

Western Site Technologies Inc.

Product/Service Information



Western Site
Technologies Inc.

245 Scenic View Close N.W.
Calgary, Alberta, Canada
T3L 1Y5
WEBSITE:
www.mudloc.com

Phone: 403-547-0794
Fax: 403-547-0837
Email:
gbarnes@mudloc.com

This outline of Products and Services is intended
to serve as a **Statement of Qualifications** for
Western Site Technologies Inc., and as a
Corporate Resume for WSTI

Western Site Technologies Inc Corporate Information

Name	E-mail	Cell #	Direct #
Barnes, Gary	gbarnes@mudloc.com	403-860-6309	403-547-0794
Hilton, Robert	bobhilton@shaw.ca		403-319-0671
Glen Brown	mr.compost@sasktel.net	780-808-1148	306-825-7904
Johnson, Edward	boysaz@shaw.ca	403-371-73-64	403-243-4795
Sneddon, D Thomas	tsneddon@telusplanet.net	403-241-3781	403-263-6310-212
Niewurth, Maria Dr.	mniewurth@mudloc.com	403-547-0794	
Hartley Darryl	Hart747@earthlink.net	281-866-8369	832-443-8072
Website	www.mudloc.com		

TABLE OF CONTENTS

Page

3	Corporate Information
5	Surface Reclamation and Revegetation
5	Environmental Impact Assessments
6	Environmental Data Management
7	Soil Science and Monitoring
8	Cultural Resource Management
9	Civil Construction
10	Project Management
12	Safety Program
13	Clients
13	Representative Projects
17	Personnel
20	Professional Associations

WESTERN SITE TECHNOLOGIES. (“WSTI”)

WSTI is a fully integrated environmental services company, which arose out of the oilfield service and supply sector. WSTI combines leading edge environmental technology and expertise with HIGH STANDARDS.. Our commitment to industry and to the world environmental community is to provide the highest level of service and science without compromising our values. We are also dedicated to use our skills and scientific knowledge for the betterment of the world community at large.

MISSION STATEMENT

Our Job is to provide leading edge Environmental Risk Management tools to our clients.

In order to ensure that the technology provided is the state of the art, Western Site Technology will continue to lead the pack in research both into the latest available environmental technologies, but also in the operations systems of our clients, so we can understand and solve their problems in an efficient and cost effective manner.

SPECIAL SERVICES

Project Licensing

Compliance Regulations

We provide all levels of investigation and consultation required to obtain necessary approvals. Our services include any jurisdiction application review and processing. We also provide environmental report processing, data review and preparation of EIS documents, certificate review, and preparation of restoration and reclamation reports. In addition we will implement project plans and perform construction inspection.



We provide direct construction services or project management for any required reclamation or restoration. Whether the project is focused on traditional Aboriginal use lands, World Heritage Sites, National Parks, Historical Sites, or ecologically sensitive areas, we bring a unique understanding and commitment to the affected community.

Area Specific Licensing

When licensing, or permitting, is required, WSTI will prepare and submit environmental reports, route permit applications, or mitigation plans to meet those specific requirements.

WSTI professionals offer extensive experience in preparing and supporting environmental application documentation for certification and licensing. This expertise allows us to expedite the complicated, time-consuming process of regulatory compliance on your behalf. Securing permits in a timely manner is crucial to keeping a project on schedule.

Whether it is on a federal, or regional/local level, WSTI is comfortable in the role as agency liaison for permit acquisition.

Cultural Resources

From the initial contact with a Historic Preservation Officer, United Nations Approval Board, Parks Area Co-ordinator, or other special approval body, we track and verify progress for specific compliance through all phases of documentation and information support material requests.

Our special affinity and vast experience with aboriginal cultures, Special Eco Systems, Archeological Issues, and traditional cultural use sites, assists our clients in addressing sensitive issues within their community.

Erosion Control Permits

WSTI has extensive experience in soil erosion control practices and is proficient at making recommendations that are acceptable to the client, the contractor and any government agency.

Threatened and Endangered Species

We act as liaison with the government on your behalf to obtain information on protected species locations, coordinate on-site biological surveys, and develop construction and mitigation plans so that the protected species management objectives, and the construction goals, are met.

Water Resource Permits

WSTI's significant experience interacting with water resource agencies keeps us current with procedures for preparing water permit applications. WSTI is skilled at obtaining and achieving compliance with hydrostatic testing permits.

To meet time constraints, we diligently maintain communications and execute proper reports, recognizing the critical role that follow-up plays in the process of obtaining permits during these pivotal time periods. Our thorough knowledge of the process and our ability to establish relationships with key regulators allows us to effectively take your project from start to finish in the approval process, helping to prevent unexpected, costly project delays.

Construction

WSTI has notable experience in both pre-construction environmental compliance activities and post-construction report documentation and submittal. We prepare environmental information for inclusion in construction specification documents and proffer support services to assist in getting bids ready for release. Environmental training is available for construction contractors, company personnel and third party inspectors to increase awareness of environmental requirements, which enhances overall accountability and timely compliance.



In addition WSTI can provide the client with a full contractor service unit which can provide all aspects of construction service from performing a large turnkey site reclamation to supplying a single project manager.

WSTI also manages on-site environmental inspection to document compliance with environmental permit conditions. If the project does not require full-time management staffing, we can also provide periodic inspection and follow-up reporting as an internal management tool to verify that environmental requirements are being met.

An important component of our business is being aware of the ongoing operational concerns of our client companies as well as the steps involved in a construction project. WSTI continually endeavors to develop new ideas on how to integrate the criteria for environmental compliance into construction projects and the day-to-day operations of a company. With our knowledge of compliance regulations, we can anticipate the necessary level of compliance that a specific project will demand.

Compliance Program Development

We are alert to the technical and organizational barriers that companies may encounter and the administrative challenges associated with ensuring that the company complies with provincial and federal environmental laws. We assist in identifying the internal processes required to get beyond these barriers, and facilitate an understanding of the compliance process and sound environmental management.

Environmental Data Management

WSTI uses project management software to design project schedules and create Gantt charts for permit scheduling and resource allocation. This allows us to identify and address time and resource constraints. Restriction charts are used to confirm progress and serve to encourage government, or board, cooperation and participation towards keeping the project on schedule.

An ongoing database is used to compile environmental information. This provides a means for tracking environmental issues on projects and results in the prevention of time-consuming information duplication for future similar projects.

We make use of Geographic Information Systems (GIS) to spatially model environmental features and will provide this service on a contract basis. Alternatively, we will assist in implementing an in-house GIS function by evaluating your specific needs and incorporating GIS capabilities supportive to those needs.

Cost Management Services

WSTI has developed a comprehensive Cost Management and Project Accounting program that provides a system of project controls for clients who undertake large-scale projects. The project control system has four elements which are critical to its foundation: planning, scheduling, budgeting, and project task and cost tracking. Each of the four components may be tailored to meet the specific needs of a client or project and provides a standardized format for effective communication of budgets and schedules to all project participants.

Project Management



Our combined services for project management is effective for keeping you informed of project progression. We furnish pertinent information that is readily available for your review, while tracking data that will help you plan ahead for your next project.

Due to significant penalties for environmental violations, it is imperative that regulatory compliance management is of primary importance throughout the licensing, permitting and construction process.

Oilfield Site Maintenance

Our trained and experienced crews can provide all types of oilfield site maintenance on lease and operational sites. We can deliver services such as vegetation control, road grading, road maintenance, site care, equipment maintenance, equipment installation, and contract site operation.

SUMMARY

Western Site Technologies Inc. is dedicated to serving the needs of clients that face the evolving challenges of proper environmental management within their projects, and on properties they control that have been impacted in the past.

We pride ourselves on our mental regulations and on vices that you need, when



knowledge of environ-our flexibility to offer ser-you need them.

WSTI has four main Proprietary Technologies



BIO-dex



THERM-tec

The above technologies represent the innovation that WSTI promotes within its organization, these proprietary technologies are the cutting edge of new treatments for hazardous and controlled waste and the remediation of contaminated sites .

These developments represent years of experience in the treatment of client related environmental problems and show the development of research in cost effective, simple, yet effective treatments that formerly were cost prohibitive and complex.

Our goal in developing these techniques treatment were also centered on reducing or eliminating landfill dependency, commonly promoted by our competitors.

The technologies defined are as follows:

MUD-loc—The future of waste management is to develop a simple, cost efficient model which will treat most hazardous waste types in a safe and effective manner. The development of Stabilization/ Encapsulation is not new however the use of a unique pretreatment stabilizer MUD-loc is. This amorphous alimino silica has far reaching properties to cure the most common problems associated with on site treatments o waste. The product can adsorb its own volume of liquid waste, and is extremely reluctant to give this waste up. It also has superior ionic capabilities to “tie up” heavy metals

associated with the most complex environmental problems. The application of this process can be made with commonly available equipment and tools and the application follows simple formulas allowing for the transfer of this technology to contractors world wide without the need for large amounts of expensive technical staff.

AGROW-loc— Using a similar product to MUD-loc WSTI can assist in the total reclamation of dry land areas. The extreme capability of the product to hold water makes it acceptable to assist arid land hold water for long periods of time. In addition the product reduces the frequency of irrigation required to support plant life. This total reduction of water required by land also reduces the amounts of fertilizers required, which in turn reduces or eliminates a large source of agricultural contamination. AGROW-loc is an inert mineral and will not harm any plant, crop, or soil type.

BIO-dex—An intense bio system management technique which combines the benefits of composting with state of the art equipment and technology. The system can manufacture agricultural quality compost from organic waste, or treat hydrocarbon soil in one tenth the traditional time with remediation levels which exceed any other bio treatment product currently found.

THERM-tec—the design and construction of thermal devices to treat hazardous and non hazardous hydrocarbon contamination in the soil. The destruction efficiency of the equipment meets or exceeds air quality targets worldwide. The high temperatures and .9999 percent destruction efficiency exceeds the requirements for all types of remediation. Units can be constructed to handle from 5 to 50 tonnes per hour.

10

Oilfield and Industrial Services

- Tank Cleaning
- Storage Tank Degassing
- Pressure Washing
- Hydroblasting
- Chemical Cleaning
- Waste Management Services
- Centrifuging
- Vacuum Truck Services
- Air-Moving Services (Guzzlers)
- Landfill Design, Operation, & Maintenance
- On Site Waste Treatment
- Reclamation
- Industrial Water/Waste Water Services
- Groundwater System Operation & Maintenance
- Oilfield Site Maintenance
- Remediation



Site Remediation and Environmental Services

- Solidification/Stabilization
- Mold Inspection
- Mold Abatement
- Soil Flushing & Washing
- Groundwater/Soil Treatment
- Groundwater/Product Recovery
- In situ Chlorinated Solvents Reclamation
- UST Removal/Replacement
- Pit, Pond, Lagoon Closure
- Hydrocarbon Remediation
- PCB Line Cleaning/Concrete Cleaning
- Electric Arc Furnace Dust Recycling
- Air Sparging/Soil Venting
- Slurry Walls/Trenching
- In situ/Ex situ Treatment
- Soil Excavation/Removal/Disposal
- Bioremediation
- Waste Removal/Disposal
- Impoundment Closures
- Metals Recovery
- Mercury Remediation
- Biological Treatment
- Thermal Desorption
- Waste Recycling
- Oil/Water Separation
- Carbon Adsorption



- Geoconstruction, Capping Liners, Covers

On-site Sampling/Testing

- Soil Gas Sampling
- Groundwater Sampling
- Piezometer Installation
- Soil Sampling

On-site Treatment

- Air Sparging/Soil Venting
- Packed Tower Aeration
- Carbon Adsorption
- Groundwater, Product Recovery
- Metals Removal
- Biological Treatment
- Oil/Water Separation
- On Site Haz and Non Haz Treatment
- Material Disposal Prep
- Hazardous Materials Handling



Demolition Decommissioning & Investment Recovery (DD/IR) & Abatement Services

- Turnkey Decommissioning
- Asbestos & Lead-based Paint Services

By-Products and Resource Recovery

- Chemical Precipitation
- Chemical Waste Treatment
- Drum Handling & Storage
- Customer Site Services
- Sludge Treatment
- Inorganic Treatment/Stabilization
- Liquid & Solid Fuels Blending
- Metals Extraction
- Laboratory Packing
- Oil Recycling/Bunkering
- Waste Transportation
- Waste Reduction
- Solvent Recovery



CLIENTS

WSTI and its associates have been able to provide a wide variety of services to industrial, commercial, government and municipal communities. Some clients to date include:

Shell Canada Ltd.	Eagle Engineering Corp.
Parkland Oilfield Construction	Government of Canada/Government of Ontario
Nova Gas Transmission	PanCanadian Petroleum Limited
Renaissance Energy Ltd.	Esso Resources
Crestar Energy AltaGas Services	Canadian General Insurance
Wascana Energy	Ledcor Oilfield Services
Alpine Environmental	Hat Pipeline Ltd.
Art's Pipeline Contracting Ltd.	Canadian Natural Resources
VOPAK Canada	Canadian Pacific Railway
Harbour Petroleum	Allianz Insurance
Enbridge	AIG Insurance Group
UAB Special Risks	Chevron Texaco Canada
Stoney First Nation	Canadian National Railway

REPRESENTATIVE PROJECTS

WSTI have handled many unique projects for our clients. Some of these include

1. **UST/AST testing** – project occurred on the Stoney First Nation at Morley, Alberta. EESC provided an Environmental Impact Assessment for the Chiniki Band of the Stoney Nation. EESC obtained requirements from the Department of Indian and Northern Affairs Canada for the Morley Reserve and conducted testing of 6 underground storage tanks housing gasoline and diesel, a soil survey for potential hydrocarbon leakage from tanks, flushing of the pipeline system and installed required Piezometer onsite for the system. 200k
2. **Shamrock Chemical Site** – a site remediation of a former chemical producer. This site located on Lake Erie, south of London, Ontario, was formerly the site of Shamrock Chemicals. The site was abandoned and heavily contaminated with naphthalene and other aromatic hydrocarbons. The remediation consisted of thermally treating 15,000 meters of heavily contaminated soil, the disposal of an additional 25,000 meters of soil, and the treatment of 10,000 cubic meters of ground water located in several ponds on the site. Environment Canada and the Ministry of Environment for the Province of Ontario jointly funded the project, operated over a period of one year. 3+ million
3. **Remediation of a xylene spill** - This remediation took place on the southeast Calgary location of a large chemical distributor. The distributor had spilled 18,000 liters of xylene on their site and the xylene had gathered underneath a building and collected along the storm sewer line on the property. The job entailed the excavation and replacement of the storm sewer line, plus a pump and treat system underneath the building, which aggressively treated the contaminant that was located in various, cells adjacent to and under this warehouse operation. All of the remediation took place without the client losing any time in the operation of their warehouse. The aggressive pump and treat system remediated the ground water to non-detect level over a period of 22 months. The storm sewer line was completely replaced with a sealed unit and contaminated soil was treated on site and moved to a landfill. The tank farm located adjacent to the operation was moved to another site and the soils were evacuated from the old tank farm, remediated and taken to an appropriate landfill. The entire scope of the project took 24 months and resulted in work in the order of \$2.2 million.
4. **Remediation of a medical waste facility, Calgary Children's Hospital** - The Calgary Regional Hospitals Authority determined that the medical waste facility at the Calgary Children's Hospital was surplus to the operations of the Authority. Consequently, the facility was sold to a party to use in the oilfield for the disposal of rags and other oilfield material. In order to facilitate the removal of the medical waste facility, the facility equipment had to be decontaminated, disassembled, labeled for reassembly, and a work plan had to be established for the reassembly at the new site. This was facilitated by video taping the entire medical waste plant, removing, marking and labeling with various means including labels, tags and paint, and using very careful supervision in order to ensure that the plant was disassembled in such a fashion so as not to cause any damage to components. In order to remove the main vessels of the plant, the roof of the hospital had to be removed and cranes brought in to lift the vessels through the roof. The roof then had to be replaced in very short order to prevent any loss of operations to the hospital. The project was accomplished in record time and removal and replacement of the roof was done in such a fashion that it did not result in a single hour of lost time in the operation of the hospital. 100k

5. **Bioremediation of an Oilfield Treatment Site in Saskatchewan** - This site was abandoned by a former environmental remediation company who operated an oilfield waste receiving and treatment site. Approximately 25,000 cubic meters of tank bottom and sludgy oilfield waste was abandoned on this site when the former owner declared bankruptcy. Several methods of remediation were employed to remediate this site, most notably a biocell was constructed that handled 18,000 cubic meters of material. This sludgy tank bottom material was turned around in less than one working season (7 months) and returned to the site as fill. Other areas of the location were thermally desorbed and some soil washing was employed to remove chlorides from specific pockets of waste. 400k
6. **Reclamation of a Former Invert Waste Pit in Devon, Alberta** - An oilfield client discovered a large pit of invert drilling waste located on land that was being reclaimed in Devon, Alberta. The pit comprised of approximately 9,000 cubic meters of oily waste. This material was thermally desorbed and the soils were then used to line the Devon Fairgrounds as clean fill. Extensive tests were conducted during the remediation of the soil to ensure that the material did not contain other contaminants such as sodium or metals. 800k
7. **Produced Sand Remediation Study** - This report, a comprehensive remediation/disposal study was conducted for a large oilfield client in northeastern Alberta. This study consisted of the evaluation of the quality of the waste material, and end use for the clean sand once hydrocarbons and chlorides had been removed. The study included a thorough investigation of remediation and cleaning techniques, including Bench scale and pilot projects. The study further conducted in-depth research to determine a broad scope of use for the sand once cleaned. This particular study showed that the produced sand could be turned into many useful byproducts and that remediation could be effected for less cost than standard methodology, which included the disposal of this material into salt caverns. 50k
8. **Remediation of Invert Mud Pit (Northwest Territories Canada)** - Under the direction of a Major oilfield client WSTI supervised the stabilization/encapsulation of approximately 100 cubic yards of oily drilling waste. This preparation allowed the client to render the waste inert and use the treatment by product as an artificial aggregate to surface the site. 200k
9. **Remediation of Invert Mud Pits Northern Alberta**—Under the direction of a Major oilfield client WSTI performed the treatment of three pits each of which had 1000 cubic meters of oily drilling waste. WSTI used its proprietary “MUD-loc” process to render this controlled special waste into a form which allowed the client to bury the now harmless material on site.
10. **Remediation of a Mercury Contaminated Building**—WSTI was tasked to investigate and remediate a large facility in Calgary which had Mercury Contamination problems WSTI was able to locate and remove a large quantity of elemental Mercury, and treat and stabilize quantities of mercury sludge, mainly from contaminated sewage lines. This decontaminated sludge was remediated to a sufficient degree to allow landfill in a municipal facility, which saved the client hundreds of thousands of dollars. WSTI was also tasked to decontaminate the entire building and remove all traces of Mercury and Mercury vapor. WSTI technicians worked the entire project in isolation areas using state of the art personnel safety systems, and physical testing regimens. 1.5M
11. **Remediation of a Hydrocarbon Spill Northeastern Alberta** - A substantial oilfield service provider suffer a spill which covered a large area of their facility, and threatened to migrate off-site. WSTI was able to contain the spill and remove the contaminated material for safe disposal. The site was reclaimed and returned to the owners in its original condition. 50k

12. **Investigation and Waste Management of Fire Damaged Site Demolition**—WSTI was tasked to investigate a site under demolition as a result of a major fire. The problem was hazardous material which were stored on the site prior to the fire. There was concern that contaminated material may be transported to a municipal landfill. WSTI characterized the rubble and segregated the hazardous material from the common debris. WSTI co-coordinated the demolition and subsequent removal to ensure material was sent to appropriate facilities. 250k
13. **Investigation and Remediation of a PCB Contamination**—A large downtown office building was contaminated by an electrical transformer explosion and fire. The building required extensive cleaning inside and out, with care to protect the areas adjacent from contamination by the PCB contaminants or the solvents used in the cleaning operations. The task was completed without disturbing any of the existing tenants, saving the insurers hundreds of thousands of dollars in relocation costs.
14. **Mold Abatement** - WSTI has dealt with incursions of mold in several commercial buildings. Our trained investigators use state of the art equipment to detect mold and WSTI uses the most up to date technology to abate the incursions of various types of fungus,. In a recent project a large five star hotel developed contamination in several guest rooms due to a broken water line. WSTI was able to remediate these rooms without disturbing or alarming any of the guests. We can also provide Lab Reports in as little as 36 hours.

PERSONNEL

Gary Barnes, President, A.R.M. MBA CEM CRS CMI

Mr. Barnes was formerly the General Manager for Western Canada for Philips Environmental/Philip Services Corp. and as such, supervised all industrial service operations in the 3 Prairie Provinces and in British Columbia. Duties included remediation of contaminated sites, abatement of hazardous material, industrial plant services, development of industrial services in Western Canada and project management.

Glen Brown Operations Supervisor CMI

Mr. Brown has over 10 years experience in the transportation, treatment and disposal of hazardous waste, as well as site supervision of remediation projects. He is the former Operations Manager of Nelson Environmental. Mr. Brown's skills are centered around Hazardous Waste Management, the handling of Oilfield Waste, Composting, Bioremediation, the Transportation of Dangerous Goods.

Ed Johnson P Eng., Associate

Mr. Johnson has specialized in several sectors of the environmental industry, most notably the design of landfill and waste sorting facilities. This experience includes developing and providing comprehensive waste management services to a variety of industrial and municipal clients. Mr. Johnson has participated in assessing and supervising industrial waste generating operations, and in developing and implementing efficient and economic waste minimization alternatives.

D Tom Sneddon M. Sc. P. Geo, Associate, Hydrogeologist

Tom provides technical support to operations staff, particularly in the area of groundwater mapping and contamination plume assessment. Tom has also had considerable experience in mined land reclamation and remediation. His experience includes the onsite treatment of hundreds of hazardous and controlled waste products.

Maria Niewurth Ph D Associate, Head of Research

Maria brings her many years as associate director of the Alberta Environmental Research Facility. She undertook a large research project in the Stabilization/ Fixation/ Encapsulation, of hazardous waste, and the recycling of hazardous Waste, while at the facility. Maria recently led the educational research component of a large waste management study in the country of Malta. When not consulting for WSTI Maria is a professor at a local collage.

Darryl Hartley—Director of US Operations—Darryl was formerly a senior manager with Shell US and has several years experience in oilfield operations world wide. Darryl is currently directing research in offshore waste applications and treatments, and is active in promoting the companies interests in the US and in Africa.

Professional Associations

WSTI supports various associations and professional bodies. Our policy is to encourage our staff to participate in both business related and personal professional associations. Some of these are:

- Environmental Services Association of Alberta
- Canadian Association of Petroleum Producers
- Risk and Insurance Management Society of Canada
- Petroleum Services Association of Canada
- Canadian Society of Safety Engineering
- Environmental Assessment Association