
NELSON
ENVIRONMENTAL REMEDIATION
Because tomorrow matters™
GLOBAL THERMAL
Remediation | Recycling | Recovery

NELSON

Nelson Environmental Remediation

We deliver certainty.

Remediation, recycling and recovery of today's toughest contaminant challenges, with over 30 years of experience across five continents.

The largest mobile thermal fleet in the world.

High-throughput treatment brought to the site, built for performance in all climates.

Thermal Remediation Systems

Direct fire and indirect thermal desorption for precise, high efficiency contaminant destruction, with mobile units built for large scale treatment of soil, tailings and industrial byproducts.

Biosolids Treatment

High temperature oxidative processing for municipal and industrial biosolids. Pathogens eliminated, PFAS destroyed, volume significantly reduced, with biochar created as a treatment byproduct.

Tire Reclamation

Modular pyrolysis systems convert end of life tires into recoverable outputs through controlled oxygen free heating, eliminating long term stockpile liability.

Resource Recovery

Contaminant destruction with controlled material recovery: hydrocarbons for reuse, de-oiling catalyst, SAGD drill cuttings, lime sludge, centrifuge cake, mill scale and industrial residuals.

PFAS Destruction

High temperature systems that permanently break the molecular bonds of PFAS and persistent synthetic compounds. Engineered for sites where compliance is critical.

Fly ash processing

Two mobile treatment options for fly ash: drying and sizing, or drying, sizing and carbon reduction.

Mobile Thermal Drying

Mobile thermal drying reduces moisture in soil, sludge and industrial feed materials to support handling, sizing and downstream processing at the site.

Technology Consulting

Strategic remediation planning and technology selection for site specific risk profiles for technically sound, regulatory compliant and defensible projects.

30+
YEARS

5
CONTINENTS

Most mobile thermally treated tonnes of soil globally.

CERTIFIED AND TRUSTED BY

ISO 14034 VERIFIED

COR CERTIFIED

NATO PFAS TEST BED

CANADIAN ETV VERIFIED



Two thermal routes for permanent solutions.

Direct fire thermal and indirect fire thermal. Feed characteristics, organic loading, site conditions and project objectives determine the route.

CHOOSING A ROUTE

The site determines the strategy. For thermal treatment, total organic loading is a primary design threshold: feed below 5% total organics is suited to direct treatment, while feed above 5% is routed to indirect treatment. Material characteristics, site conditions, accessibility, objectives, permitting and scale complete the selection.

The route changes. The standard does not. Every project closes against the regulator's criteria, sampled by a third party and documented in a closure package.

THE TWO THERMAL ROUTES

Direct Fire Thermal

EX SITU, ON SITE

Burner flame and combustion gases contact the feed inside the rotary drum, then an oxidizer treats the liberated organics.

Feed below 5% total organics, including petroleum hydrocarbons F1 to F4, BTEX, crude, drilling waste, tank bottoms and slop oil. PCBs, legacy dioxin residues, furans and chlorinated materials may also be treated directly when loading and project conditions support it.

15 to 70 t/hr across the mobile fleet

Indirect Fire Thermal

EX SITU, ON SITE

The flame remains outside the drum within an insulated box. Hot-fan and condensing configurations provide a smaller, concentrated off-gas stream; condensing can recover hydrocarbons for reuse or sale, while non-condensable gases continue to the oxidizer.

Feed above 5% total organics, including mill scale, biosolids and other high-organic materials. PCBs, legacy dioxin residues, furans and chlorinated materials may use either thermal route depending on loading, feed characteristics and project conditions.

Configured to the contaminant and the permit

ROUTE SELECTION AT A GLANCE

Feed below 5% total organics **Direct fire thermal**	Feed above 5% total organics **Indirect fire thermal**
PCBs, legacy dioxin residues, furans or chlorinated materials **Direct or indirect, based on loading and project conditions**	Remote or access-restricted site **Compact mobile thermal**

Route selection is confirmed by site characterization and pilot work.



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Our Mobile Advantage

Mobile thermal solutions, sized for the site.

FLEET SELECTION

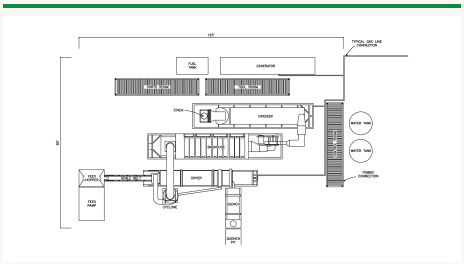
The fleet brings two thermal approaches to site. Direct-fired RS units treat contaminated soils at high production rates, while the ITD configuration applies indirect thermal desorption to high-organic materials, including wastes with volatile organic compounds.

Plant selection is based on the waste stream and contaminants, project volume, site access, mobilization constraints and equipment availability.

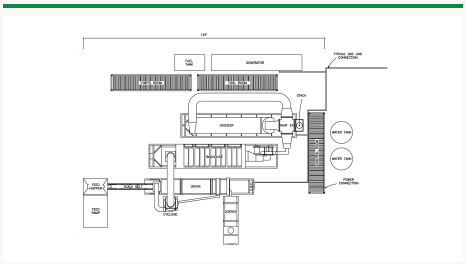
DIRECT AND INDIRECT FLEET · DESIGN ENVELOPES

Unit	Throughput	Scale	Site access	Mobility / logistics
RS-945	50–70 t/hr	Maximum-throughput configuration	Large prepared site footprint	Highest mobilization demand
RS-45	35–50 t/hr	High-output configuration	Access for a larger mobile train	Substantial project volumes
RS-40	30–45 t/hr	Mid-range configuration	Reduced operating footprint	Reduced mobilization demand
RS-20	15–25 t/hr	Compact configuration	Remote or access-restricted sites	Lowest load count
ITD	2–15 t/hr	Specialized high-organic configuration	Footprint scales with one to three drums	Project-configured modular train

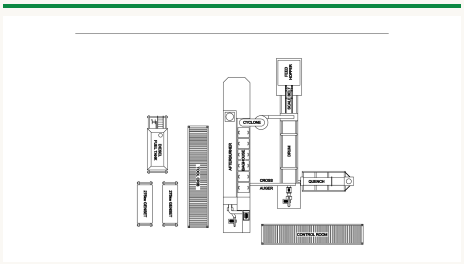
CONFIGURATION EXAMPLES



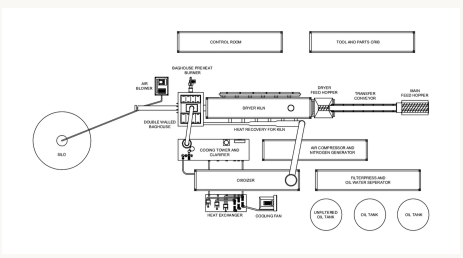
RS-45 layout



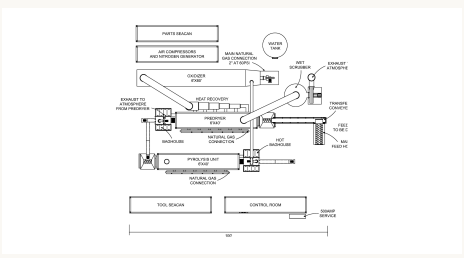
RS-45 with heat recovery layout



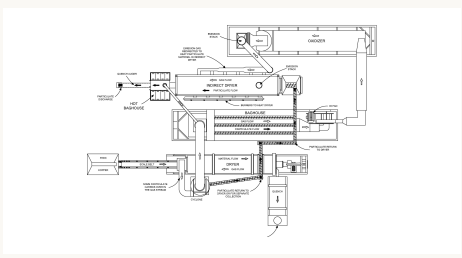
RS-20 layout



ITD single-drum configuration



Preliminary pyrolysis plant with predryer



RS-45 with optional particulate secondary treatment

Throughput ranges are nominal planning values. Final plant selection is confirmed against the waste stream, site conditions, logistics and equipment availability.



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Case Study · Tioga, North Dakota

One of the largest inland oil spills in US history.

21,000 barrels of Bakken crude released into North Dakota farmland. Nelson treated 1.2 million tons on site and handed the field back to the farmer who owns it.

MOUNTRAIL COUNTY · NORTH DAKOTA

2.4M t
Soil excavated and handled

1.2M t
Thermally treated to criteria

0
Tonnes landfilled

THE WORK

21,000 barrels of Bakken crude released into agricultural soil. Nelson mobilized a full thermal plant to the release footprint and treated the impacted soil on site rather than hauling it to disposal.

Topsoil was stripped, stockpiled and preserved through the campaign, then returned to grade after treatment so the field could be put straight back into production.

PROJECT RECORD

NELSON ROLE	Thermal treatment: technology, plant and operations
CONTAMINANTS	Approx. 21,000 barrels of Bakken crude. Petroleum hydrocarbons (TPH)
VOLUME	2.4 million tons excavated, 1.2 million tons thermally treated
CRITERIA	State-approved site TPH criteria, verified pile by pile at client- and regulator-specified volumes
SITE	Pipeline release across farmland, Mountrail County, North Dakota
EQUIPMENT	Mobile direct-fire thermal desorption unit, baghouse, oxidizer, quench, feed hopper and scale belt
SCHEDULE	A multi-year campaign, run to completion
RESULT	No soil landfilled. Restored to grade and back in wheat production



NELSON

Case Study · US Military Program

US Army Corps of Engineers: a 1943 fuel farm, cleaned up.

22,400 tons of hydrocarbon-impacted soil from a wartime US Navy tank farm, treated on Tutuila across two campaigns in tropical heat and monsoon conditions.

AUA TANK FARM · TUTUILA · AMERICAN SAMOA

22.4K t
Treated across two campaigns

15 loads
Break-bulk equipment shipped

100 ppm
Gasoline-range criteria met

THE LOGISTICS

A complete mobile plant, rotary kiln, baghouse, thermal oxidizer, quench, feed hopper and scale belt, was broken into fifteen loads, trucked from Acheson to Oakland, shipped to Pago Pago and reassembled on the island.

Nelson ran as thermal treatment subcontractor inside a United States Army Corps of Engineers program, working under the prime contractor and operating day and night through heat, humidity and monsoon rain.

PROJECT RECORD

CLIENT	US Army Corps of Engineers program, through the prime contractor
SITE	AUA tank farm, a 1943 US Navy fuel farm, Tutuila, American Samoa
EQUIPMENT	RS-20 mobile thermal plant: rotary kiln, baghouse, thermal oxidizer, quench, feed hopper and scale belt
SCHEDULE	Two campaigns, each roughly six months on island
RESULT	All soil below criteria. Nothing exported; fuel farm land back in community use

NELSON ROLE	Thermal treatment subcontractor: technology, management, crew
CONTAMINANTS	Gasoline-range petroleum hydrocarbons in soil
VOLUME	22,400 tons across two campaigns (approx. USD $5 million combined)
CRITERIA	100 ppm gasoline range, under American Samoa EPA approval



NELSON

Case Study · US Department of State

US Department of State: destroying legacy dioxin.

A purpose-built thermal treatment plant under construction at a former airbase in Vietnam, to destroy legacy dioxin residues left by mid-20th-century military operations.

FORMER AIRBASE · VIETNAM · IN PROGRESS

On-site
Plant design and assembly

Combo
Direct/indirect thermal system

<100 ppt TEQ
Dioxin destruction criteria

THE WORK

Reinforced concrete containment, the foundational treatment pad and the plant itself are being assembled on site, including kiln placement and the emissions stack.

Nelson is delivering the engineered thermal system inside a United States Department of State legacy dioxin program, working under the prime contractor. Once commissioned, the plant will treat dioxin-impacted soil to a destruction criterion of <100 ppt TEQ.

PROJECT RECORD

CLIENT	United States Department of State program, through the prime contractor
SITE	Former US airbase, currently an active Vietnamese airbase, Vietnam
EQUIPMENT	Purpose-built direct/indirect combination thermal treatment system
SCHEDULE	On-site civil works and plant assembly underway
RESULT	Pending commissioning. Objective is the site returned to safe future use

NELSON ROLE	Design-build and execution of the engineered thermal treatment system
CONTAMINANTS	Legacy dioxin residues from mid-century herbicide handling and storage
VOLUME	111,170 m^3
TREATMENT CRITERIA	<100 ppt TEQ



NELSON

Case Study · Louis Bull First Nation

Louis Bull First Nation: 140,000 tonnes remediated.

A long-standing fuel-retail hydrocarbon liability on Louis Bull First Nation land, destroyed on site around the clock and returned as buildable ground.

BEAR HILLS · LOUIS BULL FIRST NATION · ALBERTA

140K t	25 t/hr	100 %
Hydrocarbon soil treated	Average, 35 t/hr peak	To Alberta Tier 1 criteria

THE WORK

Impacted soil was excavated, screened and conditioned, then fed through Nelson's RS-45 mobile thermal system. Hydrocarbons were volatilized off the soil and the vapour stream routed to a high-temperature oxidizer for destruction.

Operations ran continuously, 24 hours a day, seven days a week. Treated soil was sampled pile by pile at specified volumes against Alberta Tier 1 criteria before release back to the excavation.

PROJECT RECORD

CLIENT	Civil works contractor, on Louis Bull First Nation land
SITE	Bear Hills, long-standing fuel-retail hydrocarbon liability, Alberta
EQUIPMENT	RS-45 mobile direct-fire thermal desorption unit, oxidizer, quench, feed hopper and scale belt
SCHEDULE	An eleven-month program, mobilization to demobilization
PERMITTING	Code of Practice for Small Incinerators

NELSON ROLE	Thermal remediation contractor: plant, crew and 24/7 operations
CONTAMINANTS	BTEX and TPH fractions F1 to F4
VOLUME	Approx. 140,000 tonnes, 25 t/hr average (approx. CAD $8.5 million)
SOIL CRITERIA	Alberta Tier 1
RESULT	All soil to criteria and returned to the excavation. Land redeveloped by the Nation



A Canadian first: mobile PCB destruction, remote gold mine.

60,000 tonnes of impacted material handled at a remote northern Ontario gold mine, with PCB soil destroyed on site to 0.3 mg/kg instead of trucked into somebody else's liability.

REMOTE GOLD MINE · NORTHERN ONTARIO

60K t	24,000 t	0.3 mg/kg
Impacted material handled	PCB soil destroyed	Post-treatment result

THE WORK

Nelson mobilized the RS-45 to a remote mine site and ran mobile onsite thermal desorption under an Ontario Environmental Compliance Approval, volatilizing and destroying both PCBs and petroleum hydrocarbons.

PCB-impacted soil and hydrocarbon-impacted soil were segregated, treated to their respective criteria, and the treated ground regraded for natural revegetation.

PROJECT RECORD

CLIENT	Gold mine owner, through the site remediation contractor
SITE	Remote gold mine, northern Ontario
EQUIPMENT	RS-45 mobile direct-fire thermal desorption unit
SCHEDULE	A seven-month program, mobilization to closure
PERMITTING	Ontario Environmental Compliance Approval

NELSON ROLE	Thermal remediation contractor under the Ontario approval
CONTAMINANTS	PCBs at 5 to 10 ppm, plus petroleum hydrocarbons
VOLUME	60,000 tonnes handled: 24,000 t PCB and 36,000 t hydrocarbon soil
CRITERIA	Site-specific treatment criteria
RESULT	PCBs at 0.3 mg/kg. Soil returned and the site regraded for revegetation



80,000 tonnes remediated + millscale recovery.

Oily mill scale treated inside a live eastern Canadian steel plant, recovering 3.8 million litres of oil and returning every tonne of iron-bearing material to production.

OPERATING STEEL FACILITY · QUEBEC

80K t	3.83M L	<1 %
Oily mill scale treated	Oil recovered for reuse	Residual oil

THE WORK

The feed was a fine ferrous oxide sludge carrying 10 to 20 per cent oil and a similar moisture load. Nelson ran indirect thermal desorption rather than a direct-fire soil train so the iron could be preserved while the oil was driven off and captured.

Material handling, including a long-reach excavator on the stockpiles, ran inside an operating steel mill for four years without interrupting plant production.

PROJECT RECORD

CLIENT	National steel producer
SITE	Operating steel production facility, Quebec
EQUIPMENT	Indirect Thermal Desorption (ITD) train with oil recovery
SCHEDULE	A four-year program, including a one-year COVID shutdown
PERMITTING	Three Quebec ministry permits

NELSON ROLE	On-site thermal processing inside a live production facility
CONTAMINANTS	Oily mill scale, 10 to 20%+ oil and 10 to 20%+ moisture
VOLUME	Approx. 80,000 tonnes, 5 t/hr average (approx. CAD $13 million)
CRITERIA	Client QA/QC under 1% oil and 5% water
RESULT	Under 1% residual oil, 3,828,163 L recovered, 100% of ferrous back to production



A Honolulu brownfield, cleared for redevelopment.

25,000 tons of fuel-impacted soil treated on site in Honolulu and reused as backfill, clearing the way for the property transfer and commercial redevelopment.

TANK FARM BROWNFIELD · HONOLULU · HAWAII

25K tons
Treated, 16,000 m³

250 m³/day
Sustained production

100 %
Reused on site as backfill

THE WORK

A full on-site low-temperature thermal desorption train: weigh-scale feed system, rotary drum desorber, baghouse filtration, thermal oxidizer and treated-soil handling, with operating temperatures logged through the campaign.

The feedstock was difficult, heterogeneous sand, coral, ash and debris including material excavated below groundwater. Operations ran two 12-hour shifts with three operators per shift, taking roughly one day in fourteen for planned maintenance.

PROJECT RECORD

CLIENT	Property owner, through the prime environmental consultant
SITE	Former tank farm brownfield, Honolulu, Hawaii
EQUIPMENT	RS-20 low-temperature thermal desorption train with thermal oxidizer
SCHEDULE	An eight-month program, mobilization to demobilization
PERMITTING	Hawaii DOH Permit 0682-01-N

NELSON ROLE	Thermal remediation subcontractor: plant, crew and operations
CONTAMINANTS	Gasoline, jet fuel and diesel hydrocarbons with PAHs and solvents
VOLUME	25,000 tons (16,000 m³) at approx. 250 m³/day (approx. USD $2 million)
CRITERIA	100 mg/kg TPH-gasoline · 500 diesel · 500 oil
RESULT	All soil below criteria and reused on site. Property transfer completed



19,223 tonnes remediated through spring breakup.

A historic Alberta wellsite and drilling-waste disposal area, treated on site with the RS-20 during spring breakup and returned to its own footprint.

LEGACY WELLSITE · WEST-CENTRAL ALBERTA

19,223 t
Soil treated on site

RS20
Mobile thermal platform

100 %
To Alberta Tier 2 criteria

THE WORK

BTEX and F2/F3 hydrocarbon fractions were driven off the soil through the RS-20 rotary thermal train and destroyed in the high-temperature afterburner, with treated soil returned to the original footprint.

Burners were fired on recycled used oil, displacing virgin fuel and turning a second waste stream into process energy. Treating on site kept the work running through spring breakup, when hauling to off-site disposal is restricted.

PROJECT RECORD

CLIENT	Environmental consultant for an Alberta utility owner
SITE	Historic wellsite with drilling-waste disposal area, west-central Alberta
EQUIPMENT	RS-20 rotary thermal train with afterburner, fired on recycled used oil
SCHEDULE	A four-month program, treated through spring breakup
PERMITTING	Code of Practice for Small Incinerators

NELSON ROLE	Thermal remediation contractor: plant and operations
CONTAMINANTS	BTEX and F2/F3 petroleum hydrocarbon fractions
VOLUME	19,223 tonnes (approx. CAD $2.3 million)
SOIL CRITERIA	Alberta Tier 2
RESULT	All treated soil met criteria and was returned to the site footprint



Selected by NATO for global PFAS testing.

Nelson's mobile high-temperature thermal platform has been selected for the NATO PFAS Treatment Technology Test Bed. Testing and validation are underway.

NATO SCIENCE & TECHNOLOGY ORGANIZATION · TEST BED

3 matrices
Soil, spent GAC, IX resin

C-F
Bond severance under test

3rd party
Chain-of-custody sampling

WHY IT MATTERS

PFAS does not break down on its own. Containment, filtration and disposal move the problem; only destruction ends it. The test bed exists to prove which technologies actually sever the carbon-fluorine bond.

Nelson's mobile RS-series platform was selected for evaluation against AFFF-impacted soil, spent granular activated carbon and ion-exchange resin, with pre- and post-treatment sampling under third-party chain of custody.

PROJECT RECORD

CLIENT	NATO Science & Technology Organization
SITE	NATO PFAS Treatment Technology Test Bed
EQUIPMENT	Nelson mobile high-temperature thermal platform, RS-series
SCHEDULE	Selected. Testing and validation underway
RESULT	Pending. Published only on release of the final NATO conclusions

NELSON ROLE	Technology provider under evaluation in the test bed
CONTAMINANTS	AFFF-impacted soil, spent granular activated carbon, ion-exchange resin
VOLUME	Test quantities set by the program
CRITERIA	Carbon-fluorine bond severance, third-party analytical chain of custody

Nelson's wider PFAS process documentation describes destruction above approximately 1,100 °C with secondary off-gas treatment and acid-gas management. Those are process capabilities, not stated NATO test setpoints.



NELSON

Case Study · Ontario · Pilot in Progress

60-tonne biosolids municipal trial.

A 60-tonne thermal trial on municipal wastewater biosolids for a major Canadian municipality, testing single-pass PFAS destruction and recovery of a stable carbon residual.

60-TONNE PILOT · ONTARIO

60 t
Pilot throughput

1 pass
Pathogens, volume, PFAS

3rd party
Validation of results

THE TRIAL

Land application, landfill and incineration all leave residual risk behind: pathogens, metals, microplastics and PFAS that simply moves from the plant to the soil, the watershed or the air.

The pilot puts biosolids through Nelson's high-temperature oxidative process with pre- and post-treatment sampling, continuous process monitoring and third-party analysis, aiming for a stable carbon residual instead of landfill-bound ash.

PROJECT RECORD

CLIENT	Major Canadian municipality
SITE	Municipal wastewater treatment biosolids, Ontario
EQUIPMENT	High-temperature oxidative thermal treatment, single pass
SCHEDULE	Trial in progress
RESULT	Pending third-party analytical data

NELSON ROLE	Technology provider and trial operator
CONTAMINANTS	PFAS, pathogens, metals and microplastics in biosolids
VOLUME	60 tonnes
CRITERIA	PFAS destruction, pathogen elimination and volume reduction

This is a pilot. Performance figures will be published only once the third-party analytical data is final.

NELSON

For more, visit nelsonremediation.com

Because tomorrow matters™

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Victoria, British Columbia
Saint John, New Brunswick
London, Ontario

UNITED STATES

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ASIA PACIFIC

Vietnam

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We respond to project inquiries within one business day.


NELSON
ENVIRONMENTAL REMEDIATION
Because tomorrow matters™
IN-SITU REMEDIATION
Soil | Groundwater | Wastewater

NELSON

In-situ Remediation

Contamination solutions with minimal disruption.

Turnkey remediation, custom fabrication, and equipment rental, designed, deployed, and managed by Nelson.

IN-SITU REMEDIATION APPROACHES

Multi-Phase Extraction (MPE)

Simultaneous recovery of groundwater, vapours, and recoverable product to accelerate contaminant mass removal.

Soil Vapour Extraction (SVE)

Removal of volatile contaminants from unsaturated soils through controlled vacuum extraction.

Air Sparging

Injection of air below the water table to enhance contaminant recovery and support biological degradation.

Chemical Remediation

Application of oxidants, reductants, activated carbon technologies, and other amendments to reduce contaminant concentrations and limit migration.

Biological Remediation

Use of naturally occurring or enhanced biological processes to break down contaminants within soil and groundwater.

PFAS Treatment

Treatment systems designed to address PFAS contamination within groundwater and impacted water streams.

Groundwater Treatment

Recovery, treatment, and management of contaminated groundwater through engineered treatment systems.

Thermal Enhancement

Application of controlled heat to improve contaminant recovery under specific site conditions.

Most projects combine multiple approaches into a coordinated remediation program.

ADVANCED INVESTIGATION TECHNOLOGIES

UVOST® Laser-Induced Fluorescence (LIF)
Real-time hydrocarbon delineation at centimetre-scale resolution.

Membrane Interface Probe (MIP)
Continuous vertical profiling of volatile contaminants within the subsurface.

Hydraulic Profiling Tool (HPT)
Evaluation of permeability, groundwater movement, and contaminant transport pathways.

MiHPT Investigations
Integrated contaminant and hydrogeological characterization within a single field program.

Remedial Option Assessments
Integration of site history, field data, laboratory analysis, and hydrogeological interpretation to develop site specific remedial strategies.

30+
YEARS OF EXPERIENCE

100s
OF SUCCESSFUL PROJECTS

Selected In-Situ project experience.

Six project examples across military, energy, and nuclear environments.



MILITARY

Monitor Well Decommissioning

Multi-year monitor well decommissioning program across 5 Wing Goose Bay and nearby community properties.



ENERGY, OIL AND GAS

Chemical Injection Program

Chemical injection program to reduce benzene, toluene, ethylbenzene, and xylene (BTEX) impacts in groundwater.



MILITARY

Water Treatment System and Operation

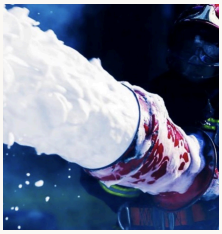
Remediation of a fuel oil spill at a remote radar site on Brevoort Island, located in the Davis Strait off the eastern coast of Baffin Island.



NUCLEAR

Nuclear Fuel Facility Water Treatment System Replacement

Design of a new water treatment system for a prominent global uranium provider and nuclear fuel supplier.



MILITARY

PFAS Water Treatment at CFB Edmonton

Mitigation and remediation of aqueous film forming foam (AFFF) spilling into the sanitary system at CFB Edmonton.



ENERGY, OIL AND GAS

Groundwater Treatment During Station Upgrade

Containment and treatment of groundwater during the removal of outdated underground infrastructure.

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For more, visit nelsonremediation.com

Because tomorrow matters™

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IN-SITU · SOIL | GROUNDWATER | WASTEWATER


NELSON
ENVIRONMENTAL REMEDIATION
Because tomorrow matters™
EARTHWORKS
Remediation | Reclamation | Environmental Services



From the ground on down.

Earthworks has solutions for every site, from aging assets, contamination, closures, removals, demolition, and more. If it's on or in the ground, Earthworks is the partner with the experience to deliver every project.

EARTHWORKS SERVICES

01 Remediation and Reclamation

- Excavation and LT certified haulage
- Disposal at approved facilities
- Confirmation sampling support
- Clean backfill placement
- Site reclamation and restoration

Land restored and ready for what comes next.

02 Decommissioning and Demolition

- Structural and facility demolition
- Convenience store and gas station demo
- Foundation and concrete removal
- Oil and gas facility demolition

Assets retired safely, site cleared and ready.

03 Environmental Construction

- Landfill construction
- Landfill decommissioning
- Pond decommissioning
- Barrier, seepage and erosion control systems
- Fish habitat and vegetation restoration
- Silt curtains
- River embankment stabilization with rip-rap

Built to spec, tested, and ready for service.

04 Earth Retention: Able to Provide

- Secant walls
- Soldier pile and lagging
- Sheet pile
- Slide rail shoring systems

Deep excavations held safely in place.

05 UST and Tank Removals

- Licensed PM2 petroleum mechanic on site
- Contents and infrastructure removal
- Impacted soil handling in the same scope
- Regulatory coordination

Tanks out, soil handled, site ready for closure.

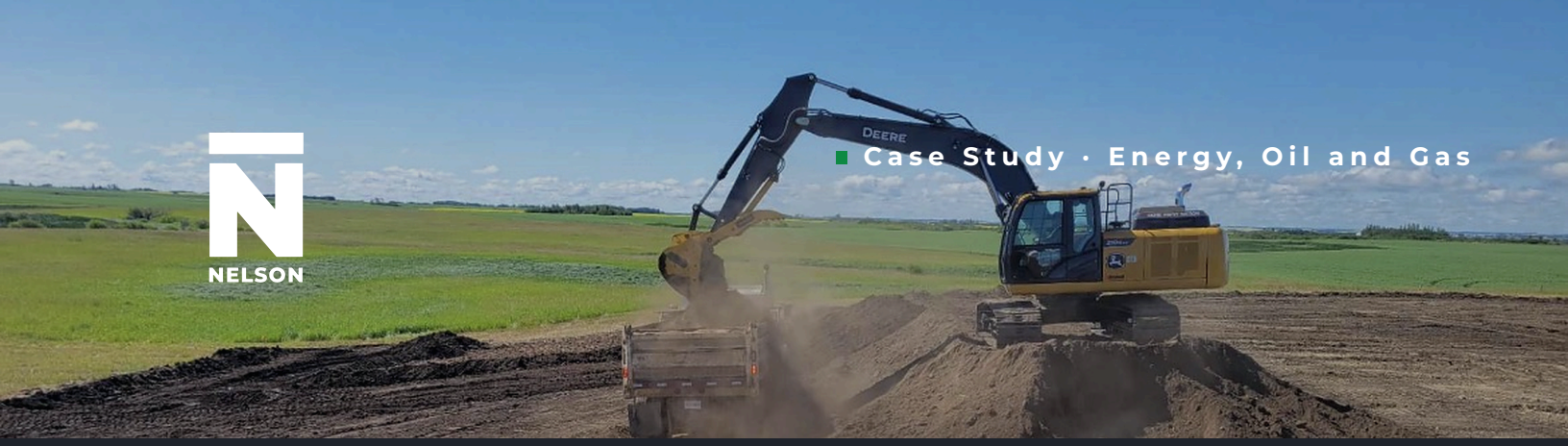
06 General / Prime Contracting (Optional)

- Single point of contact
- Self-performed core scopes
- Schedule, budget, quality and safety ownership
- Overall site supervision
- Subcontract administration

One contract. One team accountable for the work.

30+
YEARS OF EXPERIENCE

Western Canada
FOCUS



Well-site excavation, Rocky Mountain Foothills.

90,000 tonnes of PHC and salt impacted soil excavated from sloped embankments at a remote well site, through freeze/thaw cycles, year-round road bans and landfill volume limits.

WELL SITE · ROCKY MOUNTAIN FOOTHILLS · ALBERTA

90K t
Impacted soil excavated and hauled

~10 m
Excavation depth on sloped ground

0
Lost time injuries

THE WORK

Excavate and haul approximately 75% of the contaminated soil 8km on temporary haul road with up to 11% grade before entering highway.

Clean fill came from borrow areas over a 2 km haul road with a 150 m elevation change, run with 30 ton rock trucks pushed near their limits on wet clay. About 10,000 tonnes of extra material kept the haul roads open.

Remainder of contaminated soil hauled on local paved road with pilot truck escort.

Hauling moved to night shifts to use overnight freeze conditions, with pilot trucks under a 75% road ban and impacted soil split across three landfills to hold schedule.

PROJECT RECORD

CLIENT	Major oil and gas producer (confidential)
SITE	Remote well site on sloped foothills terrain, Alberta
EQUIPMENT	3 excavators, 2 dozers, 2 graders, loader, water truck, 4 rock trucks, padfoot packer, up to 20 haul trucks
COMPLETED	2026

NELSON ROLE	General contractor: management, crew, equipment and trucking
CONTAMINANTS	Petroleum hydrocarbons (PHC) and salts in soil
VOLUME	~90,000 t excavated; 70,000 t of backfill managed
RESULT	Borrow pits and access road recontoured, ~2,000 t of topsoil replaced, site hydroseeded



NELSON

Case Study · Energy, Oil and Gas

3D GPS guided excavation, Southern Alberta.

96,000 tonnes of impacted soil removed from slopes of up to 40 degrees, guided by a sub-surface 3D GPS model, while protecting a wellhead and an artesian spring.

WELL SITE · SOUTHERN ALBERTA

96K t
Impacted soil excavated and hauled

40 °
Maximum slope worked

0
Lost time injuries

THE WORK

GPS-equipped excavators followed the client's 3D delineation model, cutting the frequency and duration of sampling. Off-highway trucks moved soil off the slope to a purpose-built containment area and transload facility.

Site procedures accounted for grizzly bears and wildfire risk. Backfill came from neighbouring properties in consultation with local communities, with local employment for Indigenous stakeholders.

PROJECT RECORD

CLIENT	Major oil and gas producer (confidential)
SITE	Steep-slope well site, Southern Alberta
EQUIPMENT	3D GPS excavators, off-highway haul trucks, soil containment and transload facility
COMPLETED	2024

NELSON ROLE	General contractor: management, crew, equipment and trucking
CONTAMINANTS	Hydrocarbons, salts, metals and other substances in soil
VOLUME	~96,000 t excavated, hauled and disposed
RESULT	Wellhead and spring drainage protected; final site grading complete



NELSON

Case Study · Retail Fuel

Site remediation, Edmonton.

Demolition, underground tank removal and impacted soil excavation at a retail fuel site, with neighbouring businesses kept open and safely accessible throughout.

RETAIL FUEL SITE · EDMONTON · ALBERTA

USTs
Inerted, excavated and decommissioned

98%
SPMDD backfill compaction

0
Lost time injuries

THE WORK

The canopy, building and pump islands were demolished and asphalt and concrete recycled. Underground storage tanks were inerted, excavated and decommissioned, and excavation water removed as it recharged.

Impacted soil was hot loaded and hauled to a Class 2 landfill. Clean fill was compacted to 98% SPMDD and the property restored to specification, paved to match grade.

PROJECT RECORD

CLIENT	Major energy company (confidential)
SITE	Retail fuel location beside active businesses, Edmonton
SCOPE	Demolition, UST removal, excavation, recycling, backfill and restoration
CRITERIA	98% SPMDD compaction; paved to match grade

NELSON ROLE	Prime contractor: care and control of the site for the full project
CONTAMINANTS	Petroleum hydrocarbon impacted soil
COMPLETED	2023
RESULT	Liabilities managed and property returned to specification



NELSON

Case Study · Riverbank Restoration

Remedial excavation and bank restoration, Calgary.

7,000 tonnes of contaminated material removed from a historic landfill on the Bow River bank, followed by bioengineered bank restoration and fish habitat enhancement.

BOW RIVER · CALGARY · ALBERTA

7K t
Contaminated material excavated

Fish habitat
Enhanced through restoration

0
Lost time injuries

THE WORK

A silt curtain isolated the work area from the Bow River, and excavation ran inside a restricted activity period. The native channel bed was excavated behind the silt curtain to build riprap toe protection.

The bank was rebuilt with vegetated soil wraps and hedge brush layers, large woody debris with rootwads for fish habitat, and native seed, shrubs and trees.

PROJECT RECORD

CLIENT	Residential property owner (confidential)
SITE	Former landfill on the Bow River bank, Calgary
SCOPE	Isolation, excavation, riprap toe, bioengineering, fish habitat, planting
COMPLETED	2020

NELSON ROLE	Prime contractor: care and control of the site for the full project
CONTAMINANTS	Historic landfill debris and contaminated material
VOLUME	7,000 t excavated
RESULT	Bank stabilized and revegetated; habitat enhanced



Site remediation, Slave Lake.

4,800 tonnes of hydrocarbon and VOC impacted soil removed from behind a cantilever secant shoring wall at a former provincial maintenance facility inside the community.

FORMER MAINTENANCE FACILITY · SLAVE LAKE · ALBERTA

4.8K t
Impacted soil excavated and disposed

7 m
Shored excavation depth

0
Lost time injuries

THE WORK

A cantilever secant shoring wall held a 7 m deep excavation beside an active neighbourhood. Impacted soil was excavated, hauled and disposed.

3,000 m³ of clean fill was compacted to 96% SPMDD and the site was capped with gravel to 100% SPMDD. Landfill, trucking, backfill, compaction testing and surveying were all sourced locally.

PROJECT RECORD

CLIENT	Provincial government (confidential)
SITE	Former provincial maintenance facility, Slave Lake
EQUIPMENT	Cantilever secant shoring wall, long-reach excavator
COMPLETED	2023

NELSON ROLE	Prime contractor and control of the project site
CONTAMINANTS	Hydrocarbons and VOCs in soil
VOLUME	4,800 t excavated; 3,000 m³ backfilled
CRITERIA	96% SPMDD backfill; 100% SPMDD gravel cap

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