

PRELIMINARY STUDY FOR PROJECT - Required information

In Situ Thermal : Electro Thermal Dynamic Stripping Process - ET-DSP™ - page 1



CLIENT :

Contact:

Ref doc Euremtech :

PROJECT - IDENTIFICATION

Name of the site		Date :	
Adress	Street City	Contact Euremtech :	Stijn HAGHEBAERT
		Email Euremtech:	info@euremtech.com
Contact :	Sir name Name	Tel:	other:
		email:	

SITE SUMMARY

Activities on site	Type: Age :	Current situation:
4 most predominant components	C1:	Access constraints:
	C2:	immediate surroundings:
	C3:	previous remediation techniques:
	C4:	remarks / curiosities:

SUBSURFACE CHARACTERISATION

SUBSURFACE: UNSATURATED ZONE

Geology	m / m m / m	m / m m / m	Density : (T/m ³)
Contaminated area	Length (m) Width (m) Surface (m ²)	Thickness (m) Volume (m ³):	expansion ratio
Adsorped contamination (mg/kg)	MINIMUM Concentration (ppm)	MAXIMUM Concentration (ppm)	Remediation goals (ppm)
Contaminant 1			Comments
Contaminant 2			
Contaminant 3			

SUBSURFACE: SATURATED ZONE (groundwater)

Geology	GWT m / m m / m Substratum :	m / m m / m m	Hydrogeology
Contaminated area	Length (m): Width (m): Surface (m ²):	Depth (m): Thickness (m): Volume (m ³):	av. Porosity eff. (%): Groundwater (m-bgs): Permeability (K ; m/s) : Transmissivity (T; m ² /s) Gradient "i" : groundwater velocity (m/year) :
Geo Chemistry	pH / O ₂ (mg/l): Conductivity (μs/cm)	/	Natural TOC (mg/l)
dissolved contaminants & NAPL	Minimal Concentration (ppb)	Maximal Concentration (ppb)	Average Concentration (ppb)
Contaminant 1			Remediation goals (ppb)
Contaminant 2			NAPL observed average thickness (m)
Contaminant 3			Remarks
Contaminant 4			
Contaminant 5			

in the case of multiple stacked aquifers, note the features seperately

COMMENTS

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Euremtech/ Mc ² questions, notes, remarks	CLIENT Notes, answers, remarks
GENERAL	
LOCATION of the site : Address, if possible add a .kml file legible on Google Earth	
MAPS of the site: please add all maps from previous inquiries, especially: - contours of the source and plume (iso concentration lines) - treatment area marked on map - over and under ground structure: buildings, utility lines, ... - areas with limited access or limited drilling possibilities: site traffic, buildings, utility lines, ...	
PHOTOS and FILM of the site: Visual material like film and photo with commentary is very useful ; during site visit, check for adequate free space for drilling (approx. 6m) over the whole treatment area.	
TREATMENT AREA	
Treatment SURFACE & VOLUME The design for ET-DSP depends on the treatment volume; required energy to heat up to 100°C: - Surface of the treatment area: contours can be irregular (3 phase technology) - Volume of the treatment area: thickness of the treatment area	Treatment surface (m ²) : Thickness (m) : Top of the treatment area (m-bgs) : bottom of the treatment area (m-bgs) : Volume (m ³) :
GROUNDWATER TABLE add a map with all monitoring wells and direction of ground water flow on site in the case of stacked aquifers, be as detailed as possible	
THICKNESS OF THE SATURATED ZONE	
DEPTH OF THE SUBSTRATUM	
LITHOLOGY & GEOLOGY add a cross section of the geology in the treatment area add boring logs from the treatment area <i>(1) provide a soil sample for lab testing - preferable liner sampling see procedure "soil sampling"</i>	
VELOCITY OF GROUNDWATER FLOW & PERMEABILITY These data are very important for the numerical modelling in the case of stacked aquifers, be as specific as possible	
EFFECTIVE AND TOTAL POROSITY expressed in %	
NATURAL ORGANIC MATTER in the soil expressed in % dried material	
ELECTRICAL CONDUCTIVITY of the aquifer This is essential for the feasibility of ET-DSP and for a preliminary design	
ELECTRIC RESISTIVITY of the LITHOLOGIES This data is often determined during MIP this is the first step for designing and feasibility (1<OK<500 Ωm).	
CONTAMINANTS & CONCENTRATIONS Name the different contaminants Concentrations : soil, vapour, water NAPL observation Estimated contaminant mass in place	
GOALS & TIMEFRAME of the REMEDIATION Remediation goals (soil, groundwater) Desired timeframe of the treatment - desired start date Add the sampling plan	
OTHERS INFORMATION (specific regulations, specific safety training,...)	

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EFFLUENT TREATMENT & UTILITIES

<p>DISCHARGE REQUIREMENTS - VAPOUR/WATER Concentrations and/or mass flux allowed by the local authority Max discharge flow water Distance to a discharge point for water Designated hight for vapour discharge point Will discharge require a allowance document.</p>	
<p>WATER UTILITY Distance to water utility Capacity of the water flow Water supply cost (m³)</p>	
<p>ELECTRICITY UTILITY Distance to the primary electrical power delivery Will a new connection to the high tension line be necessary Features: voltage, amperes, power available Local constraints?</p>	
<p>ABOVE GROUND & BELOW GROUND Will any trenching for lines be required or can the installation be placed on surface?</p>	
<p>VAPOUR CAP Is a vapour cap present in the treatment area (like concrete or asphalt)? Must one be made? Surface to cover:</p>	
<p>ACTIVITIES in the area Are there other activities on the site ? Is any personnel working in the area ?</p>	
<p>ACCESS & SAFETY Is there a limited access? Specific for the drilling rig Is the site fenced or does it require fencing? Will security be required? Is the site accessable 24/24 and 7/7 ?</p>	
<p>METAL INFRASTRUCTURE Add a map with all subsurface infrastructures: utility lines, tanks, ...</p>	
<p>AFTER TREATMENT - SITE RESTORATION What well abandonment is required? What will the site be used for after treatment?</p>	

ADDITIONAL QUESTIONS DURING SITE WALK
