

Ground, contamination and archaeology

Parcel scope: Flurstück 16/24, area 627 m². The review checked Soil class and class boundaries, Geology and unit boundaries, Radon potential and basement response using 7 sources listed in the appendix ledger, retrieved on 27 September 2026. The main result for this parcel is: The BBD query returned 1 InSAR scatterer on or within 50 m of the plot; they are not proof of stable ground beneath unbuilt land. Before committing to the purchase, request BBD-Punktzeitreihe (BBD point time series) and project-specific settlement/movement evidence.

SOURCE	METHOD	AS AT	GEOMETRY
BGR BÜK200; BGR GÜK250 and 5 more (Appendix A.1)	public-data GIS query and screening	27 September 2026	Chapter findings summarised; each finding states its spatial relationship on its own evidence page



FIG. 5.1 – Ground, contamination and archaeology BGR BÜK200; BGR GÜK250 and 5 more (Appendix A.1).

Analyst read

- FINDING: The review established: GÜK250 is nationwide landscape context at 1:250,000 scale.
- CONSEQUENCE: The source position is supported by 6 of 7 responses; one query remains open. For the buyer, this point should be resolved before agreeing price or purchase.
- NEXT ACTION: ask geotechnical engineer for geotechnical report with boreholes/probes and laboratory results.

Questions and evidence on ground and contamination

Use the mapped soil unit to scope the geotechnical investigation and commission boreholes. Evidence requested: geotechnical report with boreholes/probes and laboratory results; Office: geotechnical engineer.

SOURCE	METHOD	AS AT	GEOMETRY
LBEG Hannover · exploration licences, extraction licences and mining property; LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0	public-data GIS query and screening	27 September 2026	Questions for the competent authorities; they concern the selected parcel and measure nothing themselves

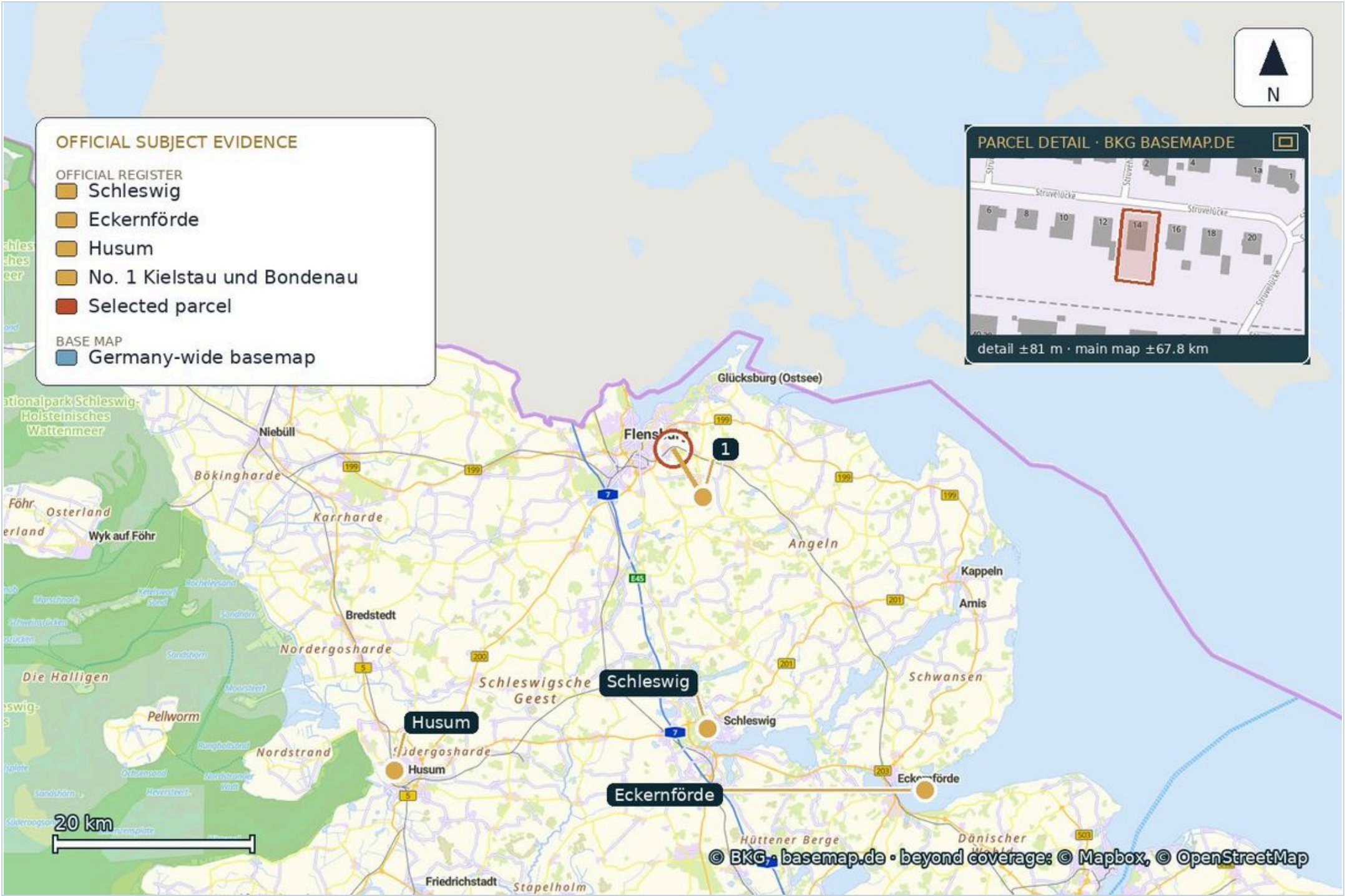


FIG. 5.2 – Questions and evidence on ground and contamination

LBEG Hannover · exploration licences, extraction licences and mining property; LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0.

Analyst read

- FINDING: geotechnical report with boreholes/probes and laboratory results: geotechnical engineer.
- CONSEQUENCE: The directional scan looks for real class changes, not a fabricated distance to a raster cell; for “Soil class and class boundaries”, a confirmed response from geotechnical engineer is carried into the purchase review; a qualified, conflicting or absent response leaves that finding unresolved. Authority: radon specialist / building physicist.
- NEXT ACTION: have this point confirmed in writing by the competent authority before you commit.

Soil overview and mapped class boundaries

BÜK200 describes mapped soil units at map scale, not at plot scale. The directional scan looks for real class changes, not a fabricated distance to a raster cell.

SOURCE	METHOD	AS AT	GEOMETRY
BGR BÜK200 · GeoNutzV (BGR dataset metadata / AGB §3)	BGR point class plus four-direction LBGR class-boundary scan where available	27 September 2026	classified surface at report point; approximate first changed class in cardinal scan

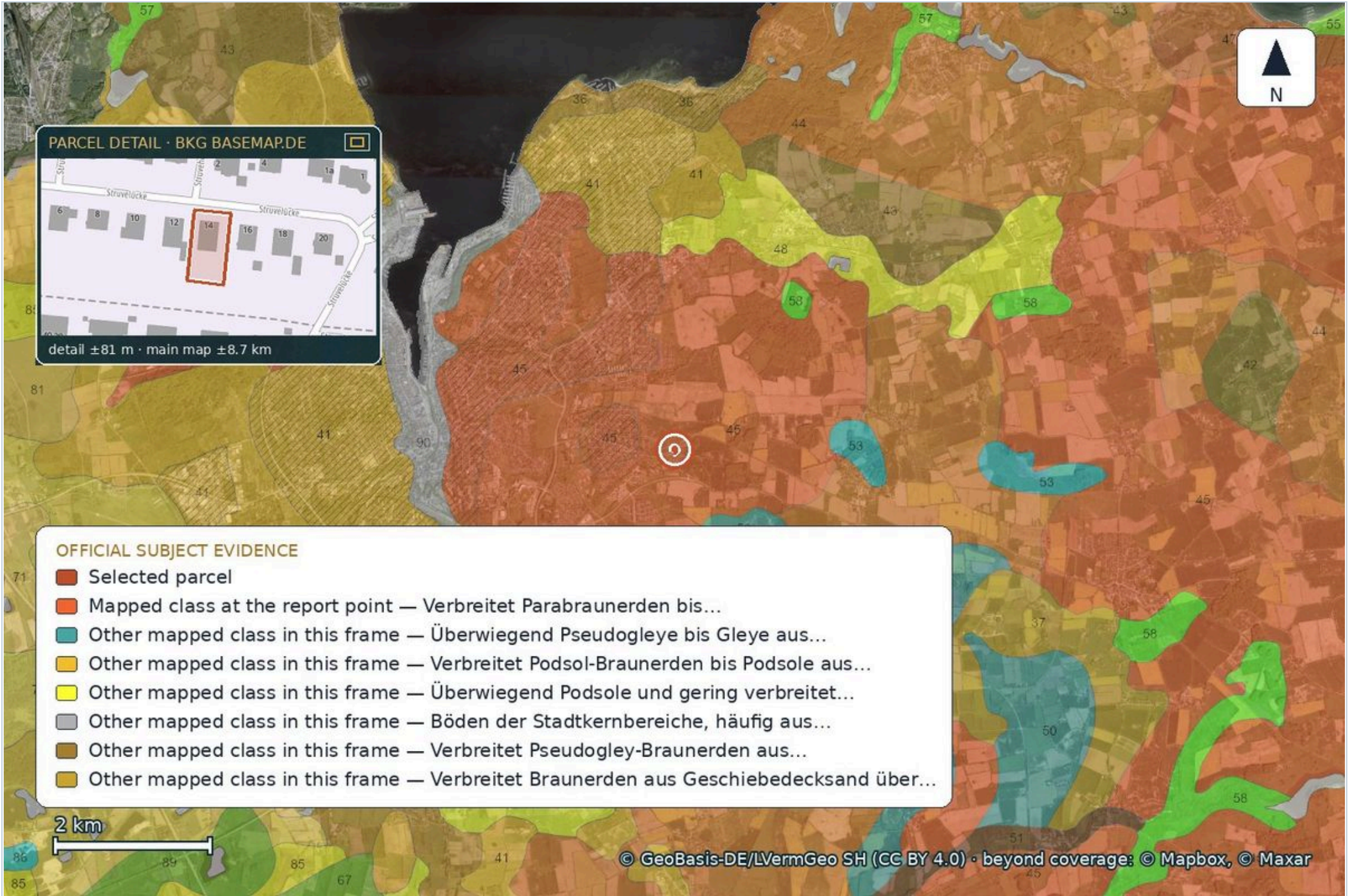


FIG. 5.3 – Soil overview and mapped class boundaries BGR BÜK200 · GeoNutzV (BGR dataset metadata / AGB §3).

- Analyst read
- FINDING: Use the mapped soil unit to scope the geotechnical investigation and commission boreholes.
 - CONSEQUENCE: Without boring, contamination sampling, bearing-capacity testing or plot-scale soil boundaries, the map cannot replace a geotechnical report. The point class describes a regional unit, not soil strata within the plot.
 - NEXT ACTION: have this point confirmed in writing by the competent authority before you commit.

5.1 Ground, contamination and archaeology

- ◆ **Soil class and class boundaries**

— BÜK200 describes mapped soil units at map scale, not at plot scale. The directional scan looks for real class changes, not a fabricated distance to a raster cell.
- ◆ **The BfS value is a coarse geogenic model**

— For a basement it triggers a precaution and measurement strategy, not a predicted indoor concentration.
- ◆ **Within 22.5 km of the plot LBEG records no mining title**

— The nearest field in the area queried is the exploration licence (Erlaubnis) “Schleswig” (geothermal energy from 400 m depth), 24.4 km from the plot. Obtain a written LBEG mining answer before basement, geothermal or deep-drilling design. Before committing to the purchase, request parcel-specific mining-authority response with file number, holder and term from Landesamt für Bergbau, Energie und Geologie (LBEG).
- ◆ **GÜK250 is nationwide landscape context at 1**

— 250,000 scale. It remains a map classification, not a borehole beneath the building.
- ◆ **1 m elevation grid at the plot**

— It describes terrain, not ground movement.

Source: BGR BÜK200; BGR GÜK250 and 5 more (Appendix A.1) · As at 27 September 2026

5.2 Questions and evidence on ground and contamination

- ◆ **geotechnical report with boreholes/probes and laboratory results**

— geotechnical engineer · Use the mapped soil unit to scope the geotechnical investigation and commission boreholes.
- ◆ **ground investigation with borehole log**

— geotechnical engineer / state geological survey · Use the mapped units with a geotechnical engineer to scope borehole depth and laboratory testing and commission ground investigations.
- ◆ **ACTION · radon measurement record and protection plan for ground-contact elements**

— Plan radon-resistant basement details and commission a recognised long-term indoor measurement.
| Authority: radon specialist / building physicist
- ◆ **ACTION · BBD-Punktzeitreihe (BBD point time series) and project-specific settlement/movement evidence**

— Commission a level survey and obtain the BBD point time series or geodetic monitoring where movement matters.
| Authority: BGR Bodenbewegungsdienst Deutschland / surveyor
- ◆ **Appendix source ledger**

— The 7 sources behind chapter 05 are listed there one by one.
| When you query a finding, quote the source and its retrieval date from that list.

Source: LBEG Hannover · exploration licences, extraction licences and mining property; LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0 · As at 27 September 2026

5.3 Soil overview and mapped class boundaries

- ◆ **BGR BÜK200 soil unit**

— Verbreitet Parabraunerden bis Pseudogley-Parabraunerden und verbreitet Pseudogleye aus Geschiebelehm (z.T. über Geschiebemergel), gering verbreitet Pseudogley-Braunerden aus Geschiebedecksand über Geschiebelehm und gering verbreitet Kolluvisole über Geschiebelehm (German BGR legend; soils: Luvisols, Stagnosols, Cambisols, colluvial soils; parent material: glacial till, calcareous glacial till, glacial cover sand)
| CONSEQUENCE — The point class describes a regional unit, not soil strata within the plot.
- ◆ **CLEAR · Test geometry**

— Report point · 1:200,000 scale
| CONSEQUENCE — Soil class: the unit applies to the report point; at 1:200,000 a class boundary is hundreds of metres wide.

Source: BGR BÜK200 · GeoNutzV (BGR dataset metadata / AGB §3) · As at 27 September 2026

Geological overview and unit boundaries

GÜK250 is nationwide landscape context at 1:250,000 scale. It remains a map classification, not a borehole beneath the building.

SOURCE	METHOD	AS AT	GEOMETRY
BGR GÜK250 · GeoNutzV (BGR dataset metadata / AGB §3)	BGR point petrography plus four-direction LBGR class-boundary scan where available	27 September 2026	classified geology surface at report point and approximate first changed class

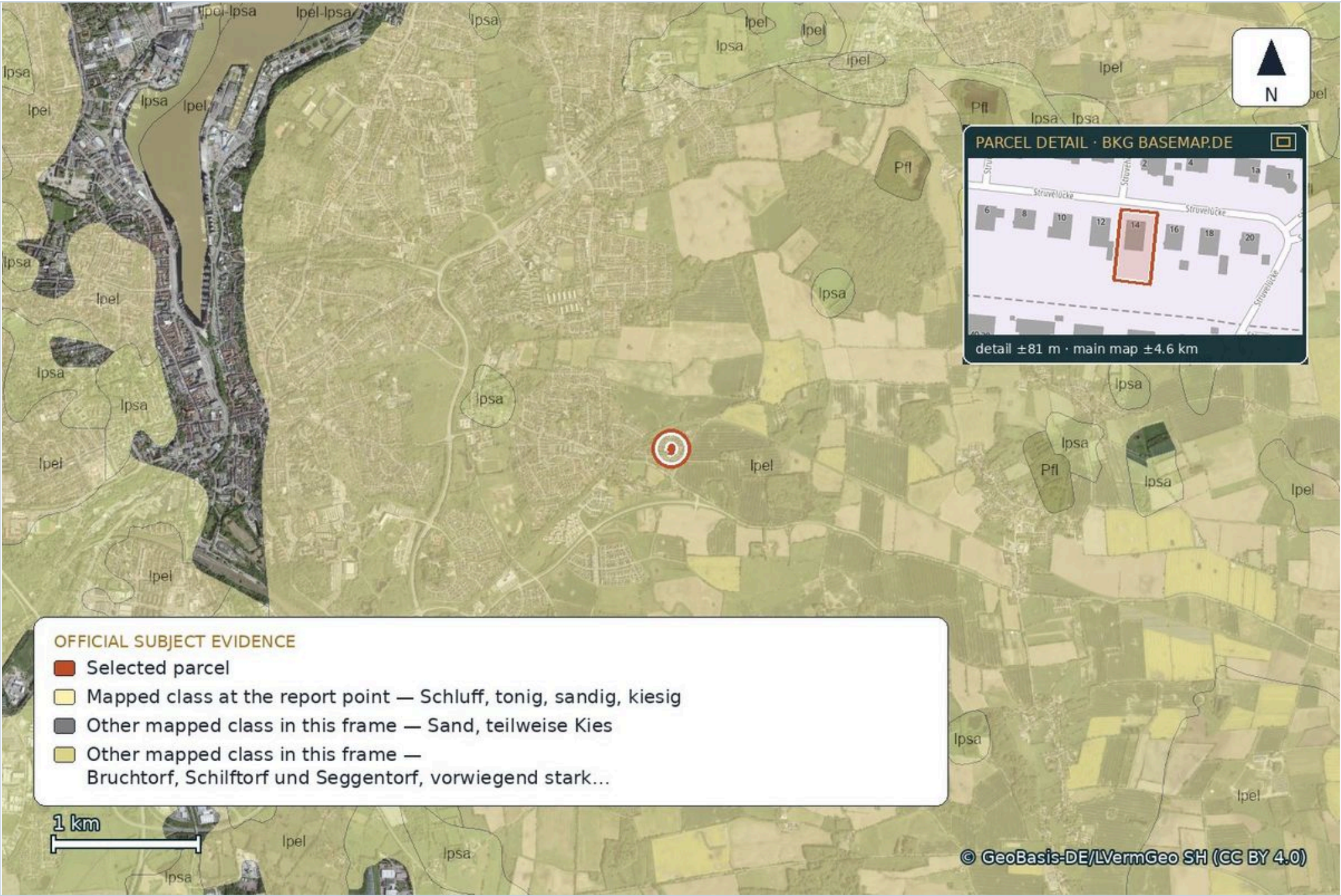


FIG. 5.4 – Geological overview and unit boundaries BGR GÜK250 · GeoNutzV (BGR dataset metadata / AGB §3).

Analyst read

- FINDING: BGR GÜK250 petrography: Schluff, tonig, sandig, kiesig (silt, clayey, sandy, gravelly).
- CONSEQUENCE: Use the mapped units with a geotechnical engineer to scope borehole depth and laboratory testing and commission ground investigations. The point class describes a regional unit, not soil strata within the plot.
- LIMIT: Without boreholes, groundwater observations and fill-thickness measurements, the map supplies no foundation parameters.

Radon potential and basement response

The BfS value is a coarse geogenic model. For a basement it triggers a precaution and measurement strategy, not a predicted indoor concentration.

SOURCE	METHOD	AS AT	GEOMETRY
BfS · Radonpotential / Radonvorsorgegebiete · dl-de/by-2.0	BfS WMS GetFeatureInfo for radon potential and precaution areas	27 September 2026	coarse model polygon at the report point



FIG. 5.5 – Radon potential and basement response

BfS · Radonpotential / Radonvorsorgegebiete · dl-de/by-2.0.

Analyst read

- FINDING: Modelled geogenic radon potential: 25.9.
- CONSEQUENCE: Dimensionless BfS model value; not a soil-gas or indoor concentration.
- LIMIT: No soil-gas test and no indoor radon measurement in this building.
- NEXT ACTION: Plan radon-resistant basement details and commission a recognised long-term indoor measurement.

5.3 Soil overview and mapped class boundaries (continued)

- ◆ **Evidence limit**

— Without boring, contamination sampling, bearing-capacity testing or plot-scale soil boundaries, the map cannot replace a geotechnical report.

CONSEQUENCE — Use the mapped soil unit to scope the geotechnical investigation and commission boreholes.
- ◆ **ACTION**

— Request before committing to the purchase: geotechnical report with boreholes/probes and laboratory results. Body: geotechnical engineer. By: before purchase.

NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.

Source: BGR BÜK200 · GeoNutzV (BGR dataset metadata / AGB §3) · As at 27 September 2026

5.4 Geological overview and unit boundaries

- ◆ **BGR GÜK250 petrography**

— Schluff, tonig, sandig, kiesig (silt, clayey, sandy, gravelly)

CONSEQUENCE — The point class describes a regional unit, not soil strata within the plot.
- ◆ **Evidence limit**

— Without boreholes, groundwater observations and fill-thickness measurements, the map supplies no foundation parameters.

CONSEQUENCE — Use the mapped units with a geotechnical engineer to scope borehole depth and laboratory testing and commission ground investigations.
- ◆ **CLEAR · Test geometry**

— Report point · 1:250,000 scale

CONSEQUENCE — Geology: the unit describes the surrounding landscape; 1:250,000 does not resolve thin cover layers.
- ◆ **ACTION**

— Request before committing to the purchase: ground investigation with borehole log. Body: geotechnical engineer / state geological survey. By: before purchase.

NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.

Source: BGR GÜK250 · GeoNutzV (BGR dataset metadata / AGB §3) · As at 27 September 2026

5.5 Radon potential and basement response

- ◆ **CLEAR · Modelled geogenic radon potential**

— 25.9

CONSEQUENCE — Dimensionless BfS model value; not a soil-gas or indoor concentration
- ◆ **CLEAR · Radon class**

— outside a designated radon precaution area

CONSEQUENCE — The statutory designation is only yes or no; it does not replace a measurement in the building.
- ◆ **CLEAR · Test geometry**

— Report point · model polygon

CONSEQUENCE — Radon: the value belongs to the model polygon around the report point; neighbouring polygons often differ markedly.
- ◆ **ACTION**

— Request before committing to the purchase: radon measurement record and protection plan for ground-contact elements. Body: radon specialist / building physicist. By: before purchase.

NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.
- ◆ **BfS map class**

— 25.9 falls in class 25 to 30 of the BfS legend.

CONSEQUENCE — Range of the dimensionless map class, not a measurement uncertainty interval or a building threshold.
- ◆ **Basement meaning**

— seal soil-contact surfaces and penetrations, allow for sub-slab ventilation, and measure

CONSEQUENCE — screening response, not an indoor concentration
- ◆ **Evidence limit**

— No soil-gas test and no indoor radon measurement in this building.

Plan radon-resistant basement details and commission a recognised long-term indoor measurement.

Source: BfS · Radonpotential / Radonvorsorgegebiete · dl-de/by-2.0 · As at 27 September 2026

Coarse elevations and ground movement

Map: © GeoBasis-DE/LVermGeo SH · DGM1, retrieved 27 September 2026; 1 m elevation grid at the plot. It describes terrain, not ground movement. The BBD query returned 1 InSAR scatterer on or within 50 m of the plot; they are not proof of stable ground beneath unbuilt land.

SOURCE	METHOD	AS AT	GEOMETRY
© GeoBasis-DE/LVermGeo SH · DGM1 · CC BY 4.0; BGR ground-movement service · result carried over from chapter 2	official Land DGM1 tiles, joined into the map frame around the parcel; BBD query with returned InSAR scatterers	27 September 2026	one-metre terrain cells clipped to the selected parcel and surrounding map frame



FIG. 5.6 – Coarse elevations and ground movement © GeoBasis-DE/LVermGeo SH · DGM1 · CC BY 4.0; BGR ground-movement service · result carried over from chapter 2.

44.69–45.92 m

DGM1 within plot

4.4

%

Mean plot slope

- Analyst read
- FINDING: from DGM1 central differences.
 - LIMIT: BBD InSAR scatterers are radar reflectors; no level survey, settlement monitoring or stable-ground finding.
 - NEXT ACTION: Commission a level survey and obtain the BBD point time series or geodetic monitoring where movement matters.

5.7

Mining rights and areas

Within 22.5 km of the plot LBEG records no mining title. The nearest field in the area queried is the exploration licence (Erlaubnis) “Schleswig” (geothermal energy from 400 m depth), 24.4 km from the plot. The table lists the nearest fields with holder and term. LBEG does not publish restricted building areas under § 107 BBergG, legacy mining or operating plans in this service; it answers those questions in writing.

SOURCE	METHOD	AS AT	GEOMETRY
LBEG Hannover · exploration licences, extraction licences and mining property	LBEG WFS (NIBIS) for exploration licences, extraction licences and mining property within 22.5 km, nearest or intersecting field, with the WMS layers of the same services; metadata in the GDI-DE catalogue	27 September 2026	parcel-to-mining-field distance

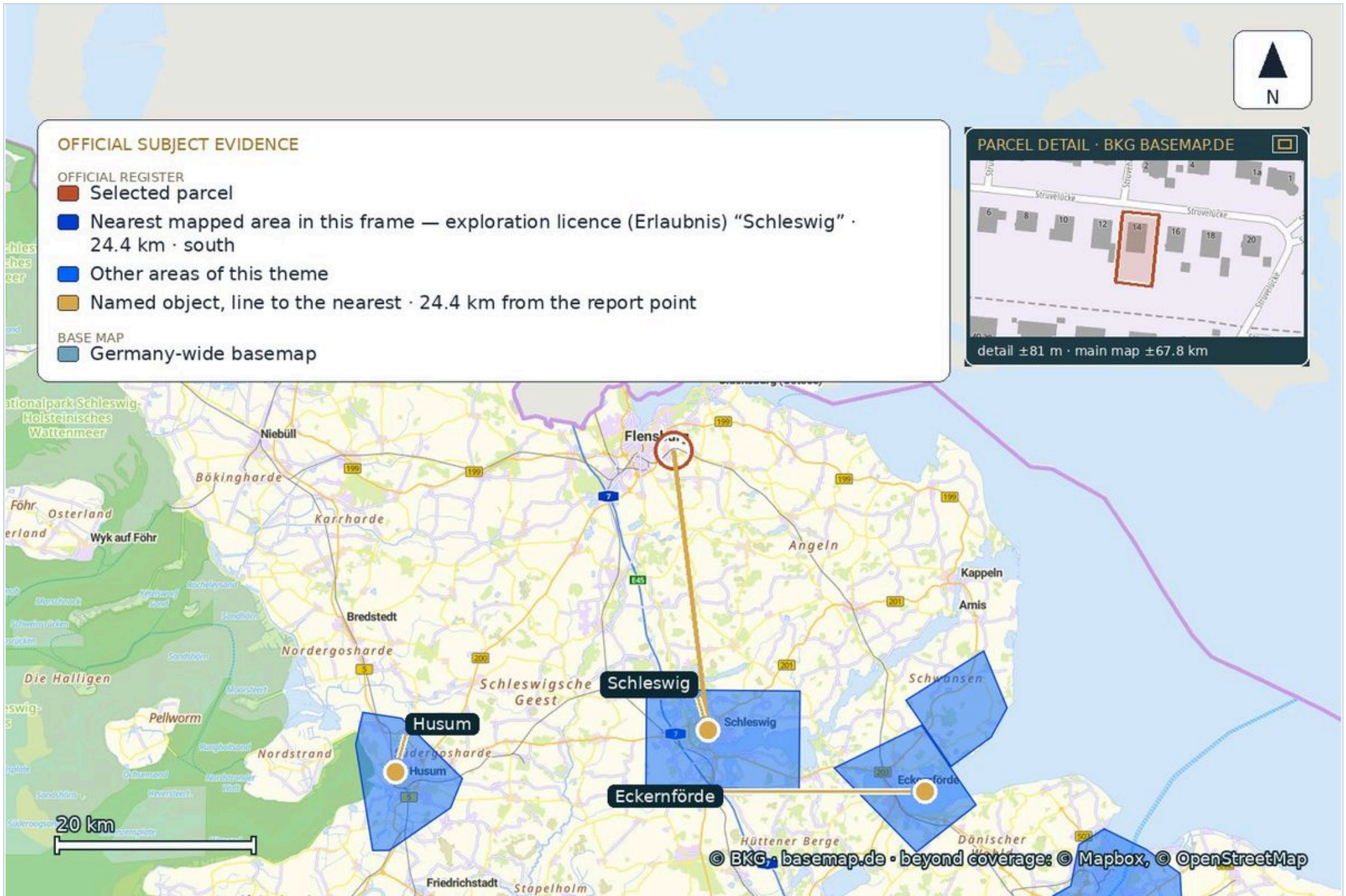


FIG. 5.7 – Mining rights and areas

LBEG Hannover · exploration licences, extraction licences and mining property.

24.4

km

exploration licence (Erlaubnis) “Schleswig” from the parcel edge

36.3

km

exploration licence (Erlaubnis) “Eckernförde” from the parcel edge

- Analyst read
- FINDING: For the purchase decision: Obtain a written LBEG mining answer before basement, geothermal or deep-drilling design. Geothermal energy from 400 m depth · holder: Schleswiger Stadtwerke GmbH · runs until 31 May 2027.
 - CONSEQUENCE: No restricted building areas, legacy mining, operating-plan file, subsidence forecast or private-law compensation analysis.
 - NEXT ACTION: have this point confirmed in writing by the competent authority before you commit.

5.6 Coarse elevations and ground movement

◆ CLEAR • DGM1 within plot — 44.69–45.92 m - EVIDENCE: DHHN2016 • 1 m grid ◆ Ground movement — 1 BBD InSAR scatterer on or within 50 m of the plot - CONSEQUENCE — radar reflectors on structures or hard surfaces; not proof of stable subsoil ◆ ACTION • Evidence limit — BBD InSAR scatterers are radar reflectors; no level survey, settlement monitoring or stable-ground finding. - NEXT ACTION — Commission a level survey and obtain the BBD point time series or geodetic monitoring where movement matters.	◆ CLEAR • Mean plot slope — 4.4 % - CONSEQUENCE — from DGM1 central differences ◆ CLEAR • Test geometry — Grid cells at the parcel - CONSEQUENCE — Terrain and ground movement: every elevation is a grid-cell value; InSAR scatterers sit on structures. ◆ ACTION — Request before committing to the purchase: BBD-Punktzeitreihe (BBD point time series) and project-specific settlement/movement evidence. Body: BGR Bodenbewegungsdienst Deutschland / surveyor. By: before purchase. - NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.
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Source: © GeoBasis-DE/LVermGeo SH • DGM1 • CC BY 4.0; BGR ground-movement service • result carried over from chapter 2 • As at 27 September 2026

5.7 Mining rights and areas

◆ CLEAR • Mining title at the plot — none within 22.5 km - CONSEQUENCE — Nearest field in the area queried: exploration licence (Erlaubnis) “Schleswig”, 24.4 km ◆ CLEAR • exploration licence (Erlaubnis) “Eckernförde” — 36.3 km • SE • 143° - CONSEQUENCE — geothermal energy from 400 m depth • holder: Stadtwerke Eckernförde GmbH • runs until 30 April 2028 ◆ ACTION • Evidence limit — No restricted building areas, legacy mining, operating-plan file, subsidence forecast or private-law compensation analysis. - NEXT ACTION — Obtain a written LBEG mining answer before basement, geothermal or deep-drilling design.	◆ CLEAR • exploration licence (Erlaubnis) “Schleswig” — 24.4 km • S • 173° - CONSEQUENCE — geothermal energy from 400 m depth • holder: Schleswiger Stadtwerke GmbH • runs until 31 May 2027 ◆ CLEAR • Test geometry — Parcel outline to mining area - CONSEQUENCE — Mining rights: the distance runs from the parcel outline to the field. A field shows where a title applies, not where drilling or extraction happens. ◆ ACTION — Request before committing to the purchase: parcel-specific mining-authority response with file number, holder and term. Body: Landesamt für Bergbau, Energie und Geologie (LBEG). By: before purchase. - NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.
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Source: LBEG Hannover • exploration licences, extraction licences and mining property • As at 27 September 2026

Land consolidation and readjustment

A procedure area can affect future parcel structure and dispositions. It is not a ground condition and is carried with its own identifier and authority. The plot does not lie in any running procedure area. The nearest is Kielstau und Bondenau (SLF 02), 5.7 km from the plot. The LLnL layer lists only procedures without a final determination (Schlussfeststellung); a closed procedure does not appear here.

SOURCE	METHOD	AS AT	GEOMETRY
LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0	LfU-SH WFS, layer app:sh_flurbv (LLnL), 10 km radius; measured from the parcel outline to the procedure boundary, with cut-out village cores counted as outside	27 September 2026	parcel-to-procedure-polygon distance

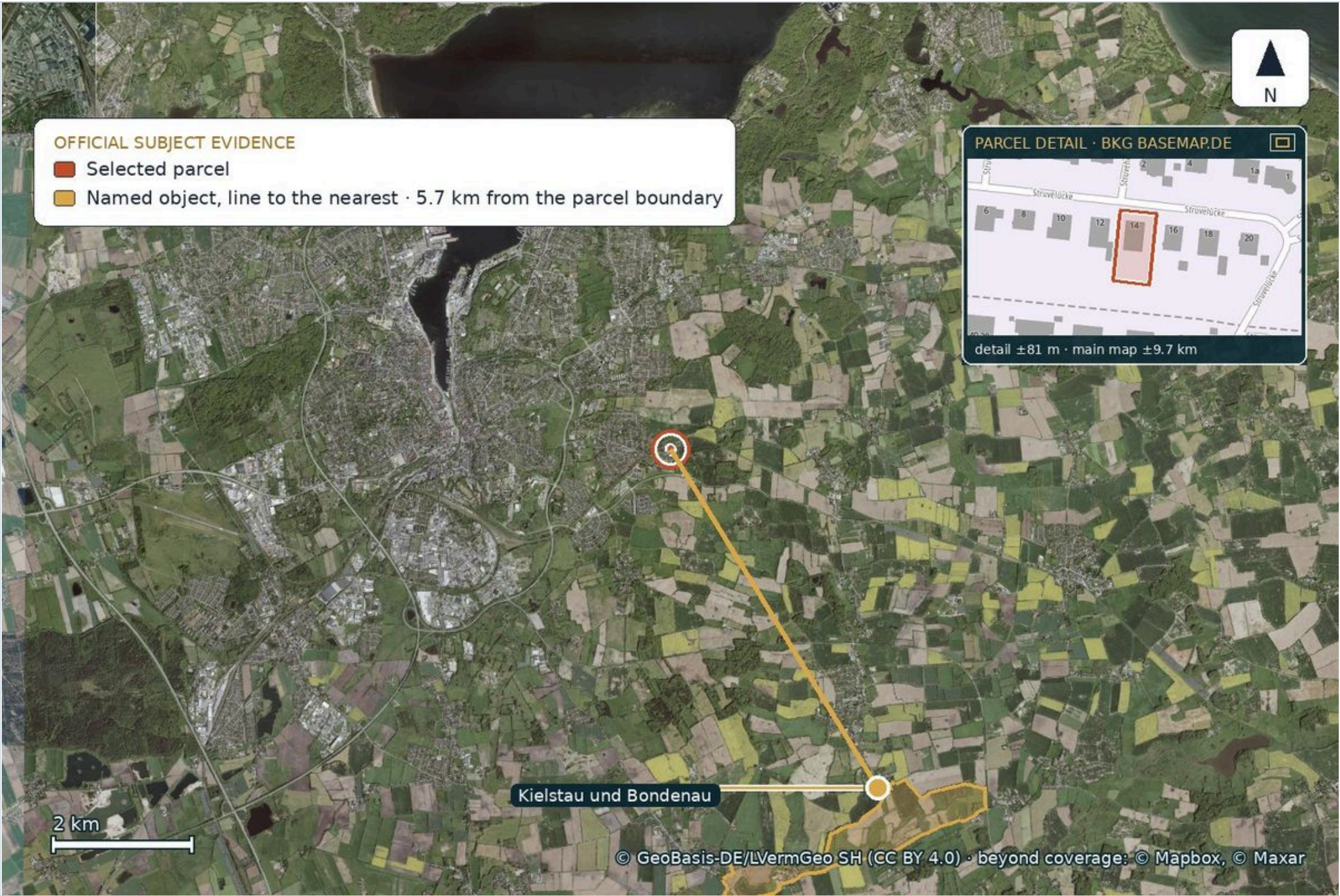


FIG. 5.8 – Land consolidation and readjustment

LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0.

5.7

km

Kielstau und Bondenau

SE · 148°

Analyst read

- FINDING: Test geometry: Parcel outline to procedure area.
- CONSEQUENCE: 27 September 2026 · SLF 02 · Procedure type: Flurbereinigungsverfahren nach § 1 FlurbG; Handled by: LLnL - Standort Flensburg.
- LIMIT: No participant file, allocation plan, contribution decision or future parcel guarantee.
- NEXT ACTION: Ask whether an active procedure affects parcel identity, access, contributions or disposal before contract.

5.9

Archaeology and ground records

OSM is only a feature screen. The official monument/archaeology record and contamination register remain two separate written authority enquiries.

SOURCE	METHOD	AS AT	GEOMETRY
OpenStreetMap contributors, Geofabrik extract, data as of 22 September 2026 (ODbL 1.0); official Denkmalliste and Altlastenkataster held by the competent authorities	Check for archaeological sites in the OpenStreetMap extract (Geofabrik); official lists deliberately not inferred	22 September 2026	nearest OSM geometry in the extract to the report point; no official monument polygon

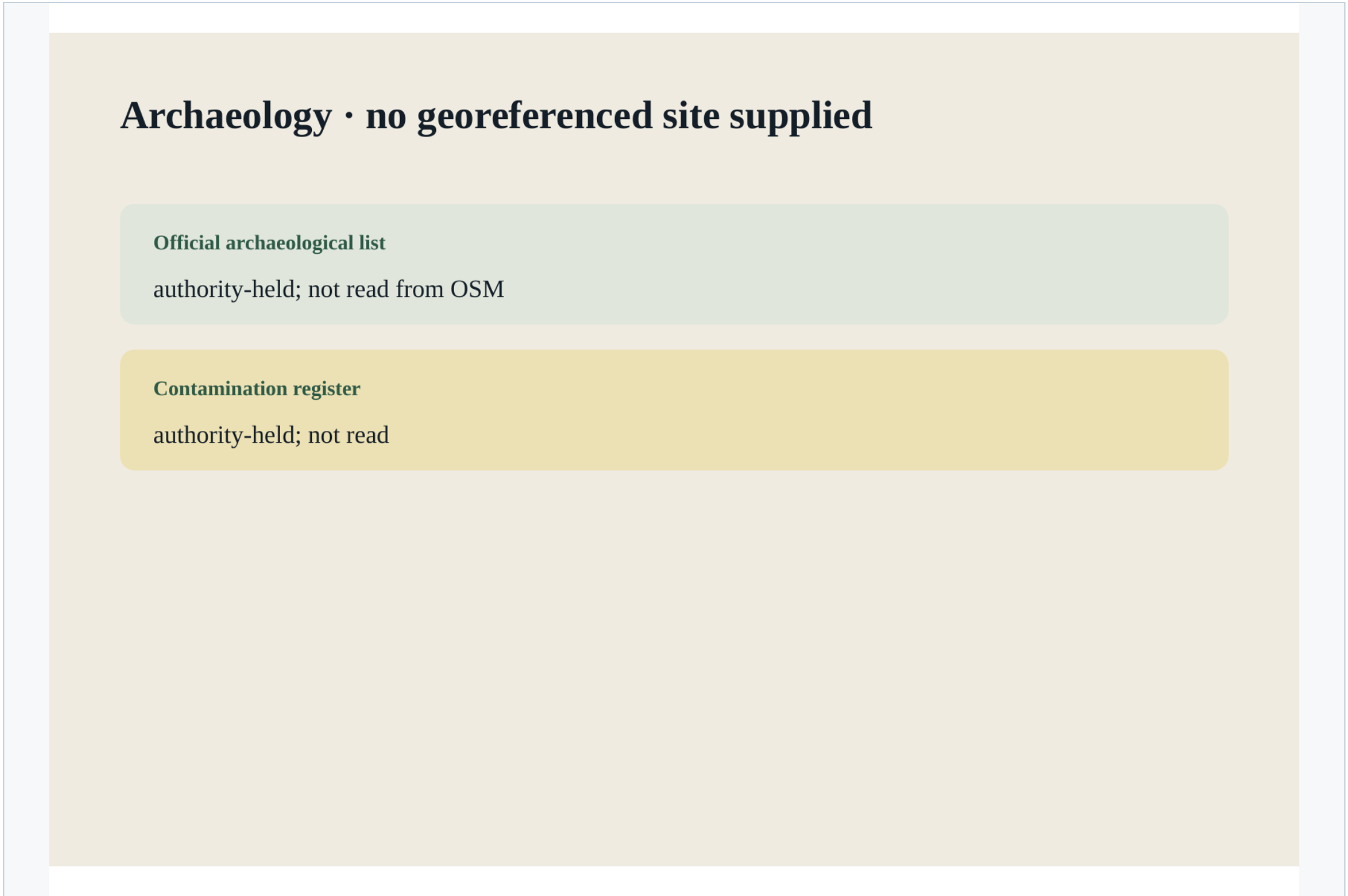


FIG. 5.9 – Archaeology and ground records

OpenStreetMap contributors, Geofabrik extract, data as of 22 September 2026 (ODbL 1.0); official Denkmalliste and Altlastenkataster held by the competent authorities.

Analyst read

- FINDING: Official archaeological list: authority-held; not read from OSM.
- CONSEQUENCE: The query returned no match. Send the parcel identifier and plan to archaeology and soil-protection authorities and attach both written answers to the purchase file.
- LIMIT: No official Denkmalliste or archaeological-record status, excavation condition, Altlastenkataster entry or soil sample.
- NEXT ACTION: request Denkmalliste/Bodendenkmalauskunft for the parcel. Request Grundstücksauskunft aus dem Altlastenkataster.

5.8 Land consolidation and readjustment

- ◆ **CLEAR · Kielstau und Bondenau**

— 5.7 km · SE · 148°

CONSEQUENCE — 27 September 2026 · SLF 02 · Procedure type: Flurbereinigungsverfahren nach § 1 FlurbG; Handled by: LLnL - Standort Flensburg
- ◆ **ACTION · Evidence limit**

— No participant file, allocation plan, contribution decision or future parcel guarantee.

NEXT ACTION — Ask whether an active procedure affects parcel identity, access, contributions or disposal before contract.
- ◆ **CLEAR · Test geometry**

— Parcel outline to procedure area

CONSEQUENCE — Land readjustment: the distance runs to the procedure polygon, which follows farming boundaries rather than the cadastre.
- ◆ **ACTION**

— Request before committing to the purchase: procedure response with procedure number, status and planned replacement parcels. Body: Landesamt für Landwirtschaft und nachhaltige Landentwicklung Schleswig-Holstein (LLnL). By: before purchase.

NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.

Source: LLnL Schleswig-Holstein · Verfahrensgebiete der aktuellen Flurbereinigungsverfahren · WFS LfU-SH · dl-de/by-2.0 · As at 27 September 2026

5.9 Archaeology and ground records

- ◆ **ACTION · Official archaeological list**

— authority-held; not read from OSM

NEXT ACTION — request Denkmalliste/Bodendenkmalauskunft for the parcel
- ◆ **Test geometry**

— Report point · search radius in the extract

CONSEQUENCE — Archaeology: the search ran around the report point; the geometries were drawn by contributors.
- ◆ **ACTION**

— Request before committing to the purchase: Bodendenkmalauskunft/Denkmalliste (archaeology/monument response) and parcel response from the Altlastenkataster. Body: Landesamt für Denkmalpflege/Archäologie und Untere Denkmalschutzbehörde in Schleswig-Holstein; Untere Bodenschutzbehörde / Altlastenkataster der zuständigen Kreis- oder Stadtverwaltung. By: before purchase.

NEXT ACTION — Pause the purchase if: the written authority record or the site investigation changes the ground or procedure assessment.
- ◆ **ACTION · Contamination register**

— authority-held; not read

NEXT ACTION — request Grundstücksauskunft aus dem Altlastenkataster
- ◆ **UNRESOLVED · Evidence limit**

— No official Denkmalliste or archaeological-record status, excavation condition, Altlastenkataster entry or soil sample.

CONSEQUENCE — Send the parcel identifier and plan to archaeology and soil-protection authorities and attach both written answers to the purchase file.

Source: OpenStreetMap contributors, Geofabrik extract, data as of 22 September 2026 (ODbL 1.0); official Denkmalliste and Altlastenkataster held by the competent authorities · As at 22 September 2026