



**Western Site  
Technologies Inc.**



**ON SITE TREATMENT  
OF  
INVERT DRILLING  
WASTE**

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USA  
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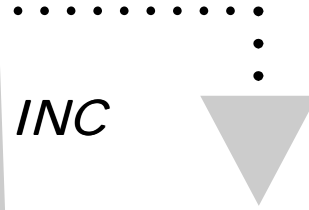
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WESTERN SITE  
TECHNOLOGIES INC



## CORPORATE PROFILE



- ESTABLISHED IN 1996 TO DEVELOP AND COMMERCIALIZE ENVIRONMENTAL TECHNOLOGY
- WSTI HAS SEVERAL PROPRIETARY TECHNOLOGIES INCLUDING :

*MUD-loc* A TREATMENT FOR INVERT DRILLING WASTE

*TOXIC-loc*—A TREATMENT FOR HAZARDOUS WASTE

*AGRO-loc*—A DRY LAND SOIL TREATMENT WHICH ENHANCES HYDRATION FOR RECLAMATION PROJECTS

*BIO-maze*—A FAST TRACK BIOTREATMENT FOR WASTE DAMAGED SOILS

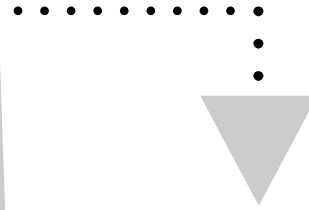
*THERM-tec*—A HIGH TEMPERATURE THERMAL TREATMENT FOR HYDRO-CARBON DAMAGED SOILS

- WSTI ASSOCIATES ARE TOP PROFESSIONALS IN THEIR RESPECTIVE FIELDS
- WSTI CAN PROVIDE CONSULTING SERVICES, PROJECT MANAGEMENT, OR COMPLETE TURN KEY PROCESSING. DEPENDING ON THE CLIENTS NEEDS
- CAPABLE OF PROVIDING UNIQUE RISK MANAGEMENT SERVICES INCLUDING "CUSTOM INSURANCE" AND PROJECT DESIGNED ENVIRONMENTAL BONDS.
- HAS PROVIDED SERVICES IN LIBYA, ABU DHABI, THE PEOPLES REPUBLIC OF CHINA, AND IN THE FORMER HONG KONG CROWN COLONY





## PROCESS PROFILE



**THERE ARE TWO PHASES IN THE TREATMENT PROCESS:**

**MIX STABILIZE**—IN THIS STAGE OF THE TREATMENT **MUD-loc** IS ADDED TO THE DRILLING WASTE (USUALLY AT THE SHALE SHAKER) TO STABILIZE AND DRY THE MATERIAL. THIS STEP PREVENTS THE MIXTURE FROM LEACHING CONTAMINANTS INTO THE ENVIRONMENT. FROM THIS STAGE THE MIXTURE CAN BE STORED SAFELY ON LOCATION PENDING FURTHER TREATMENT. THIS STABILIZED MIXTURE CAN THEN BE TREATED BY ENCAPSULATION OR SENT OFF SITE FOR OTHER TREATMENT LIKE BIODEGRADATION OR LAND FARMING



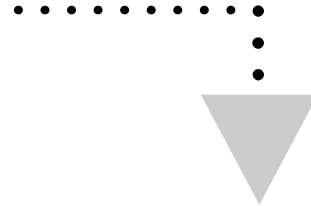
**ENCAPSULATION**—ONCE DRILLING OPERATIONS HAVE CEASED THE STABILIZED WASTE MIX IS FURTHER TREATED BY MIXING THE TREATED MATERIAL WITH NORMAL PORTLAND CEMENT. THIS TREATMENT WILL CHEMICALLY ALTER THE MIX AND RENDER THE WASTE COMPLETELY SAFE FOR REUSE AS A STRUCTURAL CEMENT IMPROVEMENT ON THE LOCATION OR AS AGGREGATE FOR USE ON THE LEASE OR ACCESS ROAD.



**NOTE:** BIODEGRADATION OR LAND FARMING RESULTS WILL OCCUR 50% FASTER WITH STABILIZED MATERIAL. ANOTHER ADVANTAGE TO STABILIZING FOR THIS TYPE OF TREATMENT IS SAFETY, AS THE STABILIZED MATERIAL WILL NOT CONTAMINATE THE BIO OR LAND FARM AREA.

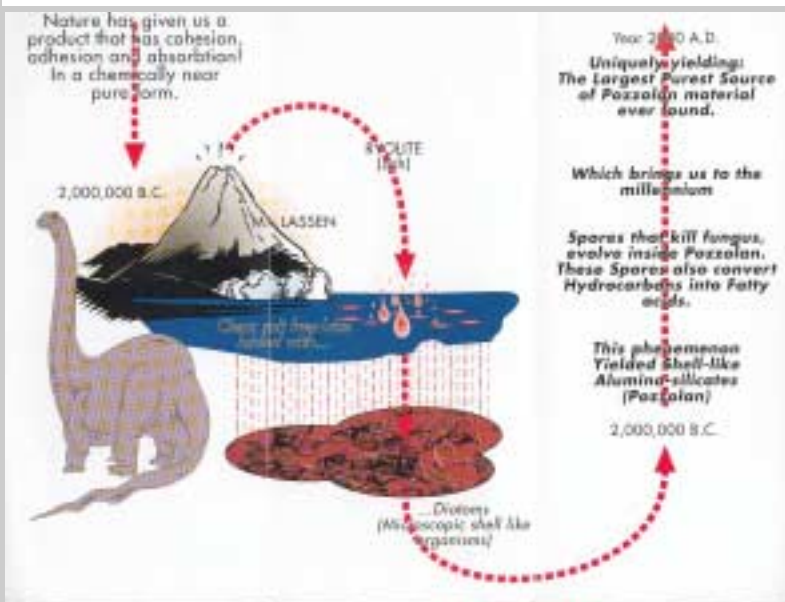


## WHAT IS MUD-loc?



**MUD-loc IS AN AMORPHOUS, DIATOMACEOUS, ALUMINO-SILICA. IT IS AN INERT, NATURALLY OCCURRING MINERAL.**

**MUD-loc WAS FORMED MILLIONS OF YEARS AGO WHEN THE LASSEN VOLCANOES ERUPTED AND SENT SILICA ASH THOUSANDS OF FEET INTO THE ATMOSPHERE, THIS SILICA EXPANDED TO FORM AMORPHOUS SILICA MICRO CHAMBERS. THIS ASH FELL INTO A COLD DEEP LAKE AND AMALGAMATED WITH THE DIATOMS THAT LIVED THERE, THE PURE SILICA OF THE DIATOM'S SHELLS ADDED TO THE STRUCTURE OF THE MINERAL, GIVING IT UNIQUE PROPERTIES WHICH ARE NOT FOUND IN ANY OTHER MINERAL OF ITS TYPE WORLDWIDE.**



### PROPERTIES OF MUD-loc:

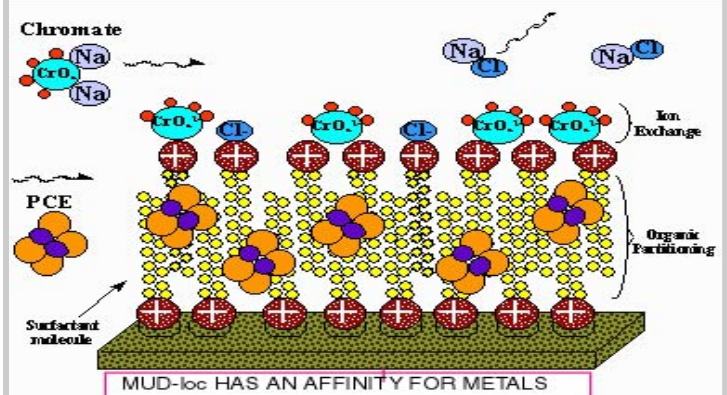
**IT HAS AN ENORMOUS SURFACE AREA (IN FACT AN 8 OUNCE GLASS FULL OF THE PRODUCT HAS A SURFACE AREA OF 1 HECTARE!)**

**IT WILL ABSORB 95% OF ITS VOLUME**

**IT WILL REJECT WATER IN FAVOR OF HYDROCARBON**

**IT HAS AN IONIC AFFINITY FOR MOST OF THE HARMFUL HEAVY METALS**

**ONCE IT HAS ABSORBED HYDRO-CARBONS AND BOUND UP HEAVY METALS IT IS EXTREMELY RELUCTANT TO RELEASE EITHER.**





## CORPORATE FACTS



- *INCORPORATED IN ALBERTA IN 1996*
- **WORKERS COMPENSATION—ACCOUNT NUMBER 412497/7**
- *INSURANCE—1,000,000.00 PUBLIC LIABILITY, INCLUDING ENVIRONMENTAL OPERATIONS—ING/WESTERN UNION POLICY #5V0117485*
- **REFERENCES—CUSTOMER REFERENCES AND TRADE ACCOUNT INFORMATION IS AVAILABLE ON REQUEST**



### *PRINCIPALS*

***GARY BARNES**—PRESIDENT, FORMERLY WESTERN CANADIAN GENERAL MANAGER WITH PHILIP SERVICES CORP. MR. BARNES HAS HAD 20 YEARS EXPERIENCE WITH ENVIRONMENTAL RISK MANAGEMENT*



***D THOMAS SNEDDON**— ASSOCIATE, TOM HAS A MASTERS DEGREE IN GEOLOGY AND ASSISTED IN EXTENSIVE RESEARCH IN STABILIZATION/ENCAPSULATION AT THE ALBERTA ENVIRONMENTAL RESEARCH FACILITY AT VEGREVILLE.*

***MARIA NIEWURTH**—ASSOCIATE, DR NIEWURTH WAS THE DIRECTOR OF THE STABILIZATION RESEARCH PROJECT AT THE ALBERTA ENVIRONMENTAL RESEARCH CENTER.*

***EDWARD JOHNSON**—ASSOCIATE, ED IS A PROFESSIONAL ENGINEER AND THE LEAD ENGINEER IN OUR SOLID WASTE MANAGEMENT PROGRAM.*



***DARRYL HARTLEY**— US DIRECTOR OF OPERATIONS, DARRYL MANAGES OUR HOUSTON OFFICE AS WELL AS DIRECTING OUR EFFORTS IN THE US*

## **PROJECT PROFILE**

**PROJECT NAME** - STABILIZATION/ENCAPSULATION, INVERT DRILLING MUD, GRANDE CACHE

**PROJECT LOCATION** - 1-36-60-3-W6M

**PROJECT CLIENT**—CHEVRON



**PROJECT DESCRIPTION**—INVERT DRILLING WASTE LEFT IN A PIT FROM DRILLING OPERATIONS. WSTI ADDED MUD-loc AND NORMAL PORTLAND TO STABILIZE/ENCAPSULATE WASTE. MATERIAL WAS LEFT TO CURE FOR 200+ DAYS AND WILL BE USED AS AGGREGATE ON LEASE AREA.



## **PROJECT PROFILE**

**PROJECT NAME** - STABILIZATION/ENCAPSULATION, INVERT DRILLING MUD, HINTON

**PROJECT LOCATION** - 15-33-26-W5M

**PROJECT CLIENT**—CHEVRON



**PROJECT DESCRIPTION**—INVERT DRILLING WASTE LEFT IN A PIT FROM DRILLING OPERATIONS. WSTI ADDED MUD-loc AND NORMAL PORTLAND TO STABILIZE/ ENCAPSULATE WASTE. MATERIAL WAS LEFT TO CURE FOR 200+ DAYS AND WILL BE USED AS AGGREGATE ON LEASE AREA.



## **PROJECT PROFILE**

**PROJECT NAME - STABILIZATION/ENCAPSULATION, INVERT DRILLING MUD, HAMMERHEAD**

**PROJECT LOCATION - 15-34-62-W6M**

**PROJECT CLIENT—CHEVRON**



**PROJECT DESCRIPTION—INVERT DRILLING WASTE LEFT IN A PIT FROM DRILLING OPERATIONS. WSTI ADDED MUD-loc AND NORMAL PORTLAND TO STABILIZE/ ENCAPSULATE WASTE. MATERIAL WAS LEFT TO CURE FOR 200+ DAYS AND WILL BE USED AS AGGREGATE ON LEASE AREA.**



## **PROJECT PROFILE**

**PROJECT NAME** - STABILIZATION/ENCAPSULATION, INVERT DRILLING MUD, FT. LIARD NWT

**PROJECT LOCATION** - M-25, FT LIARD

**PROJECT CLIENT**—CHEVRON



**PROJECT DESCRIPTION**—INVERT DRILLING WASTE LEFT IN A PIT FROM DRILLING OPERATIONS. WSTI ADDED GENERIC ZEOLITE AND NORMAL PORTLAND TO STABILIZE/ENCAPSULATE WASTE. MATERIAL WAS LEFT TO CURE FOR 20 DAYS AND WAS USED AS AGGREGATE ON LEASE AREA.

