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Due Diligence Assessments – Applying Environmental Site Assessment and Environmental Compliance Audit Approaches

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Introductions



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Quebec Operations Manager

Agenda

- Our global footprint
- Wood E&IS Sector expertise
- Broad services toolkit
- Programmatic approach & service calibration
- Client requirements / Communication
- Six (6) step process Project Approach
 - Schedule / Materiality threshold
 - Process / Methodology
 - Collecting and assessing objective evidence / Assessing risk
- Reporting
- Questions

Our global footprint



Wood E&IS – Sector expertise

The sectors we work in around the globe.

Government	 Environmental remediation Architecture/engineering services Energy efficiency Construction services Military fueling systems Program management 	Transportation	 Roads and bridges Rail Ports Airports Alternate delivery models
	 Aerospace/defense Automotive Chemical Electronics and metals Food & beverage 	Power/Clean Energy	 Fossil fuels Renewables Nuclear Transmission & distribution
Oil and gas	 International National Independent Midstream Capital projects Operational projects 	Mining	 Junior exploration Junior producer Intermediate producer Senior producer
Pharma	 Bulk API Biopharmaceuticals Fill finish R&D/labs Packaging/warehousing 	Water	 Water resources Industrial process water Storm water Facilities Engineering/Design/ Construction

Broad services toolkit

- Environmental Site Assessment (soil, surface water & groundwater)
 - Phase I ESA, Phase II ESA, Risk assessment/Risk management, remediation services, cost to closure assessments, etc.
 - Reasonable Case (RC) & Reasonable Worst Case (RWC) remediation scenarios
- Environmental, Health & Safety (EHS) compliance evaluation
 - EHS elements are assessed to ensure:
 - Compliance is maintained/established
 - Capital/operational investment is understood & adequately projected
 - Both current/impending regulatory obligations are considered within investment hold time
- Property condition assessments
 - Reserve fund study
- Energy efficiency & optimization analysis
 - Assess capital investment (\$) Incentives (\$) = Payback (years)
- Process & industry expertise

Programmatic approach & service calibration

- Environmental Site Assessment (soil, surface water & groundwater) centralized Wood team
 - One point of contact (whether single, or multi-service diligence is provided)
 - Centralized quality control to ensure consistency across diligence services
- Strong global transactional services capacity & experience
- Customizable approach
 - Tailored objective (applying materiality threshold)
 - Tailored scope of work & deliverables
- Superior team-oriented approach
 - Willingness to work with other deal advisors (accounting, legal, insurance, etc.)
- Effective ability to calibrate service needs with deal pace & timing

Strong focus on defining & quantifying reasonable case & reasonable worst case capital and/or operating investment risk

Various approaches

- Purchase directly "as-is" / "where-is". No screening or review. (Caveat Emptor definitely applies)
- Rely on Sell-Side documentation provided in a data room
- Rely on existing Phase 1 and Phase 2 reports for due diligence assessment of value / risk
- Conduct:
 - Phase 1 ESA's on all potential portfolio locations
 - Phase 2 ESA's on all portfolio locations based on results of Phase 1 ESA's
 - Assess risk & cost, based on results of Phase 2 ESA's
- Full due diligence review including:
 - Data room documents / Phase 1 & 2 ESA reports
 - Site visits
 - Assessment of EHS compliance most comprehensive approach

Potential criteria

- CSA Z768-01 (R2016) Phase 1 Environmental Site Assessments
- CSA Z769-00 (R2013) Phase 2 Environmental Site Assessments
- CSA Z773-03 (R2017) Environmental Compliance Auditing
- ISO 14001:2015 Environmental Management Systems
- ISO 14015:2001 Environmental assessment of sites and organizations
- OHSAS 18001:2007 Occupational Health & Safety Assessment Series (until 2021)
- ISO 19011:2018 Guidelines for auditing management systems
- ISO 45001:2018 Occupational health & safety management systems
- ISO 50001:2018 Energy management systems
- ASTM E1527-13 Standard Practice for Environmental Site Assessments: Phase 1 ESA Process
- ASTM E2018-15 Standard Guide for Property Condition Assessments: Baseline
 Property Condition Assessment Process

Many other regional or country specific requirements.





What does the client want?

- Initial notification of request for services (RFP, RFQ, phone call)
- Understand the scope of the proposed acquisition
- Identify locations
- Understand timing / schedule / deliverables
- Send out Conflicts of Interest (COI) notice internally
- Notify and organize Wood project team members, globally
- Prepare and submit proposal
- Engagement



Confidentiality

Need a covert project name – Specific examples since 2015



Client requirements – Initial assessment

Project (client) objectives

- Grow their business through acquisitions
- Assess Sell-Side Assets / Locations
- Provide high level preliminary EHS evaluation
- Rarely any site visits at this stage
- Reconcile material liabilities (Level varies typically > \$250,000)
- Rank the risk of significant environmental site and/or EHS compliance conditions
- Summary report (Excel[™] spreadsheet typically)
- Due date: Yesterday!

Client requirements – Typical high level activities

Key milestones

- Green light to proceed
- Access to data room
- Step 1: Technical review of reports & documents
- Step 2: Site visits if required / recommended
- Step 3: Teleconference call
 - Sell-side representatives
 - Purchaser (client) representatives
 - Wood technical experts
- Step 4: Red flags report
- Step 5: Risk ranking tables
- Step 6: Reporting



Client requirements – Typical schedule

Typical schedule once green light is provided

- Step 1 Technical review of reports & documents Week of April 1, 2019
 Centralized bulk upload of document requests
- Step 2 Site visits (during week of April 1, 2019)
 - Plan and coordinate the right individual to conduct the site visit(s)
 - Submit questions and specific requests for documents not yet found in data room
- Step 3 Teleconference among project participants April 11, 2019
 - Experts session reserve the date / time

Client requirements – Typical schedule (cont.)

- Step 4 Red flags report (April 12, 2019)
- Step 5 Risk ranking tables (April 17, 2019)
 - Draft tables for your respective site(s) using the provided template.
 - Review of tables with client can be expected based on complexity of any findings
 - Plan to participate
- Step 6 Final reporting (April 19, 2019)

Approximately 2 – 3 weeks from start to finish

Project approach – Initial assessment

Methodology (Records / Interviews / Observations – Typical audit approach)

- Records
 - Review sell-side documentation
 - Environmental and EHS due diligence reports
 - Internal EHS related documentation
 - Legacy site issues (Soil, Water, Groundwater, Air)
 - Publicly available regulatory databases (ERIS / EDR, etc.)
- Interviews
 - Generally arranged following document access stage
- Observations
 - Site visits allowing observation are rare at this stage

	INTERNATIONAL STANDARD	ISO 19011 Third edition 2018-07
	Guidelines for auditing m systems Ligner directrice paue l'audit des synthese de	anagement
		Reference number
Support Instantional Segmentation for Restantional Arrivation (Science & Science & Sci	ISO	0 150 19011:2018(E) 0 150 2018

ISO 19011:2018 References to Records / Interviews / Observations: Table 2 of Clause 7.4 and Table A.1 of the Annex

Efficient transfer of documentation generally managed through a data room

Project team & data room access request list

- Single Client Account Manager (CAM) between Wood and our clients
 - CAM can vary depending on location / workload / availability
- CAM coordinates with:
 - Wood Points of Contact (POC) located in:
 - Asia, Europe, North America, South America, Canada, Africa and Mexico
 - Subcontractors (if needed)
- CAM establishes the project team based on:
 - Geographic location
 - Critical knowledge of the Sell-Sides operations, or the sector, or both
 - Availability of the identified / preferred Wood project team member
 - Assistance from POC's
- CAM submits data room access request list to Sell-Side representative to allow all POC's to obtain access

Project team & data room access request list (cont.)

Data room access request list – Contact information required for verification. Sign on, verify, agree to conditions, abide by confidentiality, review and download documents for your assigned location(s)

Proje	ct: EXAMPLE						
VDR /	Access Request List 1	Femplate / Verification of	Individuals				
No.	Company Name	Location	Role	Name	Title	Phone Number	Email
1	Wood E&IS, Inc.	Canada (NA)	CAM	Connie	Senior Associate		Connie@woodplc.com
2	Wood E&IS, Inc.	Canada (NA)	POC	Peter	Principal / Environmental Engineer		peter@woodplc.com
3	Wood E&IS, Inc.	United States (NA)	POC	Rick	Associate Environmental Engineer		rick@woodplc.com
4	Wood E&IS, Inc.	United States (NA)	POC	Todd	Associate Project Manager		Todd@woodplc.com
5	Wood E&IS, Inc.	United States (NA)	POC	Parker	Staff Technician		Parker@woodplc.com
6	Wood E&IS, Inc.	United States (NA)	POC	John	Associate Geologist		john@woodplc.com
7	Wood E&IS, Inc.	United States (NA)	POC	David	Senior 2 Geologist		david@woodplc.com
8	Wood E&IS, Inc.	Mexico (NA)	POC	Jamie	Branch Manager		jamie@woodplc.com
9	Wood E&IS, Inc.	Brazil (SA)	POC	Sergio	Director		sergio@woodplc.com
10	Wood E&IS, Inc.	Europe	POC	Cristina	Senior PM		cristina@woodplc.com
11	Wood E&IS, Inc.	Asia	POC	Sam	Director		sam@woodplc.com
12	Wood E&IS, Inc.	Africa	POC	Amanda	Principal Environmental Scientist		amanda@woodplc.com
13							
14							
15							

Record review via data rooms – Example 1

Project Root							Sup	port & Feed	lback 🗸 🔗 🗸
DOCUMENTS USERS AND GROUPS									
Action V					P Filter	Search			~ x Q
~	:	All Fol	ders						≡ Manage Columns
→ All Folders		#	ŧ	TITLE			TYPE	G f	3
> 🛅 1.0 Finance & Accounting		1	.0	Finance & Accounting			Folder		۶×
> 🗎 2.0 Human Resources		2	2.0	🗎 Human Resources			Folder		۶×
🛅 3.0 Insurance		3	8.0	T Insurance			Folder		۶x
4.0 Information Technology		4	ł.0	Tinformation Technology			Folder		۶×
> 🛅 5.0 Legal		5	5.0	🔁 Legal			Folder		۶×
🛅 6.0 Research & Development		6	5.0	C Research & Development			Folder		۶×
> 🛅 7.0 Real Estate		7	.0	🗎 Real Estate			Folder		۶x
> 🛅 8.0 Sales & Marketing		8	8.0	🔁 Sales & Marketing			Folder		۶×
9.0 Supply Chain & Procurement		9	0.0	🗎 Supply Chain & Procurement			Folder		٤×
> 🛅 10.0 Tax		1	0.0	Tax			Folder		۶×
12.0 Separation		1	2.0	C Separation			Folder		۶x
🛅 13.0 Farms		1	3.0	E Farms			Folder		۶×
> 🛅 14.0 Presentations		1	4.0	Presentations			Folder		۶×
	4								•

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Record review via data rooms – Example 2

G Chat HELP?
Q
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DATE AVAILABLE \$
2019-04-01 09:48
2019-04-01 09:48
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2019-04-01 09:48
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2019-04-01 09:48

Project scope – Minimum output

- 1. Air emissions (including refrigerant management)
- 2. Building & fire code
- 3. Chemical / Oil / Fuel management
- 4. Corporate social responsibility issues (e.g.: overtime pay, child labour, hours worked/week, etc.
- 5. Designated substances and condition (Asbestos, lead, PCB, ozone depleting substances, etc.)
- 6. Emergency response (Spills, E2, ERAP, ERP's, etc.)
- 7. Environmental permits, approvals, licenses, certificates of approval, ECA's
- 8. Environmental training including Transportation of Dangerous Goods (TDG), workplace specific
- 9. General insurance requirements / Limits, property casualty, contractors and If any, litigation claims
- 10. Hazardous / Non-hazardous material management
- 11. Hazardous Materials Management Information System (WHMIS), spills response, etc.
- 12. Health & Safety Baseline assessment of EH&S practices
- 13. Industrial hygiene reports Noise & vibration, biological, chemical and particulate exposure hazards
- 14. Landfills Used: On-site & off-site
- 15. Management commitment level to EHS and sustainability conformance

Project scope – Minimum output (cont.)

16. Operating cost information for environmental systems, including wastewater treatment, water treatment, waste treatment and air pollution

- 17. Phase 1 Environmental Site Assessments (ESA) per CSA Z768 or ASTM E1527 or equivalent
- 18. Phase 2 Environmental Site Assessments (ESA) per CSA Z769 or equivalent
- 19. Process Safety Management (PSM) and Risk Management Plan (RMP), if applicable
- 20. Regulatory citations / Reporting activities / Abatement costs (past 5 years)
- 21. Safety incident management (processes and procedures, incident rate, worker compensation costs)
- 22. Storage tanks (Underground and Above Ground Tanks)
- 23. Waste disposal Manifests, waste audits, carrier and receiver assessments
- 24. Waste management (Recycling / Hazardous and non-hazardous waste storage
- 25. Wastewater management
- 26. Water management Drinking water / Potable water / Water treatment
- 27. Anything else deemed applicable to the EHS DD project or to the project team member

Start with an extensive list and delete anything deemed to be "Out of Scope", (i.e.: Building & fire code, insurance requirements, worker compensation costs, or process safety, etc.)

Step 1 – Technical review of reports and documents

Submit questions and specific requests for documents (if not already available in the data room)

А	Environmental Compliance Approvals (ECA) or Certificates of Approval (CofA's), Permits and/or Applications for Pending Permits
В	Site Plans / Operational Layout for all Manufacturing Operations
С	Previous Phase I / Phase II, all material studies, audits, assessments, memoranda, investigations. and
Е	Regulatory correspondence pertaining to Hazardous Substances, including designated substance survey reports (asbestos, lead based paints, silica, etc.)
F	Copies of any Ontario Ministry of Labour - OSHA inspections and follow-up closure plans and costs related to OSHA violations, fines and corrective actions.
G	A list of reserves and accruals related to environmental, health or safety matters
Н	List of all financial assurance or guarantees required to be held, including (i) amount, (ii) entity providing the financial assurance or guarantee; and (iii) name of the relevant regulatory agency.
I	List of pending enforcement actions or notices of violation related to operating permits ECA's, CofA's or other EHS matters, including estimated costs, penalties and time to resolve
J	List and brief description of matters where the company is liable for the off-site disposal of hazardous waste (Superfund sites, third party contaminated sites, etc.) and estimated exposure;
К	EHS Capex projections for this year and next 4 years
L	Storm Water Pollution Prevention Plan (SWPPP), Spill Prevention Control and Countermeasures (SPCC) plan AND associated Monthly Inspection Reports (required as a component of the Plans) or equivalent.
М	Wastewater discharge permits and monitoring records. Any sanitary sewer sampling events and corresponding analytical results?
Ν	Spill Records.
0	Internal Audits for the facilities.
Р	Tank registration records and/or storage tank inventories (age, size, type, contents, etc.) as applicable
Q	Environmental Training Documents (WHMIS, Spill Response, Transportation of Dangerous Goods (TDG), etc.)
R	EHS Policies and Procedures (e.g., Haz Comm, Confined Space, Powered Industrial Vehicles, Emergency Evacuation Plan, Machine Guarding, Lock Out/Tag Out, Fall Protection, Electrical Safety, etc.)
S	OSHA Employee Training Records - Haz Comm, Confined Space, Accident Prevention/Reporting, Powered Industrial Vehicles, Emergency Evacuation Plan, Machine Guarding, Lock Out/Tag Out, Fall Protection, Electrical Safety, etc.
Т	Any Industrial Hygiene exposure assessments (i.e., noise exposure assessments, ambient air sampling)?
U	Copies of any FM Global or other insurance provider site evaluations
V	Copy of the Chemical Management Plan (where/if applicable)
W	Copy of Fire Safety Plan
Х	Inventory of Ozone Depleting Substances / Halocarbon Management
Y	Copy of National Pollutant Release (NPRI) reports to Environment and Climate Chance Canada (ECCC)
Ζ	Anything else?

Step 2 – Site visits

• None proposed or scheduled,

OR

- Potential acquisition is fully reliant on Phase 1 ESA's followed by Phase 2 ESA's
- Previous Successful Example (circa 2012):
 - Many locations (40) across Canada (NB, QC, ON, MB and SK)
 - Phase 1 ESA's required at every location with Sell-Side acknowledgement, support and access provided
 - Completed Phase 1 ESA's defined Areas of Potential Environmental Concern (APEC's)
 - Phase 2 ESA's subsequently completed to address the Phase 1 APEC's
 - Remediation cost estimates (potential Phase 3's) to address results of Phase 2 ESA's
 - Ball park cost estimates used by purchased to negotiate price with seller
 - No specific EHS compliance assessment Focused on historical / Legacy site use

Step 3 – Teleconference call

Standard agenda

- Introductions
- Opportunity to ask general company questions
- Obtain additional insight / explanation regarding key activities
- Corroborate evidence found in data room documents
- Highlight key documents still required
- Confirm presence / absence of available documentation
- Confirm / Negate concerns prior to reporting
- Elevate the confidence of a POC prior to submitting report

Step 4: Red flags - Organization and reporting

PRELIMINARY RED FLAG SUMMARY									
PROJECT CORVETTE									
Site Use/ Occupancy / MatterSite Use/ Occupancy / MatterBrief Summary of Primary Issues/ConcernPreliminary Estimate of Liability RangeAccrual and/or CAPEX ProjectionsLitigation Consideration CAPEX ProjectionsSite Use/ Occupancy / MatterBrief Summary of Primary Issues/ConcernPreliminary Estimate of Liability RangeReserves / CAPEX ProjectionsAccrual Accrual CAPEX Variance RangeLitigation Consideration									
Site 1 - Canada									
Site 2 - United States									
Site 3 - Brazil									
Site 4 - China									
Site 5 - India									
Site 5 - Mexico									
Site 7 - South Korea									
Site 8 - Germany									

Step 5: Risk ranking

Adjustable to suit client requirements and risk tolerance

NOT QUANTIFIED/NOT QUALIFIED TO DATE (NQQ)	Information/clarification on select matters pending
EHS ELEMENT NOT MATERIAL (NM)	<\$100k USD potential liability; or category/risk does not apply
LOW RISK EHS ELEMENT AND/OR CUMULATIVE RISK RANKING	\$100k to \$250k USD potential liability
MEDIUM RISK EHS ELEMENT AND/OR CUMULATIVE RISK RANKING	\$250k to \$500k USD potential liability
HIGH RISK EHS ELEMENT AND/OR CUMULATIVE RISK RANKING	\$500k to \$1M USD potential liability
VERY HIGH RISK EHS ELEMENT AND/OR CUMULATIVE RISK RANKING	>\$1M USD potential liability

Rank	PROBABILITY						
Cost	LOW (<30%)	Medium (30-75%)	High (>75%)				
EHS ELEMENT NOT MATERIAL AND/OR NOT INFLUENCING CUMULATIVE RISK RANKING (NM)							
Low (\$250k - \$500k USD)	LOW (L)	L	L				
Medium (\$500 - \$750k USD)	L	М	HIGH (H)				
High (\$750 - \$1.0M USD)	М	Н	VERY HIGH (VH)				
NOT QUALIFIABLE / QUANTIFIABLE (NQQ)	NQQ	NQQ	NQQ				

Step 5: Risk ranking (cont.)

Early organization and reporting

- Template below provides overview related to legacy site Issues with link to EHS compliance for a full EHS due diligence
- POC populates table with text in each box for each location

	TABLE 1										
	EXAMPLE ENVIRONMENTAL RISK RANKING - OPERATING MANUFACTURING ASSETS										
	PROJECT PEGASUS - CLIENT ABC										
	BRIEF SITE & OPERATIONA	L PROCESS DESCRIPTION		SOIL, SEDIMENT,			Potential Additional				
SITE	Site Layout & Building Description	Current Operational Process Description	BRIEF HISTORICAL SITE & SURROUNDING PROPERTY USE CONCERNS	SURFACE WATER AND/OR GROUNDWATER QUALITY CONDITIONS	EHS Elements	Known Legacy Envir. Legacy not Otherwise Defined	Material Environmental Element Not Defined in Sell-Side Diligence Report	CUMULUATIVE RISK RANKING BY SITE	Estimated Range of Costs for Matters Identified		
			(CANADA ASS	SETS						
Toronto, Ontario					<u>Table 2 - EHS</u> <u>Elements</u>						

Step 5 – Risk ranking (cont.)

- Template below primarily addresses EHS compliance as part of the full EHS due diligence
- POC populates table with text in each box for each location and assesses risk.



Step 6: Reporting – Table of contents

- 1. Executive summary
- 2. Key environmental findings
- 3. Key Health & Safety compliance findings
- 4. Recognized Environmental Conditions (REC)
- 5. Historical Recognized Environmental Conditions (HREC)
- 6. De-minimis soil and groundwater issue
- 7. Qualifications of environmental professional
- 8. Photo log, site location map, other drawings (Plant layout, etc.)
- 9. Tables:
 - All regulatory violations to be corrected immediately
 - Items that need to be corrected within 5 years
 - Items that can be corrected after 5 years

Questions?





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