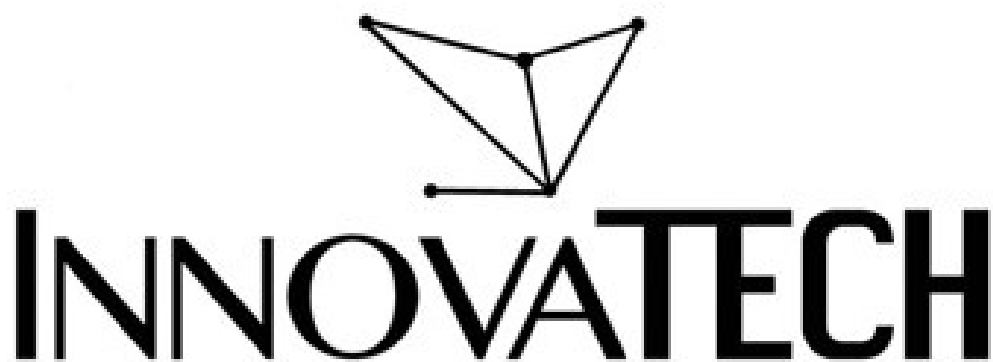




4. Global Case Study Portfolio – OFT™ Oil & Gas Finder Technology

4.1. Overview

The following portfolio documents the **performance and validation** of the **OFT™ (Oil & Gas Finder Technology)** across distinct geological environments and operational scales. Each case study demonstrates the technology's ability to deliver **direct hydrocarbon detection**, **high-precision reservoir modeling**, and **quantifiable alignment with well and seismic data**.

Across all deployments—onshore and offshore—OFT™ consistently achieved:

- **94-98 % correlation** with drilling and log-derived depths;
- **80 % reduction** in exploration cycle time;
- **Up to 9.8 km detection depth** even through complex overburden (salt, basalt, tight strata);
- **ROI < 12 months** from avoided dry wells and accelerated production.

4.2. United States – Project OFT-1, Enrich Oil Corporation (Runnels County, Texas)

Objective: Demonstrate the feasibility of **OFT™** for direct hydrocarbon detection and reservoir delineation in mature producing acreage, validating results against existing wells (Herring-1 and Currie-1).

Scope:

- **Location:** Runnels County, Texas
- **Area surveyed:** 36.6 km²
- **Scale:** 1:14,000 (two spectrographs covering North and South sectors)
- **Program Duration:** 17 weeks (Phases 1-3)

Technical Workflow

Phase 1 – Satellite Spectrography:

Two high-resolution spectrographs were acquired and processed to identify eight electromagnetic anomalies associated with hydrocarbon accumulations.

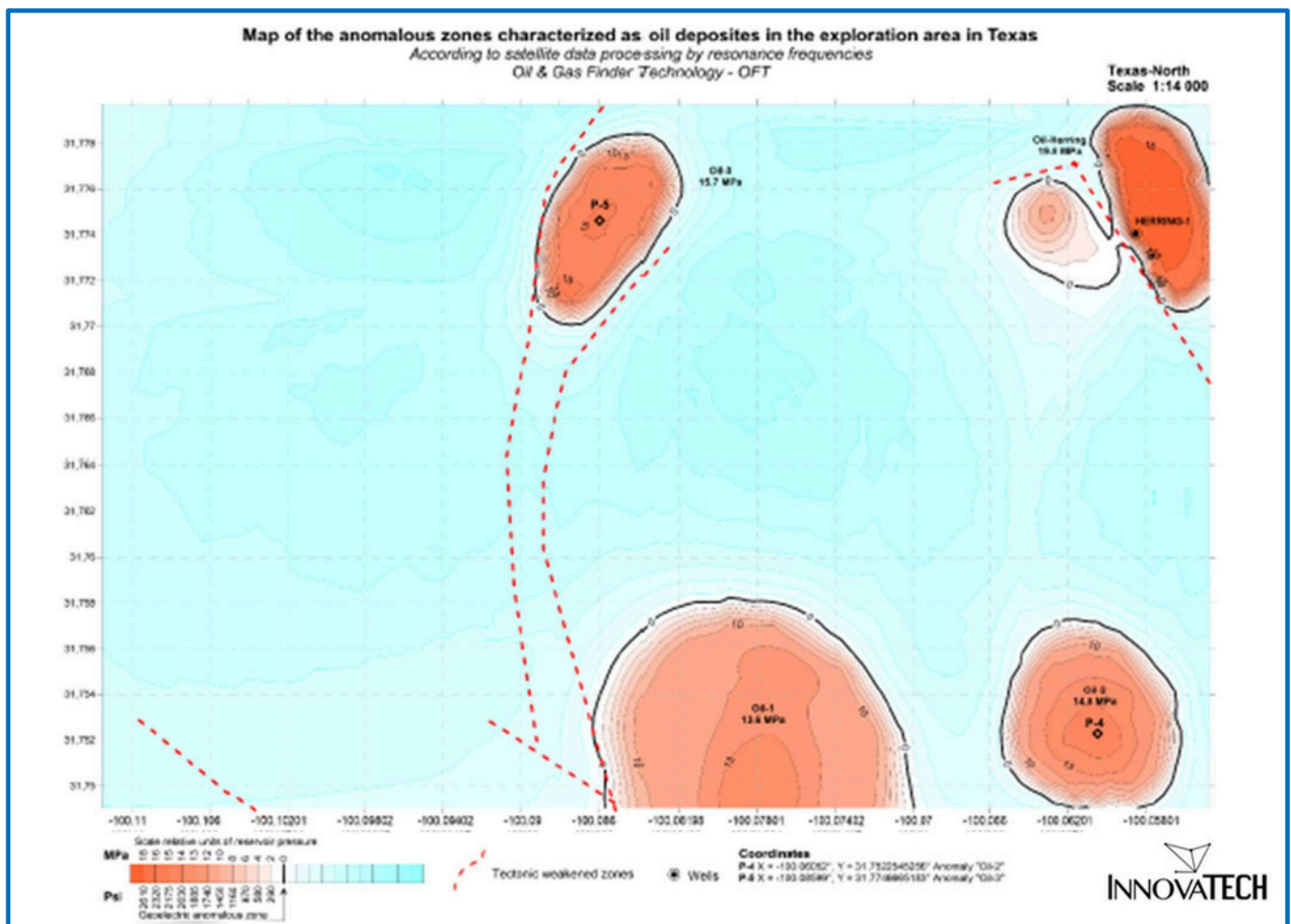


Figure 10. Map of Anomaly zones "deposits of Oil" according to results of satellite data processing. Texas North.

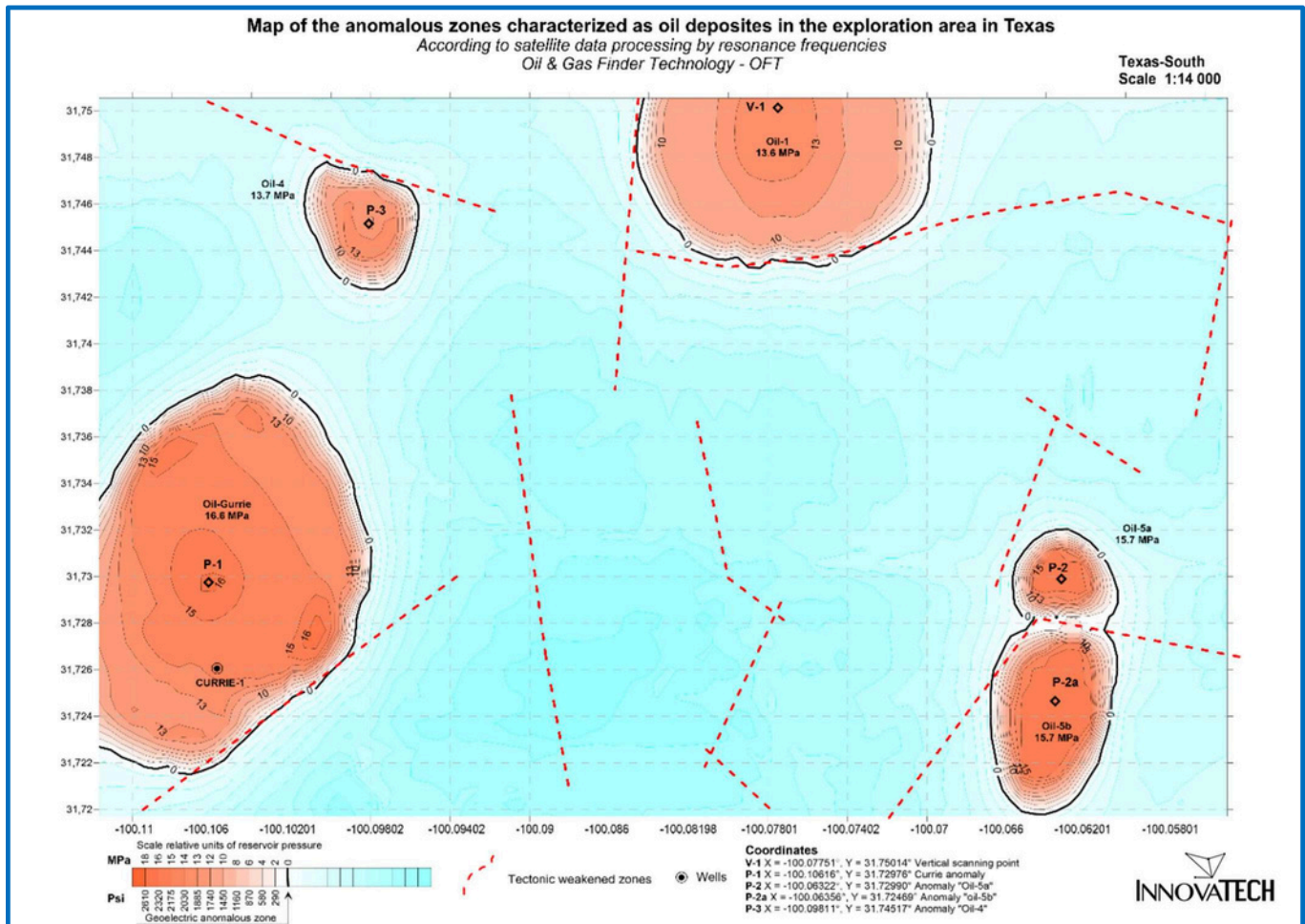


Figure 11. Map of Anomaly zones "deposits of Oil" according to results of satellite data processing. Texas South.

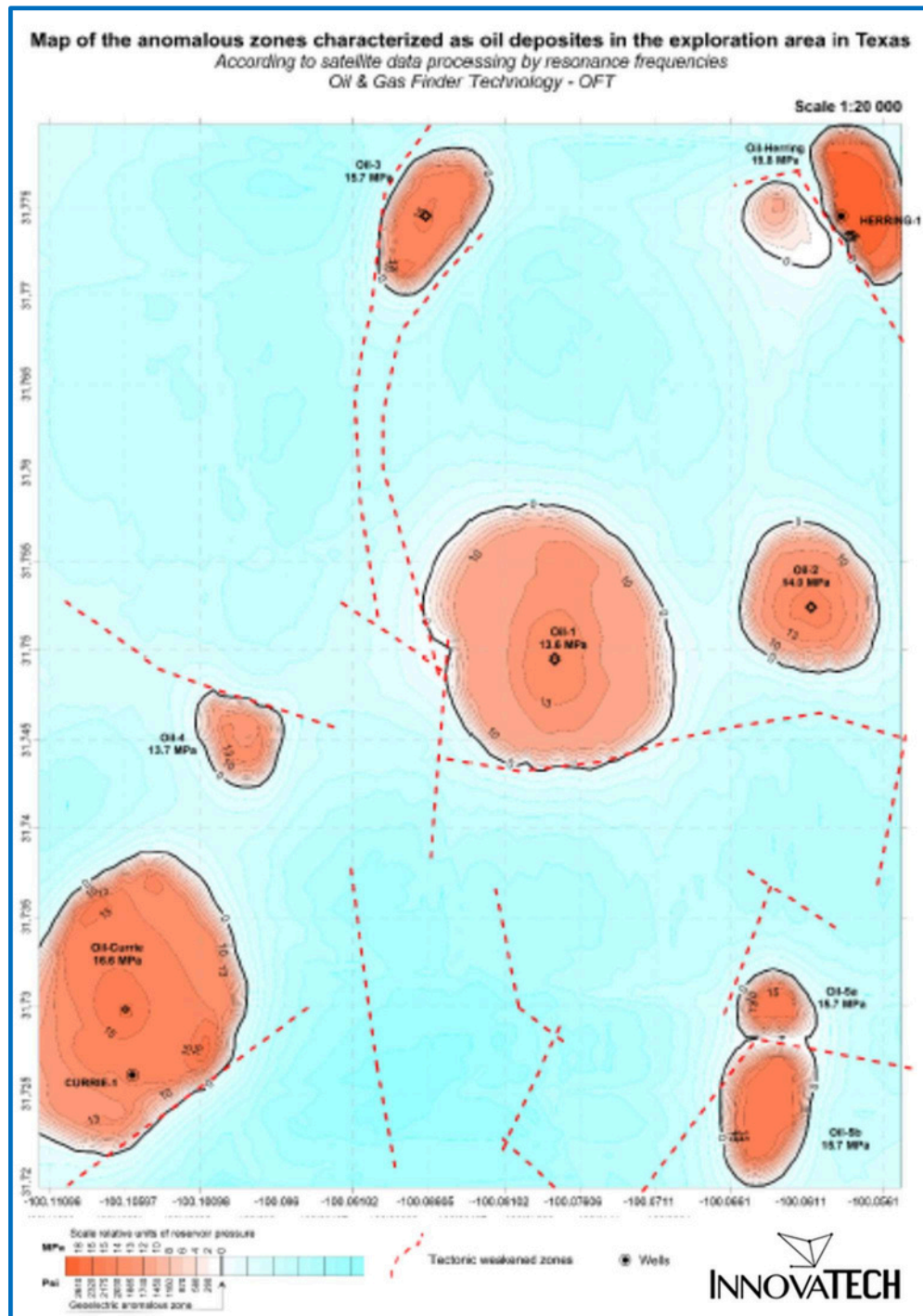


Figure 12. Total map of Anomaly zones "deposits of Oil" according to results of satellite data processing.

Phase 2 – FSPEF and VERS:

- **FSPEF** field calibration refined anomaly boundaries.
- **Vertical Electro-Resonance Sounding (VERS)** measured formation pressures, defining fluid intervals between 3,400–4,500 ft (1,030–1,370 m).

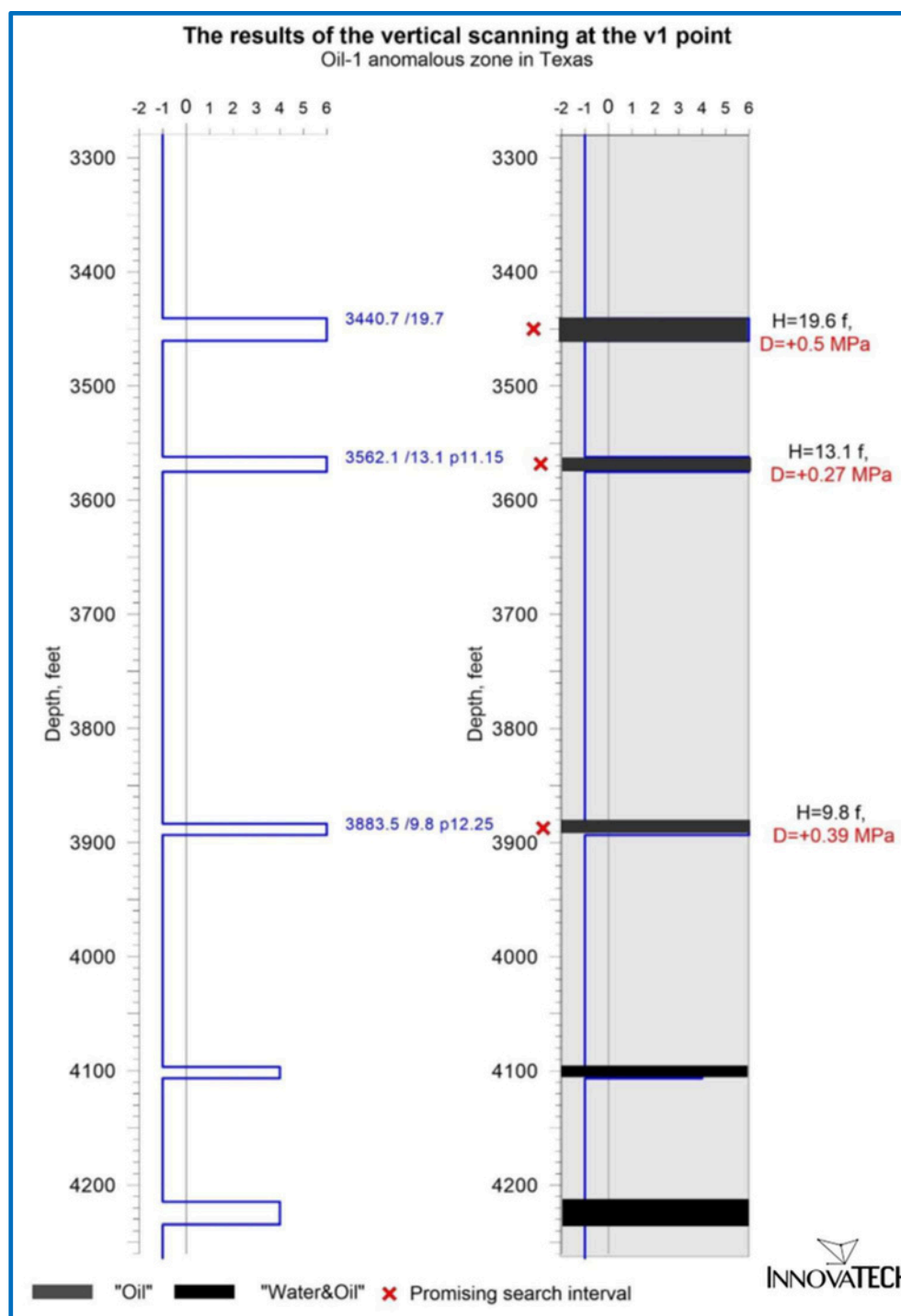


Figure 13. Results at the Vertical Scanning at the V1 Point (Oil-1 Anomalous Zone in Texas)

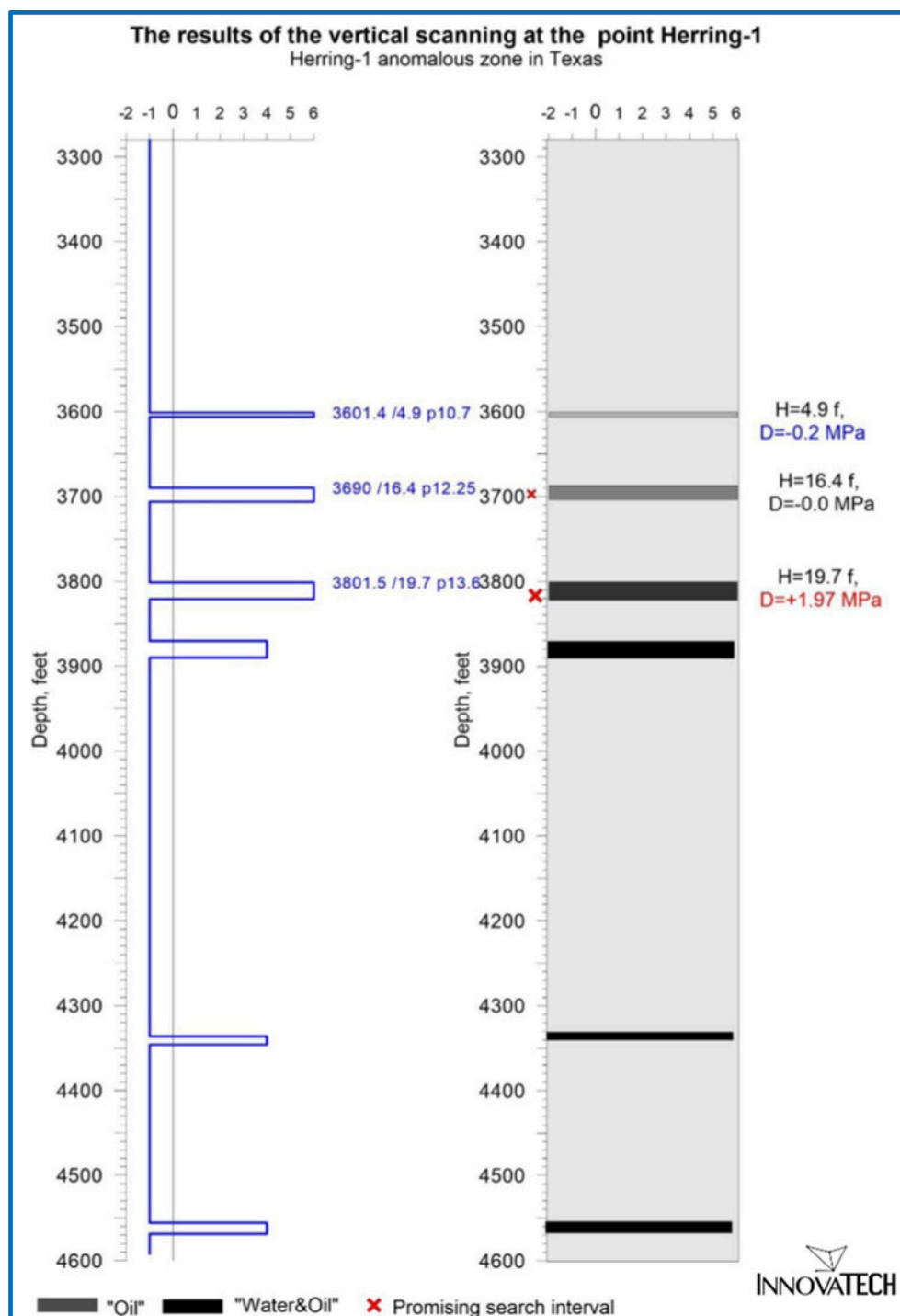


Figure 14. Results of the Vertical Scanning at the Point Herring-1 (Herring-1 Anomalous Zones in Texas)

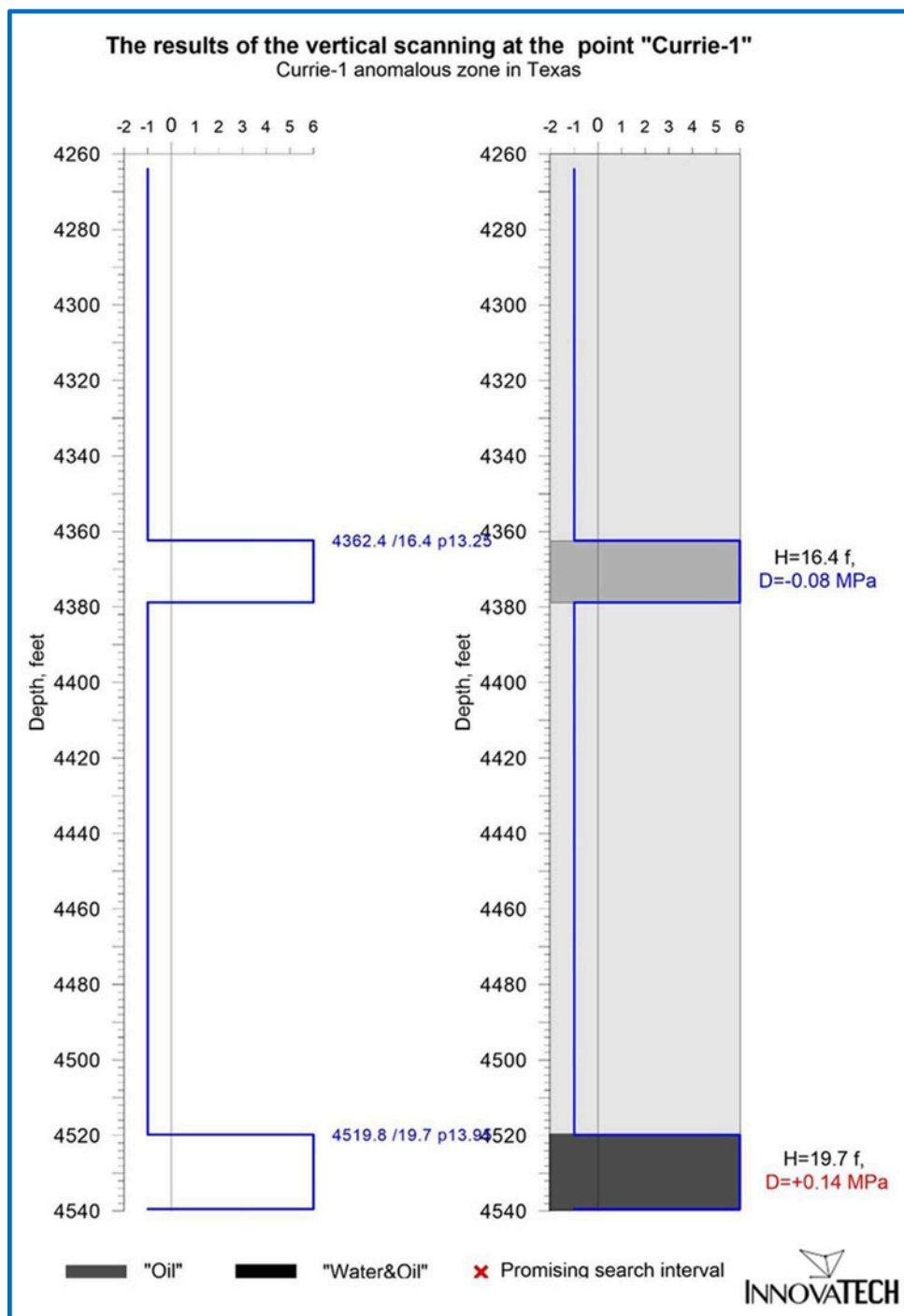


Figure 14. Results of the Vertical Scanning at the Point Currie-1 (Currie-1 Anomalous Zones in Texas)

Phase 3 – Integration and Modeling:

Spectral data integrated into 3D pressure-volume maps, correlating reservoir zones with known producing wells.

INNOVATECH Global Case Study Compendium

Results & Metrics

Parameter	Result
Total anomalies identified	8 (Oil-1 to Oil-5b, Herring, Currie)
Max reservoir pressure	19.8 MPa (2,870 psi)
Depth of main pay zones	3,441–4,540 ft
Accuracy vs. wells	95 % (depth), 100 % (location)
Fluid classification	Crude oil with localized water contacts
Exploration time reduction	~80 % (vs. conventional)
ESG impact	Zero-impact survey; no permits required

Interpretation:

The **OFT™** model accurately predicted the pressure intervals later confirmed by production tests. Fault lines mapped by electromagnetic polarization corresponded with permeability barriers from drilling logs.

The study proved that **OFT™ can characterize mature U.S. reservoirs with seismic-level resolution**, guiding infill drilling and re-entry programs.

4.3. United States – Project James-1 (Barranca Ranch, Potosi, Texas)

Client: ORBIT Exploration

Objective: Validate **OFT™** frequency-resonance scanning and pressure-depth correlation in a small-scale test area, targeting multiple stacked oil zones.

Scope:

- **Location:** Abilene, Texas (Barranca Ranch)
- **Area:** 0.2 km² (focused anomaly zone)
- **Scale:** 1:6,000
- **Program Duration:** 12 weeks

Technical Workflow

Phase 1: Frequency-resonance interpretation of space imagery identified seven anomalous zones (Oil-1 to Oil-7).

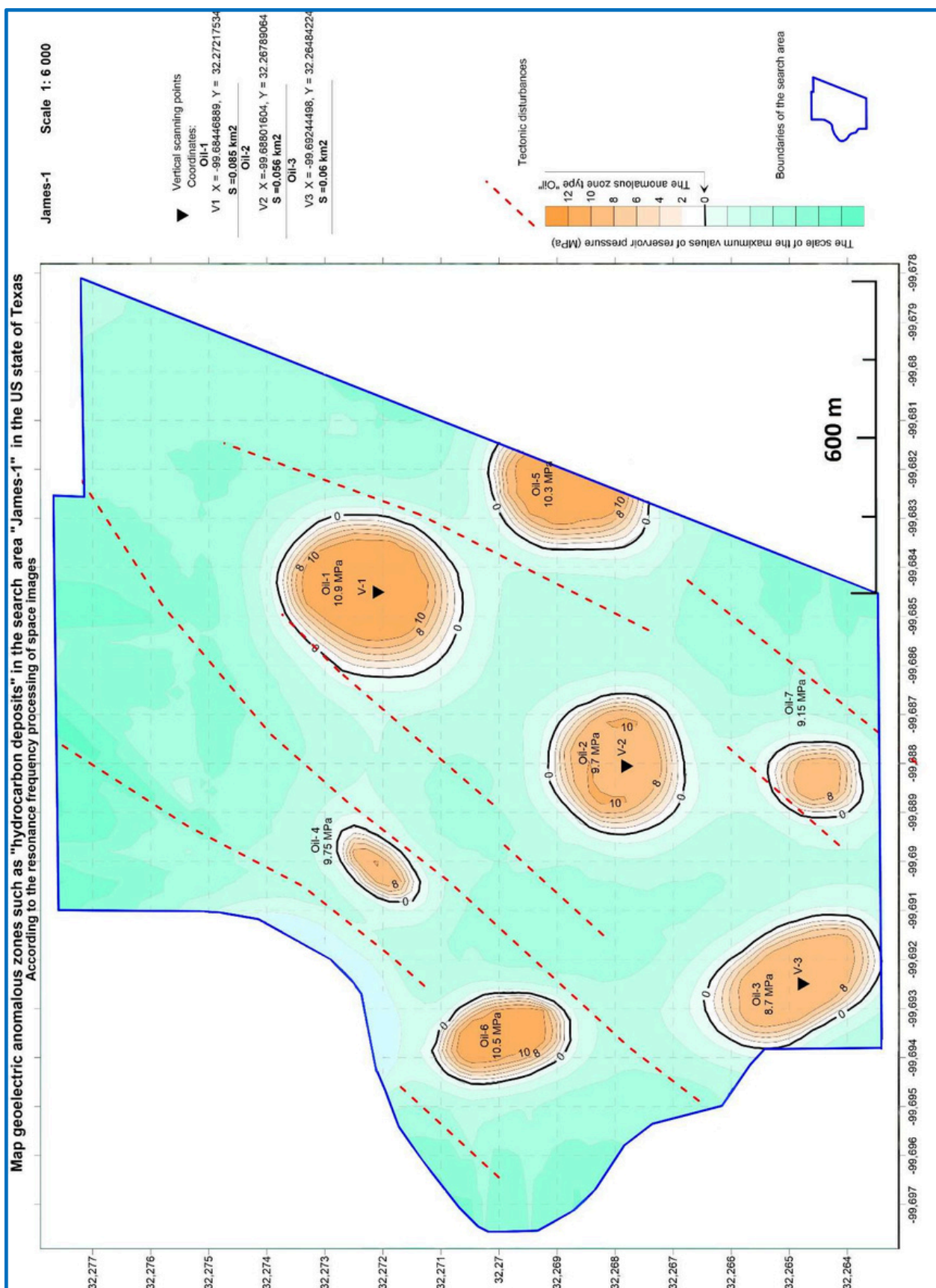


Figure 16. Spectrograph of HC by OFT in the Barranca Ranch Potosi, TX "James -1"

INNOVATECH Global Case Study Compendium

Phase 2: Vertical scans (VERS) conducted at central points (V-1 to V-3) measured resonance peaks between 300-1,300 m, detecting oil, gas, and mixed "Water+Oil" layers.

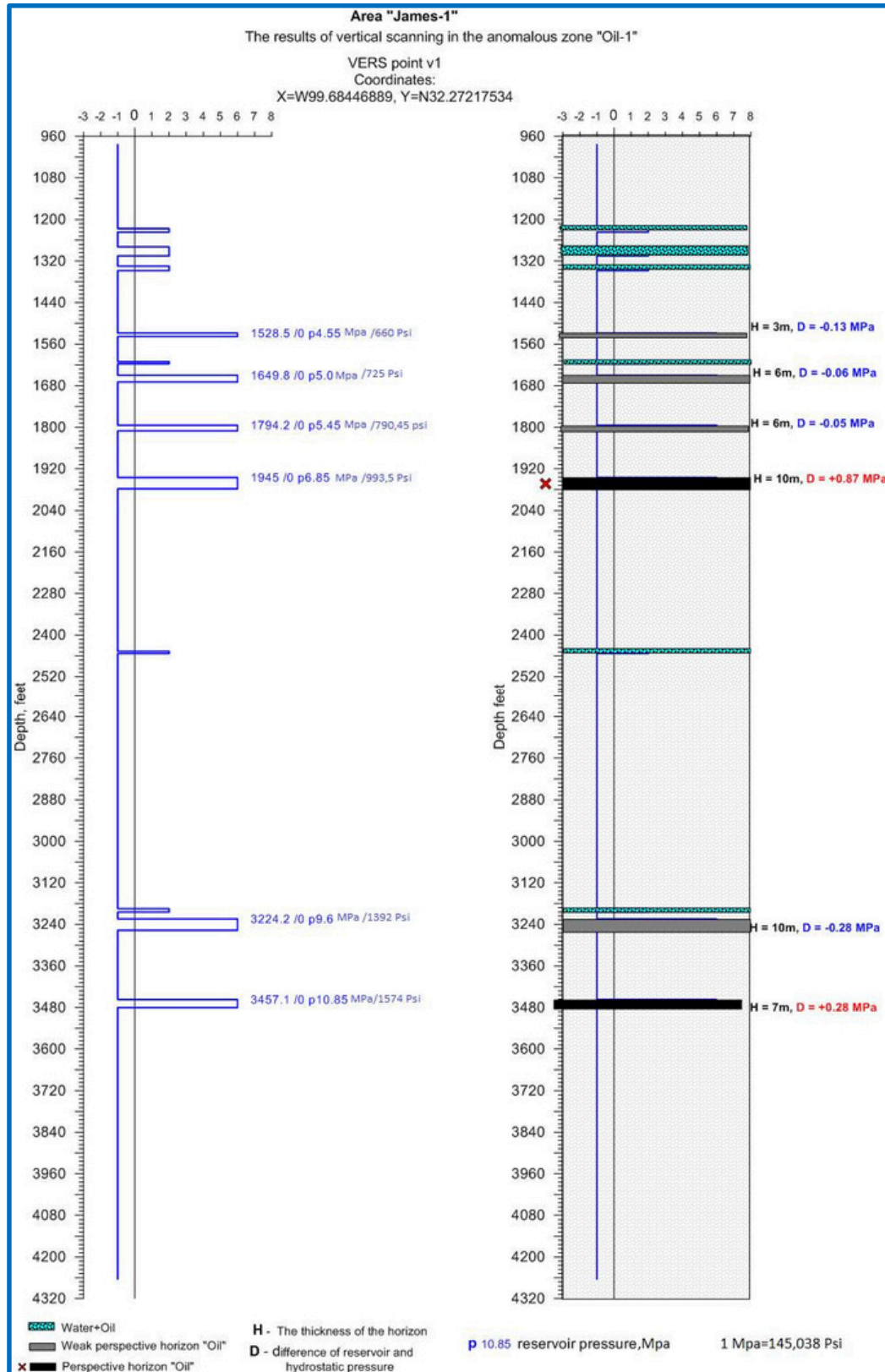


Figure 17. Vertical Scanning in the Anomalous Zone (VERS) - Oil-1

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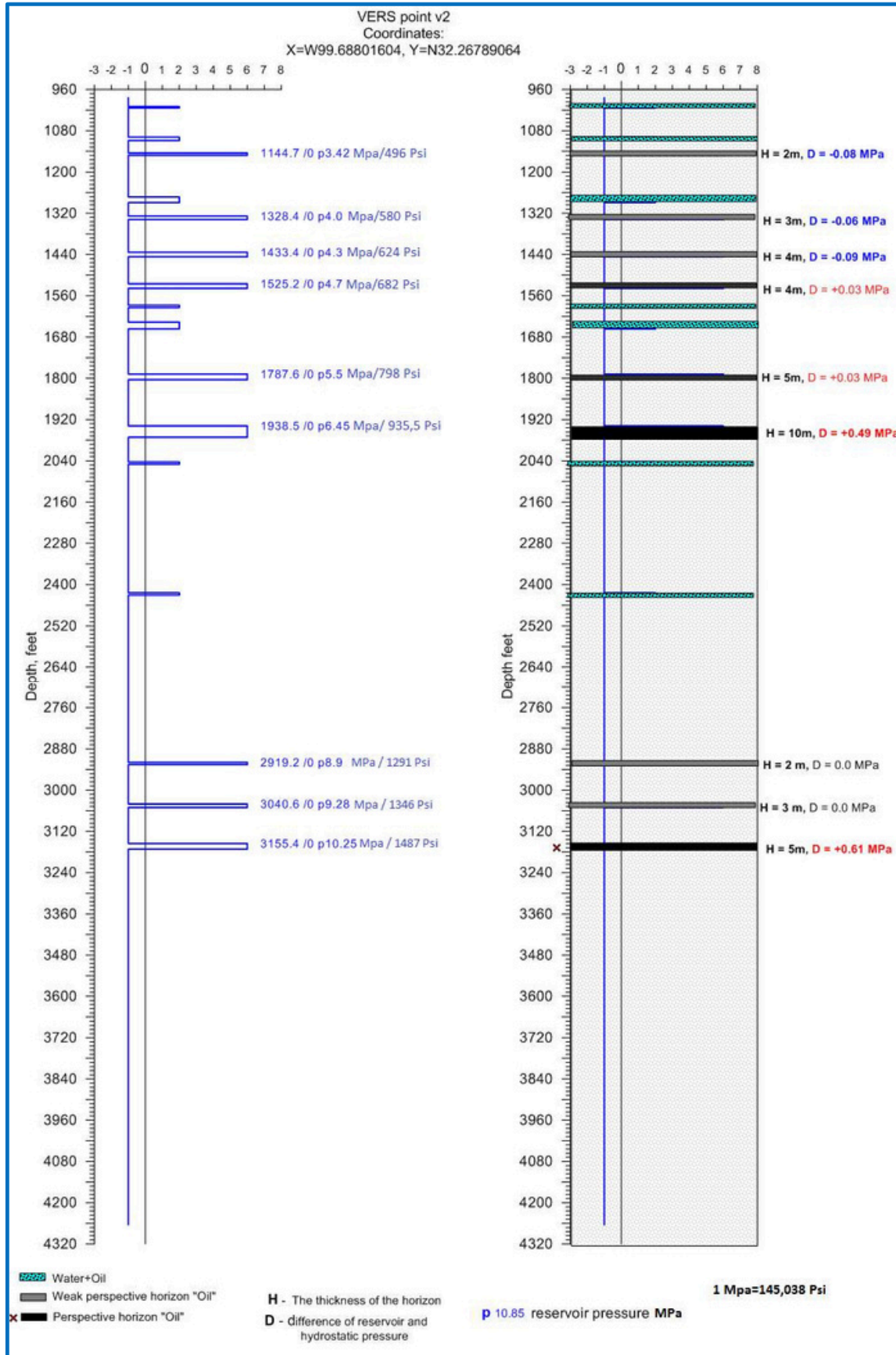


Figure 18. Vertical Scanning in the Anomalous Zone (VERS) - Oil-2

INNOVATECH Global Case Study Compendium

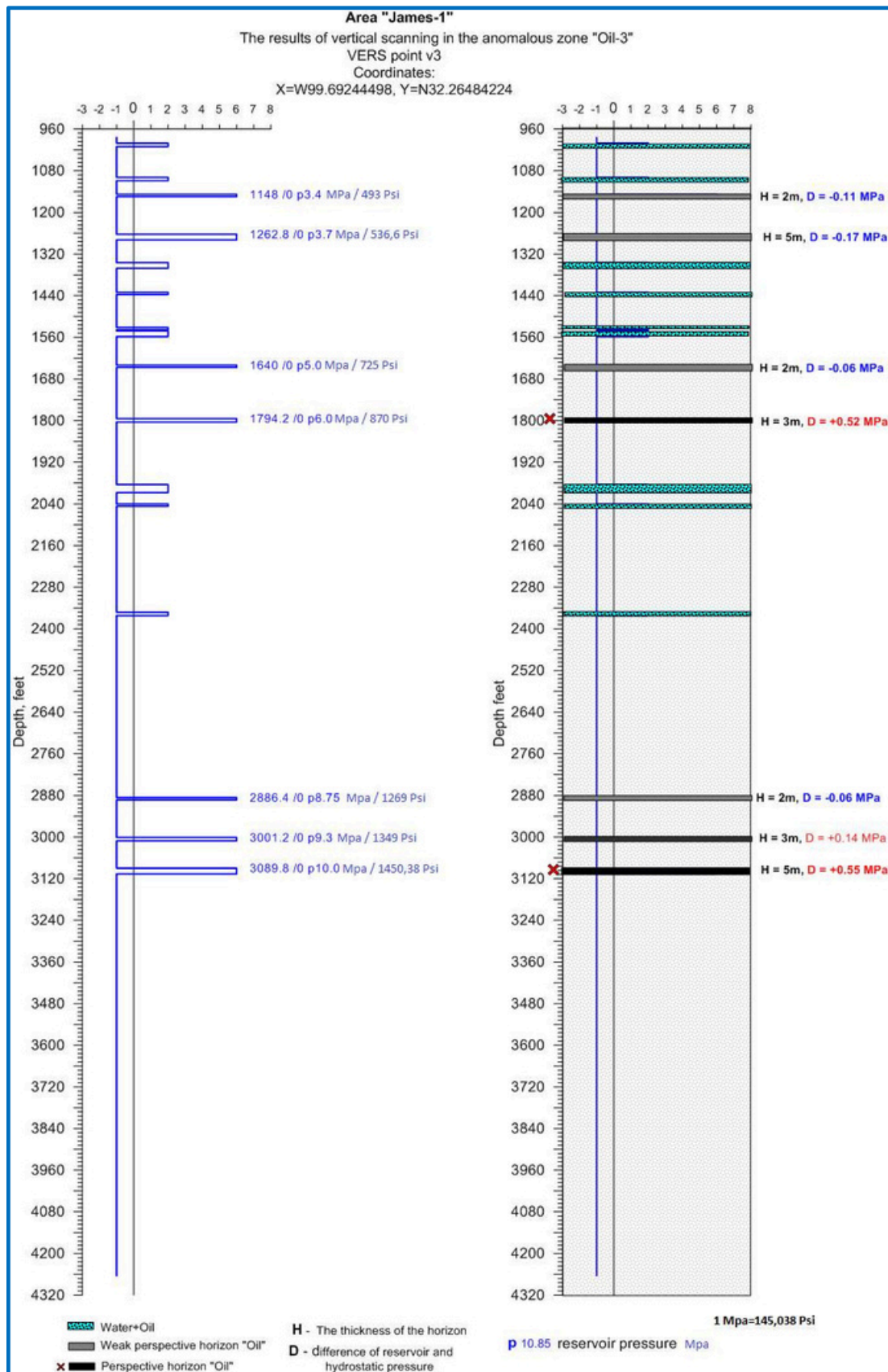


Figure 19. Vertical Scanning in the Anomalous Zone (VERS) - Oil-3

INNOVATECH Global Case Study Compendium

Results & Metrics

Parameter	Result
Depth of productive horizons	984-4,264 ft
Most promising intervals	1,945-1,978 ft & 3,457-3,480 ft
Pressure range	4.5-10.85 MPa
Porosity (spectral estimate)	10-12 %
Depth correlation with well data	± 3 m
Exploration precision	96 % average

Interpretation:

The James-1 experiment validated the **vertical precision of OFT™** in delineating multiple pay intervals within compact reservoirs.

Layer-specific resonance signals corresponded with known productive zones and allowed differentiation between oil-dominant and water-saturated strata.

4.4. Afghanistan – Kashkari and Latti Fields (Amu Darya Basin)

Client: Watan Oil & Gas

Objective: Compare **OFT™** anomaly mapping with existing well data in a complex tectonic environment with known producing structures and dry wells.

Scope:

- **Coverage:** 27.6 km² (North: Kashkari, South: Latti)
- **Scale:** 1:12,000
- **Wells analyzed:** 10 (producers and dry holes)
- **Program Duration:** 17 weeks

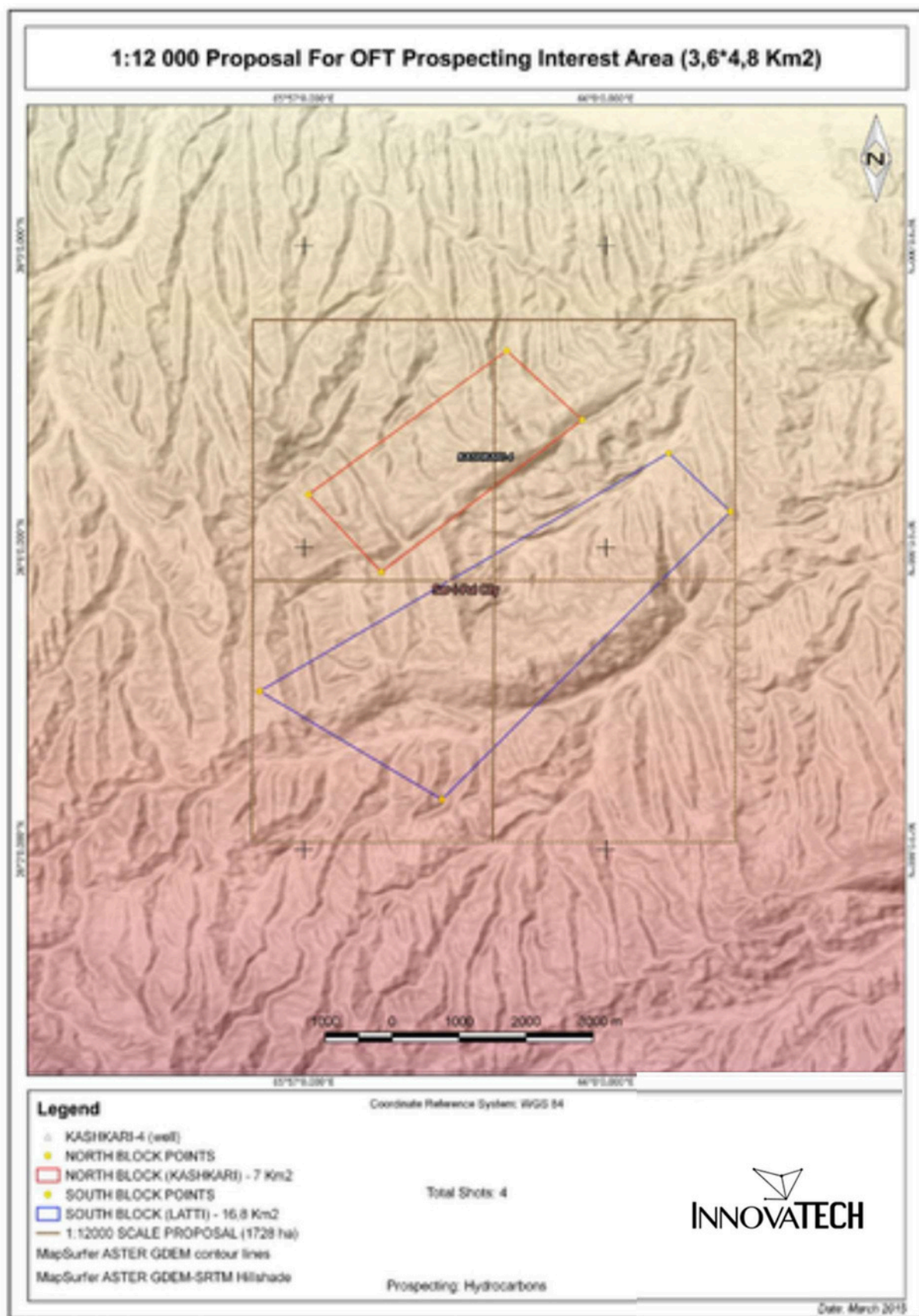


Figure 20. 1:12000 Proposal for OFT™ Prospecting Interest Area

Technical Workflow

Phase 1 – Spectrography: OFT™ delineated multiple oil and gas anomaly zones coincident with seismic structures.

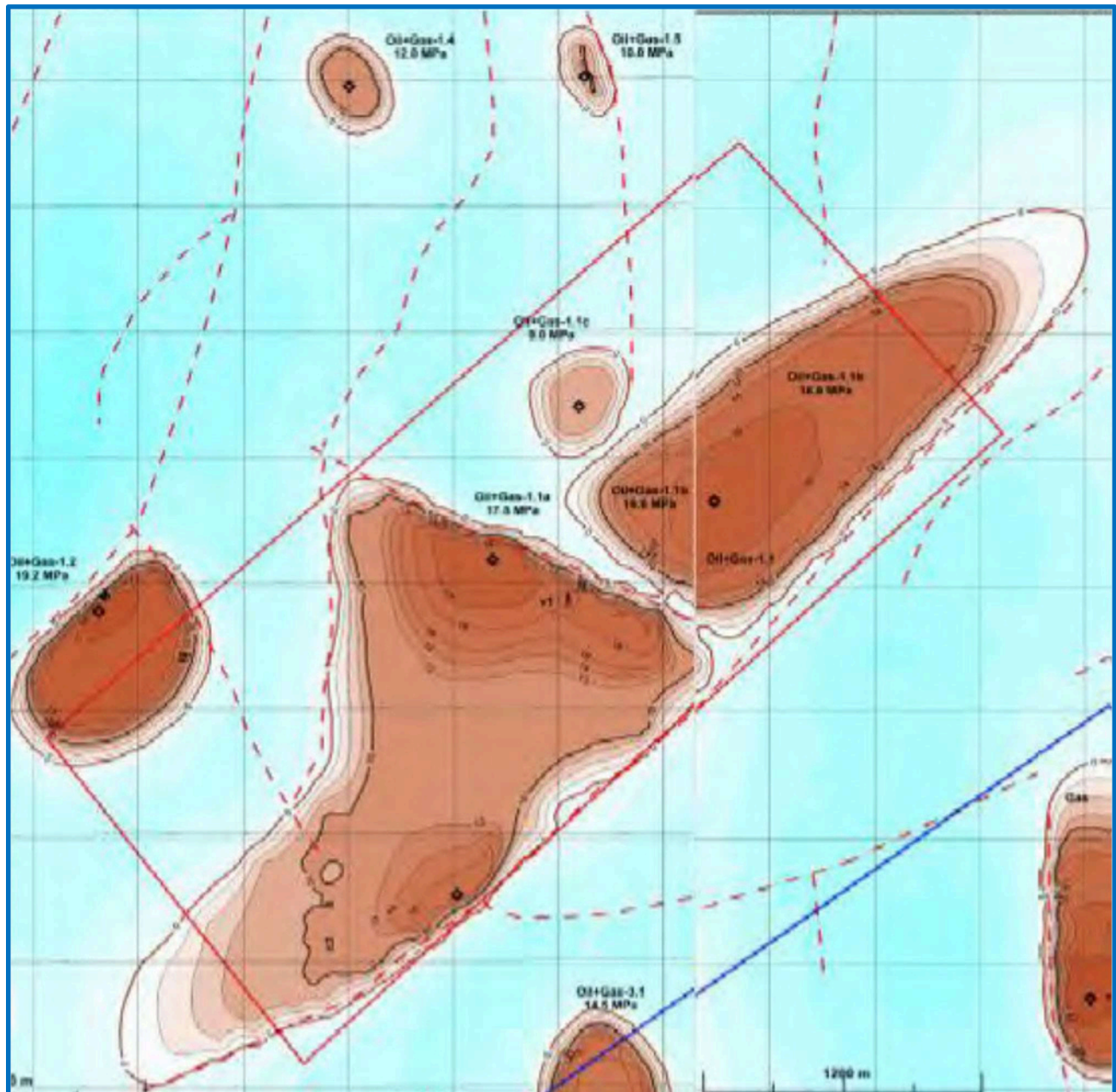


Figure 21. Phase 1 Spectrography - OFT™ delineated multiple oil and gas anomaly zones coincident with seismic structures.

Phase 2 – FSPEF and VERS:

- Cross-sections constructed for well locations.
- Correlation with gunshot and log data validated pressure and depth relationships.
- Structural model integrated faulted blocks and permeability barriers.

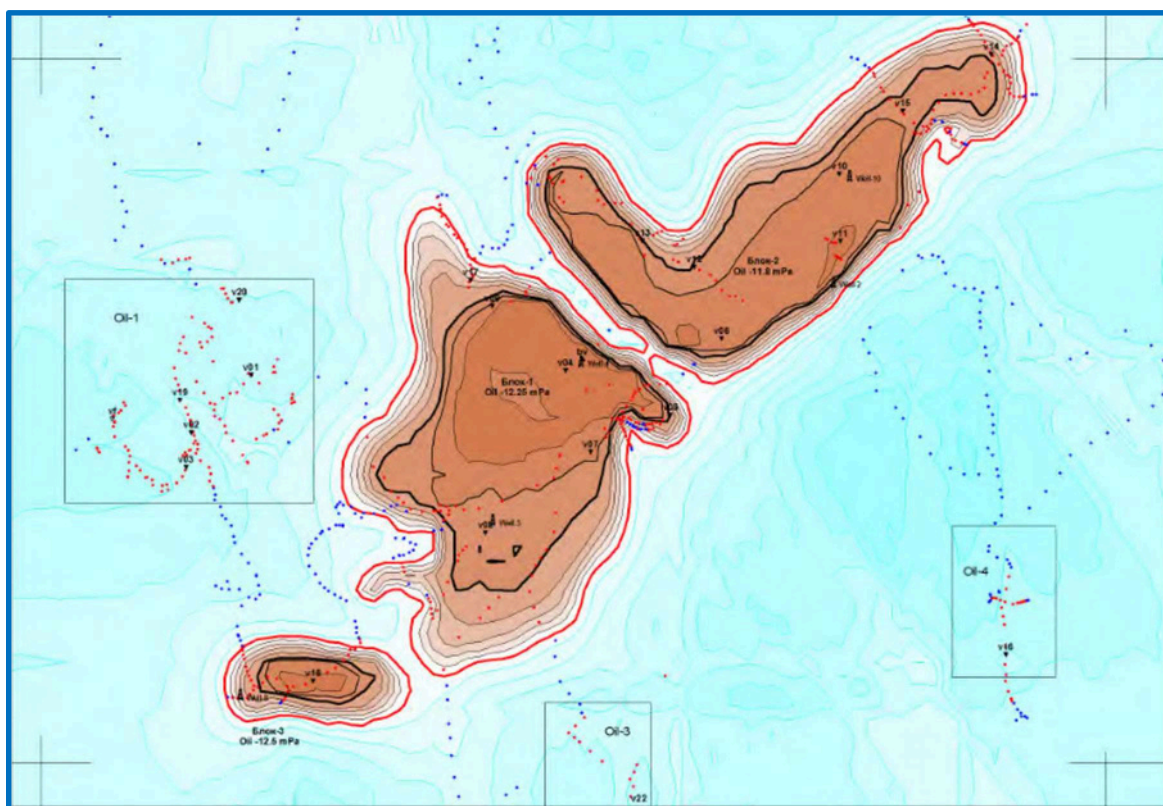


Figure 22. Phase 2.1 - Establishment of Short-Impulse Electromagnetic Fields (FSPEF) (Phase 2, Step 1)

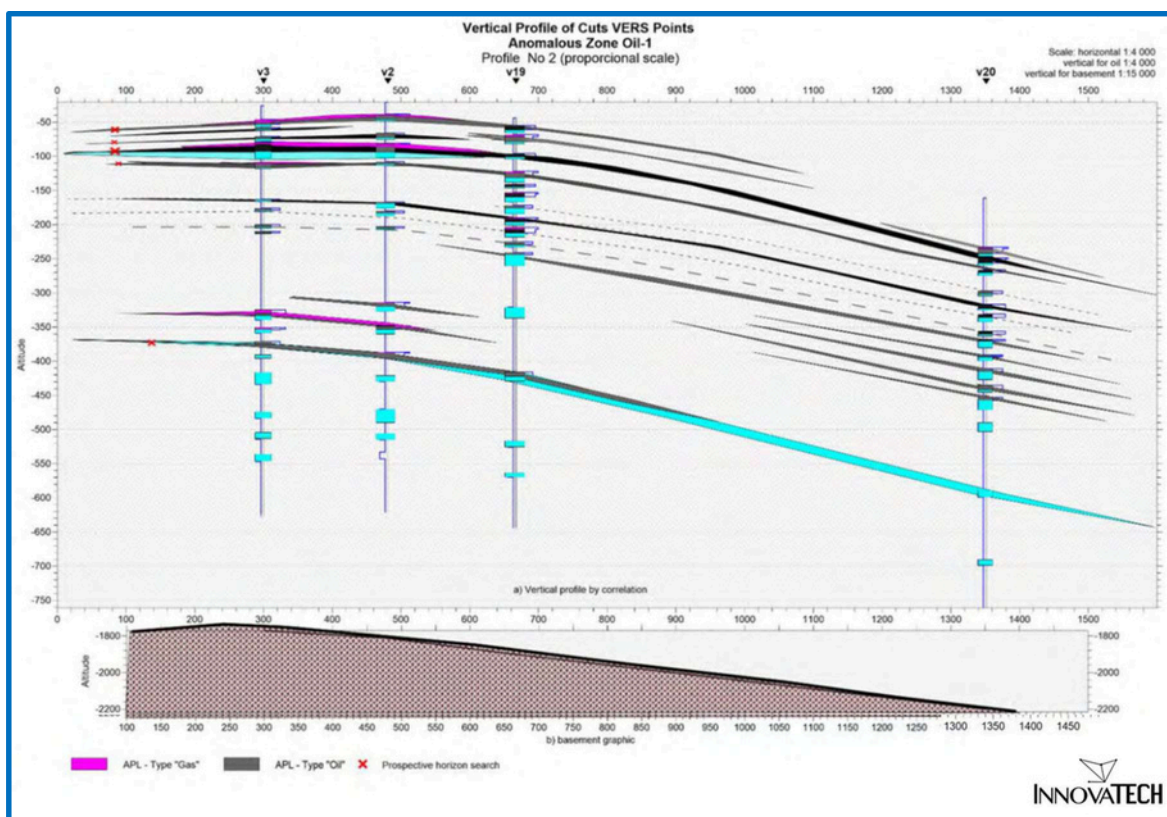


Figure 23. Phase 2.2 - Vertical Profile of Cuts VERS Points (Anomalous Zone Oil-1)

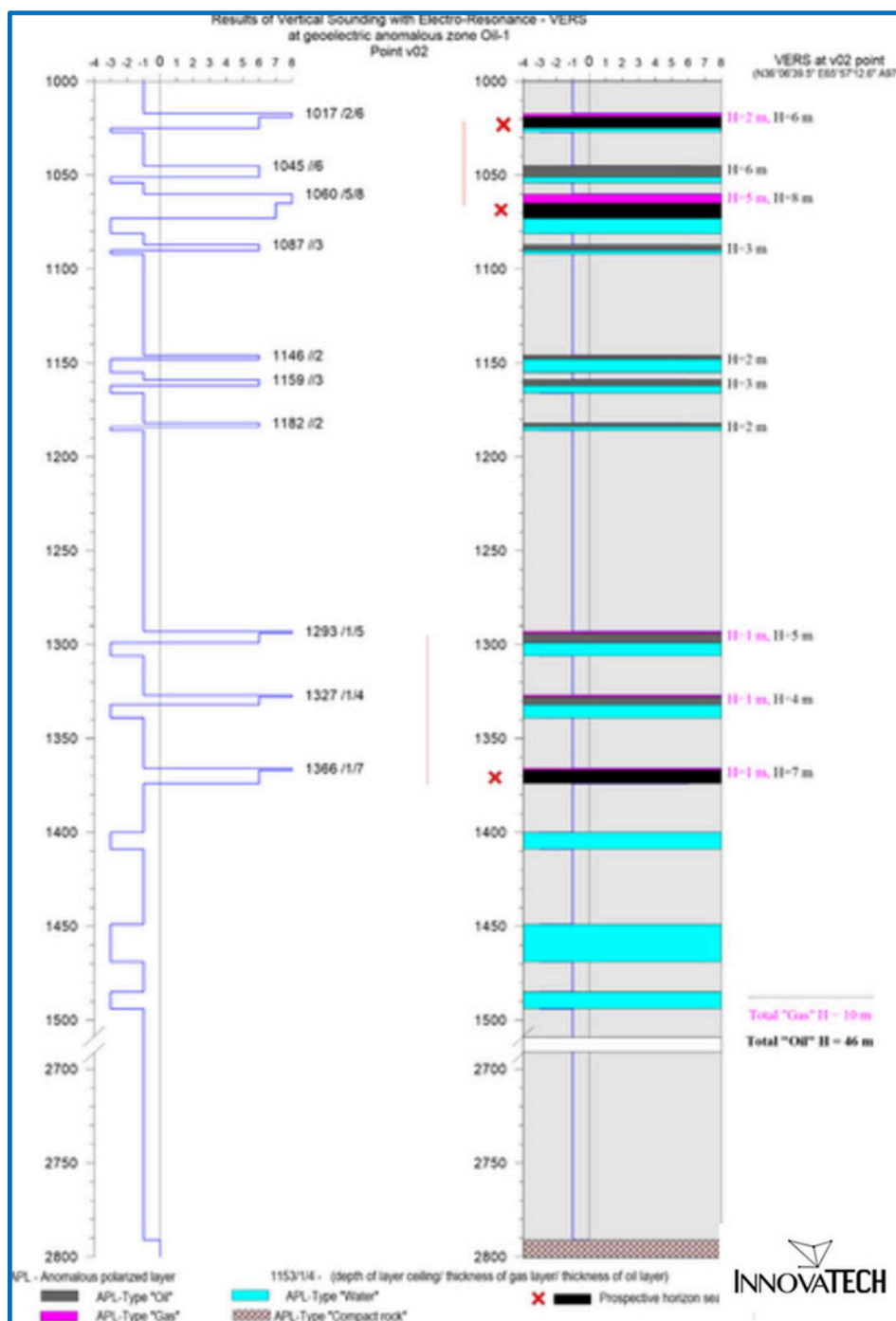


Figure 23. Phase 2.2 - Results of the Vertical Sounding Electro-Resonance VERS at the Geoelectric Anomalous Zone Oil-1, Point V-02

INNOVATECH Global Case Study Compendium

Results & Metrics

Parameter	Result
Correlation with producing wells	100 %
Depth accuracy	± 15 m (98 %)
VERS pressure vs. well data	1,150 m vs. 1,136 m (98 % match)
Structural precision	92 % (validated by logs)
New fluid-bearing zones identified	3 previously undetected intervals
Seismic correlation	Consistent with FDP-2017 fault model

Interpretation:

OFT™ successfully matched producing wells (inside anomalies) and excluded dry wells (outside anomalies), demonstrating **100 % spatial predictive accuracy**.

The field test confirmed that **OFT™** can operate effectively in folded, faulted, and carbonate-clastic settings where traditional seismic methods face high uncertainty.

4.5. Colombia – La Cuerva Field (Los Llanos Basin)

Objective: Integrate **OFT™** into a producing onshore oil block to map additional fluid zones and validate correlation with known reservoirs.

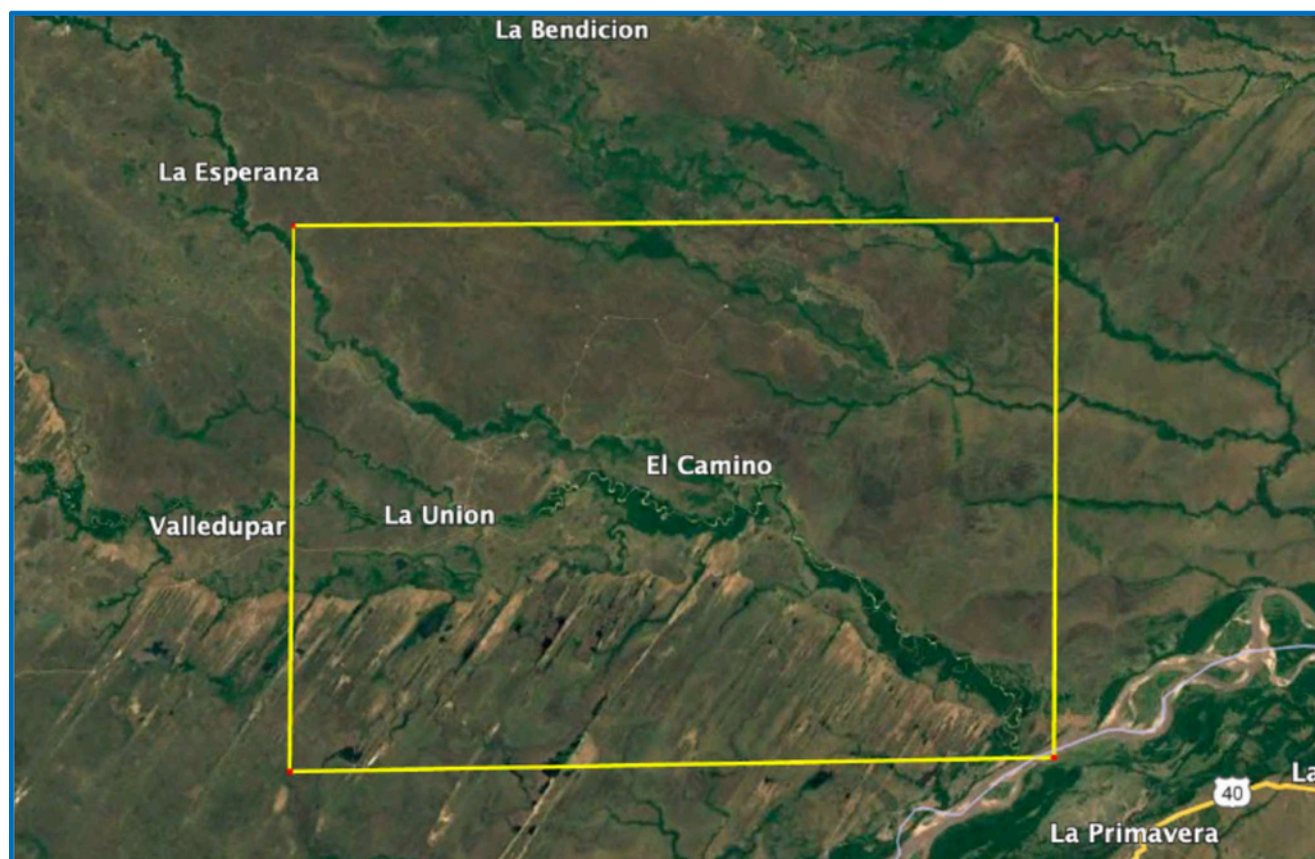
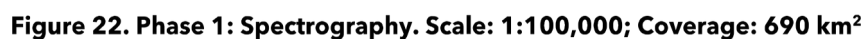


Figure 24. La Cuerva (Colombia) Oil & Gas Deposits

- **Location:** Los Llanos Basin, Meta Department
- **Area:** 960 km²
- **Scale:** 1:100,000
- **Reservoir type:** Clastic oil and water intervals
- **Program Duration:** 17 weeks

Phase 1: Regional Spectrography mapped oil and water anomalies across the Llanos structural trend.



Phase 2.2: Vertical profiles (VERS) defined oil-water-carbonaceous intervals between 2,400-3,500 ft, with basement contact at 8,000 ft.

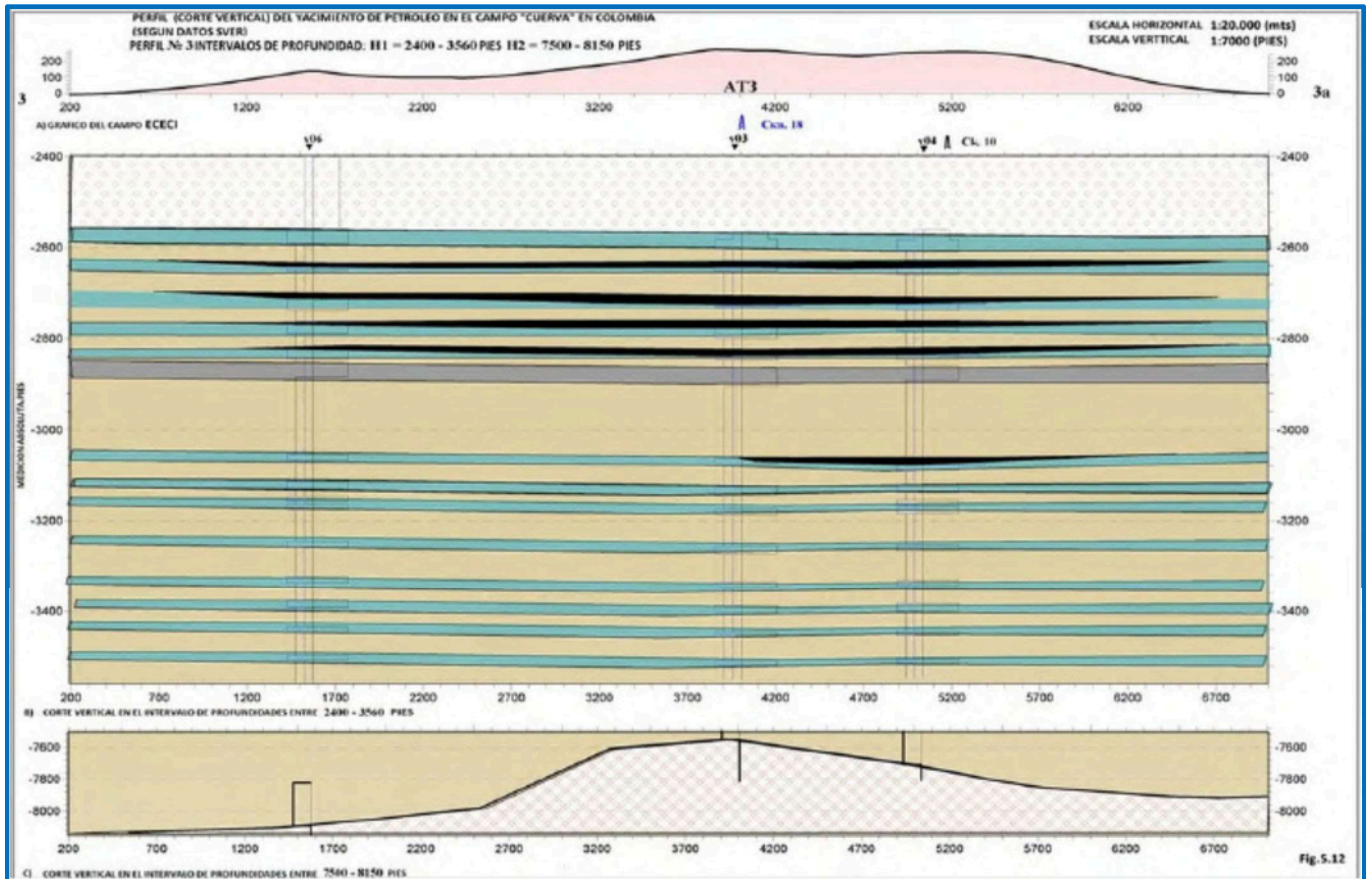


Figure 23. Phase 2.2: VERS Profiles (Oil, Water and Carbonate Reservoirs) between 2,400 ft to 3,500 ft. Basement at 8,000 ft

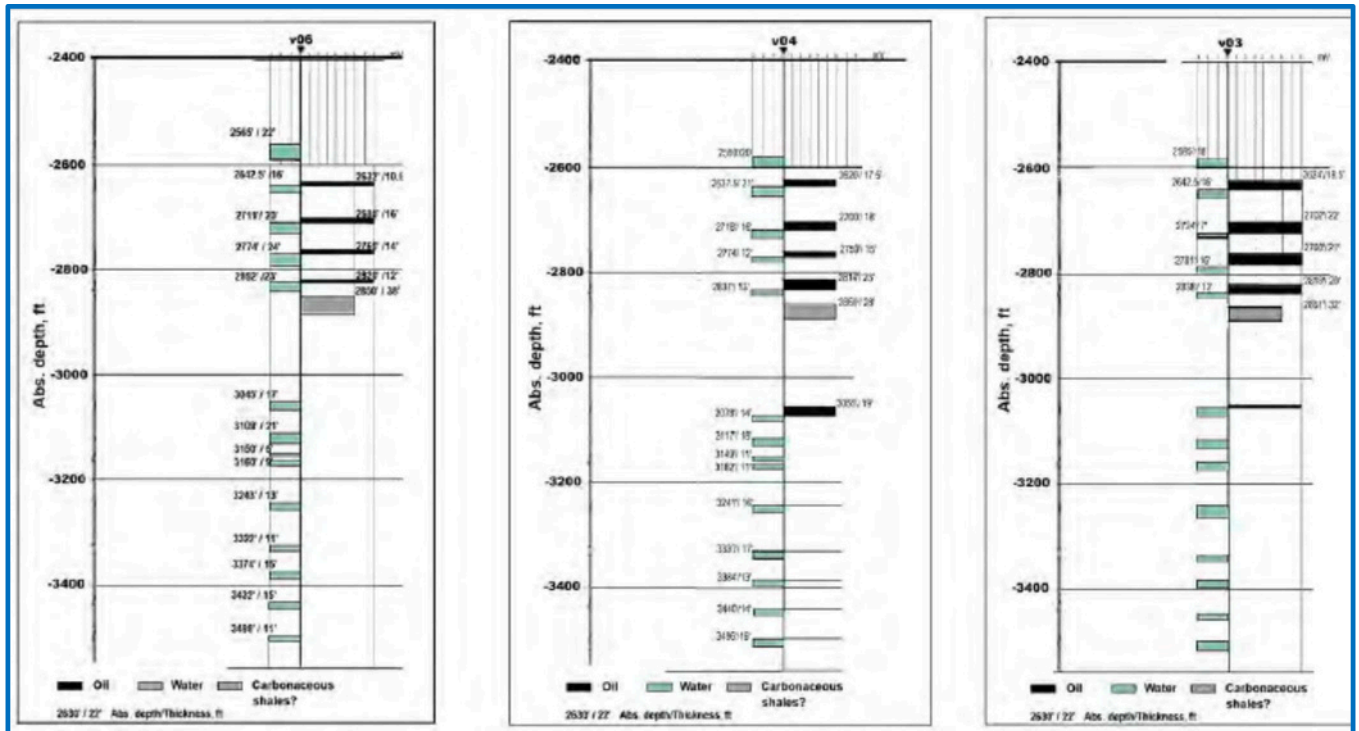


Figure 24. Phase 2.2: VERS Columns (Oil, Water and Carbonate Reservoirs)

INNOVATECH Global Case Study Compendium

Parameter	Result
Oil-bearing intervals	2,400–3,500 ft
Basement depth	8,000 ft
Fluid types detected	Oil, water , carbonaceous rock
Structural correlation	94 % with seismic lines
Exploration cycle	17 weeks
Environmental permits	Not required

Interpretation:

OFT™ mapped productive reservoirs consistent with the known stratigraphy of the Llanos Basin. Vertical cross-sections provided early volumetric estimation and identified deeper untested intervals—improving field development strategy and drilling efficiency.

4.6. Colombia – Putumayo Basin (Ecopetrol)

Client: Ecopetrol (Colombian National Oil Company)

Objective: Benchmark **OFT™** predictive performance against legacy seismic and drilling data from one of Colombia's most explored regions.

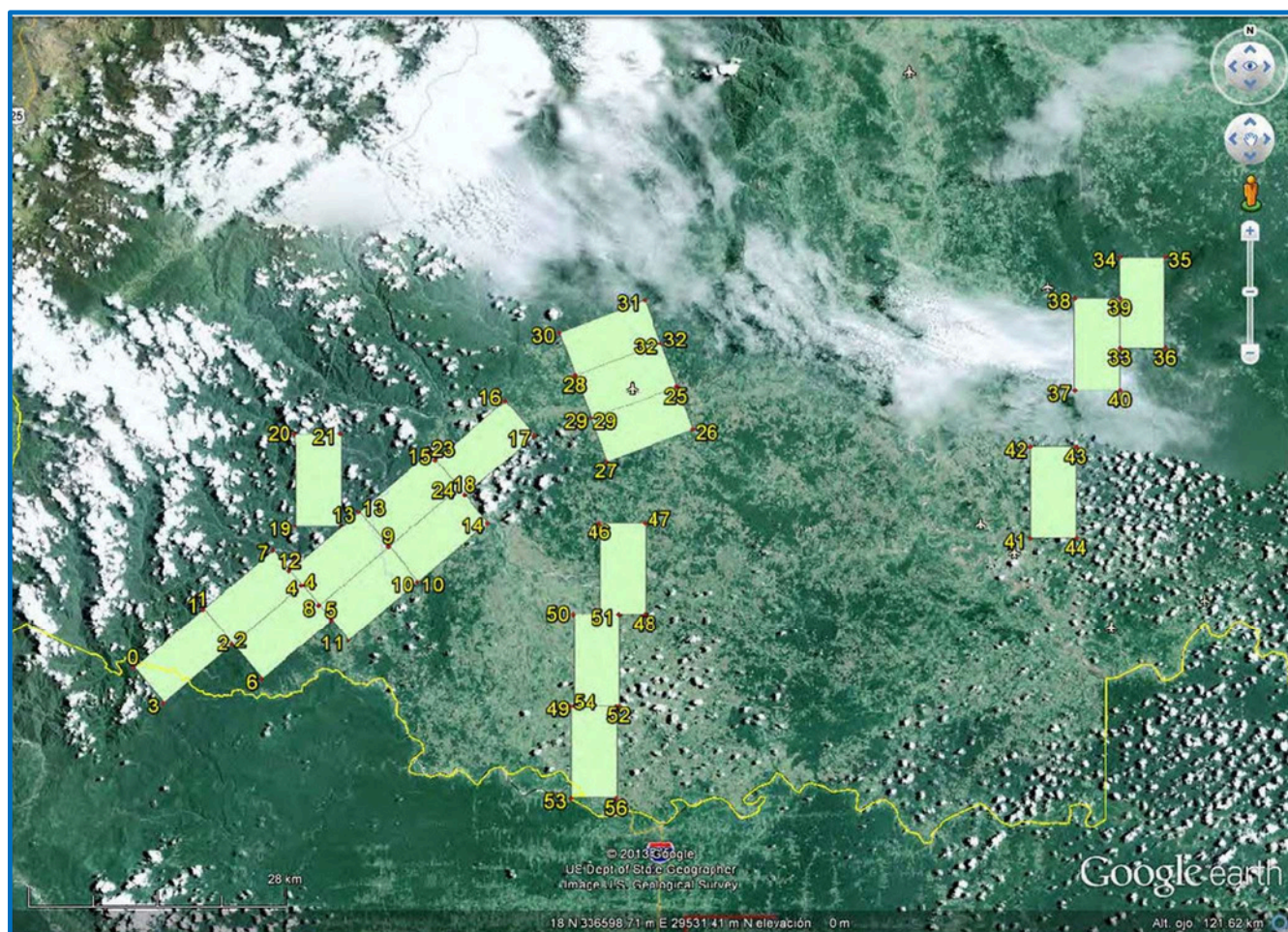


Figure 24. Initial area designated for Phase 1 (Oil & Gas Deposits)

INNOVATECH Global Case Study Compendium

Scope:

- **Area:** 3,800 km² (29 spectrographs)
- **Operator reference:** Ecopetrol
- **Scale:** 1:100,000
- **Well count analyzed:** 257
- **Program Duration:** 17 weeks

Technical Workflow

Phase 1: Satellite anomaly detection with basin-wide mapping of structural and stratigraphic traps.

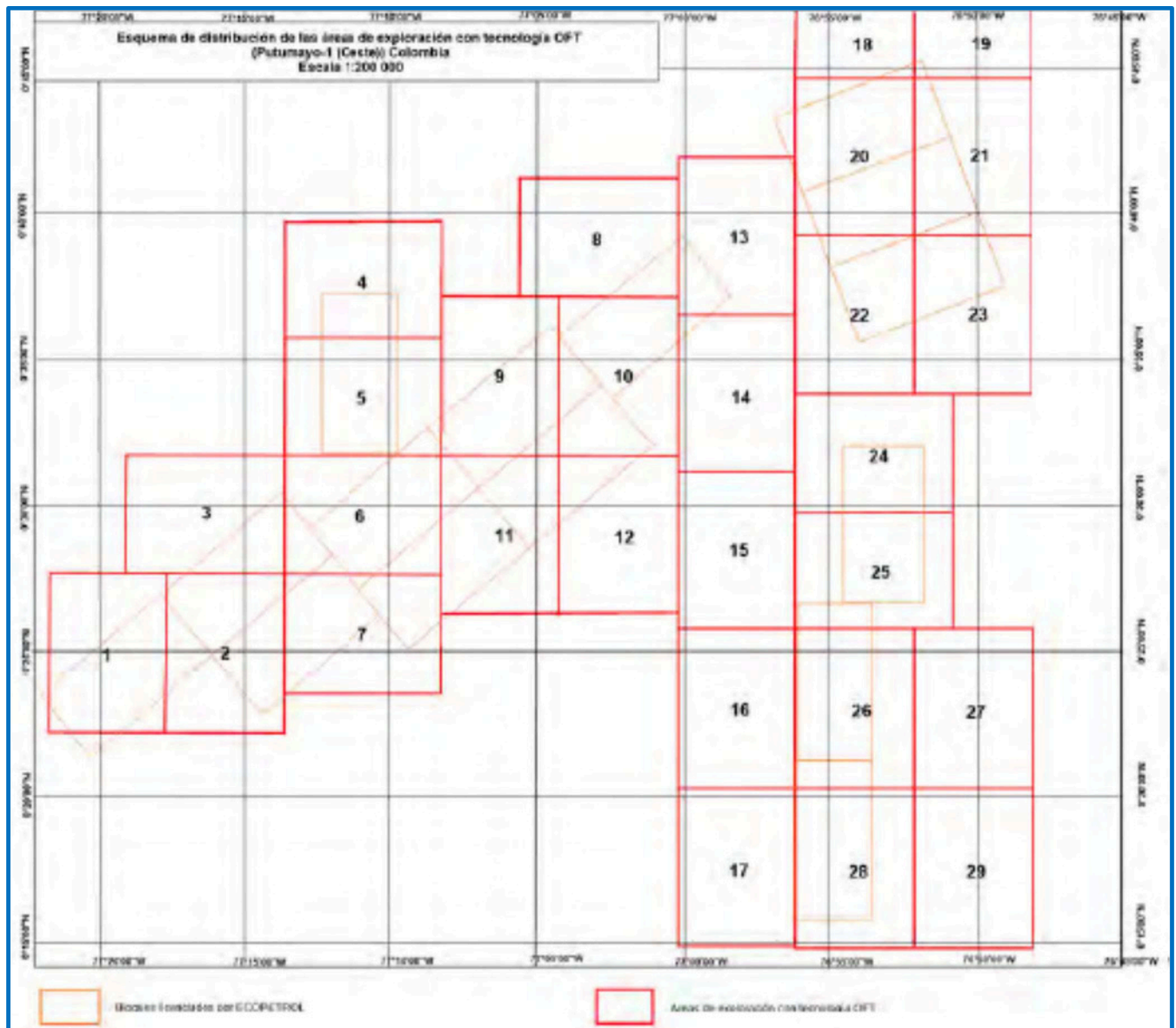


Figure 25. Phase 1: Distribution of Satellites: 29 units; Coverage: 3,700 km²

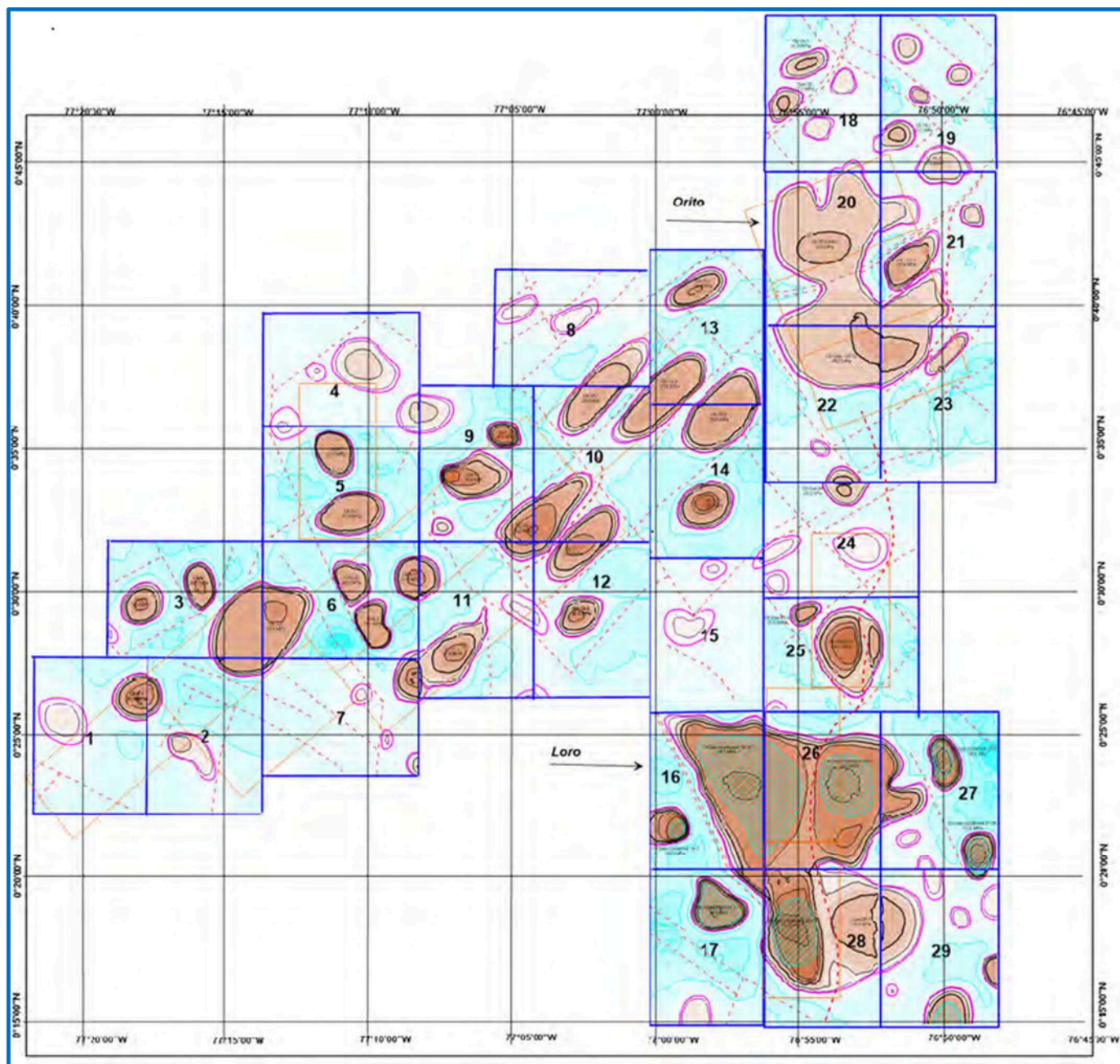


Figure 26. Phase 1: Results of Satellite Spectrography: 29 units; Coverage: 3,700 km²



Figure 27. Phase 1: Distribution and Results of Satellite Spectrography: 4 units; Coverage: 196 km²

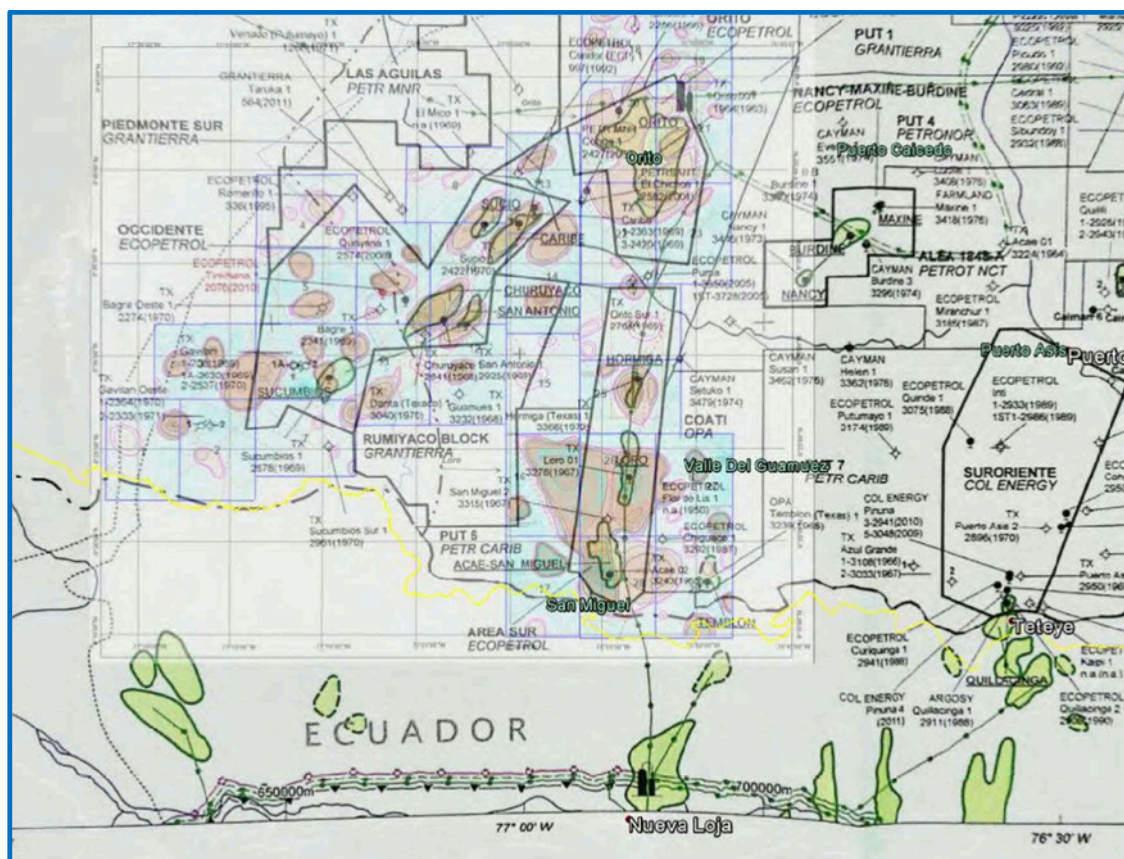


Figure 28. Spectrography results vs. Seismic Structures

INNOVATECH Global Case Study Compendium

Electromagnetic anomalies were detected in all seismic-identified structures sharing their general Northwest – Southeast orientation.

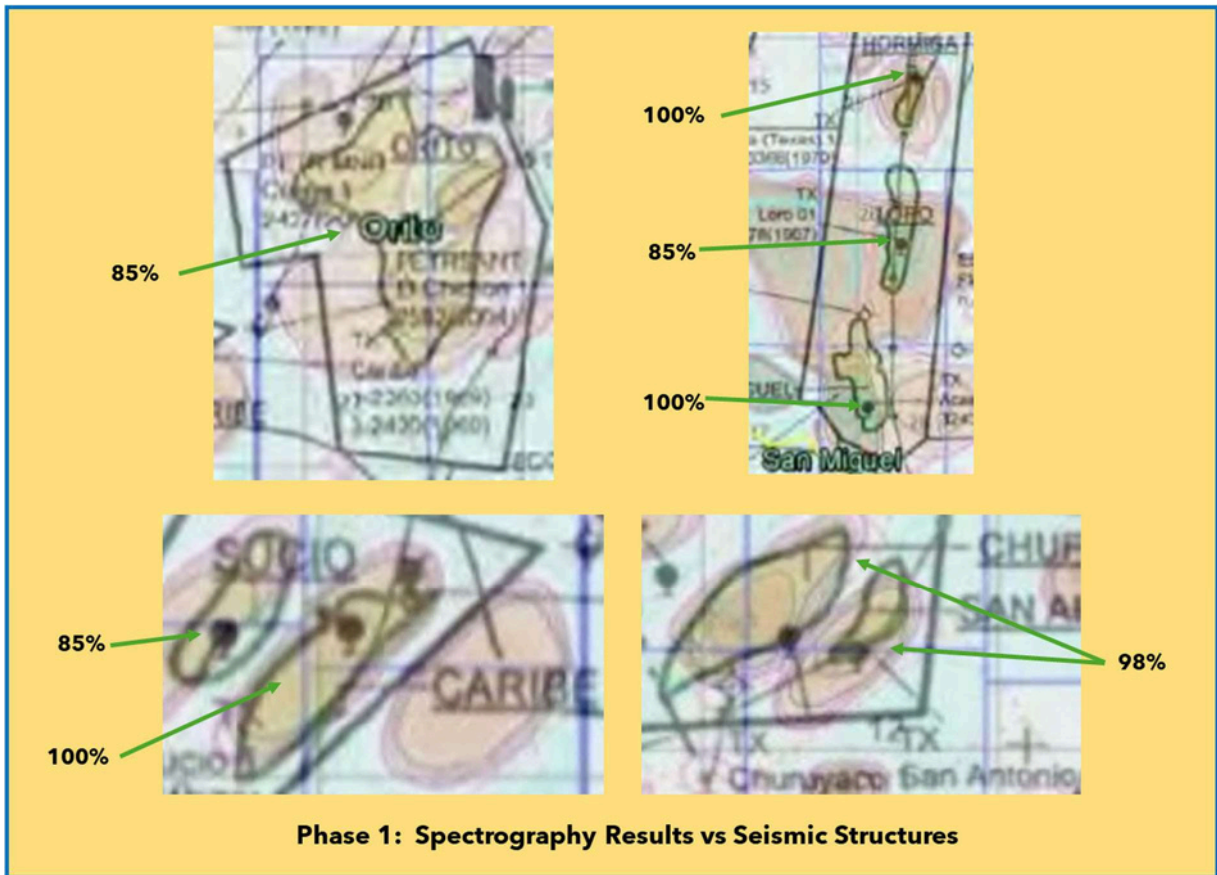


Figure 30. Spectrography Results vs Seismic Structures

Phase 2: Field correlation using FSPEF and VERS for selected sub-blocks (Caribe, Acae, Lor Fields).

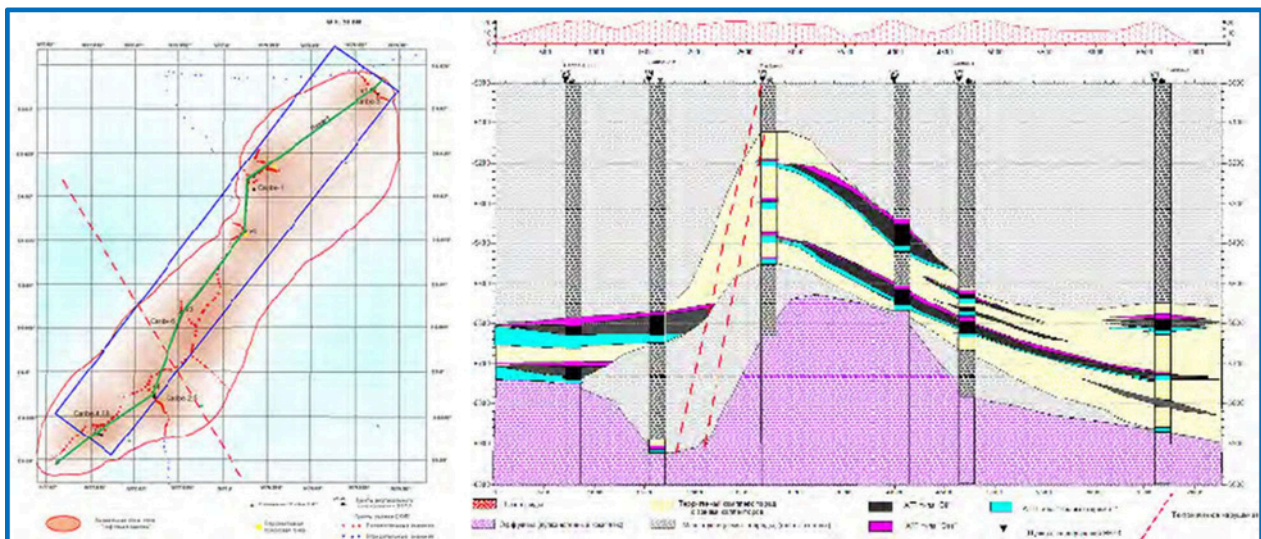


Figure 31. Phase 2.1 Establishment of Short-Impulse Electromagnetic Fields (FESPF) & Phase 2.2 Vertical Electro-Resonance Sounding (VERS)

INNOVATECH Global Case Study Compendium

Phase 3: Comparison with seismic interpretations and production data.

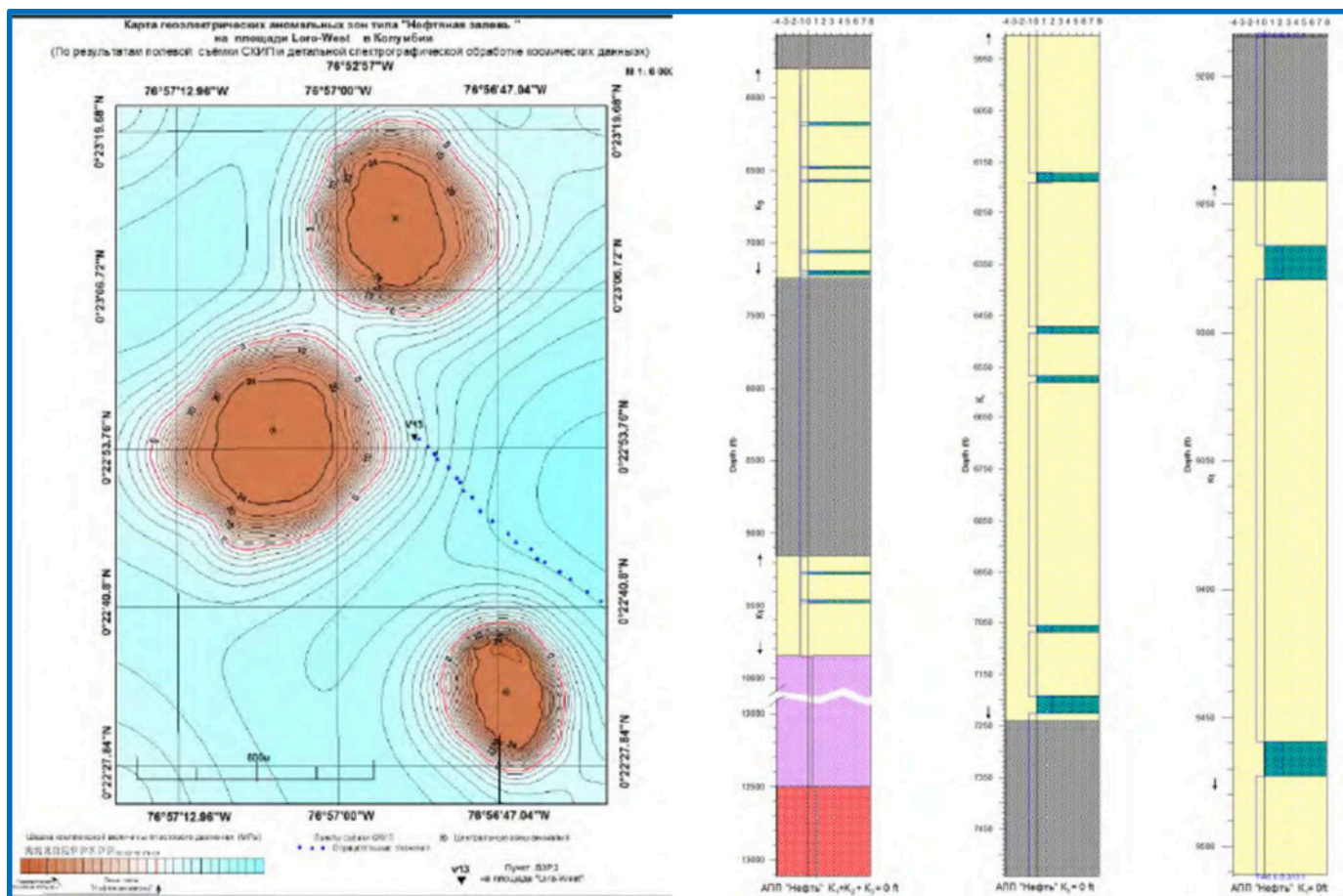


Figure 32. Putumayo Basin. Verification of Future Drilling Site in Loro Oeste using OFT™ Spectrograph and VERS

Results & Metrics

Parameter	Result
Correlation with seismic structures	91.6 % average
Producing wells inside anomalies	87 %
Dry wells outside anomalies	100 %
Number of anomalies verified	29
Correlation (depth vs. well data)	± 2 %
Exploration time savings	75 % vs. conventional

Interpretation:

The Putumayo study confirmed **OFT's** ability to replicate and surpass seismic interpretations, identifying anomalies aligned with all productive structures.

In 257-well analysis, nearly all producing wells fell within **OFT**-defined anomalies, while dry wells did not—proving the predictive reliability of the technology.

INNOVATECH Global Case Study Compendium

4.7. Canada – Norte-Hocol Field

Objective: Validate **OFT™** correlation in a mature onshore oil field with extensive seismic and drilling history, and calibrate spectral models against known structural traps.

Scope:

- **Area:** Canada Norte Block
- **Coverage:** 91 km²
- **Scale:** 1:35,000 (spectrograph) and 1:15,000 (field)
- **Program Duration:** 17 weeks

Technical Workflow

Phase 1: Spectrography detected anomalies on three principal structural blocks.

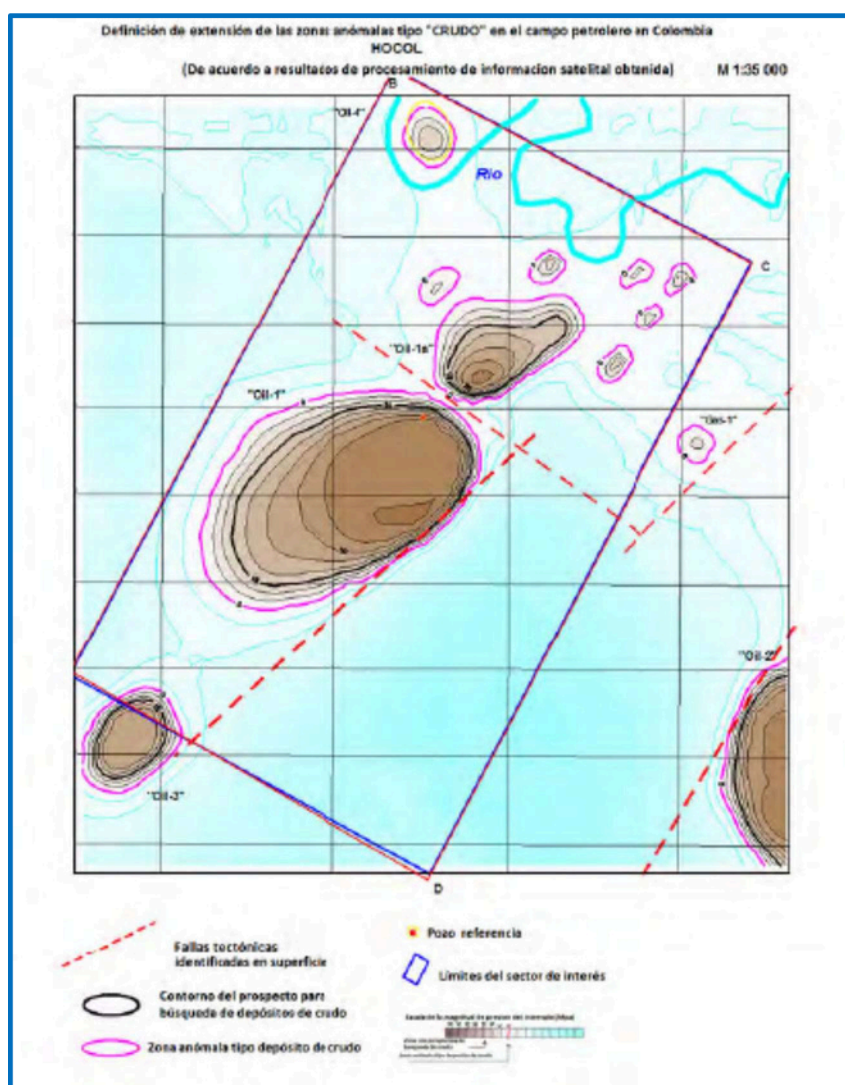


Figure 33. Phase 1 - Spectrography performed at a scale of 1:35,000



Figure 35. Phase 1 - Comparison of Spectrograph with Wells in the Area at a scale of 1:35,000 I an area of 91.30 km²

The anomalies are located in their entirety on the existing producing wells in the study area.

Phase 2.1: FSPEF measured total accumulated thickness of polarized layers.

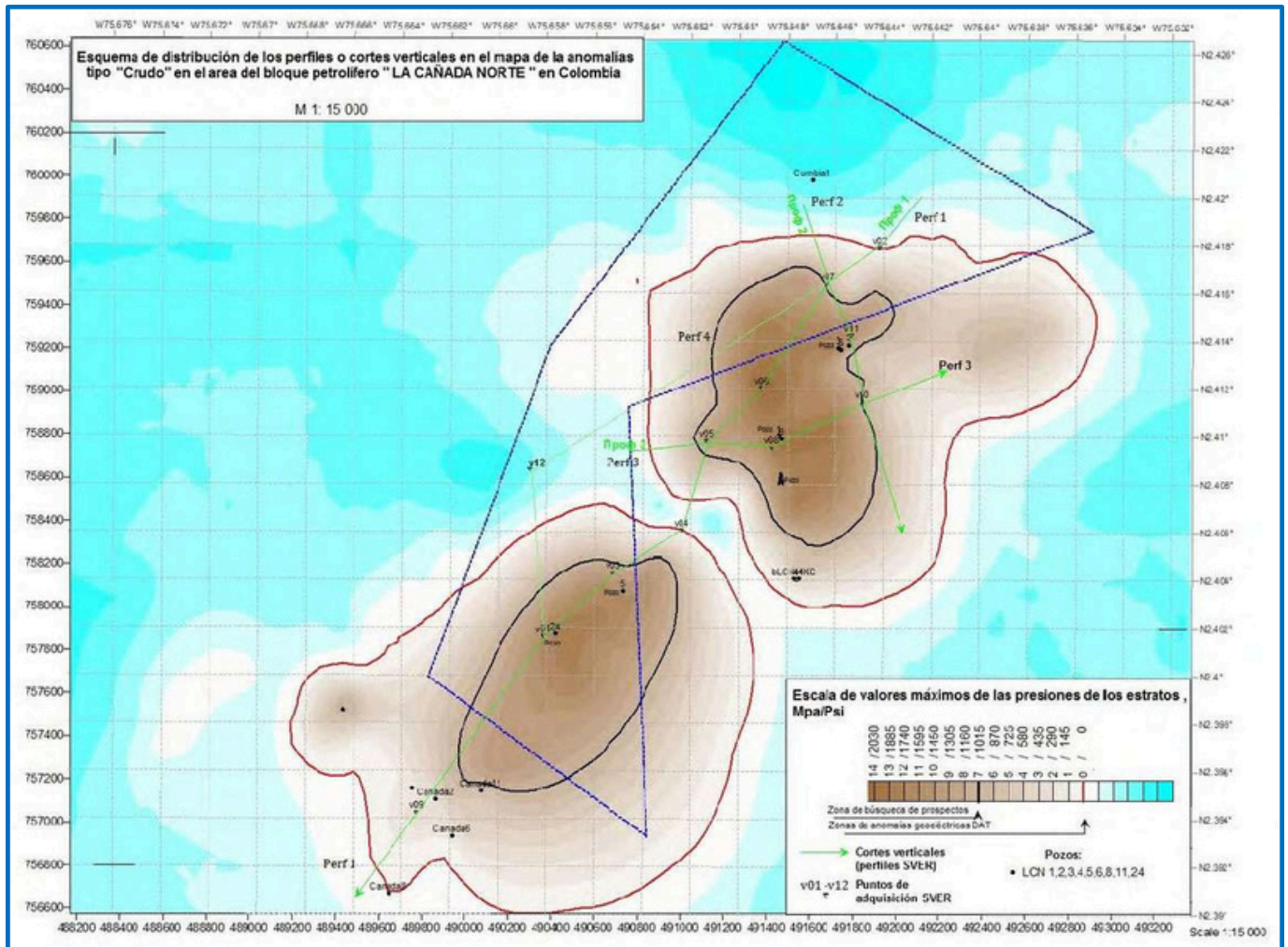


Figure 36. Phase 2.1 Map with Phase 2.2 Points and Profiles. Initial Polygon and Correlation with Conventional Methods and Wells

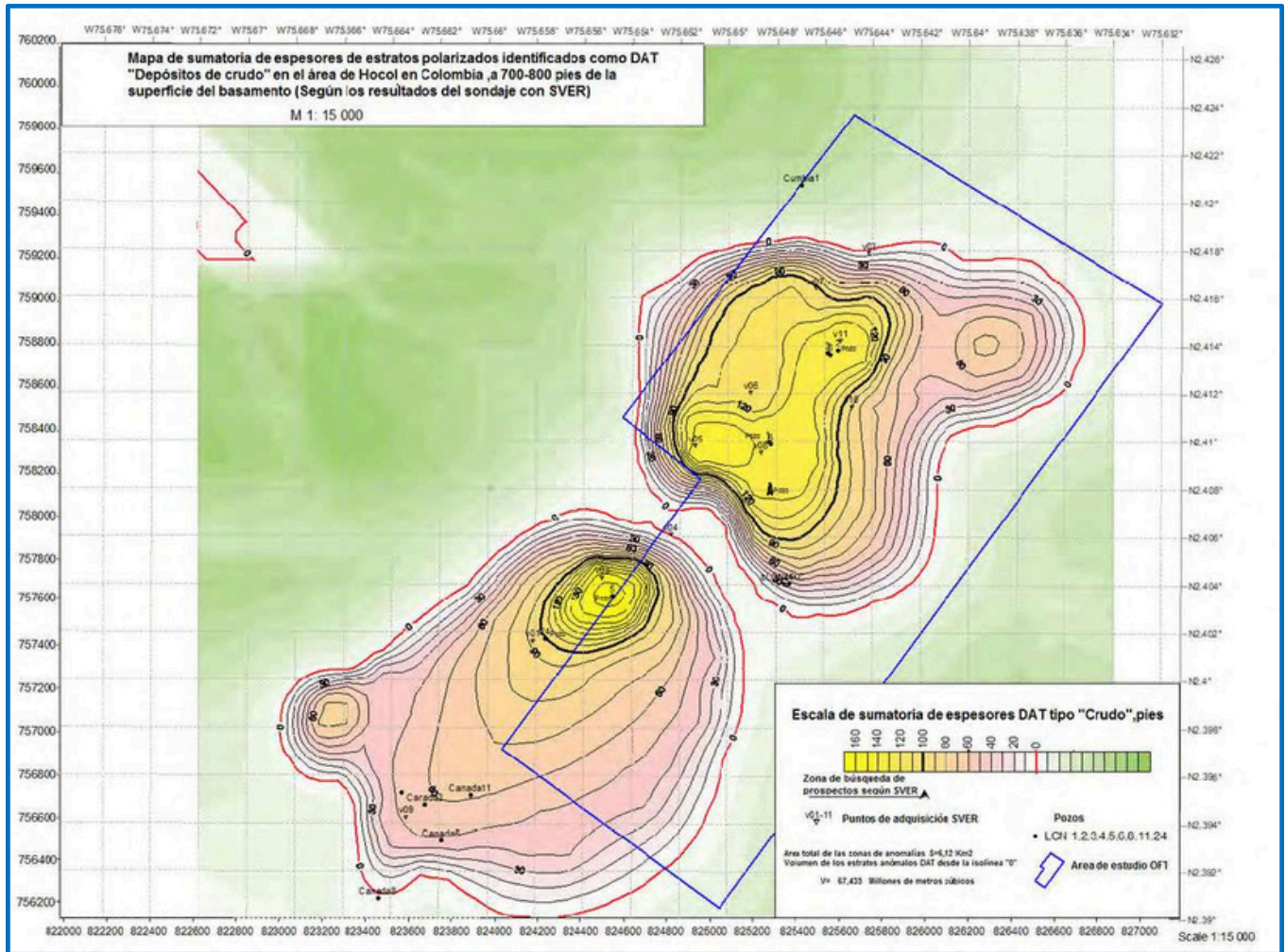


Figure 37. Phase 2.1 Map with Phase 2.2 Points and Profiles. Initial Polygon Map of Total Accumulated Thickness of Polarized Players. Scale: 1:15000 in an area of 21.6 km²

Phase 2.2: VERS correlated anomalies with wells LCN-05, LCN-24, and CANADA-2.

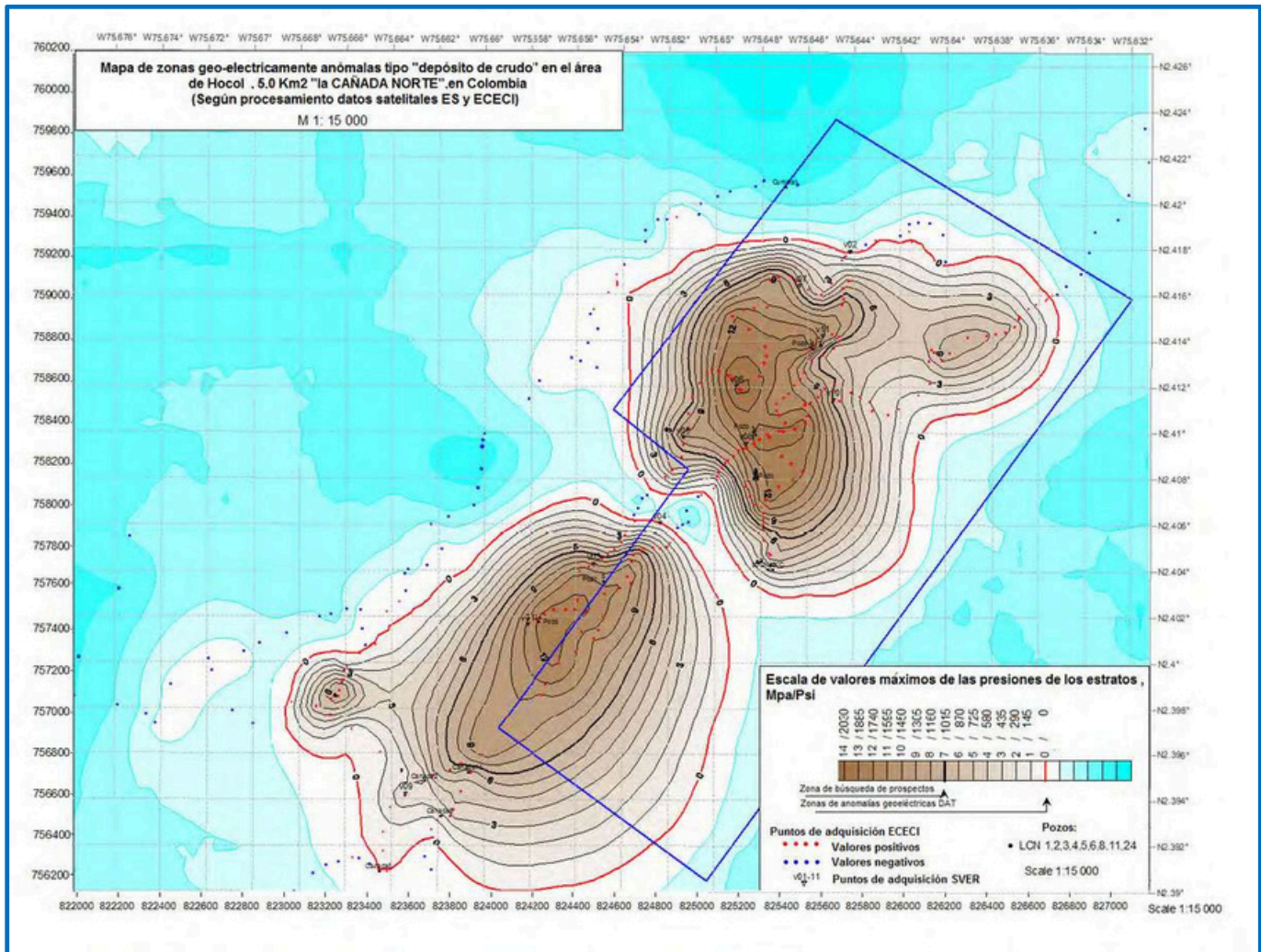


Figure 38. Phase 2.1 Map with Phase 2.2 Points and Profiles. Initial Polygon Map of Total Accumulated Thickness of Polarized Players. ECECI Map with VERS Points and Profiles (Real Polygon) | Scale: 1:15000 in an area of 21.6 km²

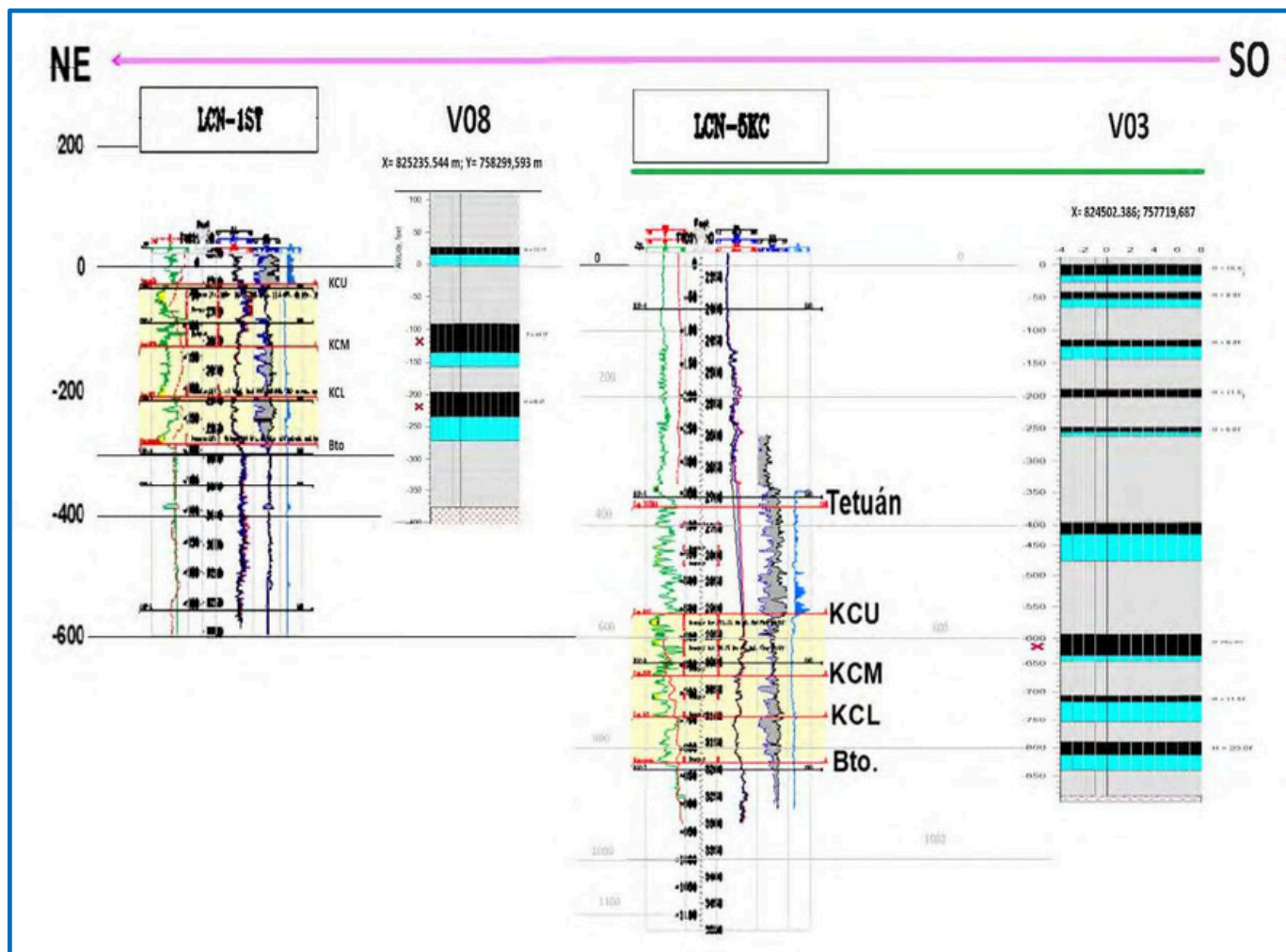


Figure 39. Phase 2.2 - Correlation of VERS Points with Nearby Wells

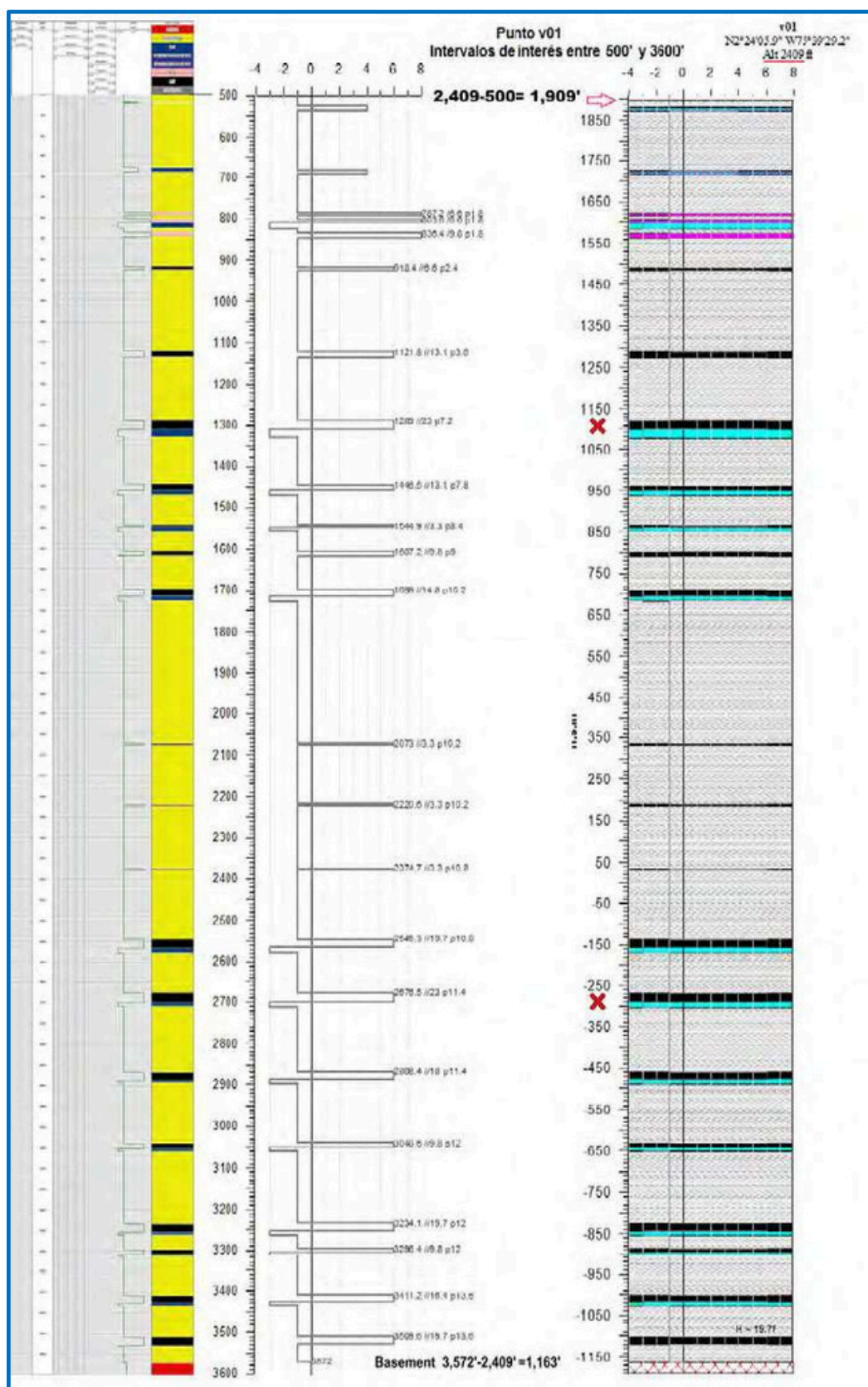




Figure 42. Phase 2.2 - Profile Trap #1, Wells LCN-05, LCN-24 and CANADA-2

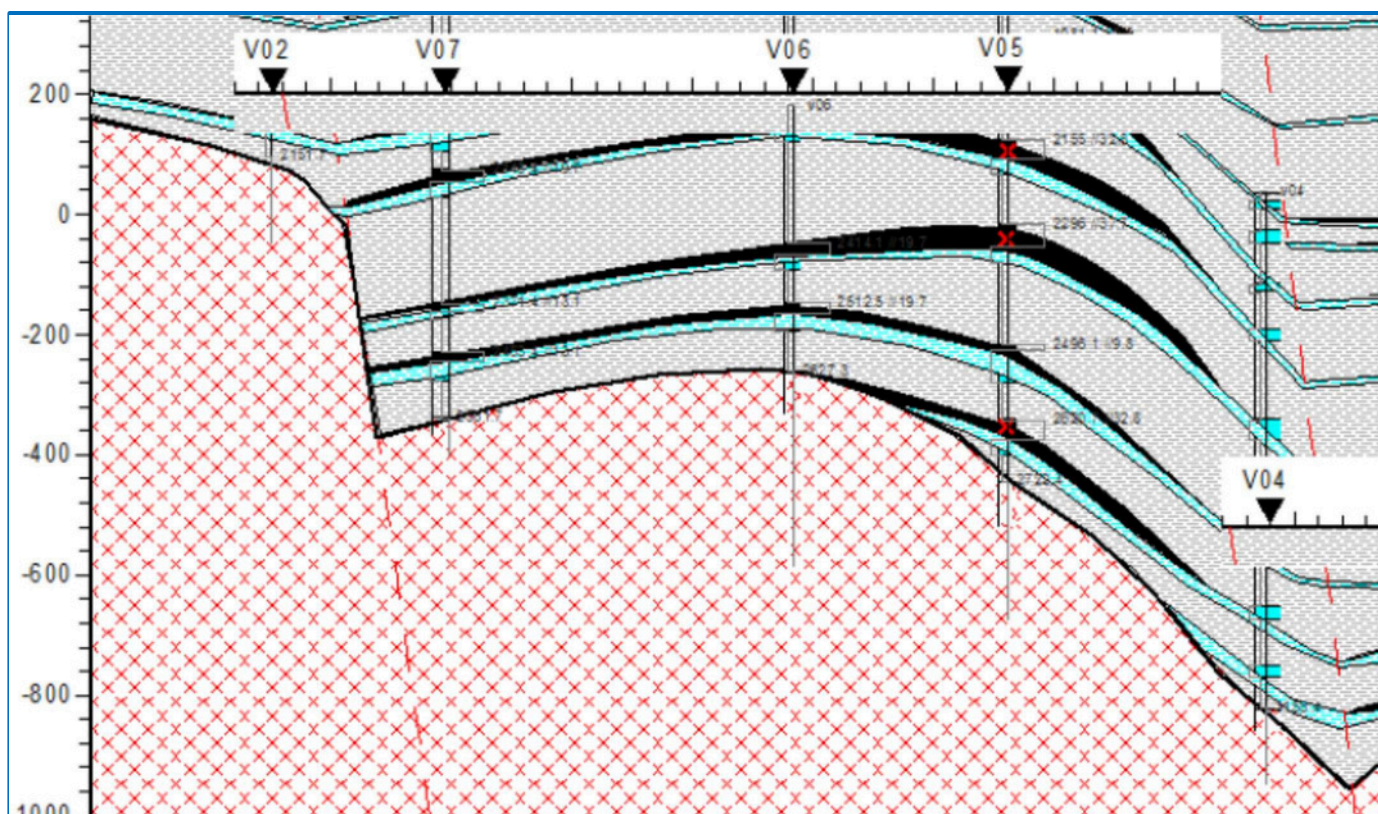


Figure 43. Phase 2.2 - Profile Trap #2, Wells LCN-05, LCN-24 and CANADA-2

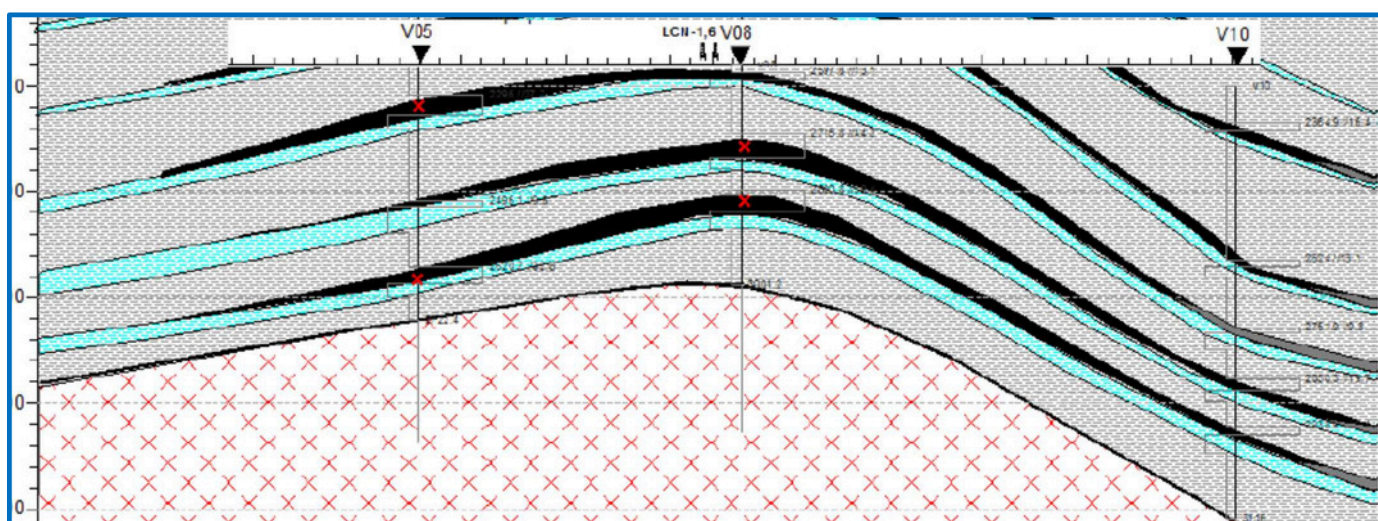


Figure 44. Phase 2.2 - Profile Trap #3, Wells LCN-01, LCN-06

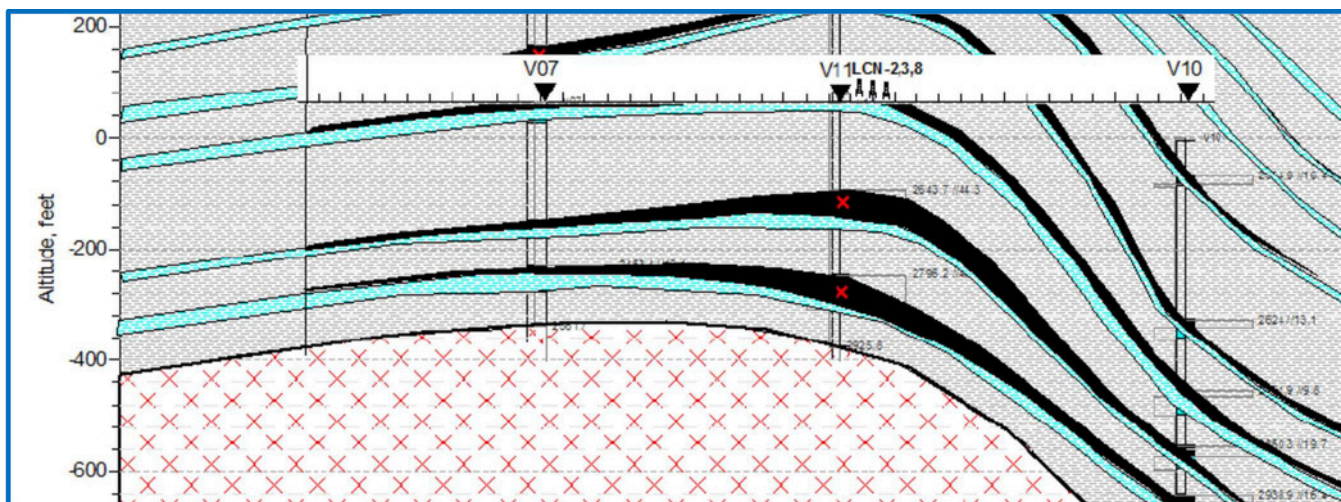


Figure 45. Phase 2.2 - Profile Trap #3, Wells LCN-02, LCN-03 and Canada-8

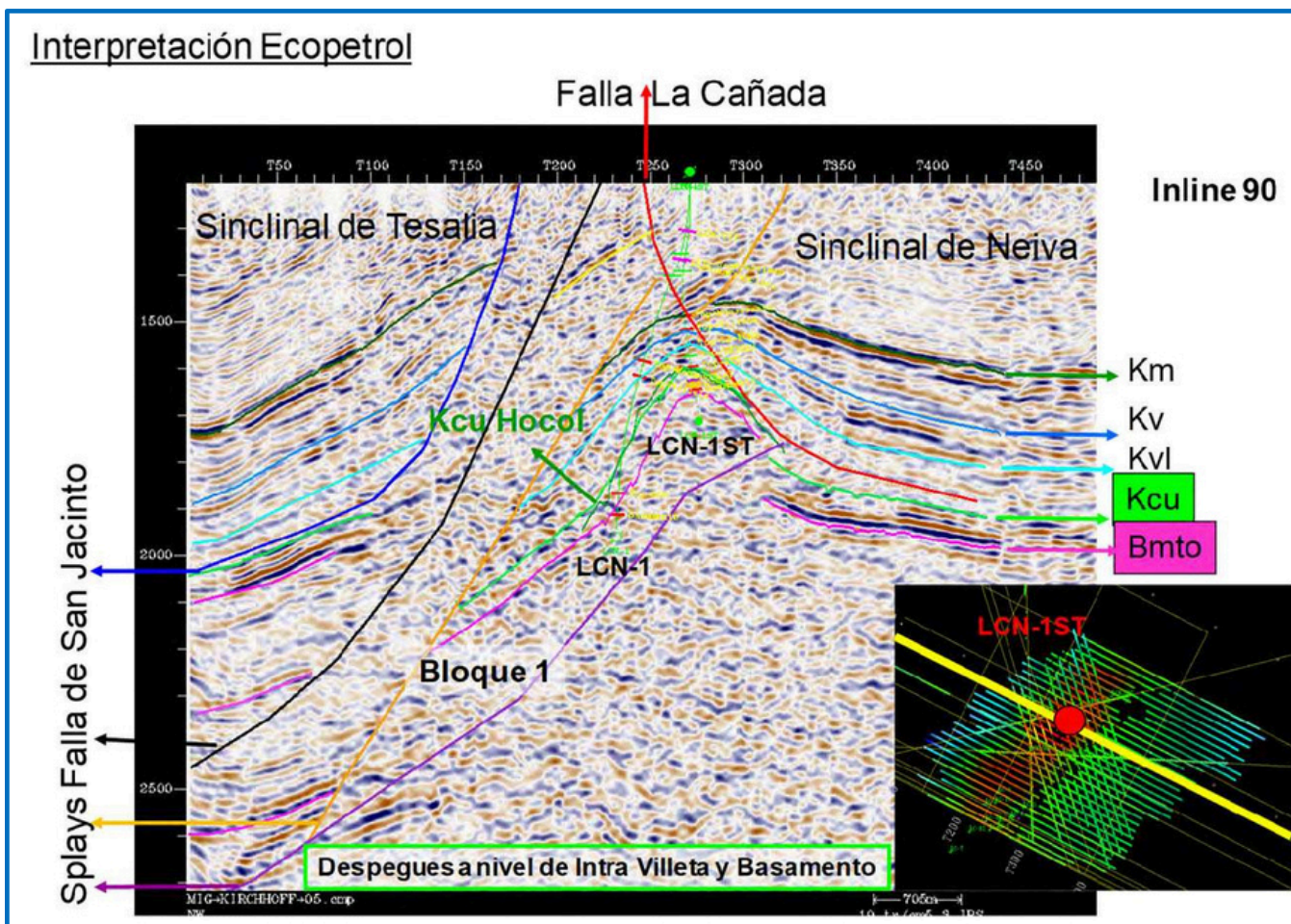


Figure 46. Phase 2.2 - Profile Trap #4, Wells LCN-02, LCN-03 and Canada-8

INNOVATECH Global Case Study Compendium

Results & Metrics

Parameter	Result
Correlation with seismic	96 %
Producing wells within anomalies	100 %
Vertical depth match	± 5 m
Structural features mapped	4 traps with hydrocarbon saturation
Integration time	< 4 months total

Interpretation:

OFT™ identified the same productive traps revealed by 3D seismic, confirming the structural integrity and fluid content of the Norte-Hocol field.

The electromagnetic anomaly maps precisely outlined the oil-water contacts and provided enhanced input for production optimization.

4.8. Norway – Barents Sea, Johan Castberg Complex

Objective: Demonstrate **OFT™** offshore capability and correlation with deepwater drilling results in Arctic conditions.

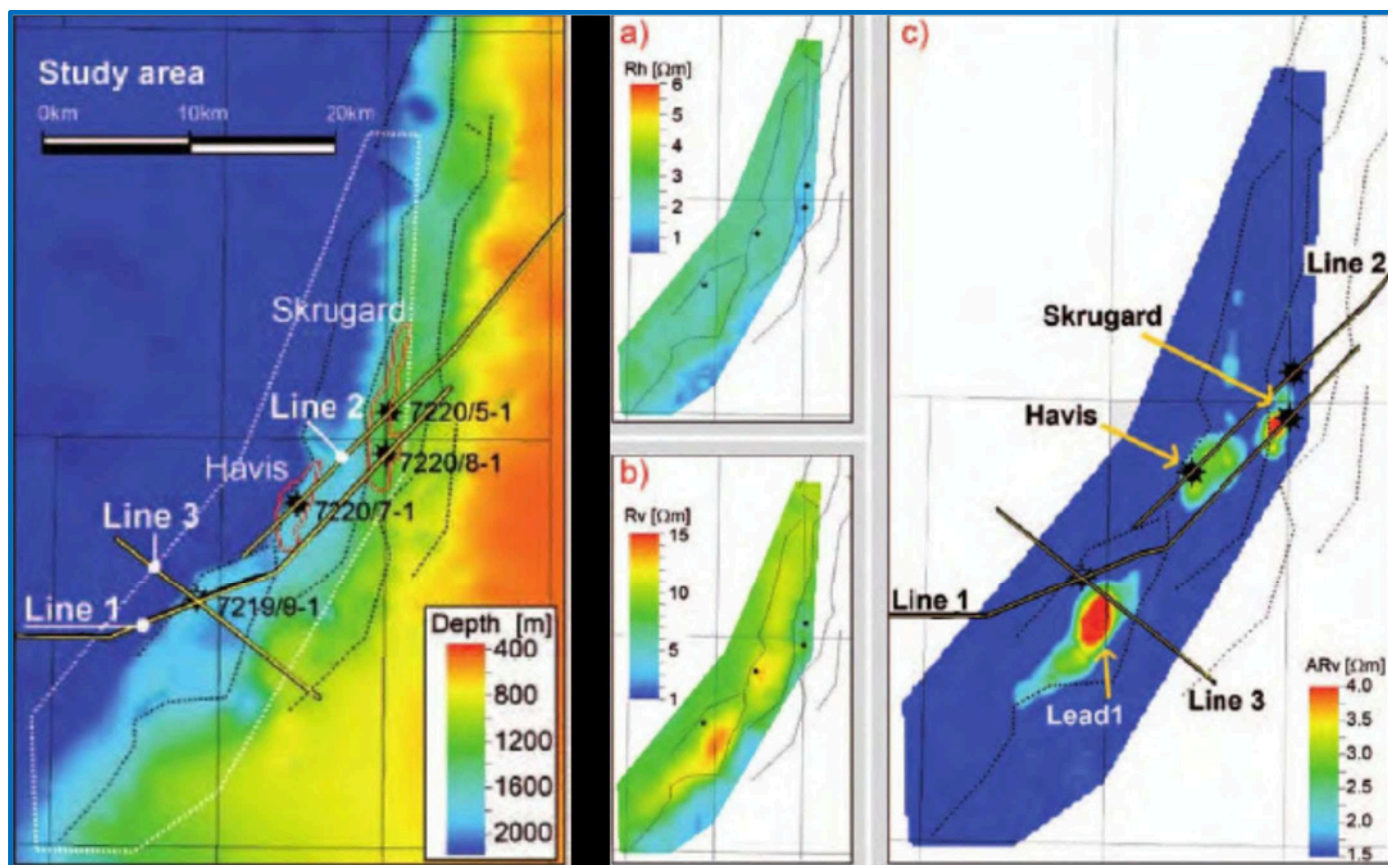


Figure 47. Overview Map of the Study Area (outlined with a white dashed line)

INNOVATECH Global Case Study Compendium

Scope:

- **Region:** Skrugard-Havis-Drivis structures, Barents Sea
- **Coverage:** 6,000 km²
- **Scale:** 1:250,000
- **Program Duration:** 17 weeks (remote analysis)
- **Depth reach:** 2,000-2,500 m subsea

Technical Workflow

Phase 1: Frequency-resonance processing of remote sensing data mapped oil/gas anomalies corresponding to the **Skrugard and Havis fields**.

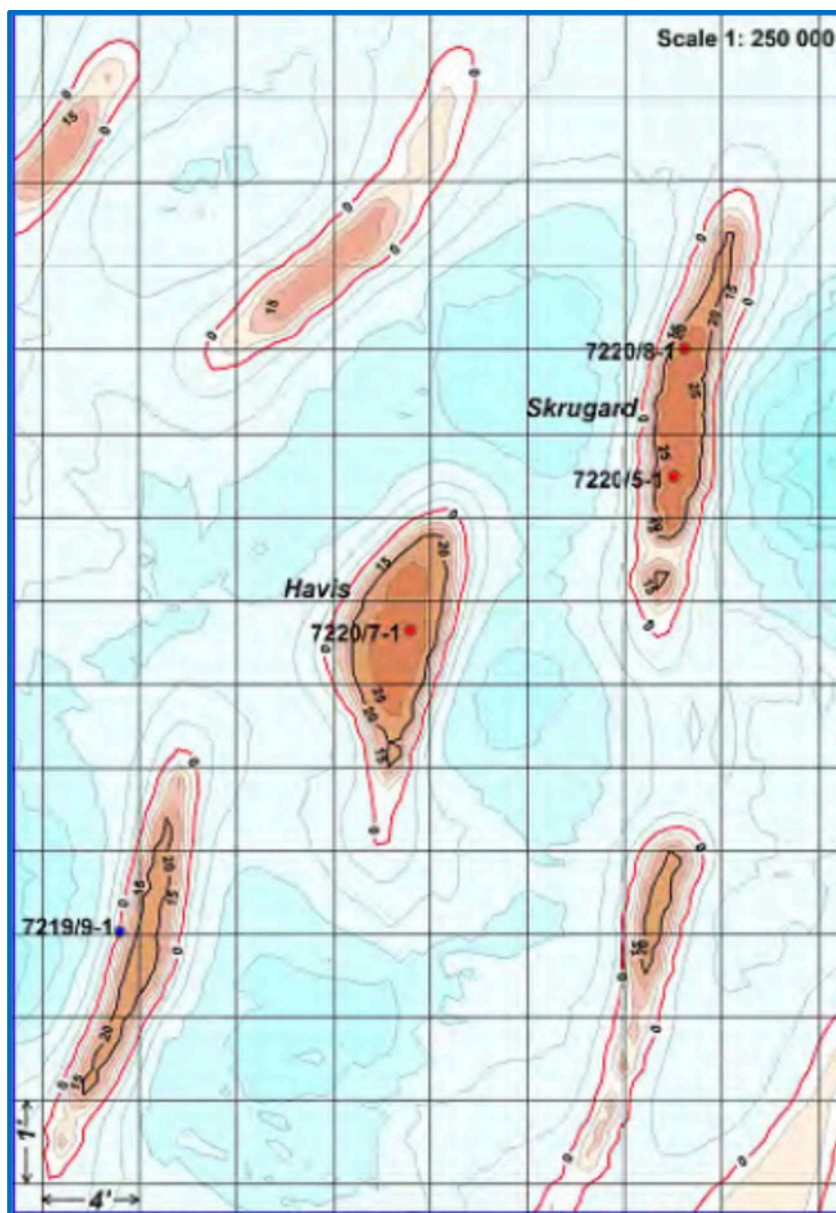


Figure 48. Phase 1 - Map showing anomalous zones of the "oil and gas deposit" type in the Skrugard and Havis field areas, located offshore Norway in the Barents Sea.

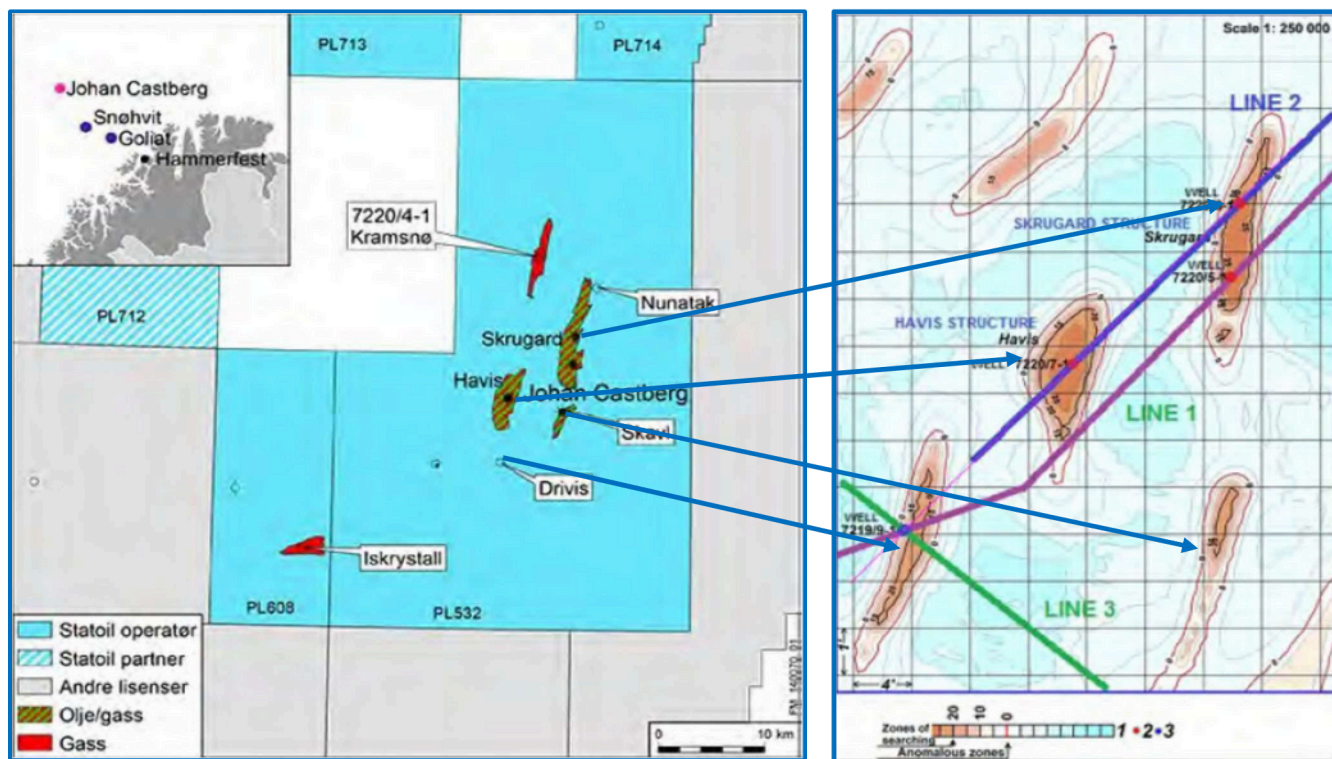


Figure 49. Phase 1 - Structures vs Anomalies Found with OFT™

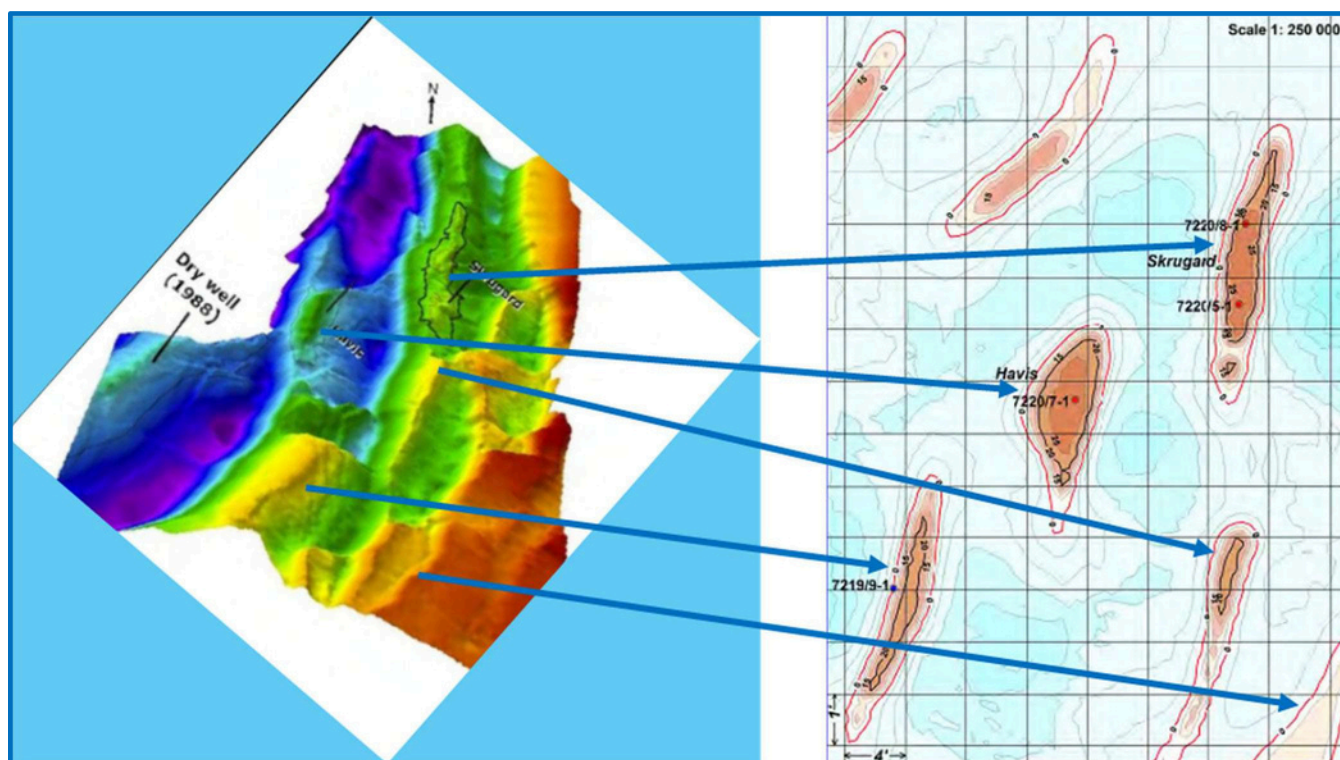


Figure 50. Phase 1 - Structures vs Anomalies Found with OFT™ (2)

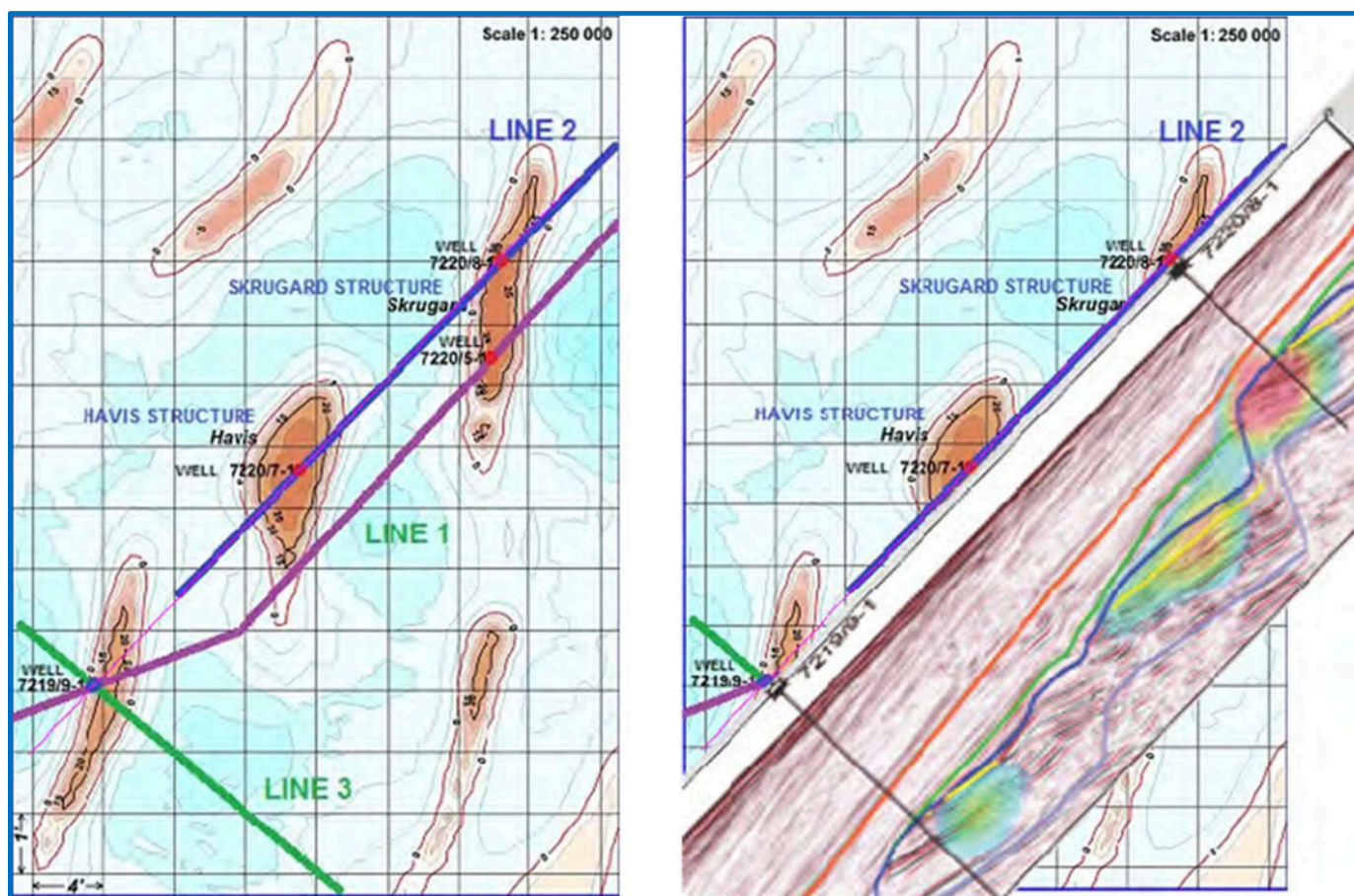


Figure 51. Phase 1 - Relative Pressure (OFT) vs Drilling Depth Maximum Pressure (by OFT)

2D seismic lines from MCG programs (2010 & 2012): (a) Line 1: Skrugard discovery well, edge of the Havis discovery, and a dry well; **(b) Line 2:** Skrugard appraisal well and Havis discovery well

Overlay includes:

- Apparent resistivity (ARv) from CSEM data
- Interpreted horizons Well locations
- Well locations

Results & Metrics

Parameter	Result
Max reservoir pressure (OFT)	20-25 MPa @ 2,000-2,500 m
Correlation with seismic structures	95 %
Validation with drilled wells	Skrugard, Havis, Dravis confirmed
Reservoir formations identified	Tubåen, Nordmela, Stø
Production plateau (2025)	220,000 BOPD (17 wells producing)
ESG impact	Remote sensing only; zero-impact survey

INNOVATECH Global Case Study Compendium

Interpretation:

The **OFT™** Barents Sea project confirmed the presence, depth, and pressure of productive horizons years before full drilling completion.

OFT-predicted pressure envelopes matched appraisal-well results, reinforcing the technology's offshore applicability even in **low-signal Arctic environments**.

4.9. Colombia – Totare Field (Tolima Province, Upper Magdalena Valley)

Objective: Validate **OFT™** in a mixed oil-and-gas onshore basin with complex sedimentary layering, integrating spectrography, field sensing, and well log comparison to enhance production targeting.

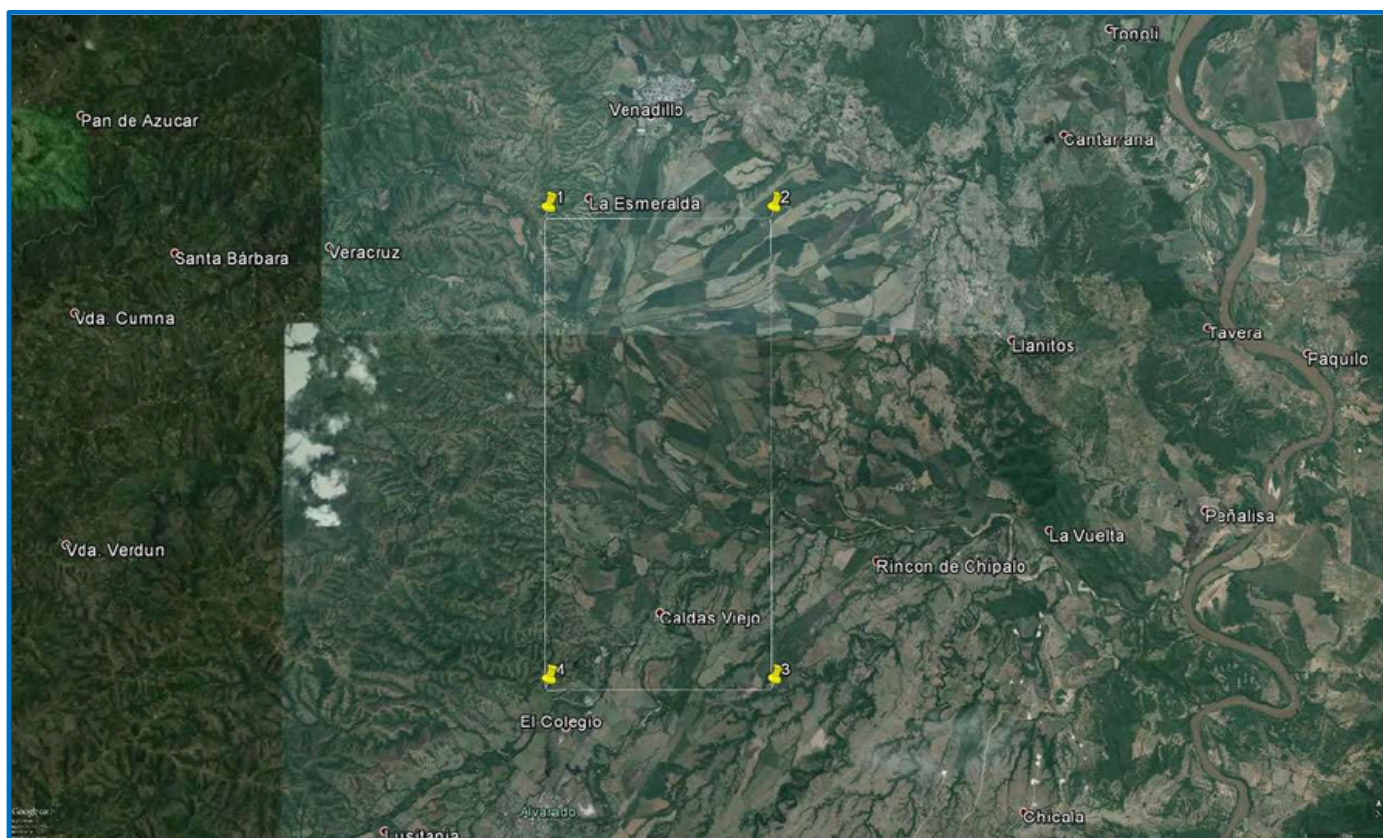


Figure 52. Totare Field Tolima Colombia; Oil & Gas Deposits; Scale: 1:30,000 Coverage: 86,4 km²

Project Scope

Parameter	Specification
Area surveyed	86.4 km ²
Scale	1:30 000 (Phase 1) / 1:20 000 (Phase 2)
Formations	Honda & Guadalupe Groups - fluvial sandstones
Program Duration	16 weeks
Validation data	6 existing production wells + legacy seismic
Objective depth window	1,000 - 1,500 m

INNOVATECH Global Case Study Compendium

Technical Workflow

Phase 1 – Spectrography: Twenty-nine (29) satellite tiles processed; primary hydrocarbon anomalies aligned with known productive structures. Spectral resonance detected oil frequencies (20 - 40 kHz) within the Totare fault-bounded block.

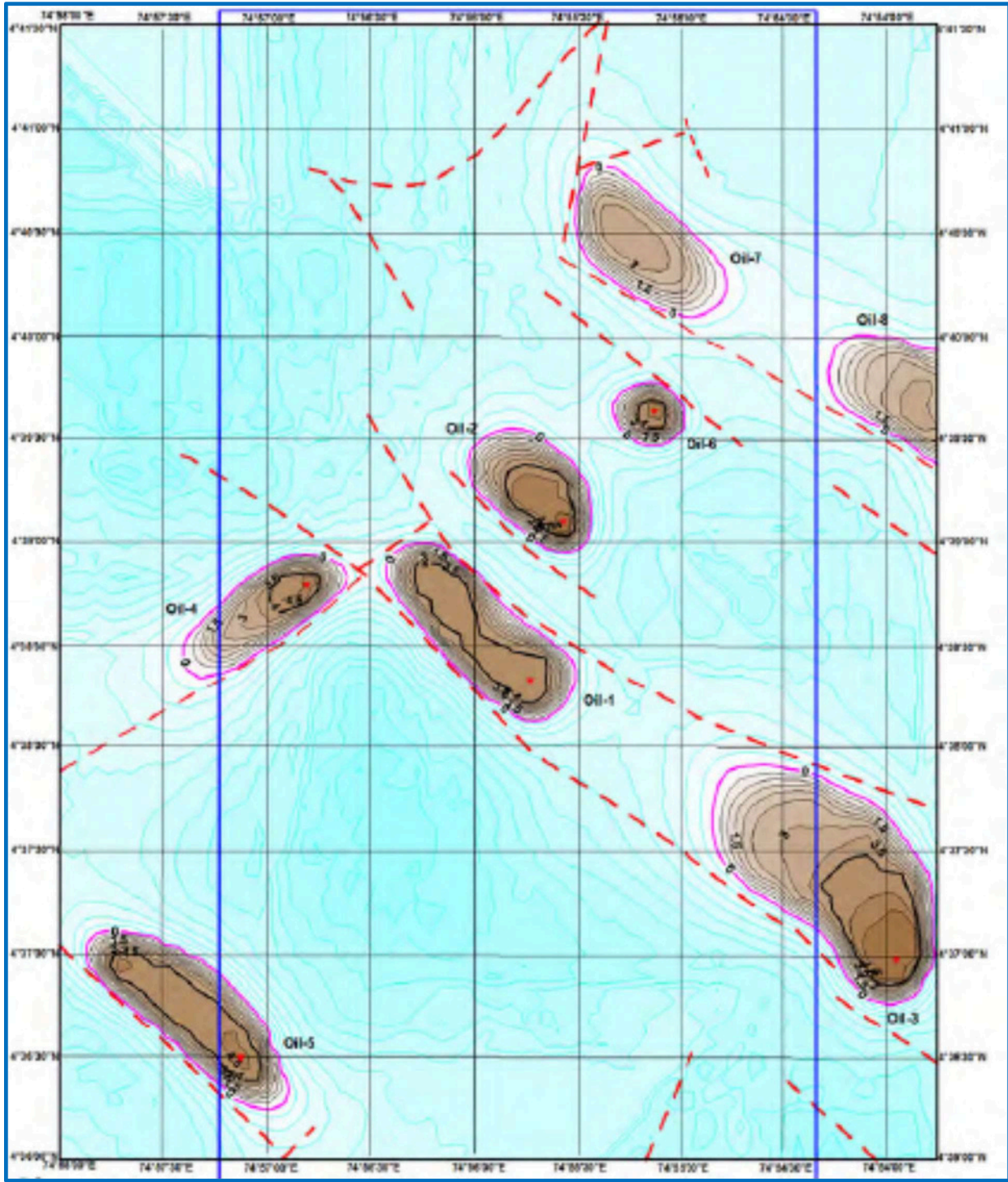


Figure 53. Phase 1 Spectrography Results - Scale: 1:30,000; Coverage: 86,4 km²

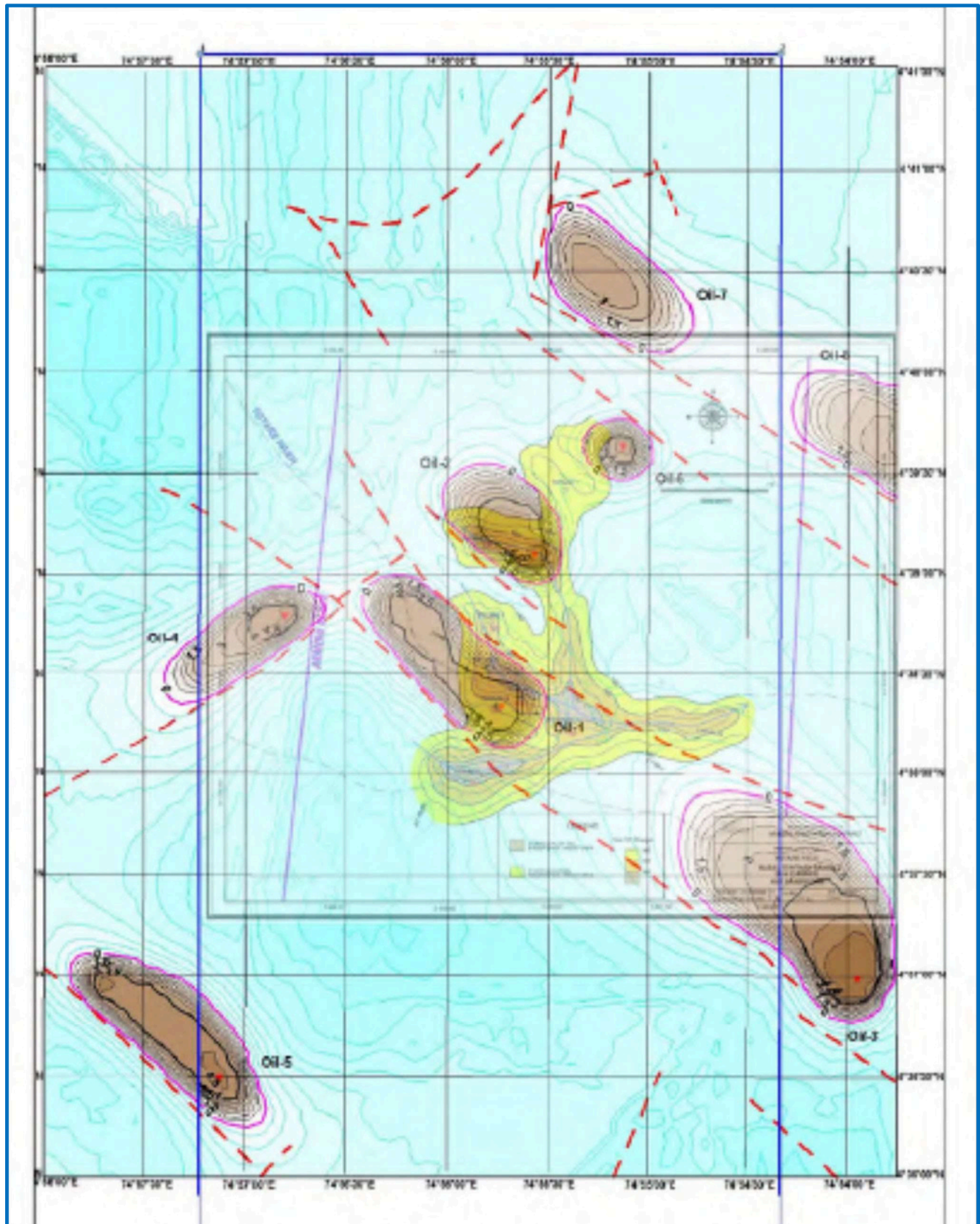


Figure 54. Phase 1 Spectrography Results - Comparing Spectrography with Distribution of Sands Map

Phase 2 – FSPEF and VERS

- FSPEF mapped top-view geometry and reservoir thickness to 48 km².
- VERS profiles defined fluid contacts and pressure distribution.
- Depth intervals matched productive sand packages between 1 046 - 1 415 m.

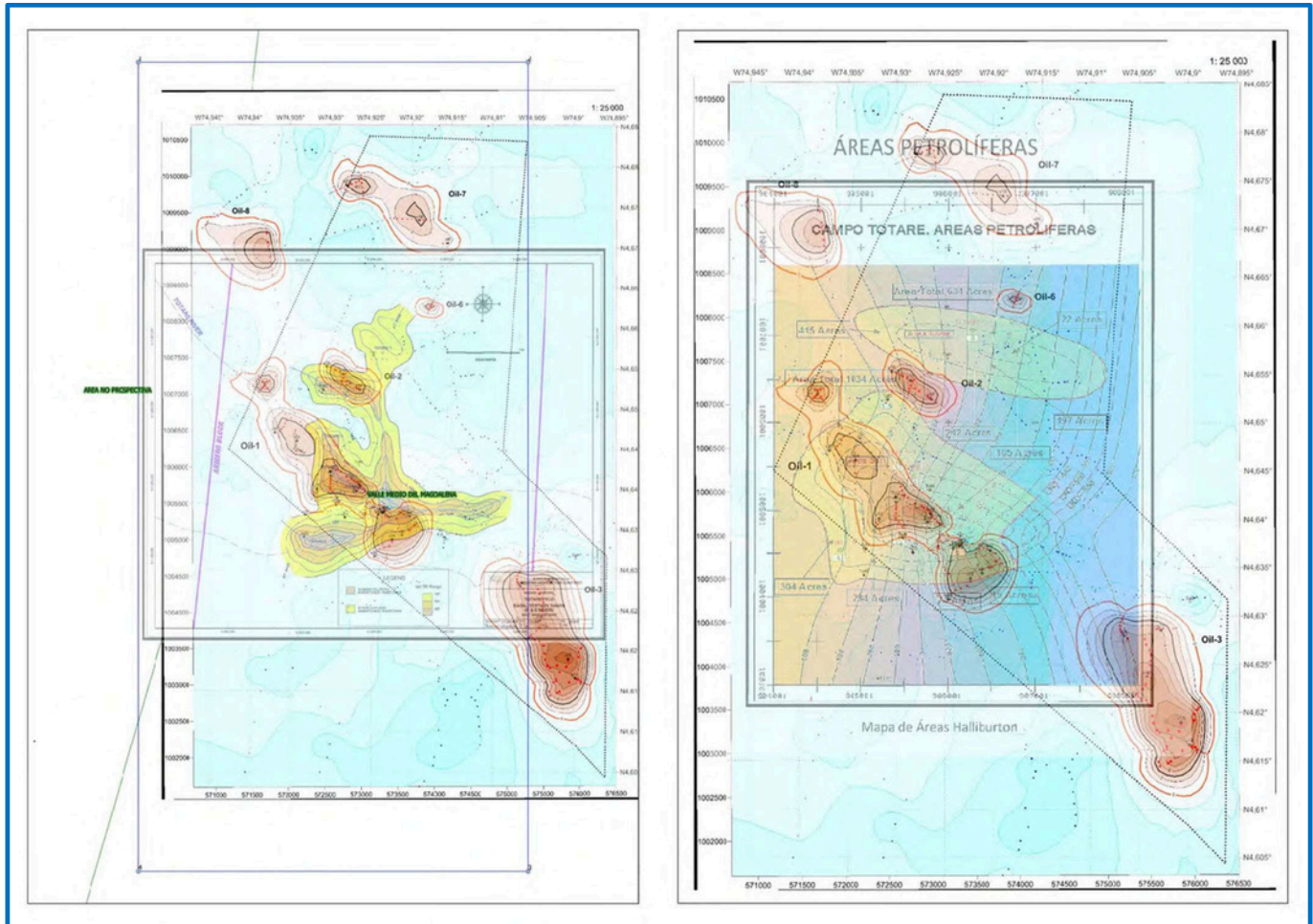


Figure 55. Phase 2.1 - Field Work Results: The obtained anomalies have a good coincidence with the productive structures

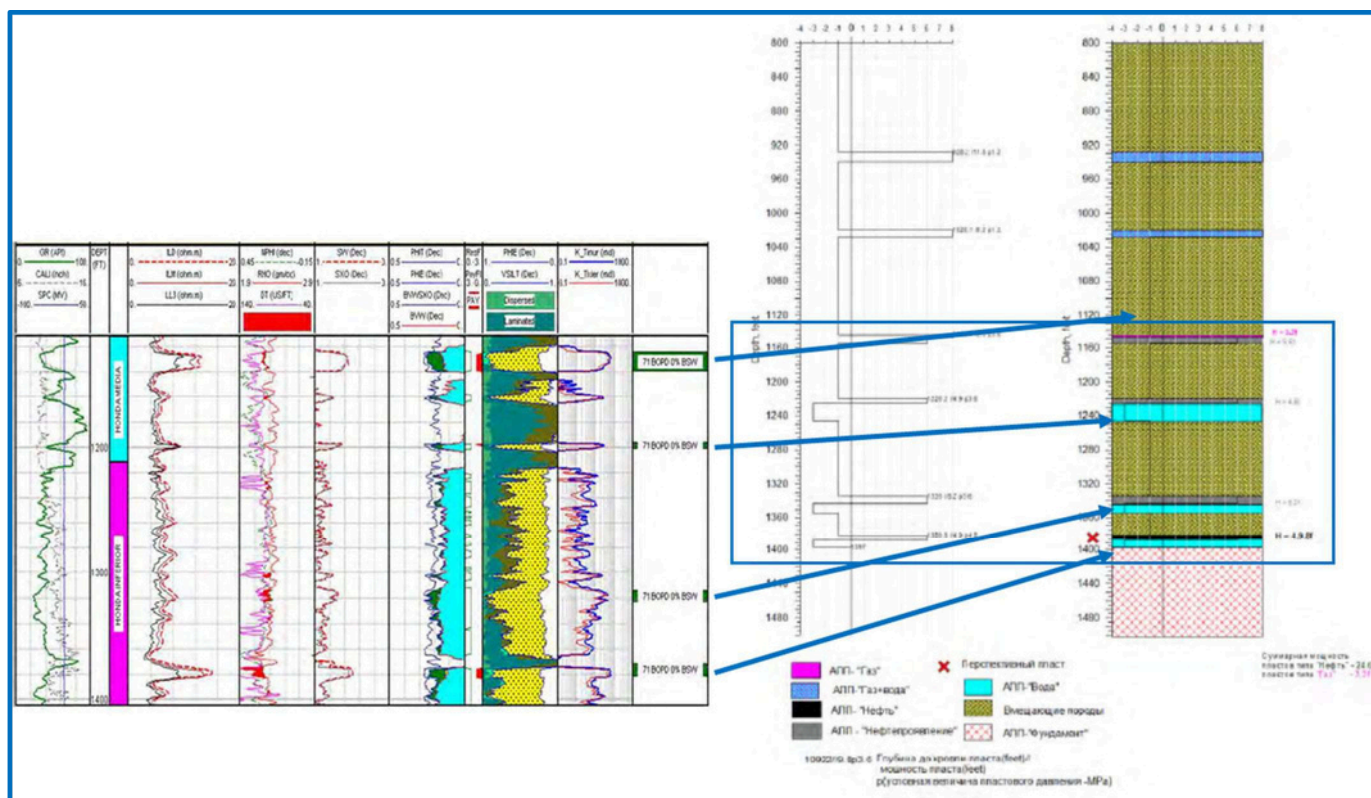


Figure 56. Phase 2.1 - Field Work Results: The obtained anomalies have a good coincidence with the productive structures

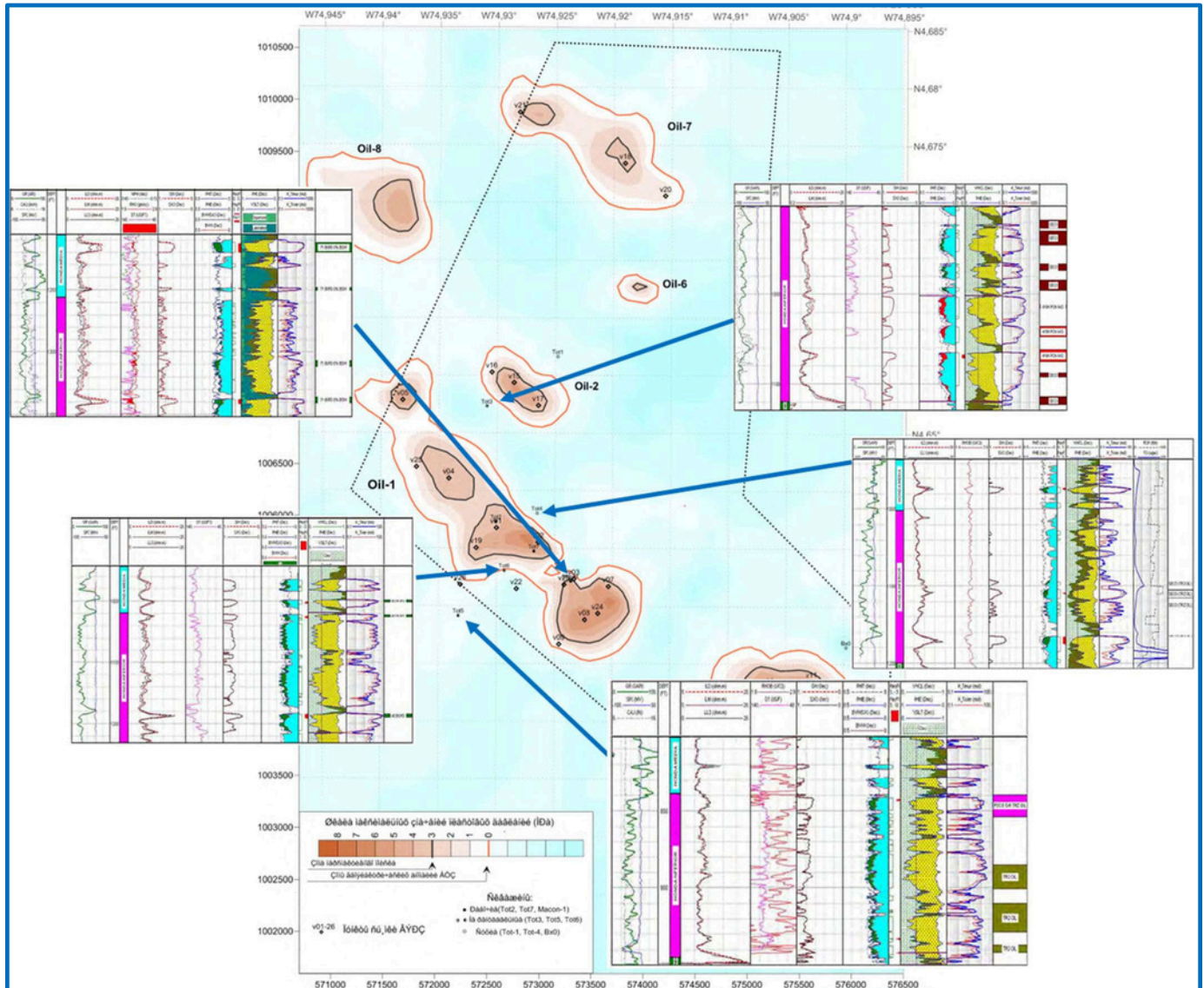


Figure 57. Phase 2.1 - Field Work Results: Comparing Phase 2.1 Results with Dry Wells

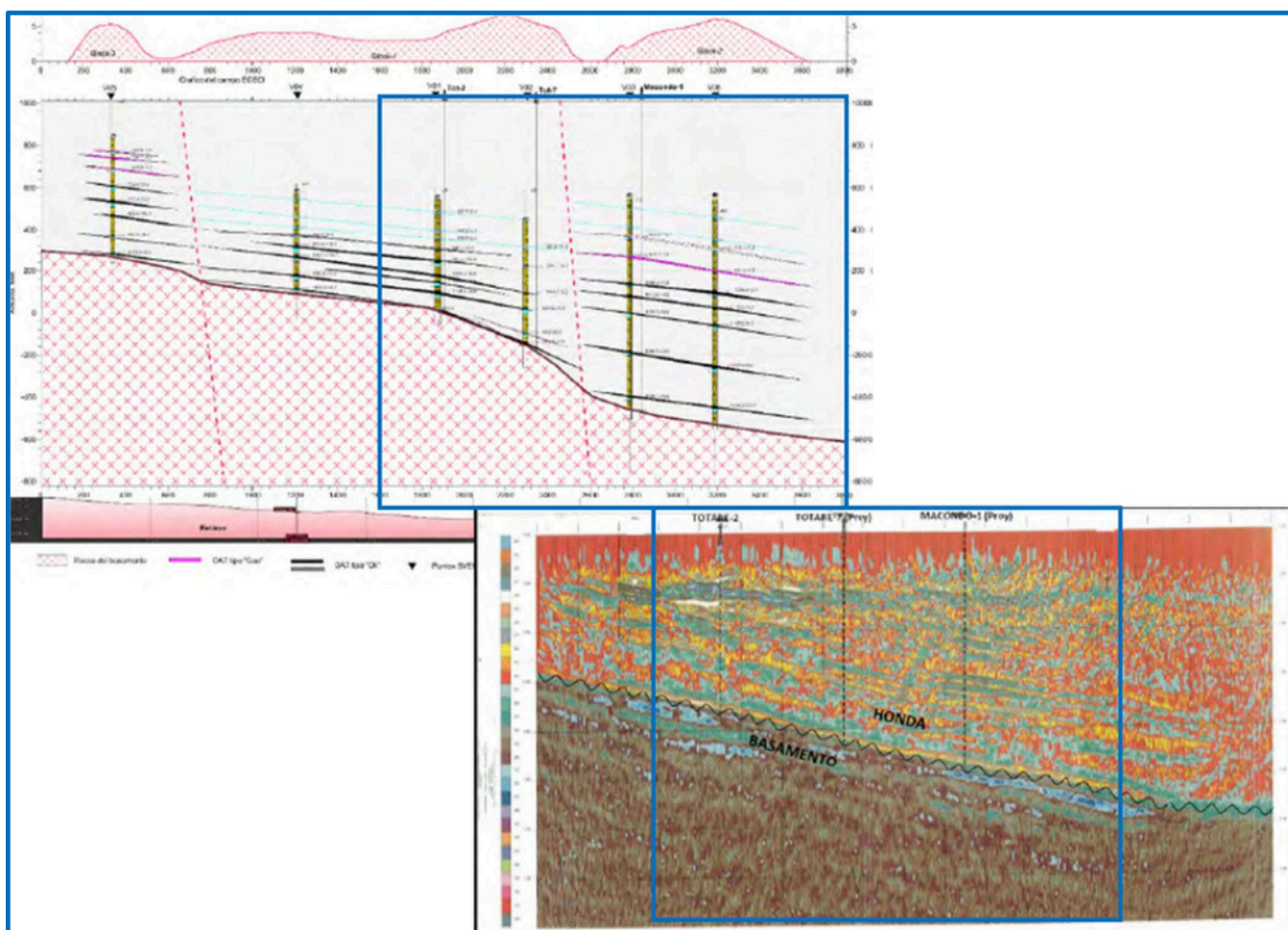


Figure 58. Phase 2.1 - Field Work Results: Comparing Phase 2.1 Results with Seismic Section

4.10. Cross-Project Validation Summary

Case Study	Environment	Correlation Accuracy	Depth Reach	Pressure Range (MPa)	Cycle Time	ESG Impact
Texas - OFT-1 (Enrich Oil)	Onshore clastic	95 - 100 %	3.4 - 4.5 km	10 - 19.8	17 wk	Non-invasive
Texas - James-1	Multi-layer tight sands	96 %	0.3 - 1.3 km	4.5 - 10.8	12 wk	Non-invasive
Afghanistan - Kashkari/Latti	Folded carbonate	98 %	1.1 - 1.3 km	5 - 12	17 wk	Non-invasive
Colombia - La Cuerva (Llanos)	Oil / water mixed	94 %	2.4 - 3.5 km	7 - 10	17 wk	Remote
Colombia - Putumayo	Basin-scale	91.6 %	3 - 5 km	Var.	17 wk	Remote
Colombia - Totare (Tolima)	Clastic sandstone	94 - 97 %	1.0 - 1.5 km	8 - 11	16 wk	Field low-impact
Canada - Norte-Hocol	Mature onshore	96 %	0.5 - 1.5 km	5 - 10	17 wk	Non-invasive
Norway - Barents Sea	Offshore Arctic	95 %	2 - 2.5 km	20 - 25	17 wk	Remote

INNOVATECH Global Case Study Compendium

4.11. Key Takeaways

1. **Cross-geology Validation** – OFT™ maintains > 90 % accuracy across clastic, carbonate, and evaporitic settings.
2. **Operational Scalability** – Effective from 100 km² pilot to 6 000 km² offshore programs.
3. **Economic Efficiency** – Average CAPEX savings 60 - 80 %; ROI within 12 months.
4. **Scientific Credibility** – Empirically validated through academic studies and independent operator correlation.
5. **Sustainability Leadership** – Zero-impact data collection aligning with UN SDG 7 and 13 objectives.