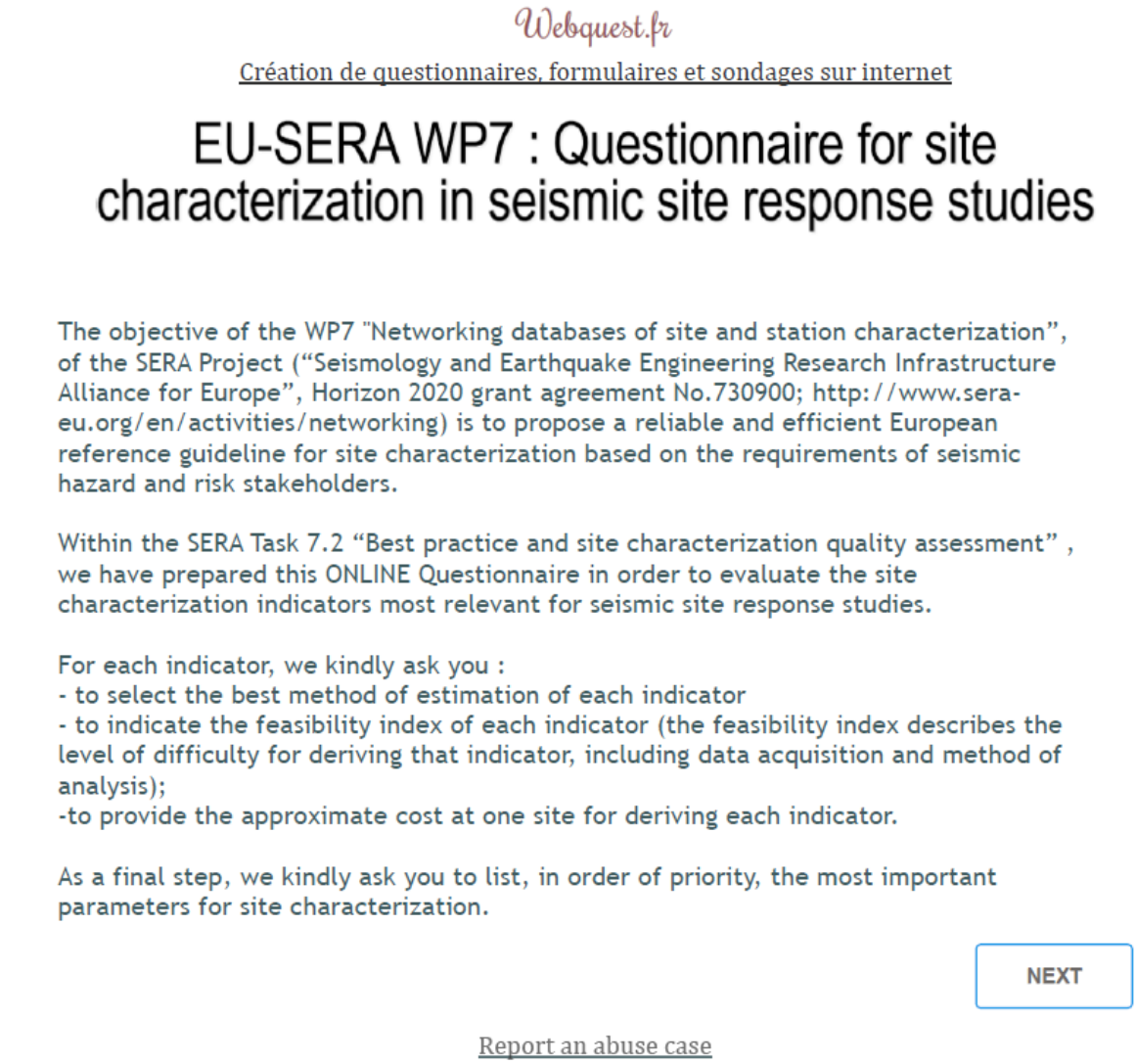


Fig. A1 Online Questionnaire: presentation page.

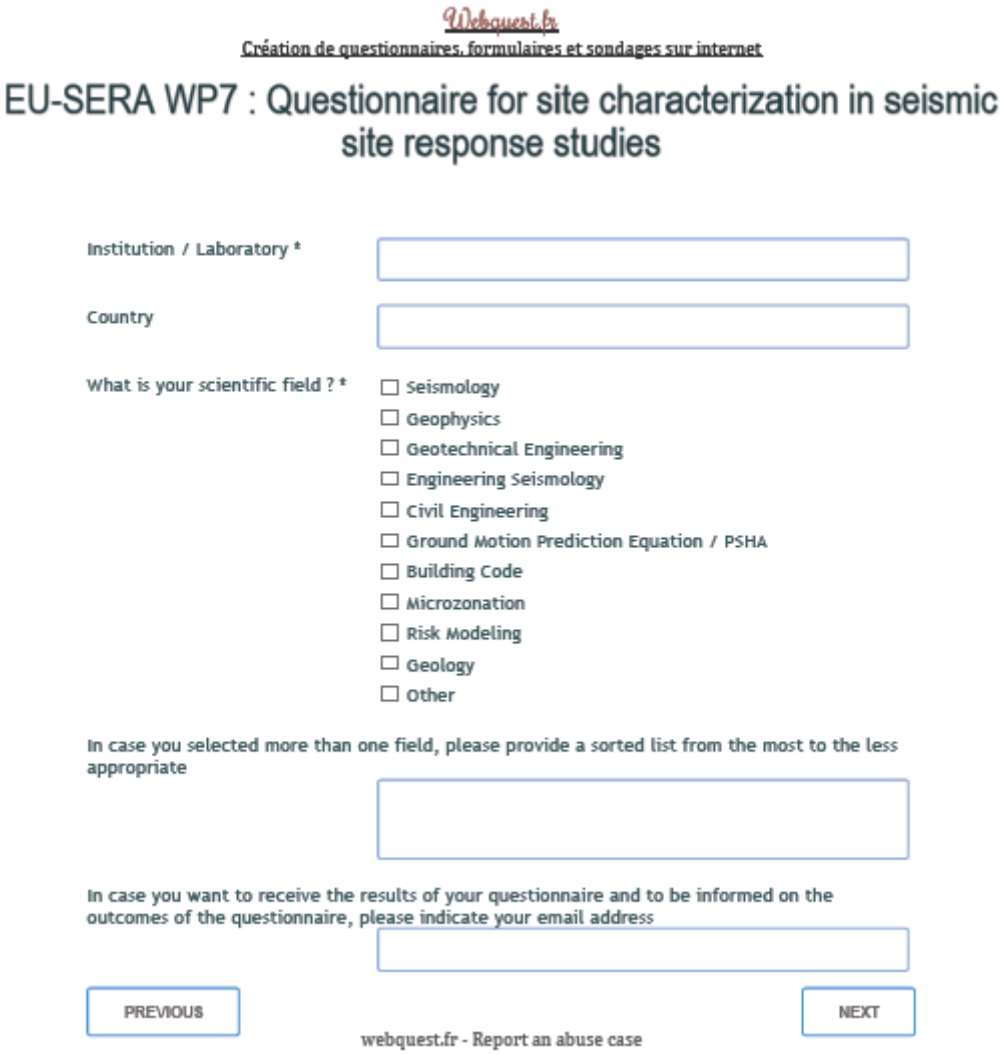


Fig. A2 Online Questionnaire: Institution and scientific fields of participants.

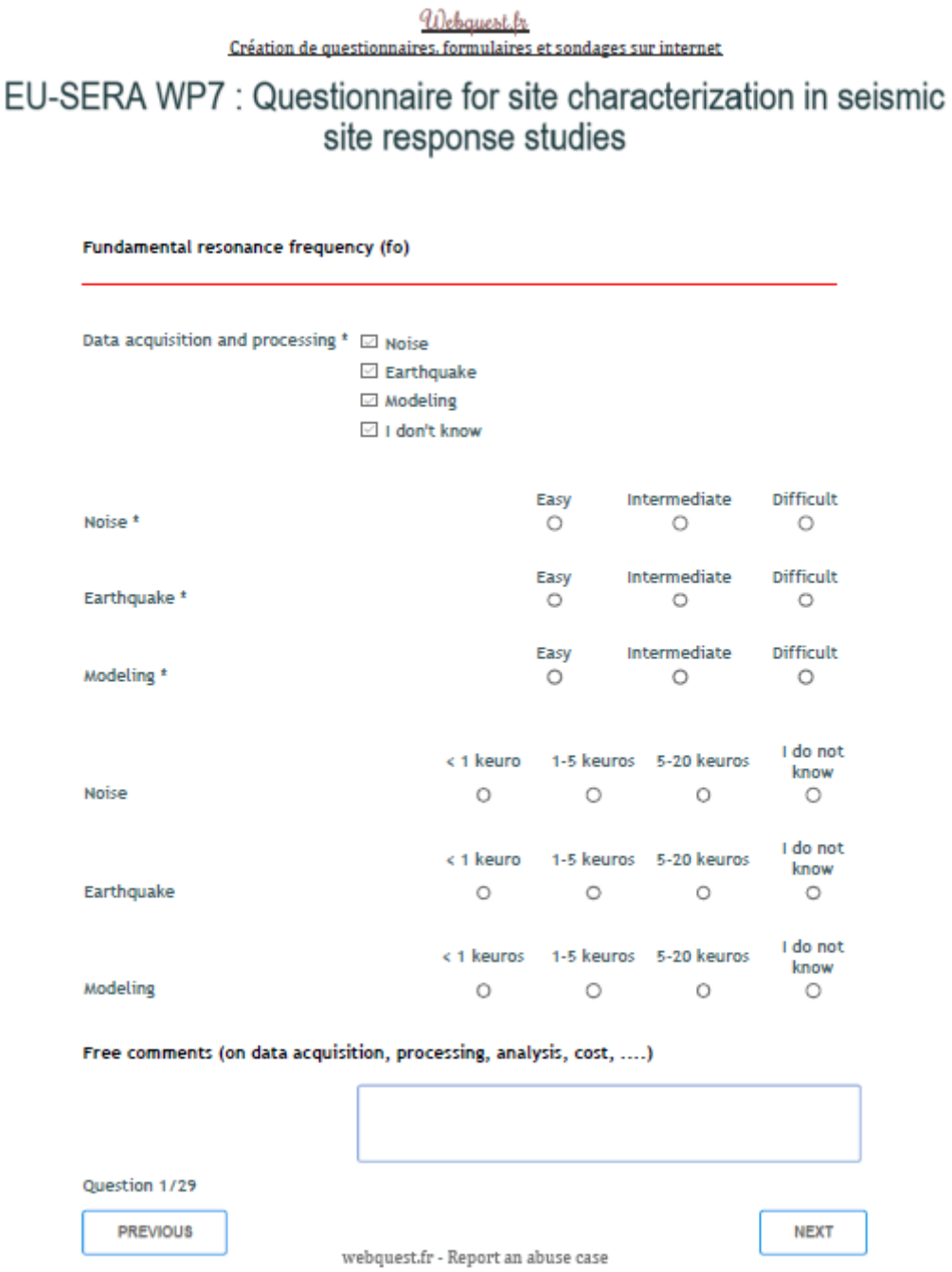


Fig. A3 Online Questionnaire: fundamental resonance frequency (f0).

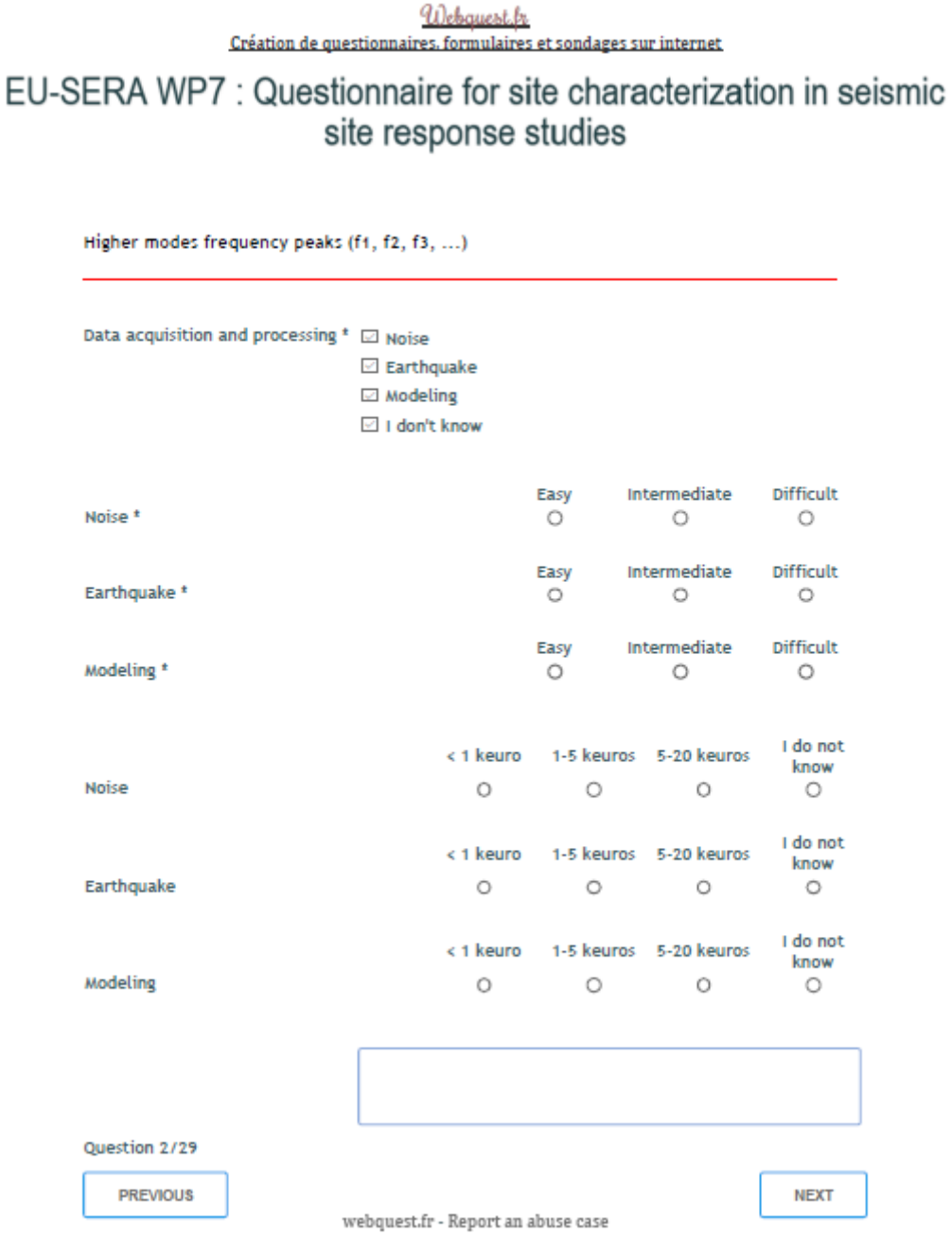


Fig. A4 Online Questionnaire: frequency peaks of higher modes (f1, f2, f3, …).

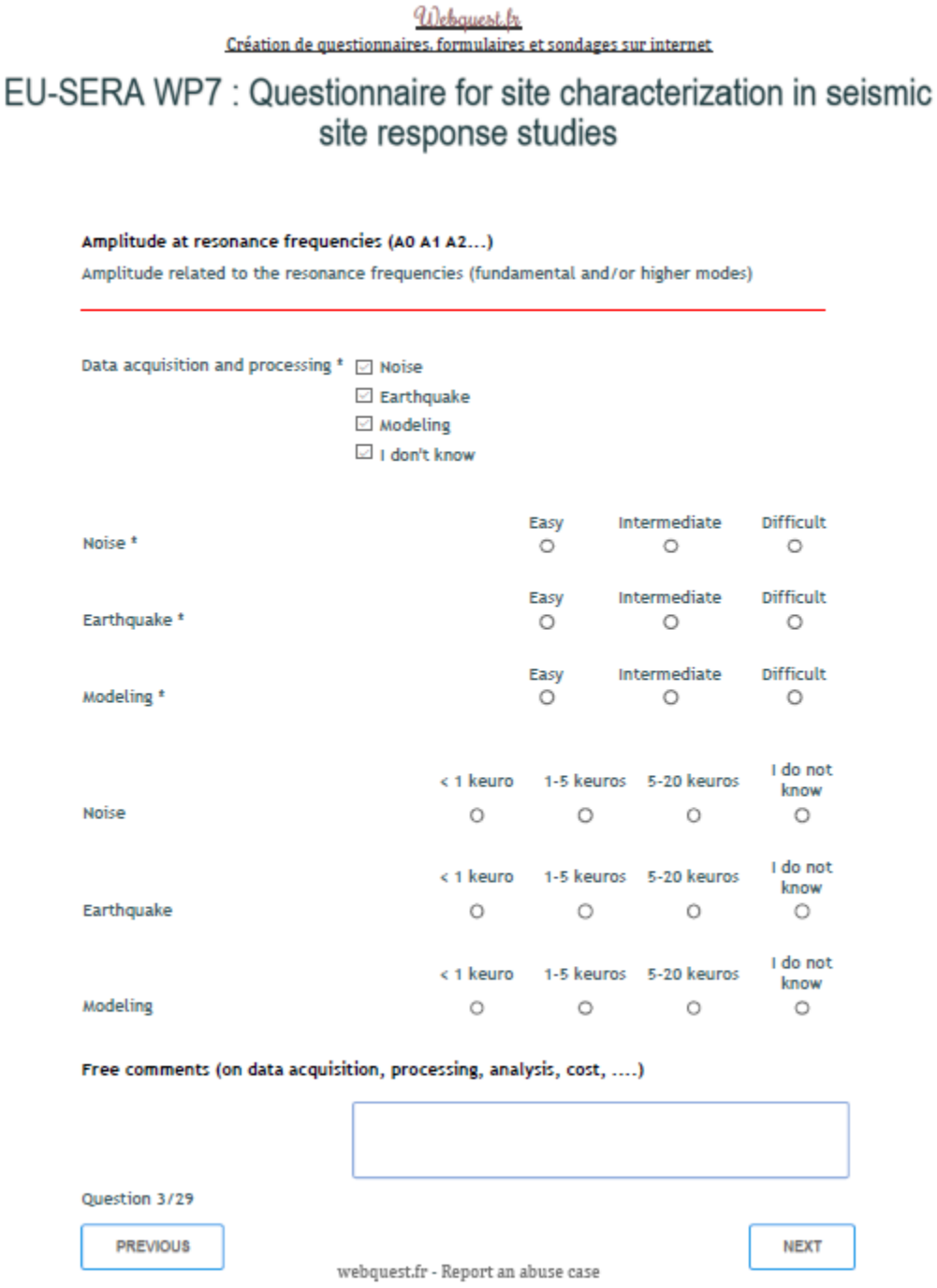
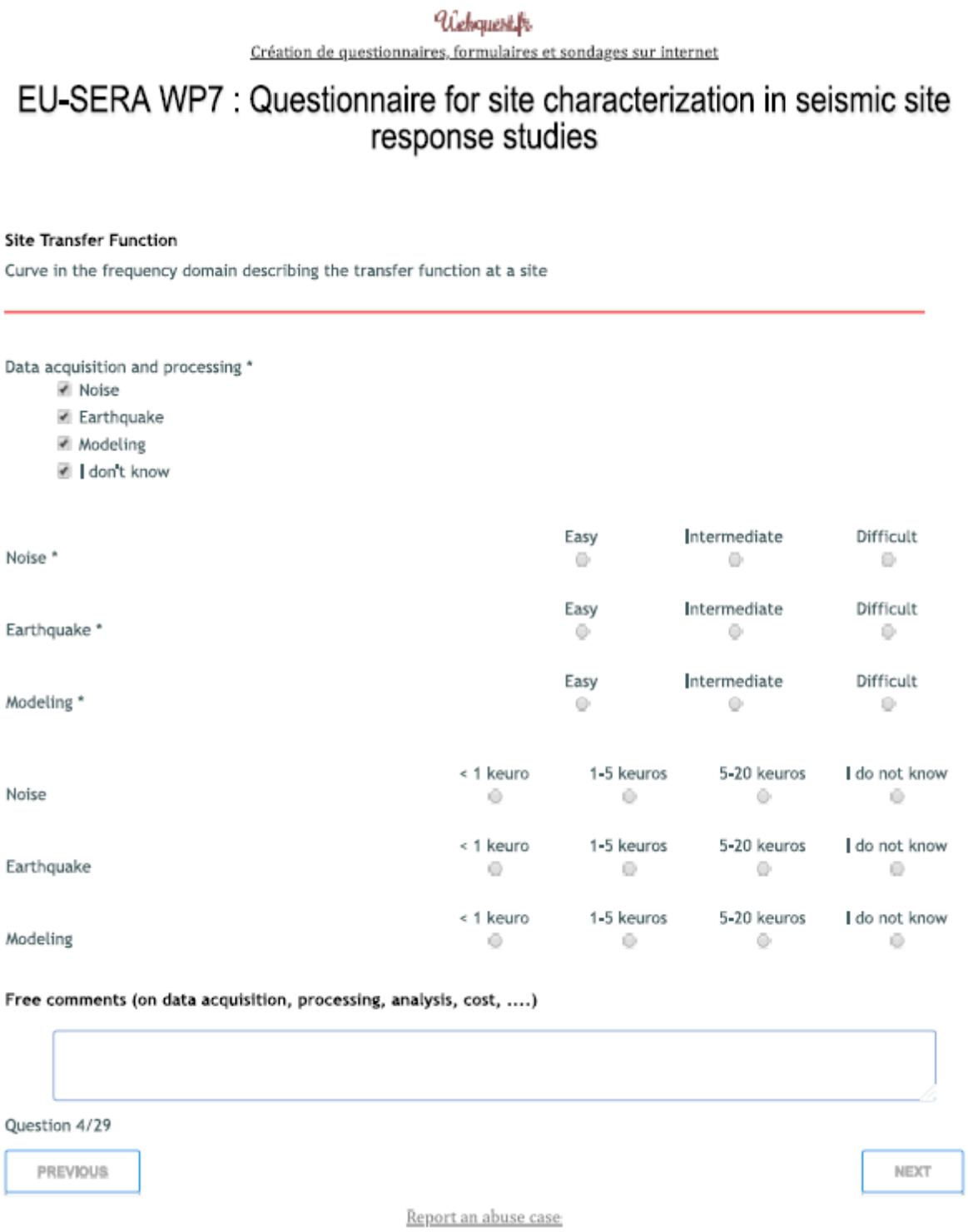


Fig. A5 Online Questionnaire: amplitudes at fundamental frequency (A0) and higher modes (A1, A2, A3, …).



Création de questionnaires, formulaires et sondages sur internet

EU-SERA WP7 : Questionnaire for site characterization in seismic site response studies

Site Transfer Function

Curve in the frequency domain describing the transfer function at a site

Data acquisition and processing *

- Noise
- Earthquake
- Modeling
- I don't know

	Easy	Intermediate	Difficult
Noise *			
Earthquake *			
Modeling *			

	< 1 keuro	1-5 keuros	5-20 keuros	I do not know
Noise				
Earthquake				
Modeling				

Free comments (on data acquisition, processing, analysis, cost, ...)

Question 4/29

PREVIOUS NEXT

Report an abuse case

Fig. A6 Online Questionnaire: Site Transfer Function.

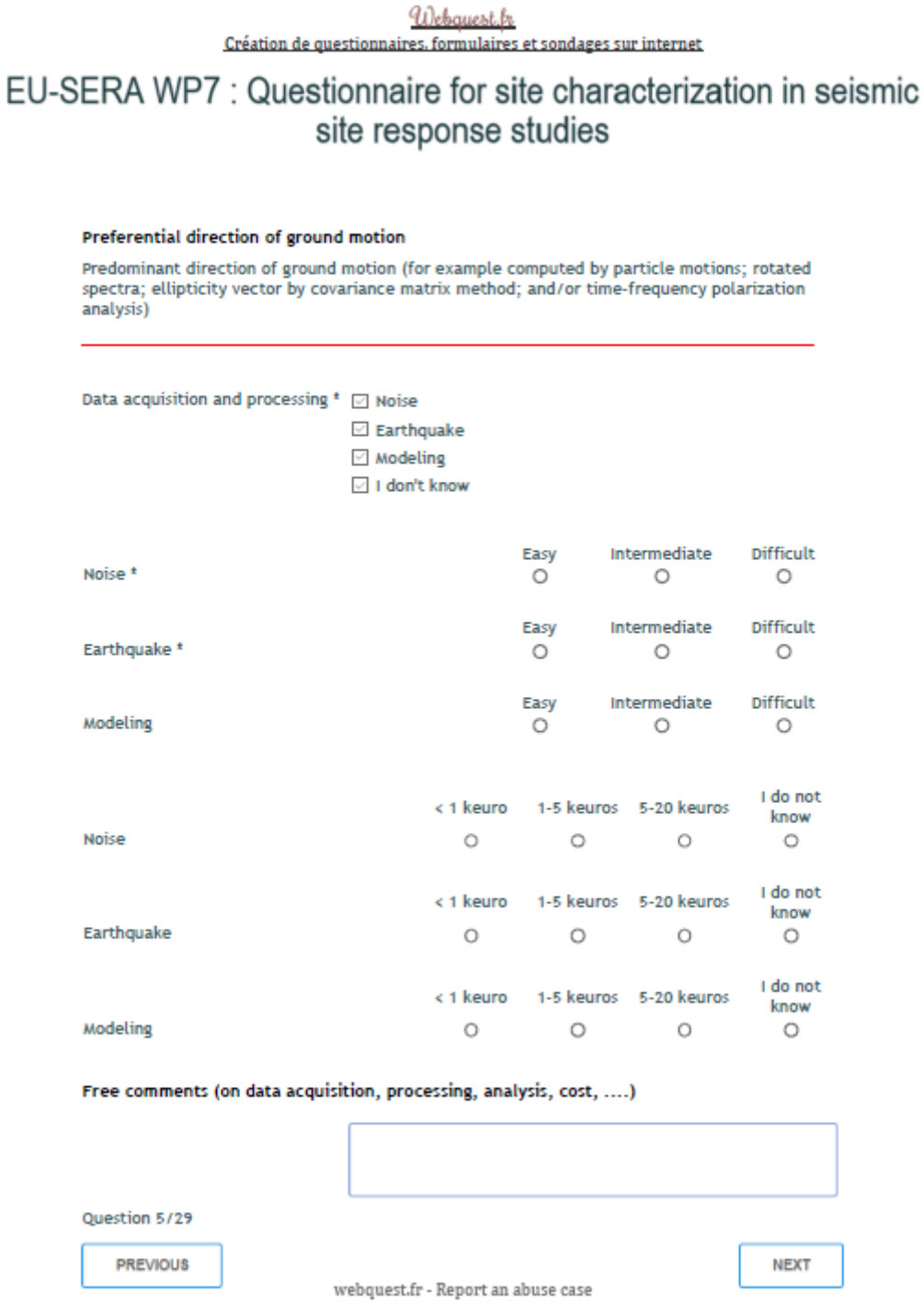
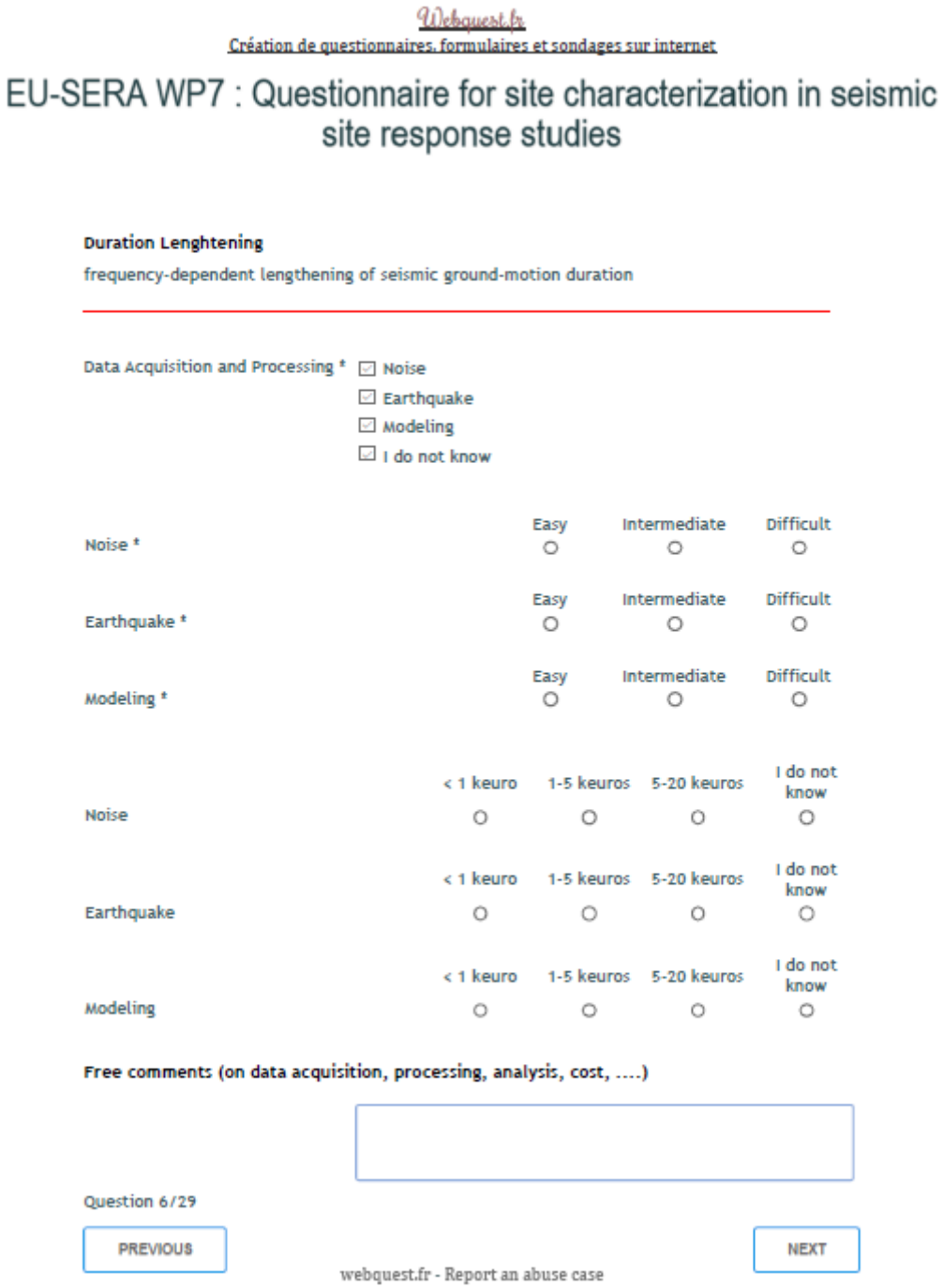


Fig. A7 Online Questionnaire: preferential direction of ground motion.



Webquest.fr
Création de questionnaires, formulaires et sondages sur internet

EU-SERA WP7 : Questionnaire for site characterization in seismic site response studies

Duration Lenghtening

frequency-dependent lengthening of seismic ground-motion duration

Data Acquisition and Processing * ☑ Noise ☑ Earthquake ☑ Modeling ☐ I do not know

	Easy	Intermediate	Difficult
Noise *	○	○	○
Earthquake *	○	○	○
Modeling *	○	○	○

	< 1 keuro	1-5 keuros	5-20 keuros	I do not know
Noise	○	○	○	○
Earthquake	○	○	○	○
Modeling	○	○	○	○

Free comments (on data acquisition, processing, analysis, cost, ...)

Question 6/29

PREVIOUS NEXT

webquest.fr - Report an abuse case

Fig. A8 Online Questionnaire: duration lengthening.

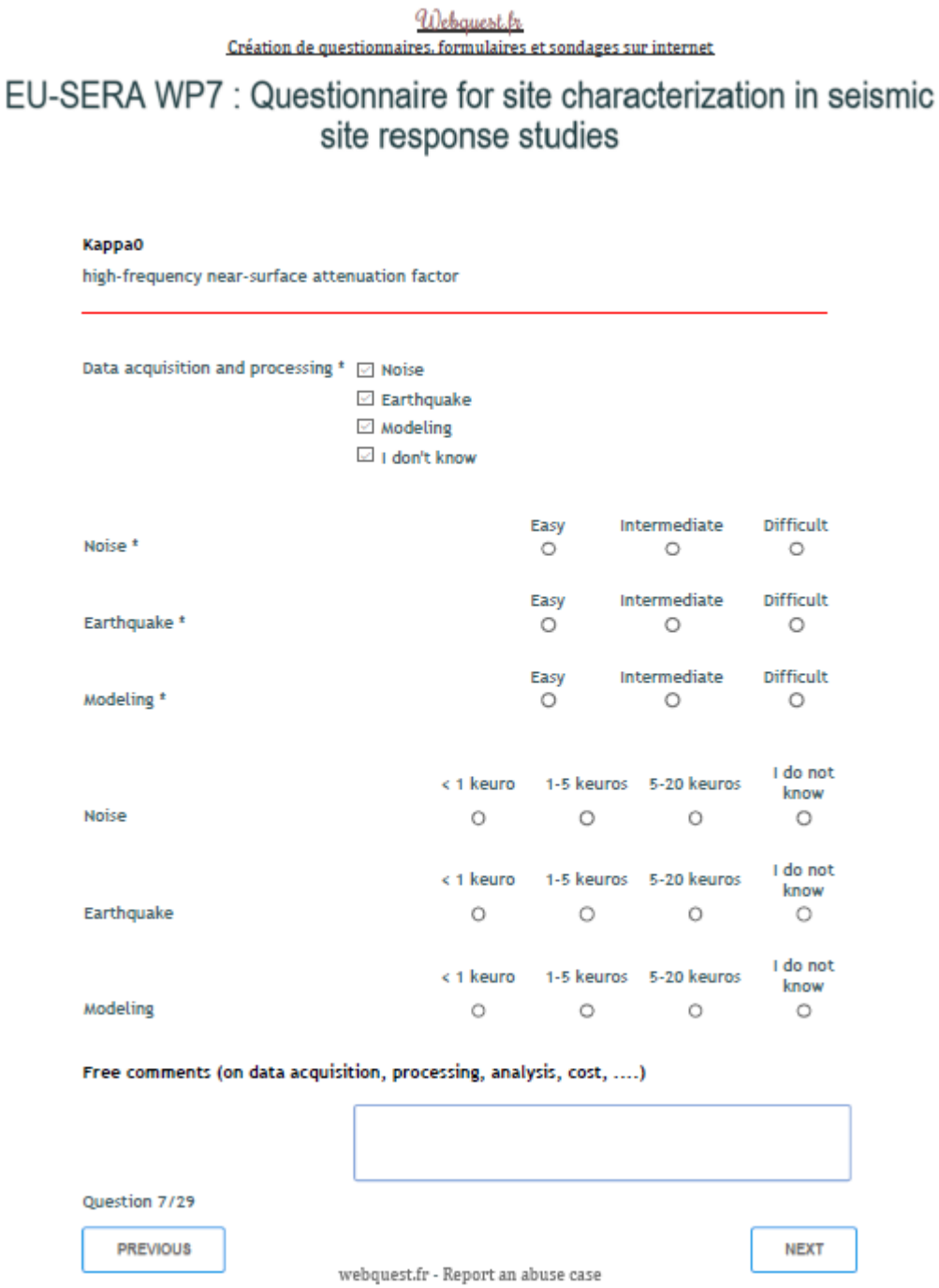


Fig. A9 Online Questionnaire: near-surface attenuation factor at high frequency.

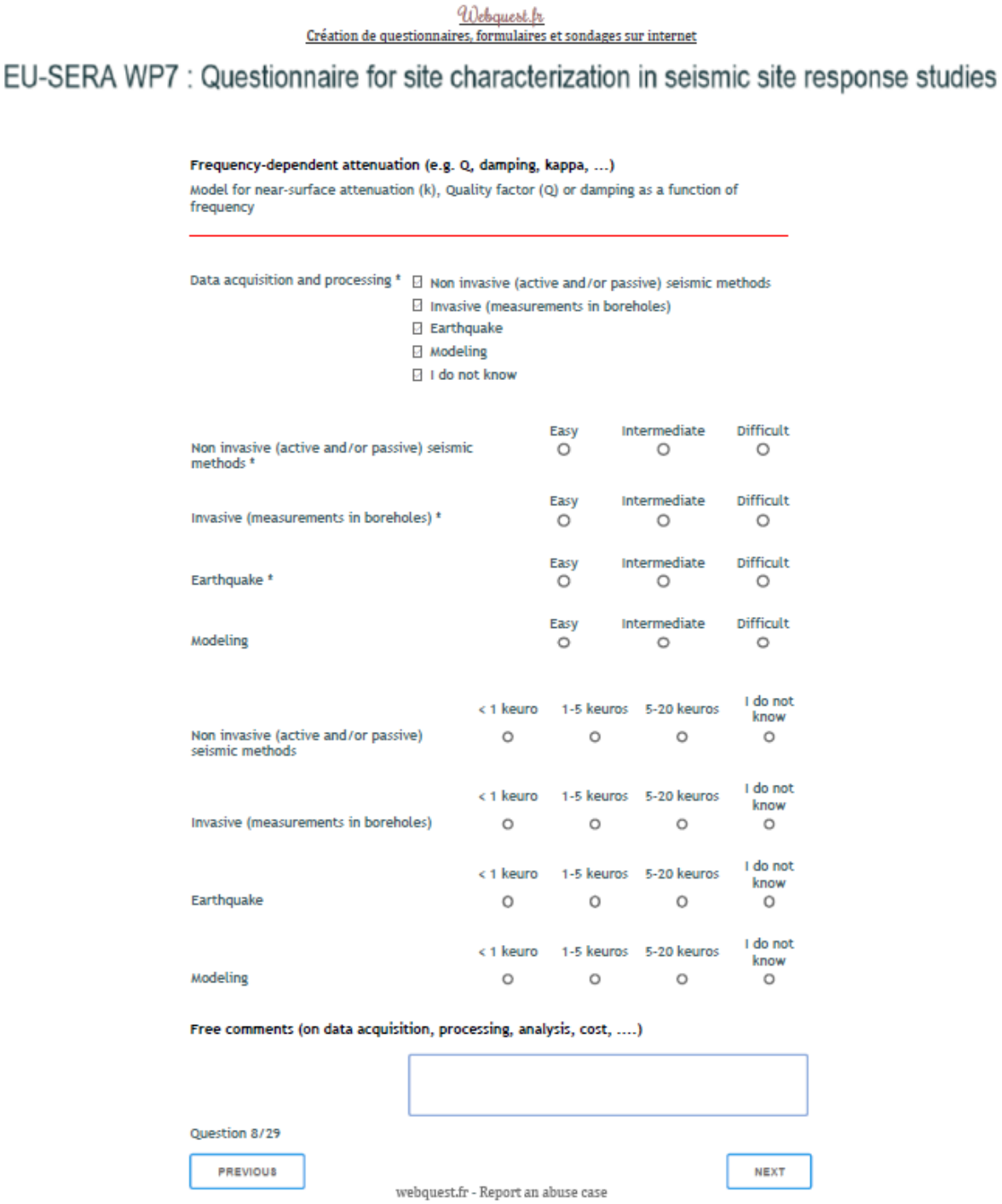


Fig. A10 Online Questionnaire: frequency-dependent attenuation (e.g. Q, damping, kappa, etc.).

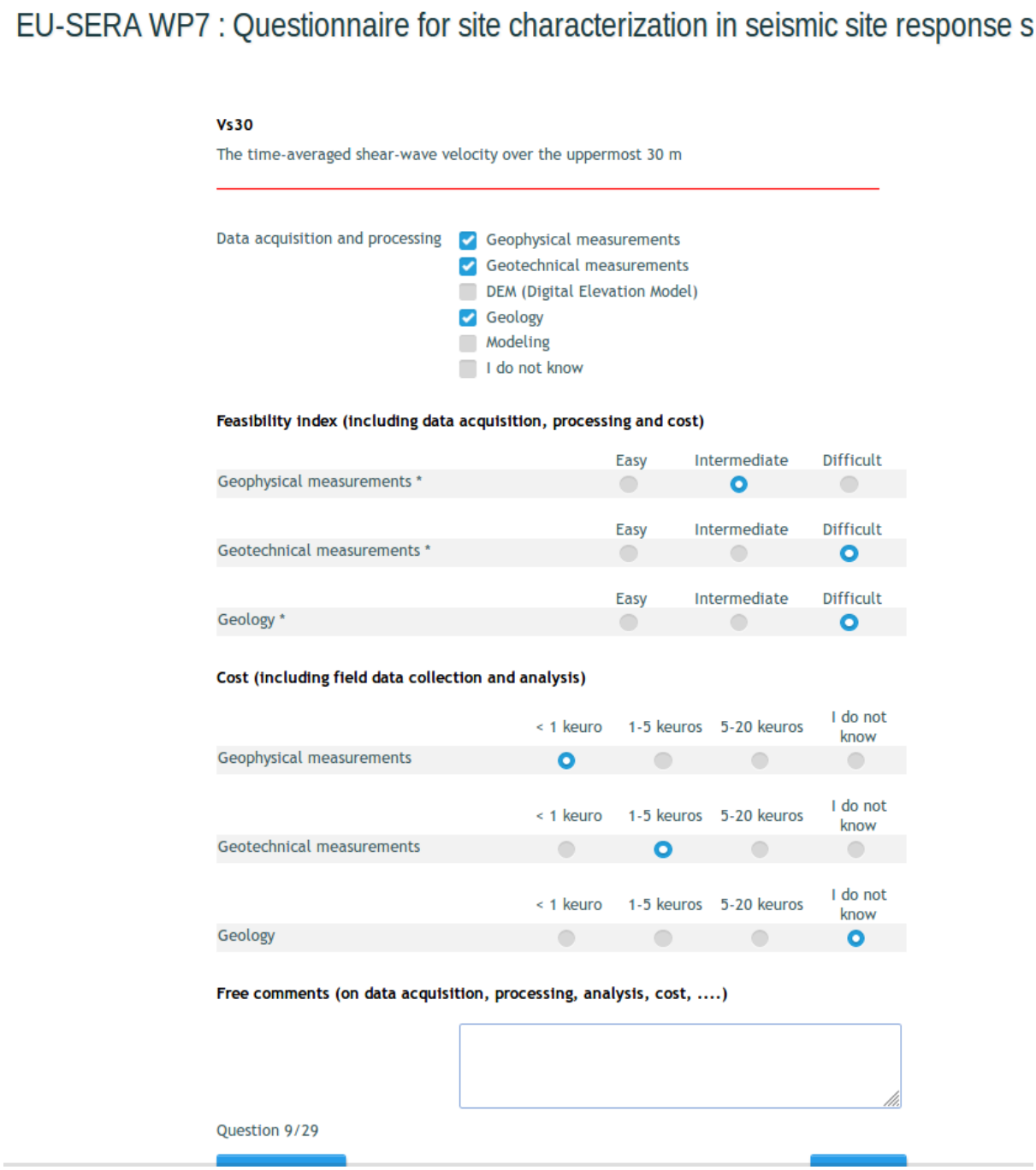


Fig. A11 Online Questionnaire: travel time-averaged of shear-wave velocity (Vs) over the uppermost 30m (Vs30).

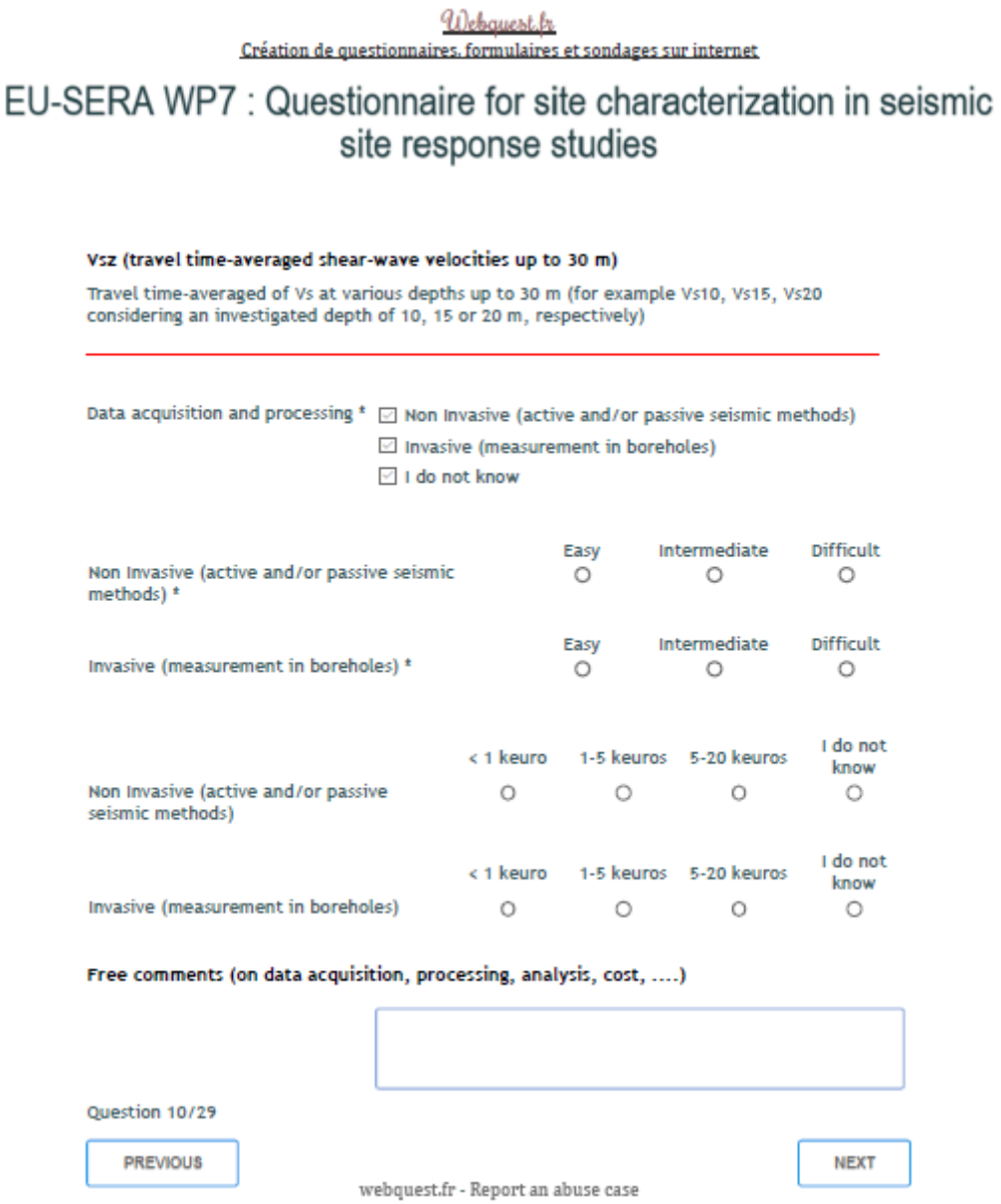


Fig. A12 Online Questionnaire: travel-time average of shear-wave velocity at various depths above 30 m.

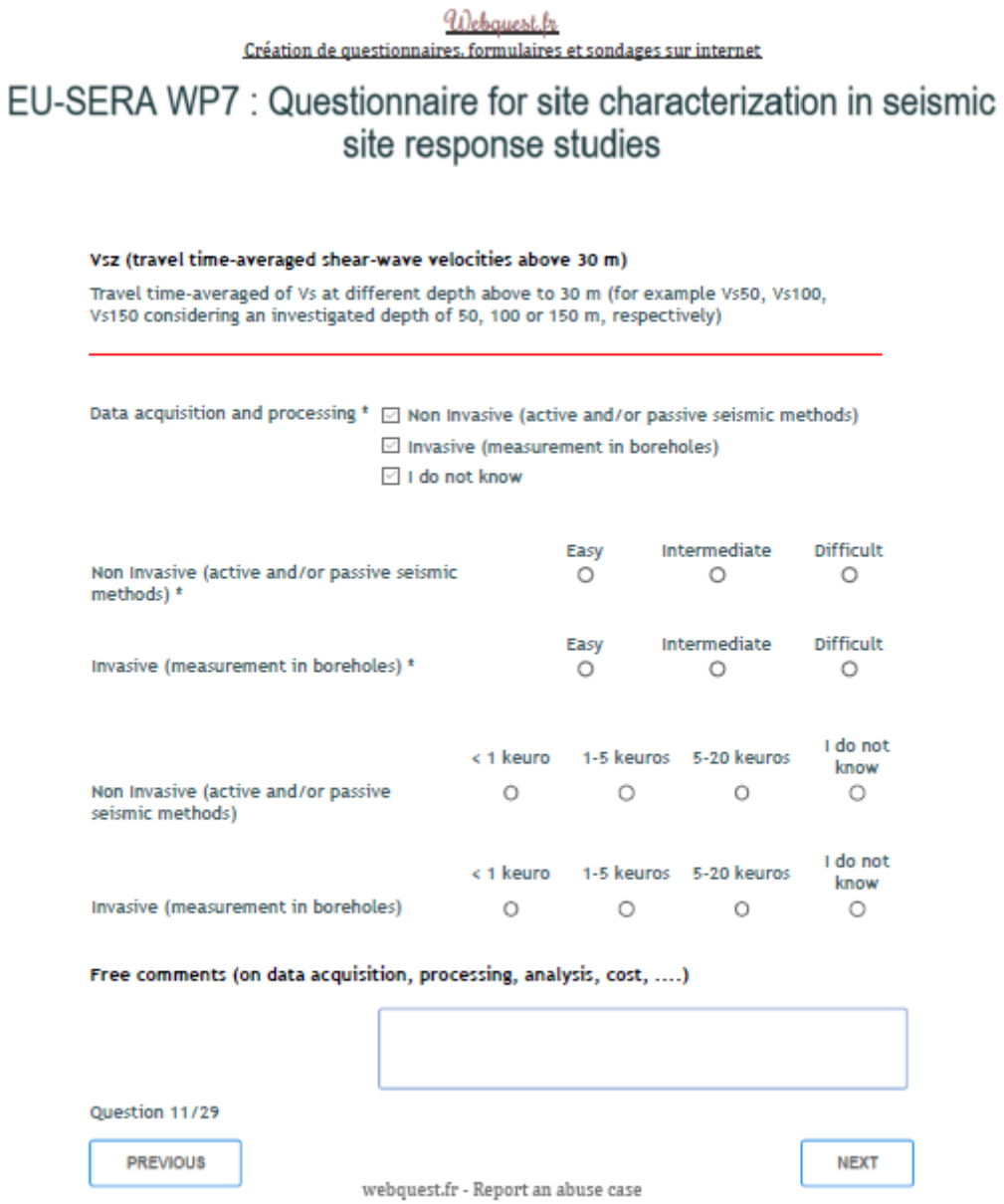


Fig. A13 Online Questionnaire: travel-time average of shear-wave velocity at various depths below 30 m.

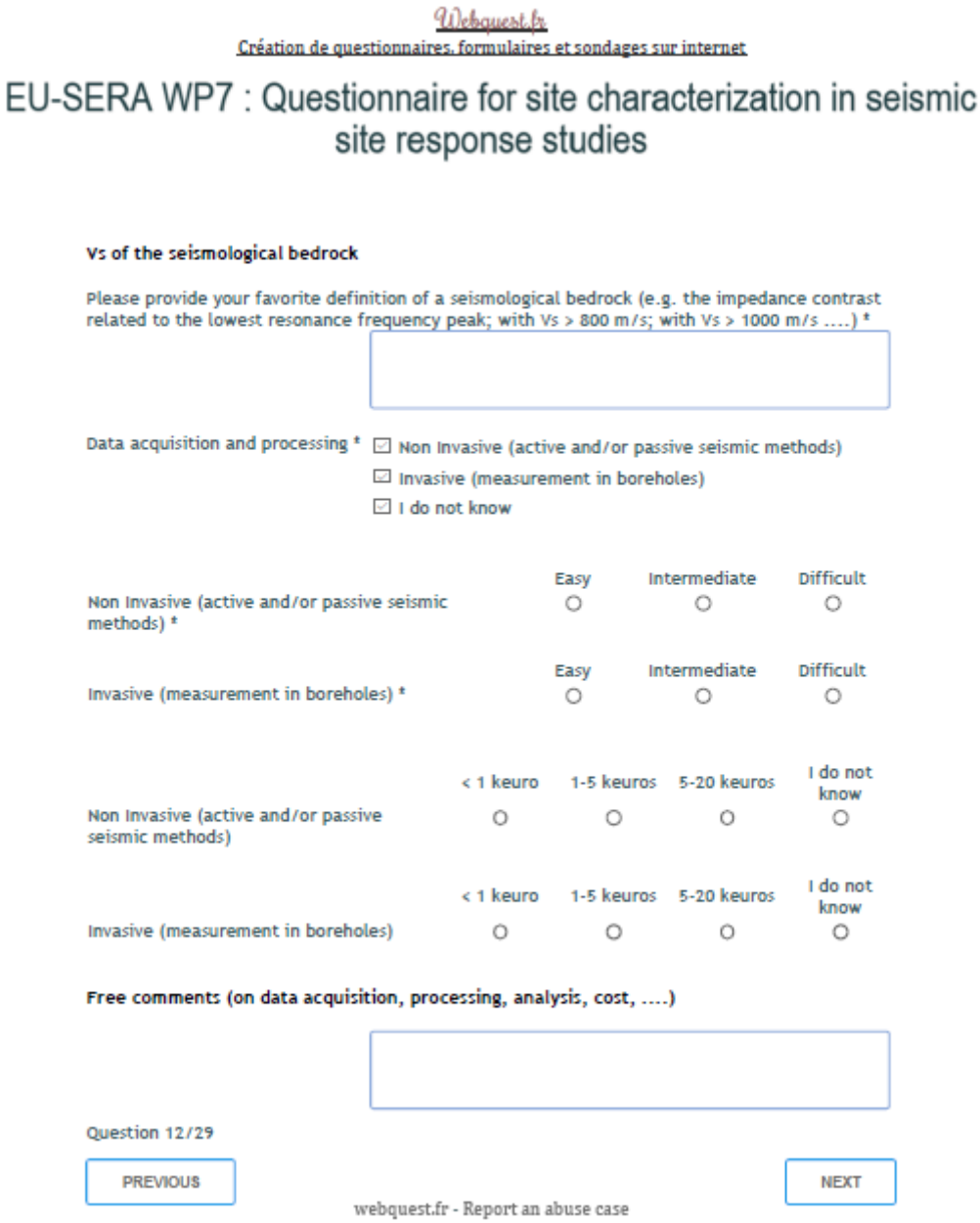


Fig. A14 Online Questionnaire: V_S of the seismological bedrock, corresponding to the geological unit that controls the lowest (fundamental) resonance frequency peak (f_0) through the impedance contrast with the upper layers.

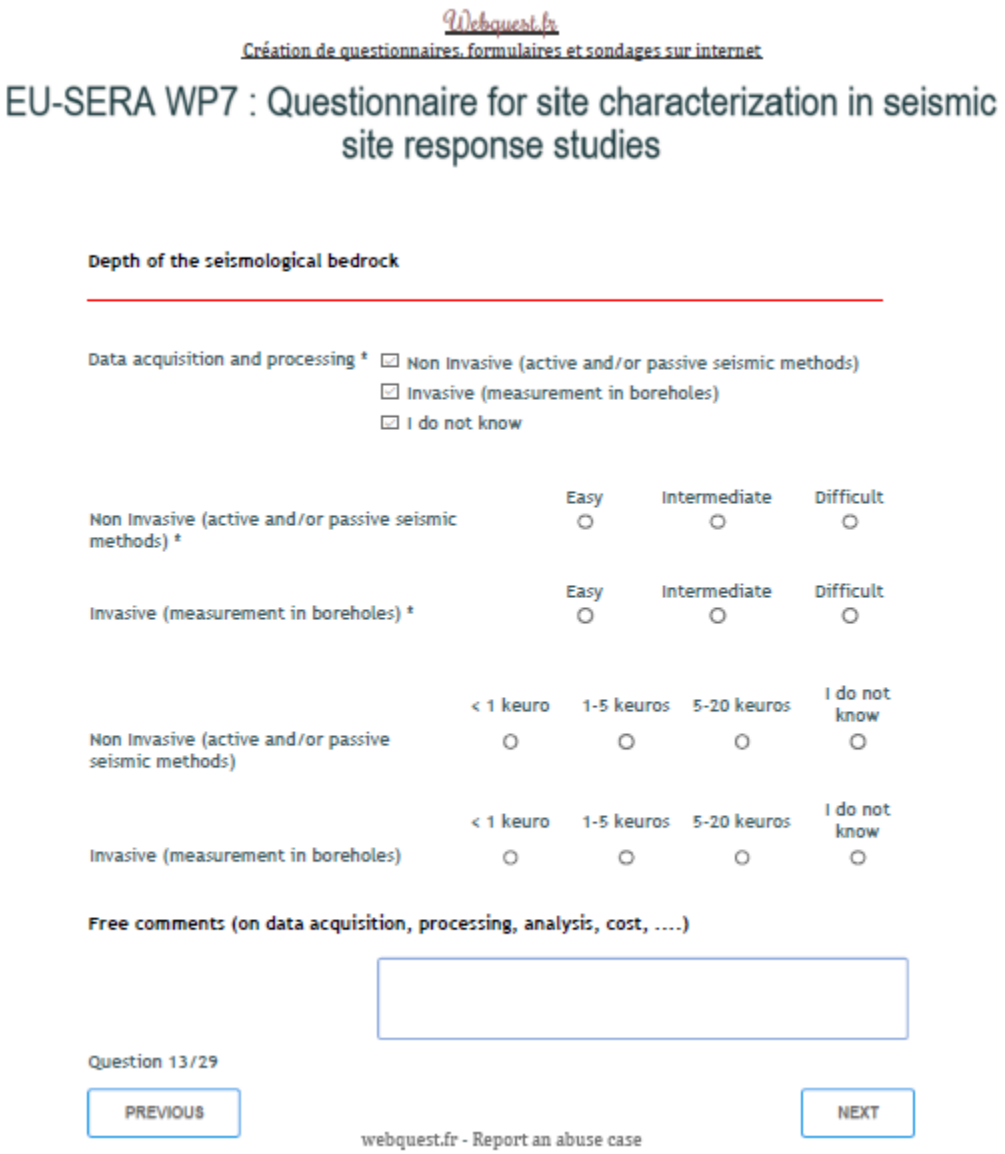
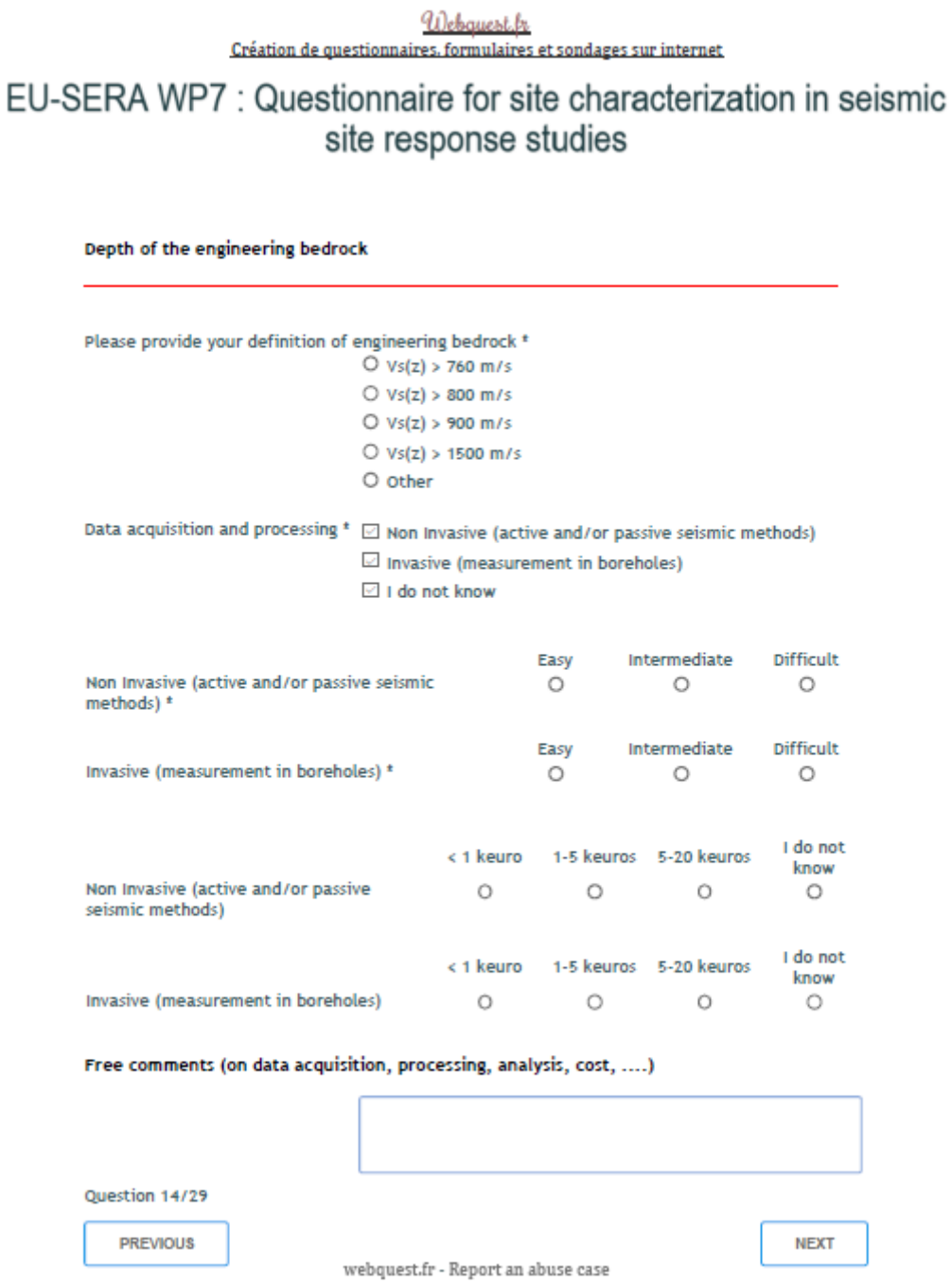


Fig. A15 Online Questionnaire: Depth of the seismological bedrock (see figure caption of Fig. A14).



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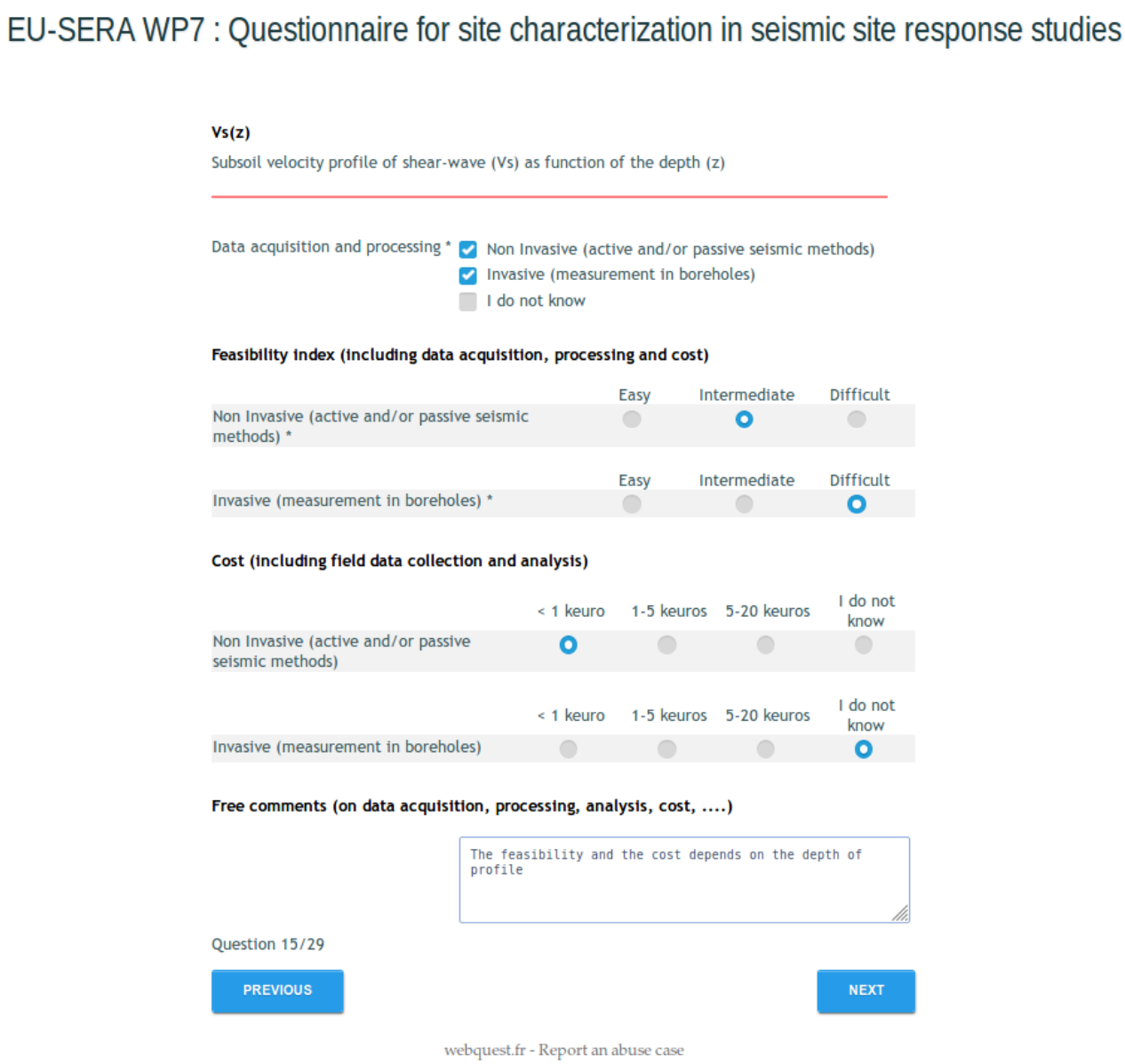

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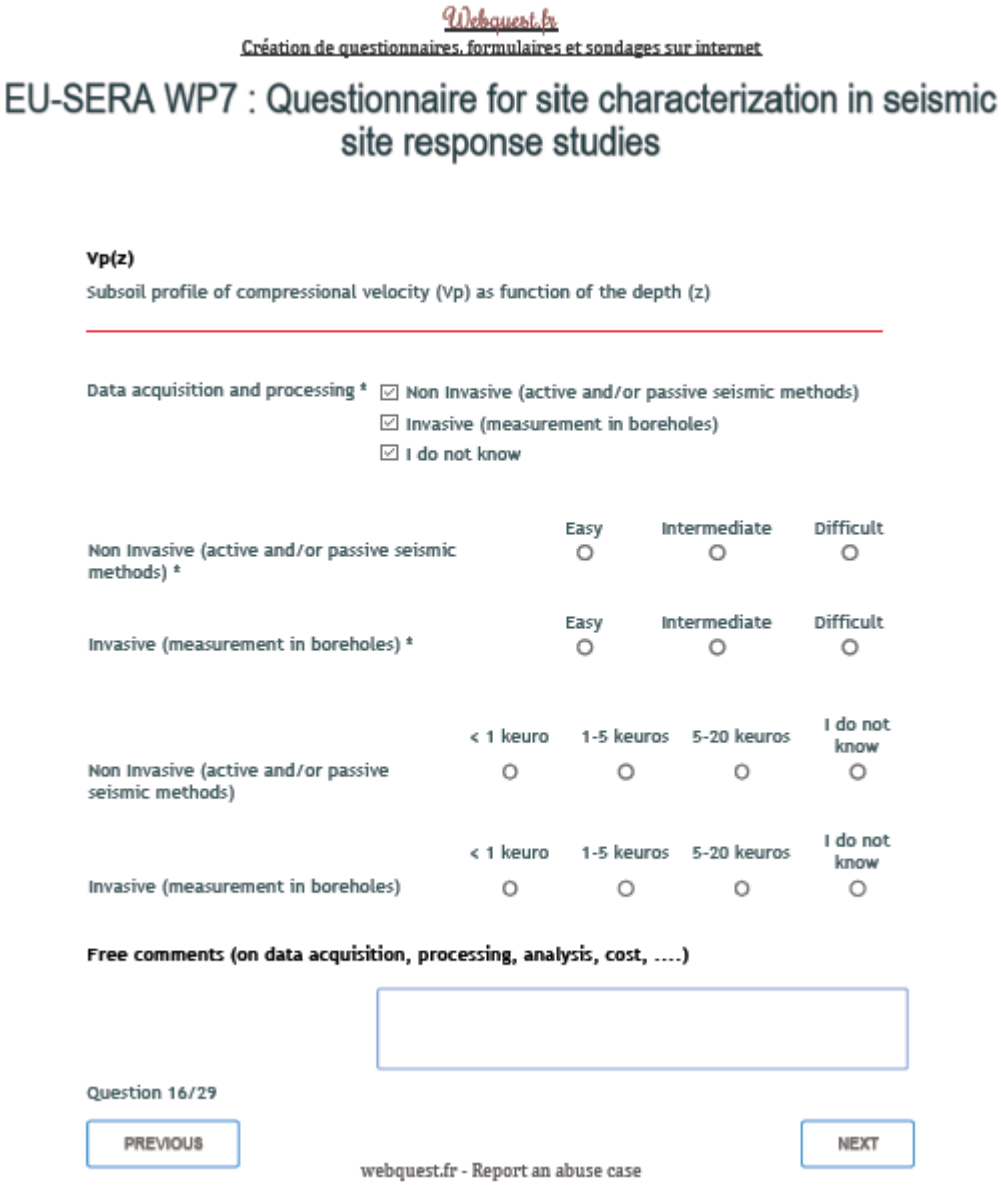


Fig. A18 Online Questionnaire: Subsoil velocity profile of shear-wave (Vp) as a function of the depth (z).

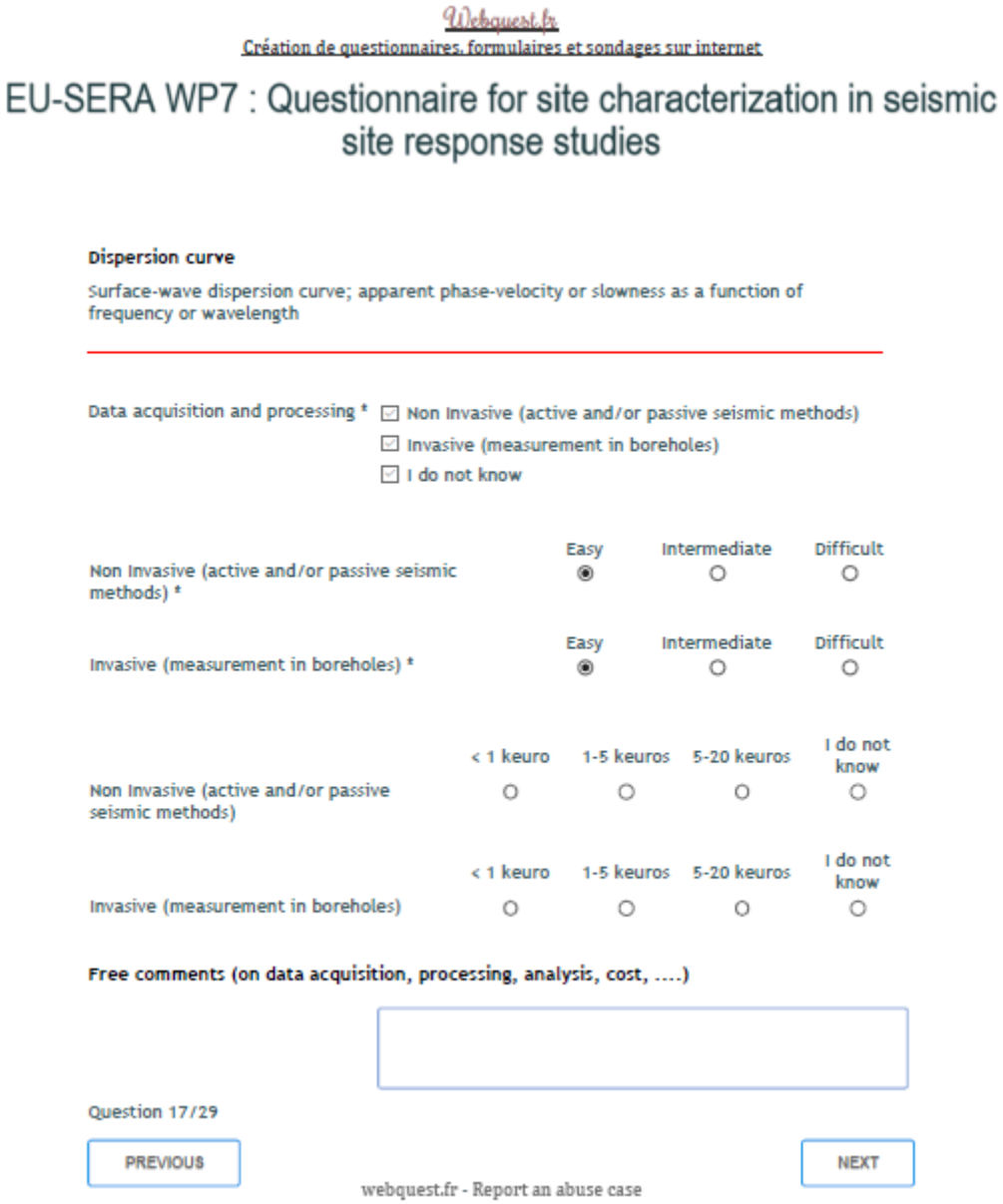


Fig. A19 Online Questionnaire: Surface-wave dispersion curve: phase-velocity or slowness as a function of frequency for Rayleigh and/or Love waves.

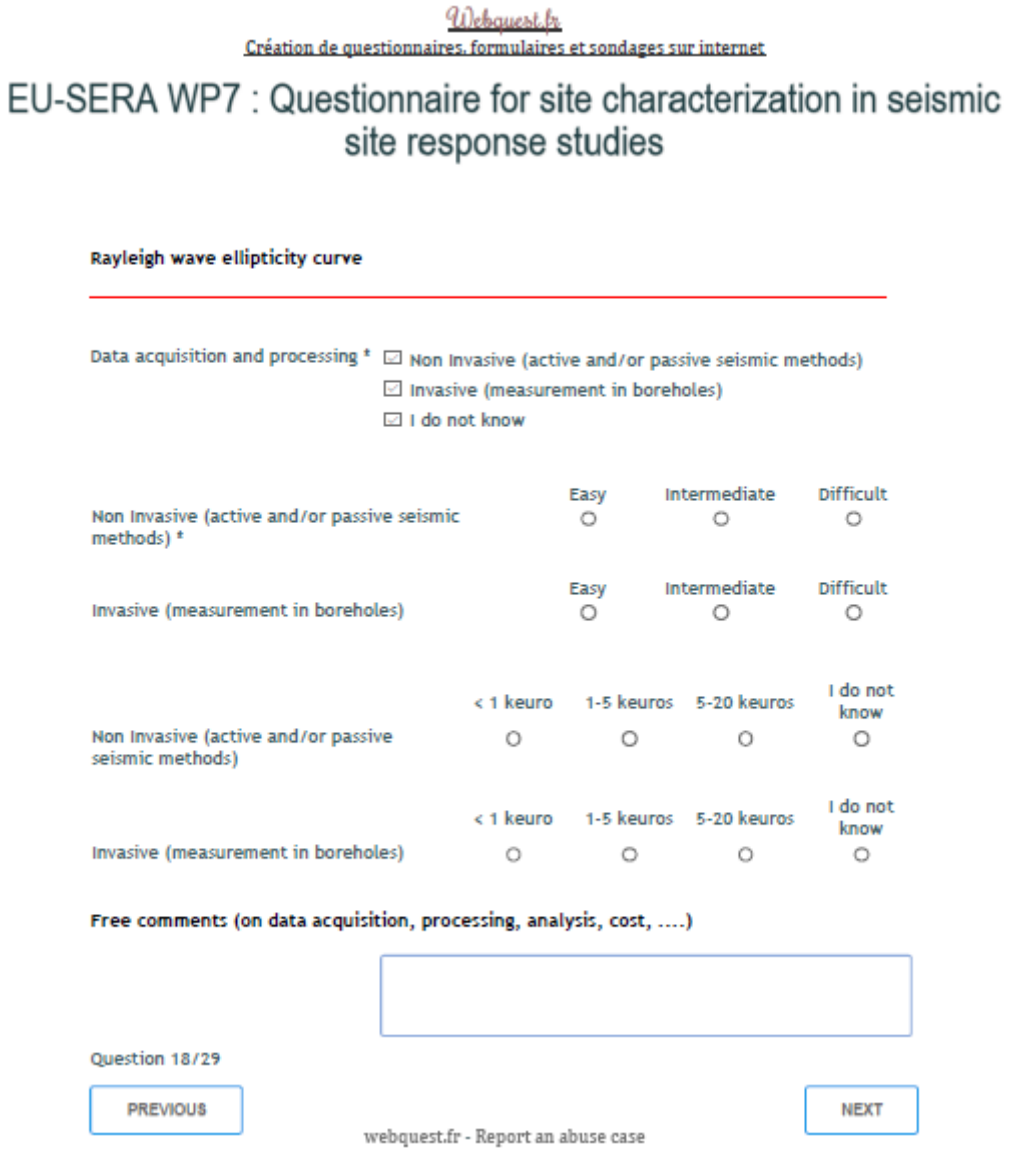


Fig. A20 Online Questionnaire: Ellipticity curve of Rayleigh waves.

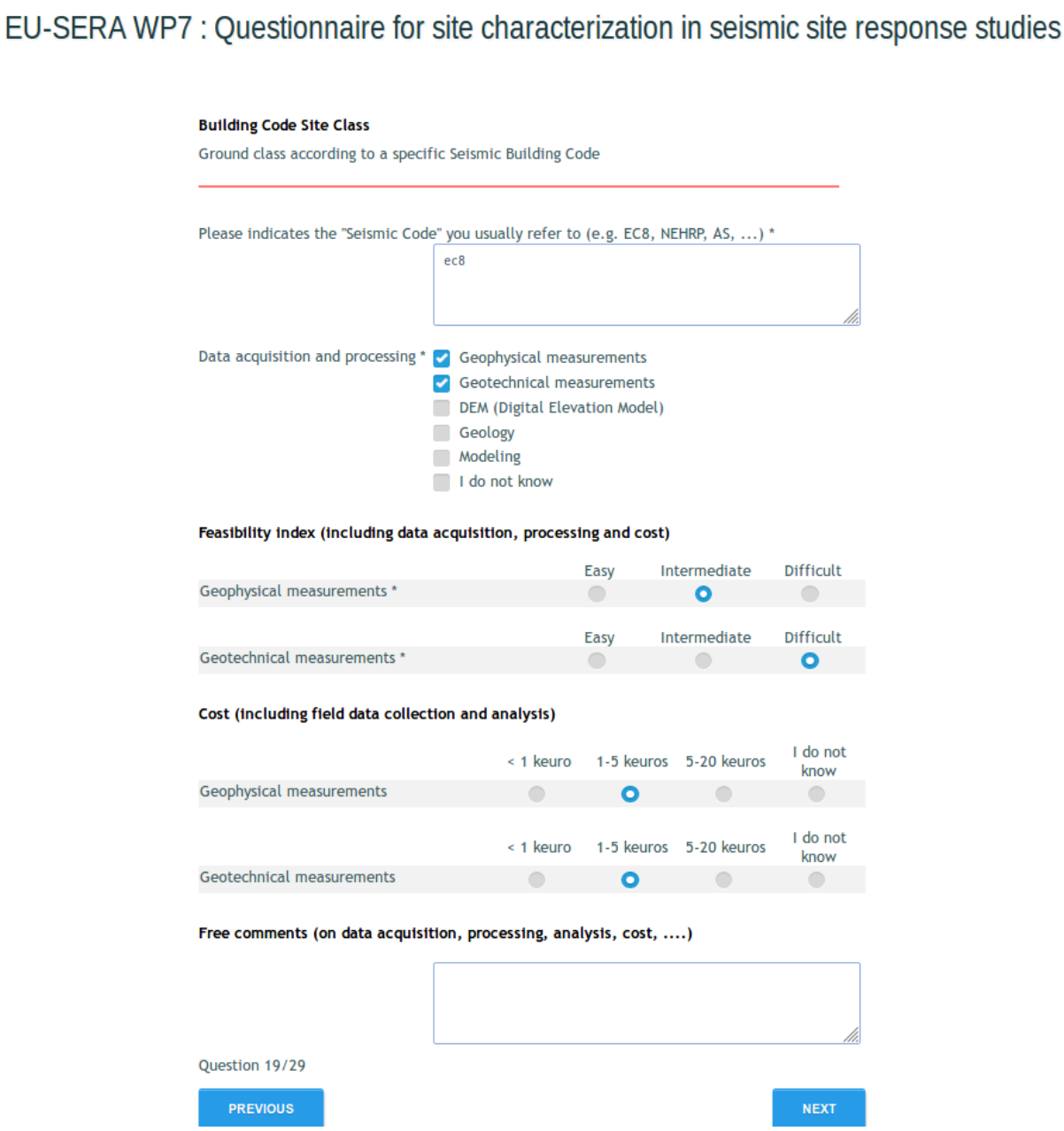


Fig. A21 Online Questionnaire: Soil class according to a specific Seismic Building Code; it is also called “Ground Type” in EC8 (2004) or “Site Class” in some national building codes (BSSC 2015; NTC 2018).

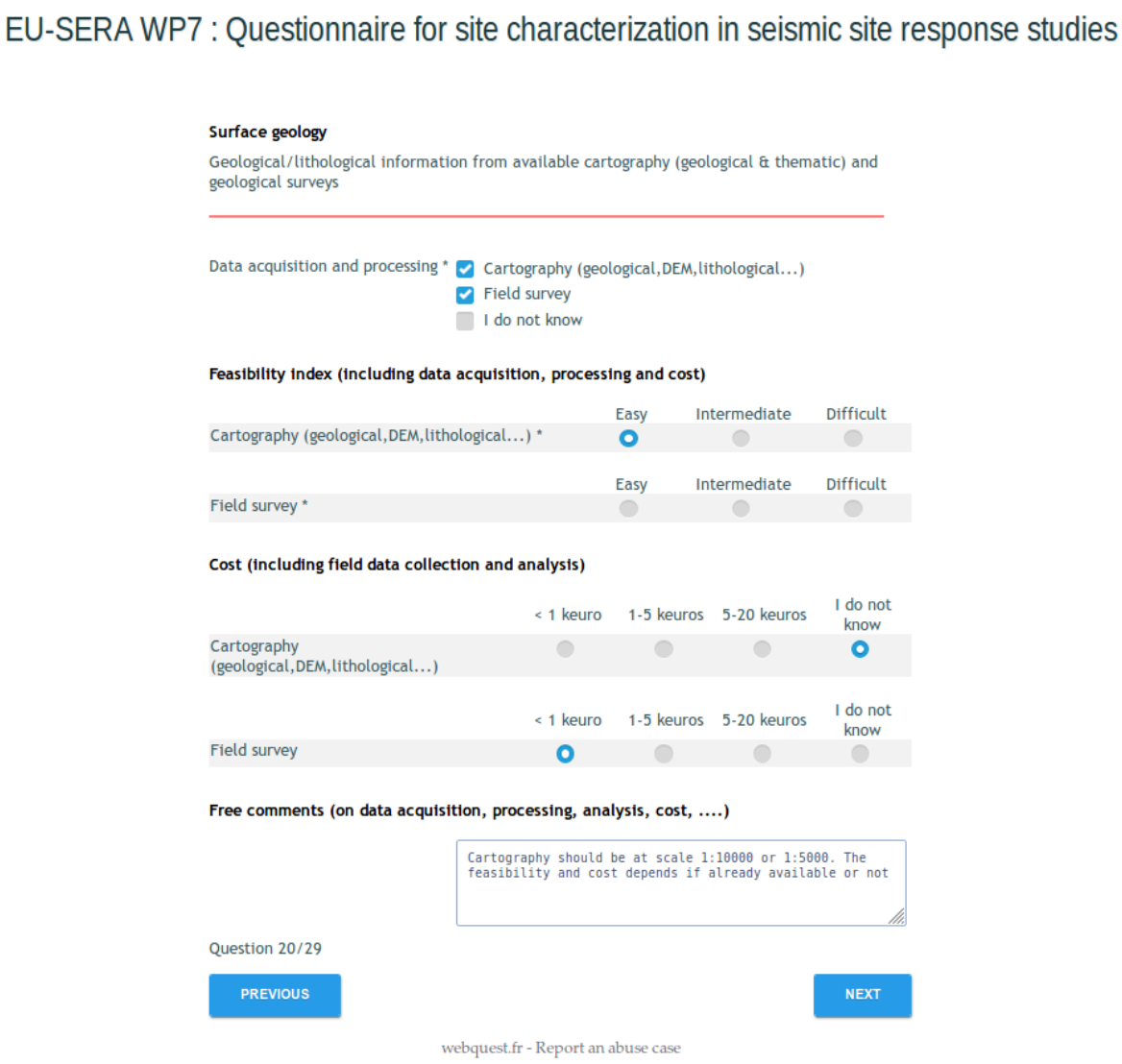


Fig. A22 Online Questionnaire: Surface geology: geological/lithological information from available cartography (geological & thematic) and geological surveys.

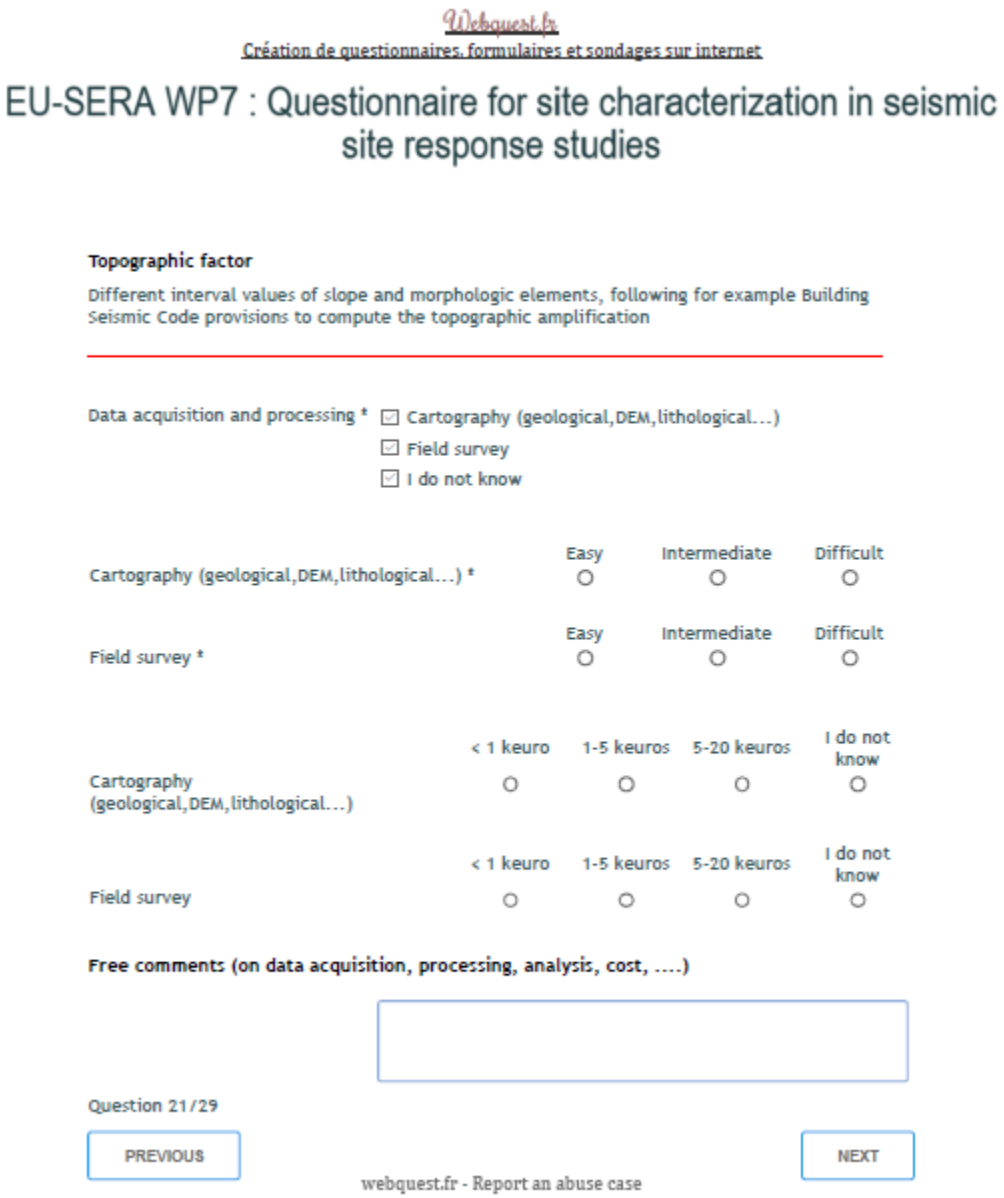
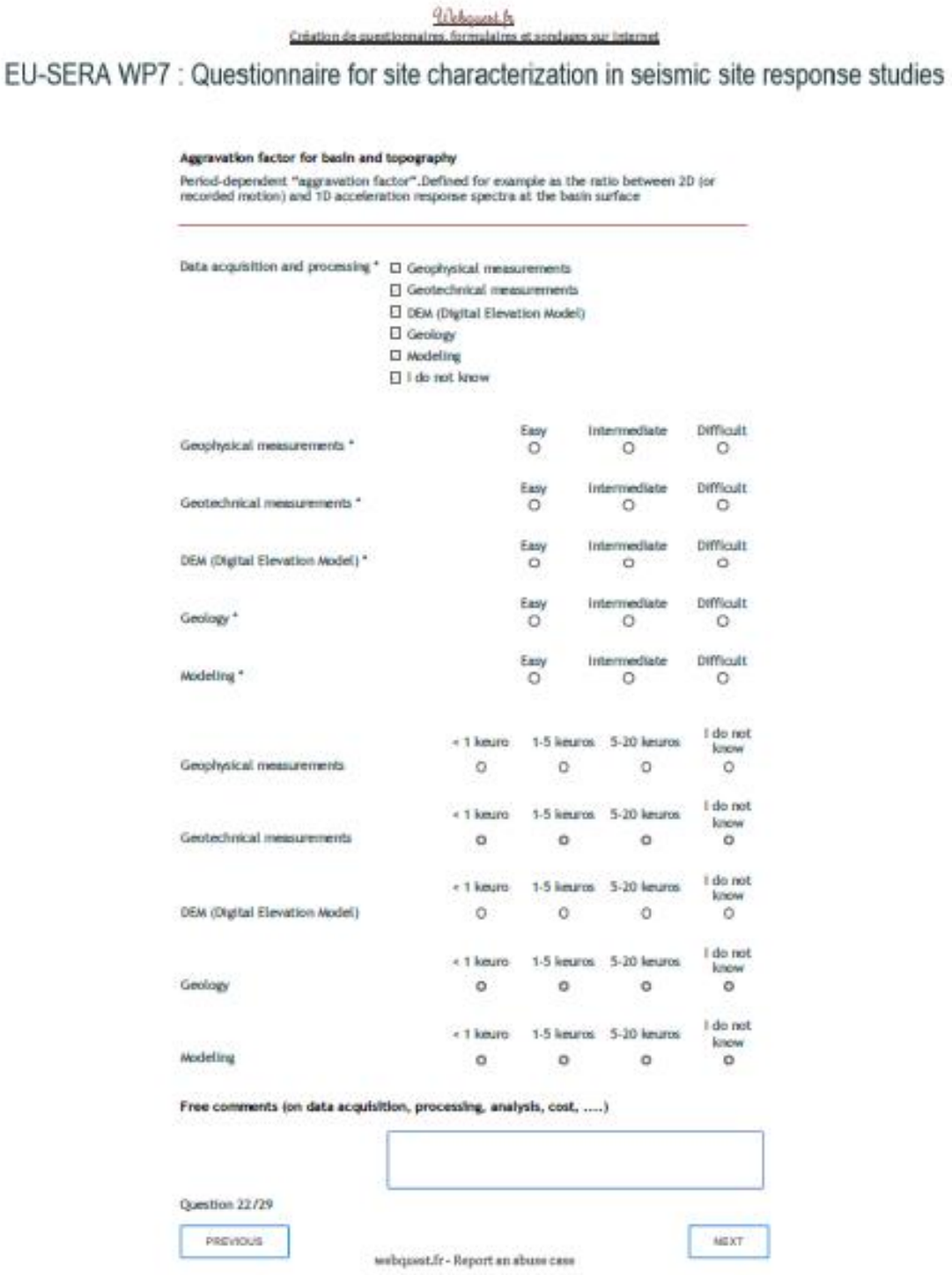


Fig. A23 Online Questionnaire: Topographic class according to a specific Seismic Building Code; it usually accounts for values of slope and morphologic elements (landform).



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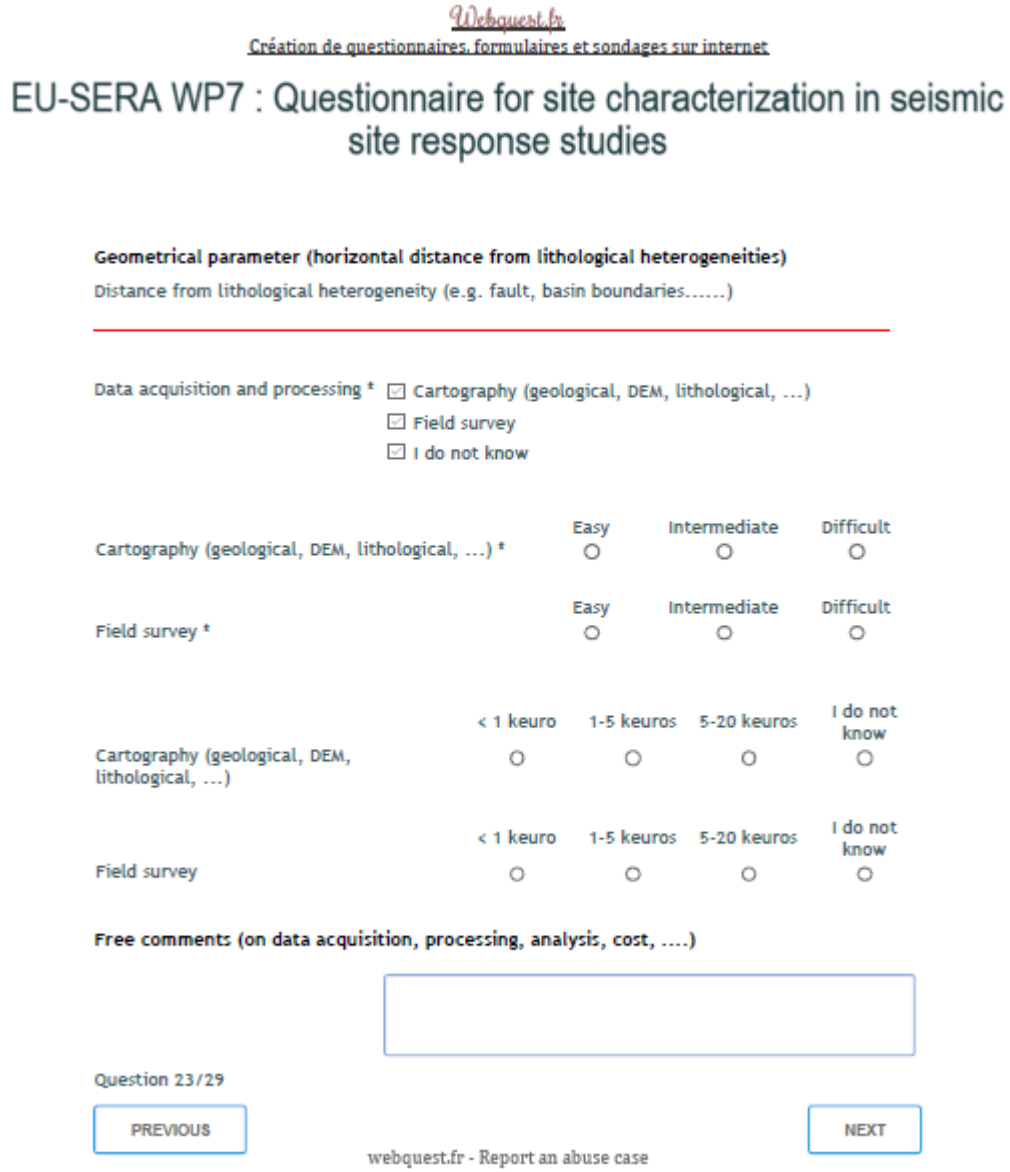


Fig. A25 Online Questionnaire: Geometrical parameter: any parameter related with 2D or 3D structure (surface topography or underground lithological heterogeneity).

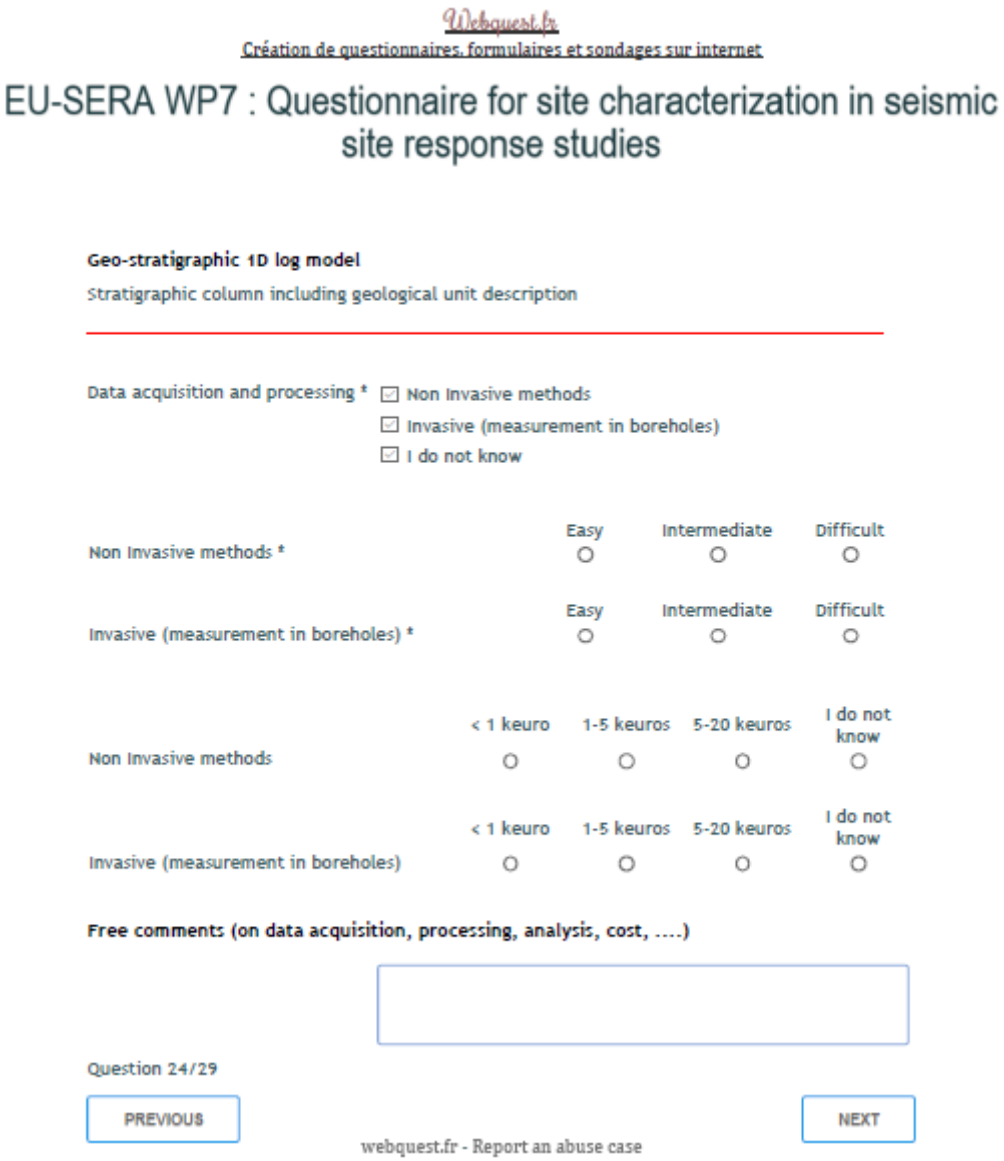


Fig. A26 Online Questionnaire: Stratigraphic column with geological unit description (1D log model).

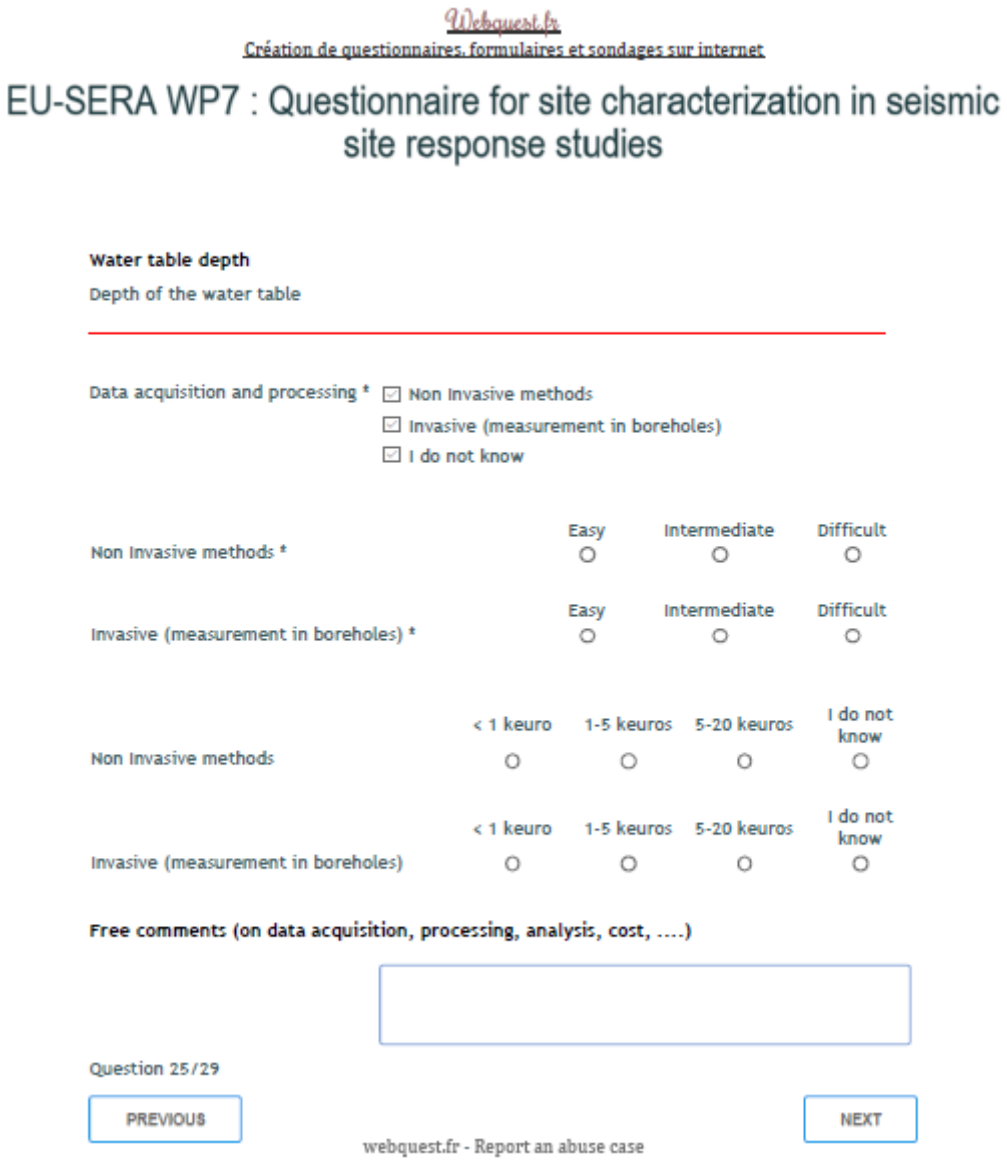


Fig. A27 Online Questionnaire: Depth of the water table.

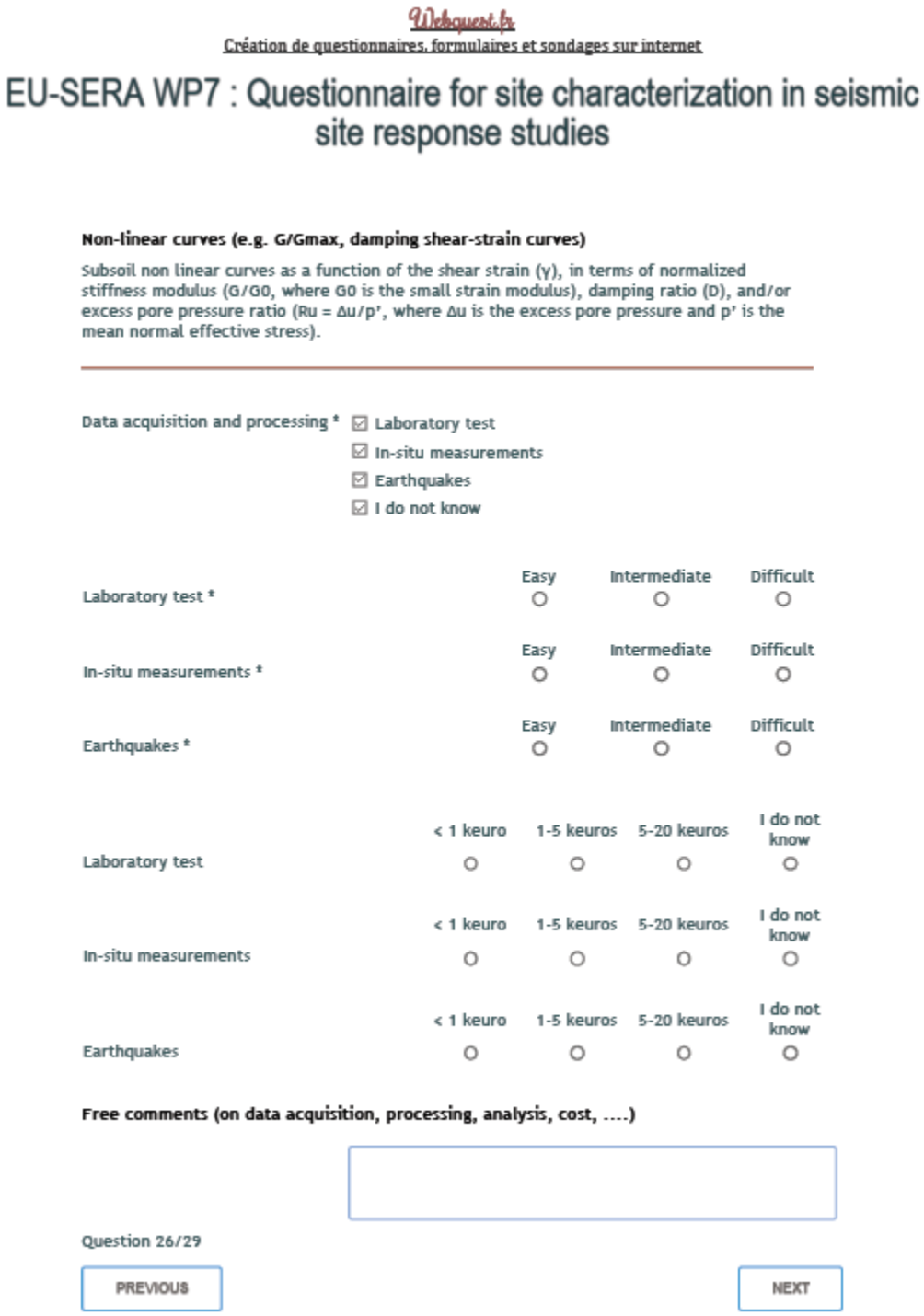
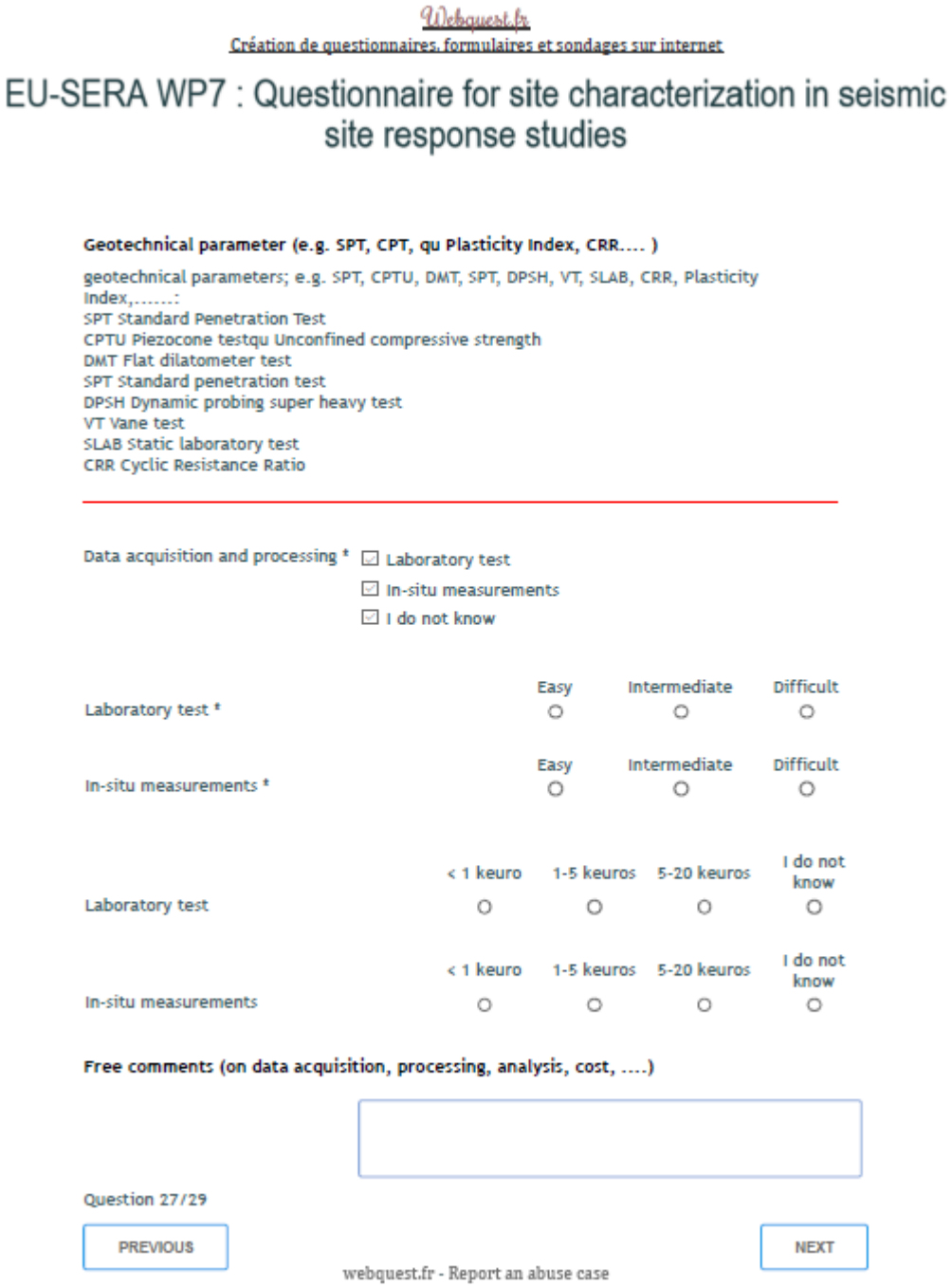


Fig. A28 Online Questionnaire: Non-linear degradation curves: curves characterizing the change of mechanical properties with shear strain (γ), in terms of normalized stiffness modulus (G/G0, where G0 is the small strain modulus), damping ratio (D), and/or excess pore pressure ratio (Ru = Δu/p', where Δu is the excess pore pressure and p' is the mean normal effective stress).



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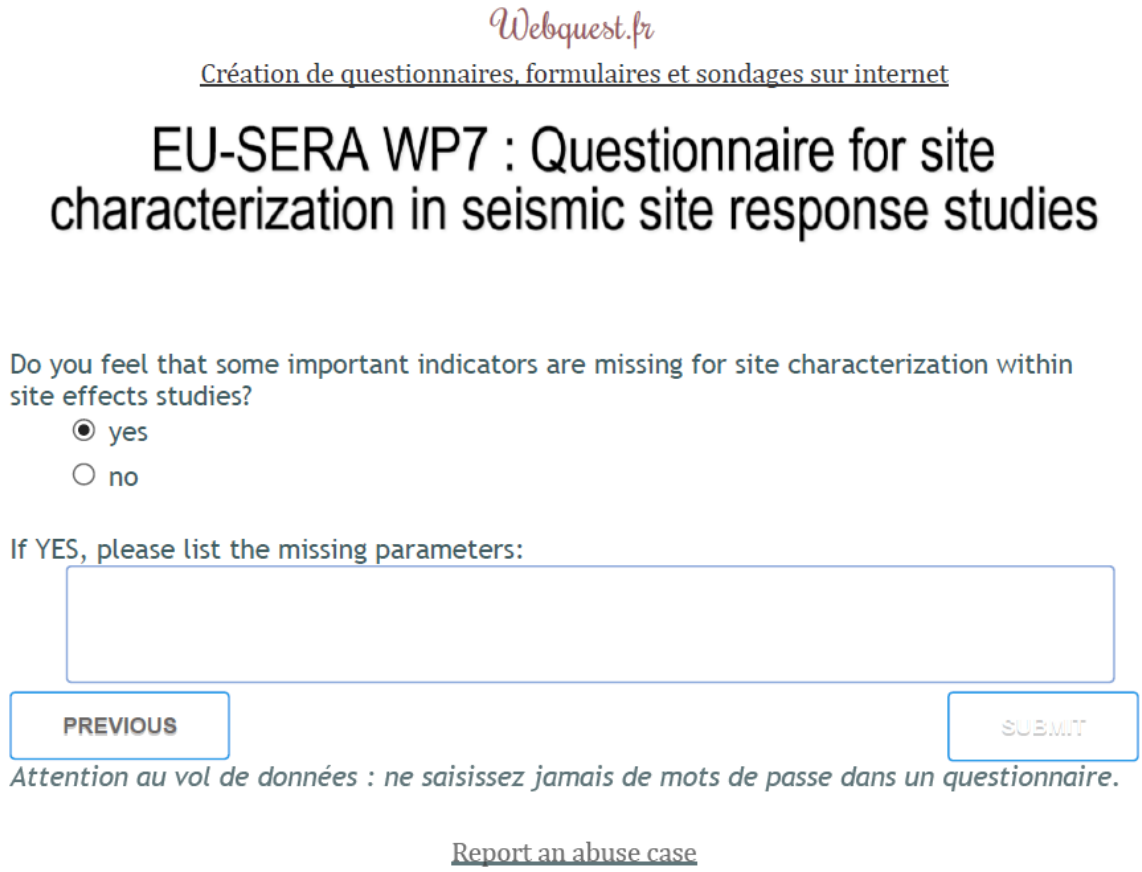

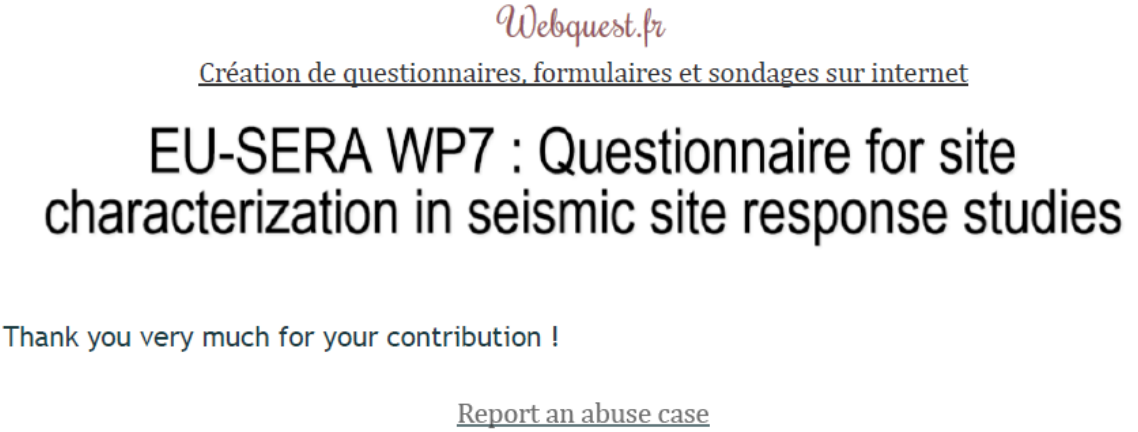

Fig. A31 Online Questionnaire: Report if some important site effects were missing or poorly represented by the proposed indicators.