

A COMPANY SPECIALIZED IN REMEDIATION OF POLLUTED SOIL, WATER AND AIR

SEPTEMBER 2019

ITC DESCRIPTION

- ITC (Innovation Technology Centre) is a Serbian Company offering the best opportunities in virtually all aspects of contaminated site management
- Assuring remediation of soil and water contaminated by hydrocarbons, heavy metals and any other chemical or organic pollutants
- Providing better risk characterization to support:
 - Optimal remediation selection and design (before)
 - Remediation performance monitoring and optimization (during)
 - Long-term monitoring (post)
- Operating in consortium with reputed international companies, specialized in the implantation of specific environmental remediation processes





ITC NETWORK STRUCTURE





COMPANY SPECIALIZED IN

TREATEMENT OF SOILS

CONTAMINATED WITH HEAVY METALS

PRESENCE

- Found in 2009, with established headquarters in Belgrade, Serbia
- Strategic situation facilitating its operations in Russia, Ukraine and European Eastern countries.
- Prestigious professionals with specialization and extensive experience in diverse environmental and remediation sectors
- Affiliated companies in United Kingdom, Denmark, Spain, Brazil, United States and Canada.
- Providing solutions in diverse languages, with the necessary local presence and international experience to guarantee an efficient deployment

of every project



OUR OFFER

- More accurate characterization, reducing remediation projects price by a clear mapping of the existing contamination
- Design remediation plan, in-situ measurements of contaminants
- Determine remediation urgencies and priority source zones, localizing most hazardous sources and most efficient removal
- Coordination with our customers and affiliated companies to launch the selected remediation process
- Establishment and deployment of chosen remediation process
- Follow up of remediation efficiency, monitoring the pollutant load decrease
- Risk-based management of contamination, when the complete contamination is technically and economically impossible



ENFIL, OUR PARTNER IN REMEDIATION

- Enfil S/A Environmental Control, company specialized in solutions for:
 - Remediation of contaminated sites (soils polluted with hydrocarbons and other chemical pollutants)
 - Air pollution control (desulphurization and odour control)
 - Water and wastewater (industrial and sewage wastewater) treatment
 - Waste management and Energy from waste processes
- Established in 1994, ENFIL operates in international markets keeping its actions focused on:
 - Execution of remediation projects in partnership with diverse companies
 - Supply and installation of systems and equipment under turn key basis
- A staff off 25 engineers and 45 highly trained employees, with a strong and healthy alliance with suppliers and business partners in Brazil and abroad
- Enfil ensures to meet the most restrictive specifications, always looking for innovative technologies, which are the state of art in the environmental area



SOME ENFIL REFERENCES

DECONTAMINATION AND FINAL DESTINATION OF TRANSFORMERS AND CAPACITORS, AND SOIL CONTAMINATED WITH PCBs (Polychlorinated Biphenyls)





Segment (Order)	Supply Description
Pharmaceuticals (E-17089)	Execution of a short to long-term action plan for the management of contaminated areas (areas: industrial and health).
Oil & Gas (E-17049)	Provision of environmental management services, solid and semi-solid waste management, to attend the Industrial Plant.
Pharmaceuticals (E-17019)	Execution of short to long-term actions plan for the management of contaminated areas.
Oil & Gas (E-17009)	Deployment and operation of solar drying of drilling mud.

WASTE TREATMENT PLANT (ETDI), WITH AN OPERATION CAPACITY OF 533 m³/h (NOMINAL) AND 800 m³/h (MAXIMUM RATE)

Segment	Supply Description
Textile	Complementary environmental investigation of the vinyl
(E-16211)	chloride plume and monitoring of groundwater.
Oil & Gas (E-16138)	Development and execution of technical services for the collection and analytical monitoring of groundwater,
	signalling, installation and reinstallation of monitoring wells.
Oil & Gas (E-16086)	Removal, disposal and waste management services, provision of equipment and vehicles, cleaning and monitoring of water levels.
Siderurgy (E-16082)	Further detailed investigation and monitoring of groundwater.





SOME ENFIL REFERENCES

SUPPLY OF WATER TREATMENT SYSTEM UNDER EPC CONTRACT WITH SLUDGE DEWATERING AND DRYING PETROBRAS



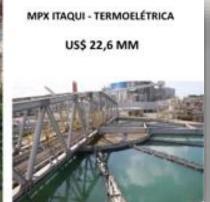


Segment (Order)	Supply Description
Oil & Gas (E-16078)	Collection, transportation, temporary storage and final disposal of waste and sanitary effluents generated during the construction phase.
Pharmaceuticals (E-16077)	j ,
Oil & Gas (E-16142)	Remediation Service Management on site.
Pharmaceuticals (E-16124)	Reinstallation of network of wells for global monitoring of groundwater and surface waters.
Pharmaceuticals (E-16120)	Services of compiling environmental studies.
Siderurgy (E-16110)	Detailed environmental research, human health risk analysis and intervention plan.

Segment (Order)	Supply Description
Pharmaceutica	Support services in geoprocessing to
ls (E-16168)	obtain an environmental license for the
	transportation of radioactive sources.
Pharmaceutica	Services for the implementation of the
Is (E-16167)	action plan for management of
	contaminated areas.
Biomedicine	Sampling, characterization and
(E-16165)	management of soils and residues
	generated in electrical substation
	construction works.
Energy	Services of management of conditioning,
Distribution	transportation, treatment and
(E-16160)	decontamination of transformers, mineral
TC	oil insulation and reclosing switches with PCB

SEAWATER CLARIFICATION





SOME ENFIL REFERENCES

CLARIFICATION OF SEA WATER, THERMOLECTRIC





Segment	Supply Description
Mining (E-16074)	Groundwater quality monitoring services.
Siderurgy (E-16051)	Services of detailed investigation, human health risk analysis, mathematical model and conceptual plan design of intervention.
Energy (E-16046)	Investigation of a contaminated site with PCB.
Real Estate (E-16062)	Removal of contaminated soil with diesel oil.
Oil & Gas (E-15238)	Provision Services for final waste disposal.

Segment	Supply Description
Steel	Detailed investigation and Human Health Risk
Metallurgy	Assessment and preparation of the conceptual
(E-14273)	plan for the intervention at the Coke Plant area.
Steel	Detailed investigation, Human Health Risk
Metallurgy	Assessment and conceptual plan of intervention
(E-14274)	at the Steel Plant area.
Steel	Environmental Assessment, Confirmatory
Metallurgy	Research and Detailed Analysis and Risk
(E-14289)	Conceptual Intervention Plan.
Steel	Environmental decommissioning plan
Metallurgy	development of the area of Tubonal.
(E-14326)	

REVERSE OSMOSIS, PETROBRAS







TDJ, OUR PARTNER IN HEAVY METALS REMOVING

- The TDJ Group is a pioneer in the development of specialty chemicals used for industrial waste stabilization
- Management and staff of 28 professionals possessing many technical degrees including PhDs, MBAs, MSs, BSs and CPAs
- Producing dry reagents used to stabilize heavy metals in a broad array of industrial, blasting media, and remediation waste
- More than 30 years assisting ferrous & non-ferrous metal casting industry, lead paint sandblasting, and soil remediation industries in the stabilization of heavy metal contaminated waste
- More than 1,000,000 tons of industrial waste eliminated or safely stabilized using TDJ's chemistry and more than 150,000,000 square feet of lead paint removed using TDJ chemical abrasive additives
- TDJ's chemistry is the industry model for safe, cost-effective solutions for heavy metal waste



Some TDJ References

Location: Former Auto Assembly Plant - St. Louis, MO

Client: Brandenburg Industrial Services

General contractor that dismantled the plant, removing subsurface structures, and remediating contaminated soil. Lead solder, e-coat, and related lead bearing manufacturing debris was buried in several areas causing soil contamination in excess of 100 mg/L TCLP.

Initially, a lead stabilization reagent for a small initial soil removal was tried, but it was required a 8% dose rate. TDJ did treatability work with Blastox® and found that the dose rate could be cut in half to 4%.

More than 10,000 MT of soil were stabilized with Blastox® and removed from the site.





Location: Former Scrap Yard Duluth, MN

Client: City of Duluth / Rice Lake Construction

A former scrap yard on the shore of Lake Superior needed to be remediated so that the City of Duluth could install a storm water basin. Lead contamination from battery salvage and other scrap activities over several decades left lead contamination in several areas of the site as high as 450 mg/L TCLP.

The contractor had not done a stabilization project prior to this. TDJ provided technical assistance to determine the correct Blastox® dosage and provided on-site training and supervising for the construction crew, concerning the stabilization mixing and sampling.

All contaminated areas were successfully stabilized with one round of mixing with an average of 3% dose rate.



Some TDJ References

Location: Brownfield site - Springfield, MO

Client: Brownfield Authority - City of Springfield

Consultant: Terracon

Large site having several different industrial operations over the years. Used as railroad yard, having had salvage operations and finally used as material storage area.

Lead contaminated soil >5.0 mg/L identified throughout the site. Treatability testing on soil and waste samples was done finding >200 mg/L TCLP lead.

Testing showed that different Blastox® dosages were needed for different waste areas. JCE and TDJ assisted by providing the contractor with on-site training and advise on laying out a grid of the treatment areas.





Location: Firing Range Andover, MD

Client: Goel Services

This project have had unusually high lead TCLP, where some areas exceeding 1000 mg/L.

The remediation contractor, which performed its own treatability tests, reported that the hot spots were successfully treated with a 5% dose and the rest of the areas averaged 2%.

Approximately 1,100 tons of soil were successfully managed as a non-hazardous waste.



IFLUX, OUR PARTNER IN WATER MONITORING

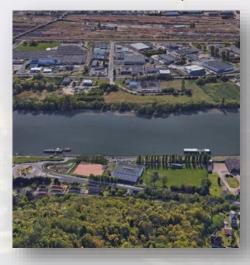
- iFLUX Sampling is a Belgian company founded in 2008, composed by a team of 10 highly-qualified scientist
- Offering a groundwater monitoring solution to explore simultaneously speed and direction of contaminants spreading underground
- Simultaneously measuring the flow velocity of the groundwater and the spreading of the contamination, reducing remediation costs
- Allowing to deliver more reliable data and to determine more precisely the dispersion risks of soil contamination
- Offering self-developed, validated and patented cartridges with different type of sorbents to capture 90% of most common contaminations:
 - Water flux cartridges, containing a set of water soluble resident tracers
 - Compound cartridges, containing pre-processed sorbents that capture the pollutants of interest





Some iFlux References

Dispersion of VOCI plume in the direction of the nearby river Seine Rouen: June 2009 - January 2012







Czech Republic: March - May 2017



European CityChlor project tests added value passive flux samplers in urban area Utrecht: 2012 - 2013



Source and plume strength determination of nickel and CVOC's

Belgium: March - November 2017



MMW, OUR PARTNER IN WATER TREATMENT

- Much More Water (MMW) is an innovative Danish company founded in 2001, with a highly qualified staff of 15 engineers
- Manufacturer of compact, secure, very resistant and light-weight mobile water purification mobile units called "BlueBox"
- MMW BlueBox concept for drinking water purification is a proven technology with an impressive track record in more than 30 countries
- Its main focus is to deliver durable, environmentally sustainable drinking water solutions with the ability to cover daily needs for 10 to 100,000 persons
- BlueBox units extract potable water of a quality exceeding WHO standards from any contaminated water source (including brackish and saline water)
- BlueBox equipment uses ultra-filtration or reverse osmosis depending on the level of pollution and the type of contaminants in the water to be cleaned
- All models can be adapted to local water conditions



Some MMW References







DEFENSE

DANISH EMERGENCY MGMT AGENCY



NORWEGIAN CIVIL DEFENCE



ARMED FORCES













Our BlueBox units Significantly reduce cost per litre of clean water



3P Biotech Denmark Aps

2018 BlueBox Home Njord

Afghanistan

Danish Emergency Management Agency field hospital in Kabul

Argentina

E.C. Corp. Mobile water supply for construction sites

Cameroun

2017 BlueBox 450

Central African Republic CAR

2014 DEMA DK Emergency Agency relief mission

Chad. D.R.

2011 Solar powered water supply for hospitals, UNICEF
2013 Solar powered water supply for hospitals, WHO
2015 Desalination plants 5000 Lph for hospitals and schools, UNICEF

Colombia

2006 Bluebox 1200 mobile water purification plant

Cond

2018 United Nations. BlueBox 60

Bangladesh

Permanent water supply for Danida field laboratory near Dhaka Permanent water supply for Nuttall Entreprises near Dhaka

Brazi

Permanent water supply for 10 schools in rural Amazons

Mobile water supply for Brazilian border patrols

Permanent water supply for Ariau Amazon Tower Hotel – Manaus

Kenva

2017 Bluebox 450 RO, installed at school

Korea

Bluebox 1200 Mobile water purifier

Liberia

Mobile water supply for Swedish Peace Keeping Forces in Monrovia

Mali

2014-2015 Norwegian Defence Forces

Mozambique

Mobile water supply for UNICEF during flooding in 2000

Netherlands

2017 Ministerie van Defensie. BlueBox 30 RO Solar

Nigeria

Permanent water supply for Nigerian Associated Best Foods Ltd.

Norwa

2006 Finsam Container Systems. Mobile kitchens Blueboxes for military with special water test option

2010-2014 Complete water purification systems including water tanks for the Norwegian Civil Defence Division for Emergency Deployment

2014 Norwegian Armed Forces camp water solution for int'l missions

2015 DSB Directorate for Civil Protection Norway

Pakistan

BlueBox 1200's in action during and after flooding in Pakistan

Philippines

2013 BlueBoxes operating in UN and Red Cross missions after Typhoon

Romania









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