



# **Update on Remediation and Reclamation Initiatives**

## **RemTech 2007**

**October 24, 2007**

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# *Outline*

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- Tier 1 and Tier 2 Guidelines
- Remediation Certificate Program
- Wellsite Reclamation Certificate Application form, Guideline
- Professional Sign Off
- Record of Site Condition Form
- Environmental Site Assessment Guideline



# ***AENV Policy Outcomes for Management of Contaminated Sites***

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- Pollution prevention
  - Avoid impairment of or damage to environment, human health, safety or property
- Health protection
  - Action commensurate with risk to human health or environment
- Productive use
  - Encourage remediation to enable productive use



# ***Tier 1 and 2 Soil and Groundwater Remediation Guidelines***

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- Provide protection of human health and ecological receptors
- Remediation endpoints are protective of surface water, groundwater, air and land
- Based on scientific research, i.e., risk based concentrations associated with exposure pathways and possible receptors
  - Natural areas, agricultural areas, residential, commercial and industrial end land uses
- For use at all contaminated sites in Alberta



# ***Tier 1 and 2 Soil and Groundwater Remediation Guidelines***

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- New guidelines to supersede existing guidelines:
  - *Alberta Tier I Criteria (1994)*
  - *Alberta Soil & Water Quality Guidelines for Hydrocarbons at Upstream Oil and Gas Facilities (2001)*
  - *Risk Management Guidelines for Petroleum Storage Tank Sites (2001)*



# *Tier 1 and 2 Soil and Groundwater Remediation Guidelines*

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- AENV guidelines not superseded:
  - *Salt Contamination Assessment & Remediation Guidelines* (AENV 2001)
  - *Soil Quality Guidelines for Barite* (AENV 2004)
- Information in these documents too extensive to add to Tier 1 or 2 Guidelines
- Remediation end points included in Tier 1

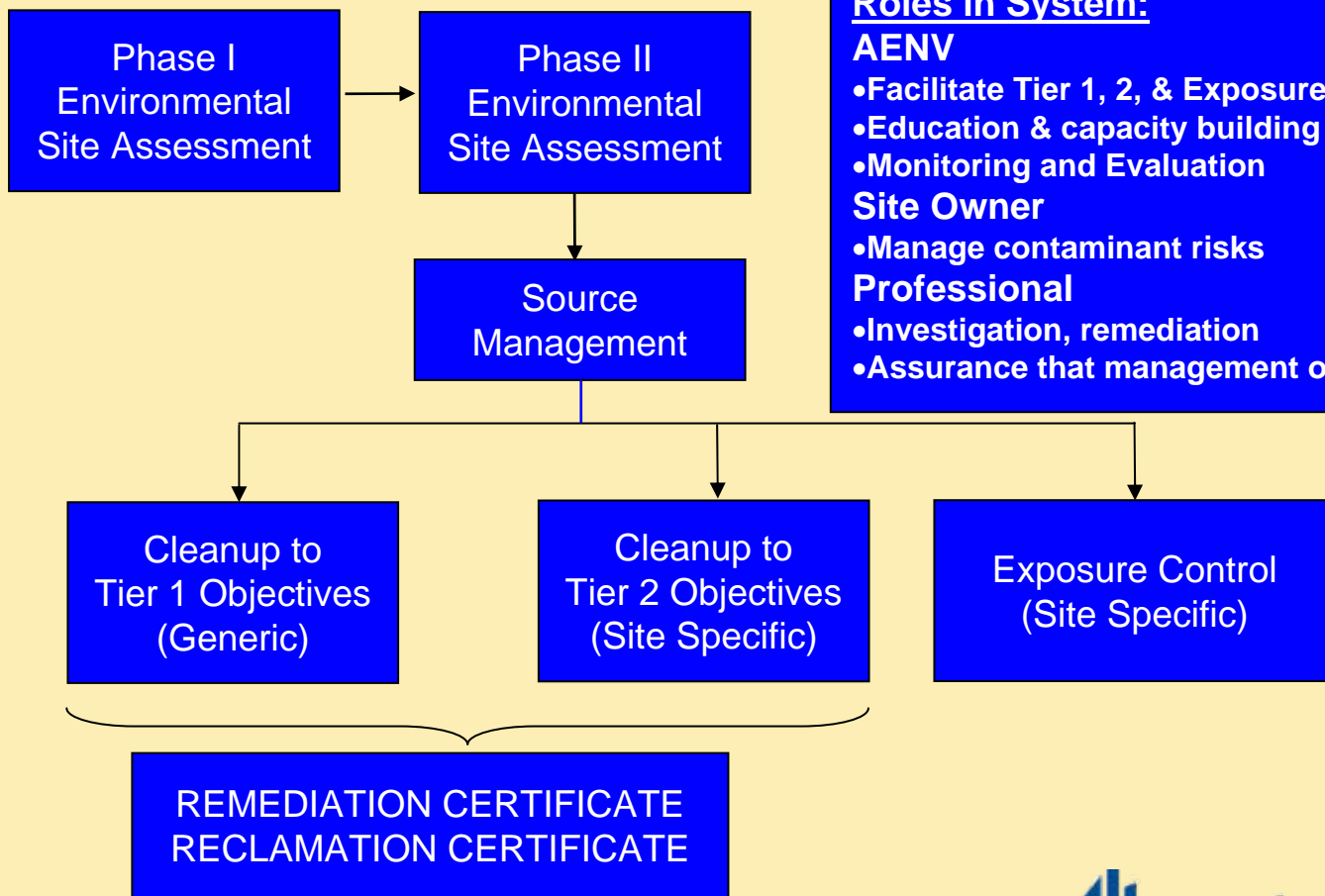


# *Use of Tier 1 & 2 Guidelines at Upstream Oil and Gas Sites*

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- Upstream Oil and Gas Transition Period for PHC
  - Can use *Alberta Soil and Water Quality Guidelines for Hydrocarbons at Upstream Oil and Gas Facilities* (2001) until December 1, 2007 – Lab data sheets
  - Have to use either ASWQG (2001) or Tier 1/ Tier 2 (2007)
- Drilling waste disposal areas use Tier 1 or Tier 2 except for EC and SAR
  - D50 Equivalent Salinity Guidelines apply

# Contaminated Sites Management Framework



## Roles in System:

### **AENV**

- Facilitate Tier 1, 2, & Exposure Control policy
- Education & capacity building
- Monitoring and Evaluation

### **Site Owner**

- Manage contaminant risks

### **Professional**

- Investigation, remediation
- Assurance that management objectives are met





# *Remediation Certificate Program*

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- Voluntary certificate program
- Incentive to remediate
- Provides certainty for proponent if standards change
- Provides closure of liability after 10 years if standards become more stringent

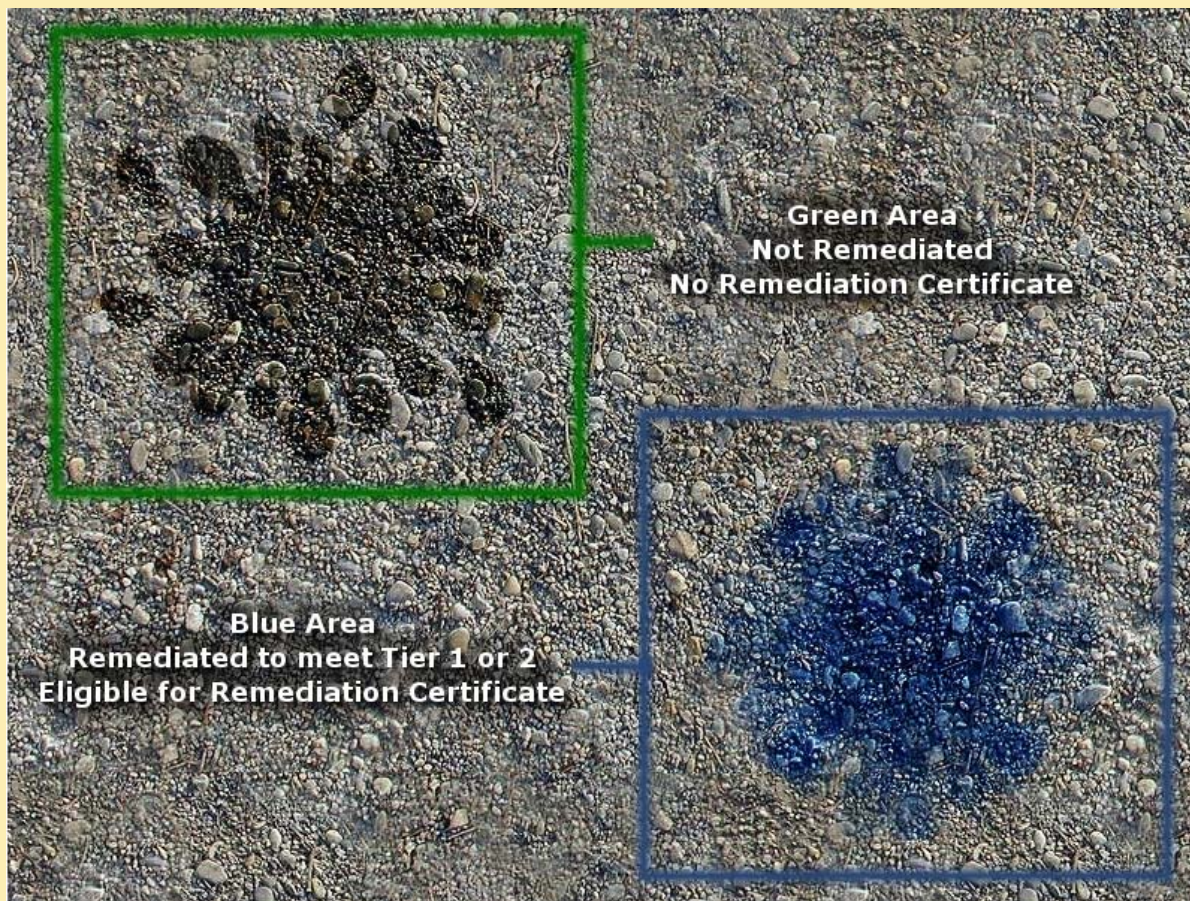


# *Remediation Certificate Program Regulations*

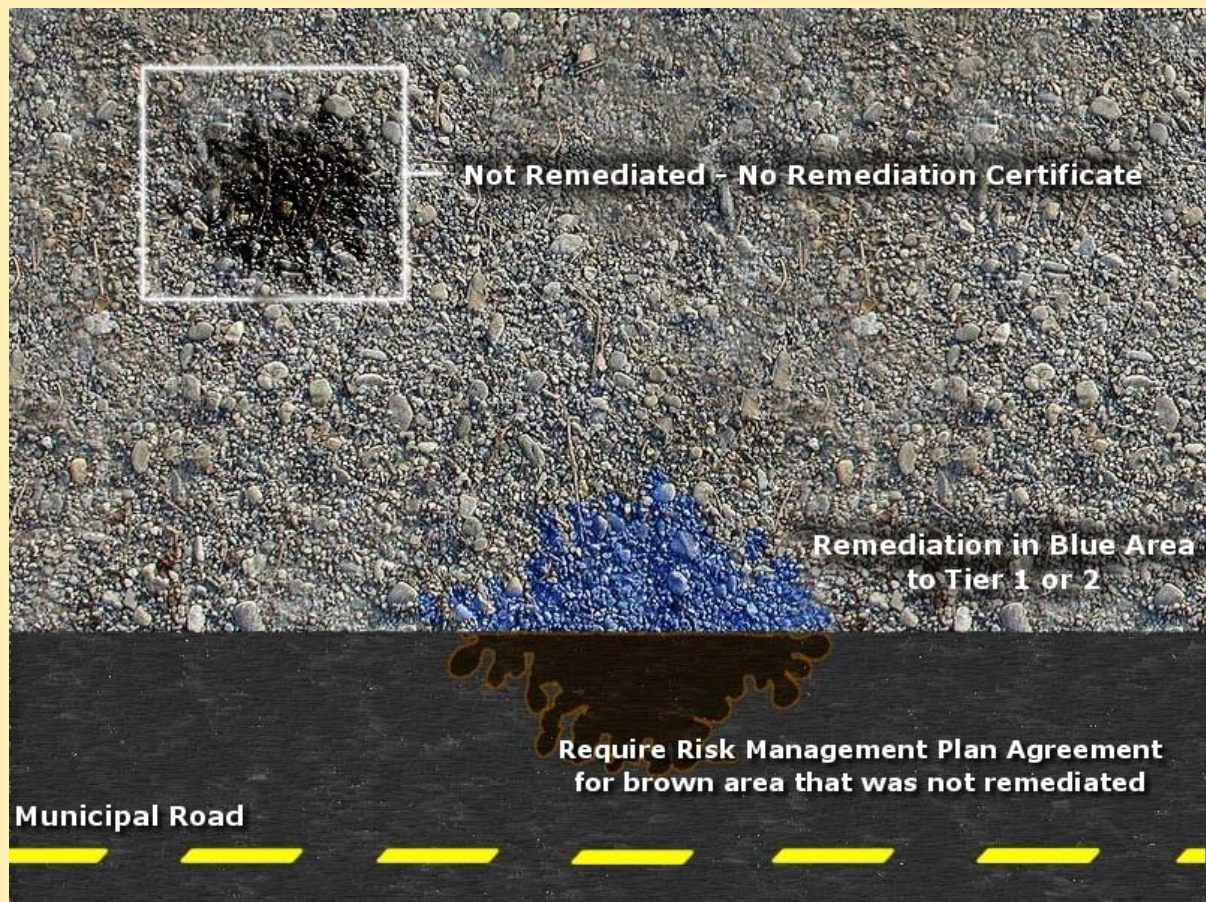
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- Closure based on compliance with Tier 1 or Tier 2 Guidelines
- Cannot use *Alberta Soil and Water Quality Guidelines for Hydrocarbons at Upstream Oil and Gas Facilities* (2001)
- Certificate issued for remediated area only, not site
  - Surveyed coordinates
  - Depth or zone of remediation
- Certificate issued for remediated substance(s)

# *Remediation Certificate Eligibility*



# *PST Sites and Third Party Risk Management Plan Agreements*



# *Zone of Remediation*





# ***Remediation Certificate Program Regulations***

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- Certificate issued for remediation to identified end land use
  - If end land use changes to more stringent use, remediation is required, e.g, industrial to residential
- Professional sign off will be required
- Applicant can be a landowner, developer, etc.



# *Remediation Certificate Program*

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- Approximately 10% audit rate
- Audit programs to check compliance
  - Desktop technical audit
  - Field audit
- A failed audit or substantiated complaint may result in cancellation of the certificate
- At any time, if substances specified in remediation certificate are present above Tier 1 or Tier 2, an EPO can be issued



# *Remediation Certificate Program*

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- Remediation certificate application fee \$1000
- Fee used to cover external costs of conducting audits
  - Contract with environmental consultant
  - Line locates & site survey
  - Sampling program
  - Analytical data
  - Reporting





# *Remediation Certificate Program*

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- Application form and guideline being developed for PST sites
- Program expected to commence by January 2008 for PST sites
- Upstream oil and gas sites in mid 2008
- More information will be available at [www.environment.gov.ab.ca](http://www.environment.gov.ab.ca) prior to program launch



# ***Upstream Oil and Gas Reclamation Certificate Program***

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- New application form and supporting Fact Sheet, R&R/07-2, released August 2007
- Applications received after November 1, 2007 must use new form
- New application form supersedes
  - Phase 1 ESA form (2002)
  - Wellsite Reclamation Certificate Application Form (2006)
  - Addendum to Reclamation Certificate Application form (2003)
  - Statutory Declaration form (2003)



# ***Reclamation Certificate Application Form - Changes***

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- Landowner must have 30 days to voluntarily sign *Acknowledgement of Information Disclosure* form
- If it is not signed, *Statutory Declaration* form is not required
- Keep records of when application sent, personally delivered, etc. in the event of a complaint



# ***Reclamation Certificate Application Form – Routine & Non-Routine***

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- Application review and certification process streamlined
- Routine applications checked for completeness
- Non-routine applications receive a completeness and regulatory review
- Superseded: 10 day policy to provide missing information, clarification, etc.



# ***Reclamation Certificate Application Form –Non-Routine***

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- Applications are non-routine if:
  - Landowner complaint is unresolved
  - Justification for reclamation criteria as per 1995 Reclamation Criteria
  - Subsoil criteria for PHC used below 1.5 m depth
  - Management Plan in place for pre-1983 sites



# ***Reclamation Certificate Application Guideline***

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- New guideline currently under development
- Provides information on completion of each section of the new Application form
- Contains policy information from existing Information Letters and Fact Sheets
- Release expected mid-November 2007



# *Sign-Off Advisory Committee*

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- Reclamation and Remediation Sign Off Advisory Committee (RRSAC) formed in April 2006
- Formed after the Competencies for Remediation and Reclamation Advisory Committee submitted their *Recommendations Report* to AENV
- ACPA, AIA, APEGGA, ASET, ASPB, CAPF, and CAPFT
- AEII (formerly AHRE), ASRD & AENV



# ***RRSAC's Recommendations***

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- Professional Assurance Requirements
  - Professional practicing member in good standing with an organization that has professional legislation in Alberta that explicitly allows them to do that work:
    - Code of ethics
    - Disciplinary process
    - Professional development





# ***RRSAC's Recommendations***

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- Minimum of 5 years of verifiable experience in reclamation and/or remediation work relevant to the Competencies Tables
  - Competencies Tables on AENV's website
- Professional liability insurance (errors & omissions) coverage by employer or self
- Recommendations Report submitted to AENV's Executive in June 2006



# *Sign Off Requirements*

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- Policy to support RRSAC's recommendations
  - Member of one of six PROs
    - **ACPA, AIA, APEGGA, ASPB, CAPF, and CAPFT**
  - Minimum five years verifiable experience relative to Competencies Tables
  - Professional liability (errors and omissions) insurance



# *Professional Sign Off*

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- Reclamation certificates on upstream oil and gas sites:
  - Sign off is mandatory for all work completed after January 1, 2008 (e.g., Phase 1 ESA, reclamation DSA)
  - Work completed prior to January 1, 2008 can be voluntarily signed off
  - Declaration form will be released shortly



# *Professional Sign Off*

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- Professional sign off requirement within Remediation Certificate Regulations
- PST release reports
  - Requires sign off by any of the six PROs with competencies in environmental site assessments, remediation



# *Why Professional Sign-Off?*

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- Shared governance approach
- Based on Competency Committee's and Sign Off Committee's work
- Provides assurance that work meets Alberta Environment's requirements for contamination assessment, remediation, and reclamation work
- AENV staff focus on high priority sites



# *Record of Site Condition Form*

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- Provides summary of work that may be required at a site
- Complete form to accompany each Phase 2 ESA and remediation report
- Form is a guide to the information requirements for investigating a site
- Provides considerations for a Risk Management Plan
- Information will be publicly accessible
- Form expected to be finalized by 2008
- Must be used for in all industry sectors



# ***Environmental Site Assessment Guideline***

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- Phase 1 and 2 ESAs
- Soil sampling programs and methods
- Groundwater sampling program
- Confirmatory sampling
- Field record keeping
- QA/QC
- Expected to be released in April 2008



# *Conclusion*

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- Remediation certificate program being developed
  - Voluntary certificate
  - Program expected to commence by January 2008 for PST sites
  - Certificate issued for remediated area and remediated substance(s) only





# *Conclusion*

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- Professional sign off required for remediation certificates, PST release reports
- Professional sign off will become mandatory for reclamation certificates for work completed after January 1, 2008
- Competencies Tables at:  
[www.gov.ab.ca/env/protenf/landrec/upstream/competencies.html](http://www.gov.ab.ca/env/protenf/landrec/upstream/competencies.html)