DAISHOWA-MARUBENI INTERNATIONAL LTD.

Forest Resources Business Unit

Internal Environmental Management System Audit

August 3, 2005

Streamline
ENVIRONMENTAL CONSULTING LTD

DAISHOWA-MARUBENI INTERNATIONAL LTD.

Forest Resources Business Unit

Internal Environmental Management System Audit

August 3, 2005

Prepared for:

DAISHOWA-MARUBENI INTERNATIONAL LTD.
PO Bag 6500 Pulp Mill Site
Peace River, Alberta T8S 1V5

Prepared by:

I.D. Cuthbert, R.P. BIO., CEA-EMS[LA]

STREAMLINE ENVIRONMENTAL CONSULTING LTD.
786 Quilchena Cr.
Nanaimo, B.C. V9T 1P6
Phone: (250) 758-7980 Fax: (250) 758-8505
e-mail icuthbert@shaw.ca

Streamline
ENVIRONMENTAL CONSULTING LTD

Introduction

Audit Scope and Objective

Streamline Environmental Consulting Ltd. was retained by the Daishowa-Marubeni International Ltd., to conduct an internal environmental management system (EMS) audit of the Forest Resources Business Unit (FRBU). The objective of the audit was to verify whether the EMS is implemented and maintained in a manner consistent with the ISO 14001-2004, the International Standard for environmental management systems. Compliance with relevant environmental legislation was also included in the audit scope. All significant environmental aspects of FRBU planning and operations, including contract services were within the scope of the audit.

This is the first full-scope internal EMS audit of the FRBU. The period covered by this audit was July1, 2004 to July15, 2005.

Audit Criteria

ISO 14001 and the DMI-FRBU EMS manual and related documentation were the primary criteria for the audit. Compliance with relevant environmental legislation and regulations was also included. Relevant legislation included the federal *Fisheries Act*, provincial *Forest and Prairie Protection Act*, *Environmental Protection and Enhancement Act* and regulations.

Audit Team

Iain Cuthbert (Lead Auditor) and Del Ferguson (Auditor) conducted the audit. Iain is a Registered Professional Biologist, a Certified Environmental Auditor, and a Certified EMS Lead Auditor. Del Ferguson is a Professional Geoscientist and environmental auditor. The DMI audit team liaison was Forest Resources Programs Coordinator Robert Volkman, RFT, CEA(SFM). The audit team was also accompanied by Jim Witiw, R.P.F.T. of DMI.

Audit Process

Prior to the on-site audit, a review was completed of the EMS manual and related documentation. The audit opening meeting was held July 10, 2005. During July 10 to July 14, the audit sample included:

- File and document reviews, interviews, and inspections at the DMI-FRBU main office and associated out-buildings at the PRPD site
- Site inspection and interviews at the Peace River Site, Tree Improvement Program

- Site inspections and contractor interviews at four active chipper blocks and the Manning Satellite Yard
- Site inspections (helicopter and ground-based) of 39 completed blocks, on private lands and the FMA.

The on-site exit meeting was held with DMI personnel on July 15, 2005.

Ranking of Audit Findings

The significance of each audit finding was ranked **L**ow, **M**oderate or **H**igh based on a subjective assessment of the potential consequences of the finding, guided by the following considerations:

1. potential for harm to persons or the environment
2. compliance with legislation and the potential for non-compliance actions or penalties
3. conformance to ISO 14001 and potential for failure to maintain registration
4. importance to the functioning of the EMS.

For this internal audit, the ranking of significance is also intended to provide guidance for the development and implementation of a corrective action plan. Where there is no finding of non-conformance or non-compliance, no recommendation is made for corrective action. When an item is out of standard, the recommendation shall be one of the following categories:

Low	Denotes an item which is not to standard but which has little or no impact (insignificant non-compliance). The recommendation is that there is no immediate requirement for action. Corrective action is required on a low priority basis.
Moderate	Denotes an item which is out of standard and that may lead to potentially significant consequences. The recommendation is that corrective action be taken forthwith.
High	Denotes an item that is out of standard and has significant potential consequences. This category includes significant non-compliance items and items of a serious nature. The recommendation is that it is essential that corrective action be taken forthwith, or immediately where warranted.

Audit Findings

Audit findings are ranked and evidence / details briefly described in the audit protocols (Appendix I). Audit findings are extensive and are not summarized in this portion of the report. A general audit opinion is provided below, and details are included in Appendix I.

Good Environmental Management Practices

Several notable, good environmental management practices and measures were noted and are summarized briefly below.

The EMS manual is detailed and demonstrates a significant commitment of resources to develop and implement the EMS. The creation of an EMS Representative position further demonstrates this commitment.

DMI's commitment to environmental stewardship and due diligence was evident in the wildlife / biodiversity program. The program is still in development and reflects a sound, methodical approach to the identification of information gaps, the development of targets and objectives and the establishment of procedures. This approach should enable DMI to achieve the understanding necessary to continue to manage these aspects effectively. At the planning and operations stages, tree retention and wetland / wildlife habitat protection has been well done, including riparian vegetation and bird nests.

Based on our review of results on the ground, harvest practices have generally been successful in soil conservation and watercourse protection. The only exception is excessive soils disturbance and substandard roads conditions and watercourse crossings in the sour felling areas.

Site assessment procedures, Timber Harvest / Haul Operating Plans and ArcView mapping are examples of good tools DMI has developed for effective management of private land operations.

Audit Conclusions

Corporate commitment to the EMS was evident and, with a couple of exceptions, planning and operations were in compliance with legislation and consistent with applicable standards and good environmental practices. The EMS needed to recognize and incorporate existing programs and practices related to some significant environmental aspects, such as pesticide use and waste management. The EMS was lacking in targets and objectives, programs, and written procedures.

The manual could be improved by paring it down to be more user-friendly. Clear assignment of roles and responsibilities combined with easy to follow EMS programs and procedures were needed to ensure consistent implementation of the EMS.

Generally speaking, the majority of findings relate to the EMS itself, and to a lesser extent the practices and results observed on the ground. For the most part, the people responsible for operations and those operating on the land base were aware of the significant environmental aspects related to their work and were acting appropriately and responsibly. The exceptions noted were related to contractor operations; where legislative non-compliance was noted regarding fuel spill reporting and fire tools. Improved understanding and application of the EMS was clearly needed at contractor harvest operations in order to achieve consistent EMS conformance.

At the time of the audit, the EMS was not fully implemented and was considered to be in a late stage of development and an early stage of implementation.

Revision of the EMS, including the addition of key significant aspects and related programs was needed in order for the EMS to conform to ISO 14001.

There were no critical issues that needed to be addressed immediately. However, it was evident that operations monitoring inspections needed to address fire tools and fire preparedness/training of workers. The findings of insufficient fire tools, absence of fire response training for contractors and the general failure of inspections to detect non-compliance regarding fire tools were considered inadequate operational control, given the elevated risk of wildfire during the dry time of year.

Disclaimer / Statement of Limitations

This audit report was prepared exclusively for Daishowa-Marubeni International Ltd. (DMI). The scope and accuracy of information, findings and recommendations contained herein is consistent with the level of effort expended and is based on: i) information provided by DMI personnel; the scope of operations, activities and aspects inspected or about which information was provided; iii) limited on-site inspection and interviews conducted by the audit team. This report is intended to be used by DMI only, subject to the terms and conditions of its contract or understanding with Streamline Environmental Consulting Ltd. Any other use or reliance on this report by any third party is at that party's sole risk.

Thank you for retaining Streamline Environmental Consulting Ltd. to complete this internal EMS audit. Please contact me if you have any questions or concerns.

Sincerely,
Streamline Environmental Consulting Ltd.

Iain Cuthbert, M.SC., R.P. BIO, CEA-EMS[LA]

APPENDIX I

DMI-FRBU EMS AUDIT

COMPLETEED AUDIT PROTOCOL

Protocol Area: ***E****nvironmental Management System (Overall)* (Page 1 of 3)

Protocol Number & Item (ISO 14001 element indicated)	OK or N/A	Finding Rank	Comments (Note: WP reference)
E1. Does the environmental **policy** meet all 6 requirements of ISO14001? (4.2)	OK		EMS policy was consistent with ISO 14001. The location of the policy was known by all persons interviewed (*Woodlands Response Guide*).
E2. Has the organization established & maintained a process to **identify significant environmental aspects** and kept this information up to date? (4.3.1)		M	An acceptable process was established for during EMS development but it has not been kept up to date. The ranking and 'response' prioritizes aspects on the basis of corrective action required, rather than inherent risk. The ranking of aspect significance is not considered appropriate and the list of aspects is incomplete (see E.11).
E3. Has the organization established & maintained a process to identify **legal & other requirements** & related these to its environmental aspects? (4.3.2)		L	List is maintained and appears complete. Intra-net and on-line resources used to access regulatory requirements. However, the EMS does not adequately link programs, requirements and procedures to regulatory requirements.
E4. Has the organization established, documented and implemented appropriate **targets, objectives & programs**? (4.3.3)		M	Targets & objectives have not been established for most EMS programs. The EMS was not fully implemented. No EMS programs for pesticide use, recycling, energy conservation, weed control, dust control.
E5. Have **resources**, **roles, responsibilities & authorities** been defined, documented & communicated to facilitate effective environmental management? • Have the necessary resources been provided to implement, maintain & improve the EMS? • Has a specific management representative(s) been designated for the EMS & reporting? (4.4.1)		M	It is not apparent that EMS roles and responsibilities have been effectively documented and communicated. The 'R&R chart' (not included in the EMS manual) provides only general guidance, and is not sufficiently explicit in outlining the requirements specific to job descriptions or positions.
E6. Have the ISO14001 requirements for **training, awareness & competence** been met? (4.4.2)		L	Contractor orientation respecting DMI training requirements is not consistently achieved. Several contractor employees interviewed were new and had received no DMI orientation. It was noted that good records of training have been maintained, and training programs have been initiated. Training records for summer students appeared thorough wand well maintained.
E8. Has the organization established & maintained the requisite internal and external communications elements related to its environmental aspects? (4.4.3)	OK		
E9. Has the organization documented • the core elements of the EMS and their interaction • provided direction to related documentation? (4.4.4)	OK		Documentation and reference to related documents is provided for those aspects / programs contained in the EMS manual.

Protocol Area: ***E****nvironmental Management System (Overall)* (Page 2 of 3)

Protocol Number & Item (ISO 14001 element indicated)	**OK or N/A**	**Finding Rank**	**Comments (Note: WP reference)**
E10. Has the organization established & maintained procedures for **controlling all documents** required by ISO14001 as per element 4.4.5?		L	Environmental records matrix and some other, electronic tracking forms and procedures mentioned in the EMS are not yet operating and/or are incomplete. Procedures / forms do not consistently indicate who / where records are to be submitted and filed. Agreements with waste disposal contractors were not on file, nor files for waste manifests. It was noted that central EMS files have been initiated and this system is improving.
E11. Has the organization established & maintained the necessary **operational controls**, including maintenance, related to the significant environmental aspects? • Are adequate controls in place to avoid deviations from the environmental policy, objectives or targets? • Are adequate procedures in place that stipulates operating criteria? • Are relevant procedures & requirements communicated to suppliers? (4.4.6)		M	There are several areas where procedures are not provided or require revision. This includes: • Waste (including waste oil) – revise • Gray Water – revise • Herbicide handling & disposal • Weed control • Wildfire prevention It was not evident that contractors have received relevant EMS documentation. Contracts do not refer specifically to the EMS or to requirements for the storage and handling of fuels, chemicals or wastes.
E12. Has the organization established & maintained procedures to identify & respond to accidents & emergencies, & mitigating related impacts? • Have **emergency preparedness** and response procedures been reviewed/revised/ periodically tested? (4.4.7)	OK		ERP reviewed – it is presently being updated. Emergency response at main office / mill site tested June 27/05 with follow-up critique & management review.

Protocol Area: ***E****nvironmental Management System (Overall)* (Page 3 of 3)

Protocol Number & Item (ISO 14001 element indicated)	**OK or N/A**	**Finding Rank**	**Comments (Note: WP reference)**
E13. Has the organization established & maintained adequate and appropriate **monitoring & measurement** related to potential significant environmental impacts? • Is the necessary information recorded to track performance, relevant operational controls and conformance with environmental objectives & targets? • Is monitoring equipment calibrated and maintained and are the necessary records kept? (4.5.1)		L	• Monitoring and measurement forms and databases have been created. The databases are still in development and data entry is incomplete. Some EMS databases have not yet been queried or used to generate reports. • Not all monitoring and inspection forms and EMS procedures specify who is to receive and review the completed forms. • Operational monitoring inspections and camp inspections were completed regularly. Inspections did not detect and/or report substandard log crossing structures (e.g., N36.85.24.5 + W31.85.23.5), or non-compliance re. fire tools).
E14. Is there a documented procedure for periodically **evaluating compliance** with legal and other requirements & records maintained (4.5.2)?	OK		Note - EMSP-433 annual review called for in EMS. Quarterly progress reporting has not been done as specified. This is a considered due to the fact that the EMS is in implementation stage.
E15. Are responsibilities & authorities defined for handling & investigating non-conformance, and for initiating **corrective & preventative action**? • Root cause, preventative / corrective action implemented? • Have changes to documented procedures been implemented & recorded as a result of corrective or preventative action? (4.5.3)		M	Records indicate that corrective actions are not consistently documented, assigned to individuals and assigned completion dates. Operations inspections may indicate U/S but there is not consistent, written / tracked follow-up. Tracking system is still in development, with some forms more advanced than others. Generally, issues are being entered into the database / tracking system after the corrective action has been completed rather than at the incident report stage.
E16. Have procedures been established & maintained for **environmental records**? • Are records adequately maintained and retrievable? • Are records maintained as appropriate to the EMS and to demonstrate conformance with ISO14001? (4.5.4)		L	EMS is not currently identifying all relevant records, such as those related to pesticide use. There is no system for tracking hazardous waste generation and disposal and related manifests. Control could be improved for potential release inventory records to ensure a complete, centralized file of these records.
• Have adequate programs & procedures been established for periodic **EMS audits**, and on an appropriate schedule? (4.5.5)	OK		
E16. Has senior management conducted & documented **EMS review** as required? (4.6)	OK		Environmental Sub-Committee meeting May 4/05 discussed EMS progress and audit schedule. As the initial internal audit was rejected, management review is not yet required.

Protocol Area: ***M****anagement (General – not specific to ISO 14001)*

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
M1. Were previous audit corrective actions completed?	N/A		
M2. Inspection Checklists completed?		L	No corrective action plan developed in response to the March / 05 internal EMS audit. No corrective action plan located or other evidence of follow-up record for June / 04 internal ForestCare review.
M3. Are applicable regulations are kept on file?	OK		
M4. Are applicable regulations being complied with?		M	700 L fuel spill at All-Wood chipper not reported immediately as required by *Environmental Protection and Enhancement Act* (Sec. 110). The spill occurred Saturday, July 8 at approximately 05:00 and was reported by telephone to Alberta Environment Wednesday, July 12 at 08:20. At two All-Wood chipper sites there were not enough hand tools on hand for the number of persons on site, contrary to Sec. 24 of the *Forest and Prairie Protection Act*
M5. Are permit requirements met? • Air emissions • Solid / liquid waste • Sewage treatment	N/A		No permit requirements were noted.
M6. Are expired regulations and permits disposed of?	N/A		
M7. Review incident and spill report forms: check against Spill Reporting Reg. limits		M	700 L diesel spill at Bluesky not immediately reported to DMI (contrary to EMS) or to government (contrary to regulation). Other than this instance, a good record of incident reporting and follow-up was observed.
M8. Check training records: is staff training current for: • TDG (every 3 years) • Oil Spill Prevention & Response • WHMIS	OK		Those interviewed had current TDG certification and WHMIS training.
M9. Are employees & contractors indoctrinated to appropriate standards and requisite training?			Good orientation process noted for summer students (silviculture). However, several recently hired contractors had not had any training related to environmental aspects.
M10. Are TDG training certificates on file for 36 months?		L	TDG training and expiry dates not evident in training database.
M11. Is the list of bulk storage current?	N/A		Most camps / satellite operations not active
M12. Were there any public complaints since the last audit? If so, have they been documented and addressed?	OK		
M13. Have transformers been inspected and tested for PCB's	N/A		Not aware of any transformers maintained by FRBU
M14. Is fire equipment suppression equipment adequate, properly maintained, easy to find and readily available for use?		L	Storage sheds containing gas and/or other flammables did not have fire extinguishers, including two sheds at the main office and two at the TI site.

Protocol Area: ***P****etroleum Handling & Storage* (Page 1 of 2)

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
P1. Fuel tanks located on suitable soils > 100 m from watercourse or camp facility? (FS-E002)		L	Manning Satellite Yard – main fuel tank located 28 m from camp trailers.
P2. Secondary containment or berm provided? (FS-E002)	OK		All tanks observed were double-walled. No berms.
P3. Does the system have a clearly marked emergency shut off? Do personnel know how to use it?		L	No emergency shut-off not indicated on fuel tanks at Manning Satellite Yard, All-Wood sites, or on the natural gas line intake at main office.
P4. Are fire extinguishers in place and maintained at fuel dispensing or storage areas?		L	No fire extinguisher at main diesel tank, Manning Satellite Yard. See previous note about small quantities of gas stored in sheds.
P3. Are fuel tanks protected from vehicle collision?		M	Fuel tanks at Manning Satellite Yard not protected from collision. Natural gas line intake at main office not protected from vehicle collision.
P4. Is the product clearly marked on fill pipes and tanks?		L	No placards on fuel tanks at Manning Satellite Yard. Natural gas line intake at main office not marked and shut off not labelled.
P5. Does bulk storage have spill trays and secondary containment?	OK		Bulk storage is in double-walled tanks
P6. is refueling done in appropriate areas?		L	Main fuel tank at Manning Satellite Yard is 28 m from camp facilities (FS-E002 requires 100 m).
P7. Check for spillage around dispensing areas.		L	Stained ground at fuel tank at N36.85.24.5 + W31.85.23.5. Also at main fuel tank at Manning Satellite Yard
P8. Is vegetation/debris cleared from above ground pipes?	OK		Note - vegetation is encroaching on natural gas line at main office
P9. Are correct signs unobstructed, clear and in place? (FS-E002) • no smoking or ignition sources • operator never leaves during fuel delivery • report all spills immediately • emergency contact numbers		L	Storage sheds at main office contain gasoline jerry cans and propane. Shed doors should have placards – Class 2.1 (propane) and Class 3 (gas). No signs at fuel and waste areas to indicate emergency contact numbers and reporting requirements.
P10. Are bermed areas cleared of debris and water build-up?	N/A		
P11. Are dispensing hoses within contained areas?		L	Dispensing hoses at All-Wood N36.85.24.5 + W31.85.23.5 and main fuel tank at Manning Satellite Yard are prone to being run over.
P12. Are nozzles left in drip containers?		L	Nozzle holsters at above sites do not have drip containers.
P13. Condition of fuel hoses?	OK		Some wear noted but condition generally okay.
P14. Are fuel fillers locked?	OK		Card/key lock system at Manning Satellite Yard.
P15. Are spill kits in proximity to dispensing areas, checked and documented regularly? (FS-E002)		L	No spill kits at Manning Satellite Yard or in lower parking lot shed at main office.
Are all required spill supplies available? Check against recovery supplies checklist.		L	No spill kits on All-Wood fuel transfer vehicles or at Manning Satellite Yard fuel tanks. No recovery supply lists noted at any areas.
P17. Is fuel storage appropriate?		L	Fuel storage shed at main office lacks ventilation, secondary containment and spill kit.

Protocol Area: ***P****etroleum Handling & Storage* (Continued - Page 2 of 2)

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
P16. Are the following completed: • weekly oil water separator visual inspections • monthly oil water separator measurements of accumulated sludge & petroleum • oil/water separator cleaned and inspected every two years?	N/A		
P20. Are check sheets current and filed for oil water separator inspections and service as above?	N/A		
P21. Has the separator outlet valve been left in the 'open' position except during containment of spills?	N/A		
P22. Are sewer drain plugs used during fuel delivery?	N/A		
P23. Is there evidence of petroleum contamination in the outlet drainage ditch or receiving watercourses?	N/A		
P24. Fuel Standard available, in use and operations consistent?	OK		FS-E002 is DMI fuel storage/handling program. Not clear if this is based on government / industry standard. Not known whether FS-E002 requirements are communicated to contractors and employees.
P25. Are hydraulic systems routinely inspected and recorded?	N/A		
P23. Are discharges to fish-bearing waters monitored annually? If yes, for which of the following: • Total Suspended Solids (TSS) • TEH (check > 15 ppm records) • toxicity (48 hr Daphnia & 96 hr trout LC50)	N/A		

Protocol Area: *Chemicals, Storage and **T**ransportation of Dangerous Goods*

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
T1. Are chemical tanks / lines clearly marked using appropriate labels?	N/A		
T2. Are MSDS current in each area?		L	No MSDS observed in TI Lab. MSDS are on hand at Shed 2, Peace River Test Site.
T1. Are chemical storage and distribution tanks/lines adequately protected from damage?	N/A		
T2. Are adequate spill containment materials maintained at chemical storage areas?	OK		Spill kit at Shed 2, Peace River Test Site.
T3. Are appropriate chemical fire prevention / fighting materials on hand and procedures clearly posted?		L	No fire extinguisher at either shed, Peace River Test Site.
T4. Check for appropriate chemical storage, delivery procedures, equipment, training and awareness		L	Chemical storage in TI Lab includes ethyl alcohol, isopropyl alcohol, calcium phosphate and magnesium sulfate.
T7. Is chemical use monitored, reviewed and adequately managed?		L	Herbicide use is tracked but this program was not recognized by the EMS.
T5. Are washing chemicals suitable for tarmac & maintenance bays? Used properly? (*check for emulsion problems in oil/water separators)*	N/A		
T6. Do handlers and receivers have **TDG** certificate?	OK		Current TDG certificates verified.
T7. Check for **TDG** certificates held by appropriate personnel.	OK		Foremen at chipper operations and TI supervisory staff.

Protocol Area: ***Waste Management***

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
W1. Are the following wastes properly handled / disposed / recycled? • fluorescent light tubes, mercury vapour lamps, waste oil, waste oil filters, tires, antifreeze, batteries, solvents & paints, metals (e.g. cyclone filings), aerosols • plastics (esp. oil containers) • office paper & cardboard • printer cartridges • scrap metal		L	Wastes at main office not properly segregated. Garbage dumpster contains cardboard, wood chips (samples), grass clippings, paint can and lubricant container. 2 empty toluene barrels and 2 empty jet fuel barrels stored in the open ground beside main office. 2 20 L oil pails left behind in block harvested last winter (FMA P050102; Block C50)
W2. Is adequate secondary and drip containment provided for waste oils, solvents, paints, etc.?		L	Waste oil storage at Manning Satellite Yard does not have secondary or drip containment, vehicle collision protection. Ground stained.
W3. Are ventilation, spill containment, signs & disposal requirements met for paint storage & use areas?	N/A		
W4. Is waste oil used for dust control?	N/A		Told that magnesium chloride used for ~ 5% of dust control, 95 % is water. No EMS information.
W5. Are septic fields protected from vehicles? Are signs in place?			Note – septic tank at Manning Satellite Yard does not have vehicle collision protection
W6. Do all shop & tarmac work areas drains flow to a separator tank?	N/A		No shops inspected
W7. How are oily /solvent soaked (> 3 % saturation) rags disposed?		L	Greasy & oily rags mixed with other garbage at portable chipper operations.
W8. Are wash down areas maintained?	N/A		No shops inspected
W9. Do natural watercourses appear to be adequately protected from drainage from the site?	N/A		
T8. Are special wastes properly handled and stored?		M	The EMS and operations generally lack adequate procedures and facilities for waste handling.
T9. Are complete waste manifest records maintained?		L	Waste manifest records are not being maintained in EMS files.
T10.Are certificates of destruction received?		L	No.
T11.is special waste generation tracked and appropriately managed?		L	No. The EMS lacks this program, which must be based on regulations and applicable standards.
W14. Are facilities and equipment adequate and properly maintained to minimize potential environmental impacts?		L	No. See comments above.

Protocol Area: ***Air Emissions & Air Quality***

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
A1. Are cyclone / air emissions permitted?	N/A		
A2. Are operations and emissions levels in compliance with permits?	N/A		
A3. Is monitoring and reporting in compliance with permits?	N/A		
A4. Are cyclones and pollution control works inspected and maintained as required?	N/A		
A5. Are paint fumes contained?	N/A		
A6. Is ventilation adequately maintained?	N/A		
A7. Are filters appropriately maintained or disposed of?	N/A		
A8. Are plastics burned?	N/A		
A9. Is air quality adequately protected in all work and rest areas?	N/A		

Protocol Area: *Property Management, Housekeeping & Landfills*

Protocol Number & Item	OK or N/A	Finding Rank	Comments (Note: WP reference)
P1. Are sufficient garbage and recycling containers available?	OK		These are provided at the office – but not in a consistent manner in the field.
P2. Is there litter present?	OK		Litter problems not noted
P3. Are wastes accumulating and becoming a hazard or nuisance?	OK		Waste storage quantities are low.
P4. Are special wastes and recyclable materials adequately separated from garbage?		L	Mixed wastes are a problem, as noted above.
P5. Do shops and properties (including waste areas) appear in generally good order?	N/A		Shops not inspected.
P6. Is property leased to 3rd parties monitored regularly? Documented?	N/A		
P7. Are fences or trans-property line aspects adequately managed?	N/A		
P8. Are landfills under permit and are all permit conditions met?	N/A		
P9. Are energy conservation measures in use?		L	The EMS lacks a program for energy conservation.

Protocol Area: ***Training & Awareness*** (Page 1 of 1)

Name & Company _____Position: _____Date: _____

Protocol Number & Item (ISO 14001 element indicated)	OK or N/A	Finding Rank	Comments (Note: WP reference)
T1. Where is the environmental **policy** posted or available?	OK		*Woodlands Response Guide* was evident at every operation visited and in almost every vehicle checked.
T2. Describe any EMS / environmental **training** you have had. (*soils, weed control, watercourses, EMS*)		L	Despite a good training program conducted in Fall, 2004, several contractor employees have had no EMS-related training.
T3. Describe your **roles & responsibilities** as they relate to the EMS.	OK		Personnel interviewed generally understood their roles/
T4. What are the significant **environmental aspects** related to your work?	OK		
T5. Describe any special **equipment** related to environmental aspects and how / when it is to be used.	N/A		
T6. Describe any EMS **targets** or **objectives** you are aware of.	N/A		EMS familiarity was too low to test this.
T7. Describe any special **procedures** related to environmental aspects and how / when they're used. T8. (***weed control, watercourses, etc.***)	OK		Weed control measures were understood (machine cleaning), and generally most personnel interviewed understood due care & attention regarding fuels and hazardous wastes.
T9. Describe any special **procedures** related to watercourses, fish & wildlife and vegetation.	OK		
T10. Describe the **importance** of conforming with the EMS & environmental policy and the potential consequences of not following procedures.		L	The 700 L spill near Bluesky was an example of not following EMS procedures and not adequately considering consequences.
T11. Describe any EMS **monitoring / inspection** procedures & forms you are aware of related to the EMS.	OK		Contractors were aware of and had used incident report forms and periodic inspection records were reviewed.
T12. What is the required frequency of **monitoring / inspection** as described above?	N/A		Not tested.
T13. Describe any **wastes** generated at your work site and how they are handled and disposed of.			Generally – due care & attention was used, but there is no EMS program and no assurance of consistency.
T14. Trained in spill response? Alpine Env. (FS-006) T15. TDG? WHMIS? EMS?	OK		Except for recently hired contractors, this was generally well done.

Protocol Area: ***Harvest Areas*** (Page 1 of 1)

Area _____Block: _____ Date: _____

Protocol Number & Item			Comments (Note: WP reference)
E7. Status (Active, Complete, Planned, Deactivated)	Status		Harvest Timing:
E8. Weekly **operations monitoring reports** on file? (FS-G007). Note issues:	OK		
E9. Type of **watercourse** (EPH, INT, SMA, LAR)			
E10. Type of **crossing** (BRI, SNO, LOG, CUL, OTH)			
E11. Channel width (m) at crossing (< 3 m for LOG?). **Log crossings** as per guidelines (FS-G006 p. 4 & 5)?	L		Sub-standard log crossing structures noted in active operation at W31-85-23-5 / Sec. 36-85-24-5
E12. **Log fill crossings reclaimed** as per guidelines? (G006 p. 5)?	OK		Many good examples noted.
E13. **Filter fabric** removed as per guidelines? (FS-G006 p. 5)	OK		Minor amounts noted in FMA during helicopter tour but this is expected given snow conditions during harvest.
E14. **Snow/ice fill crossings reclaimed** as per guidelines? (FS-G006 p. 4)	OK		
E15. **Single span bridges** as per guidelines? (FS-G006 p. 6)	N/A		
E16. **Areas seeded and weed free** removed as per guideline? (FS-G006 p. 4, 5, 6)			Unknown
E17. How and when was **equipment** last cleaned for weed control?	OK		Interviews indicated that contractors were all aware of the requirement to clean machinery before moving.
E18. Fire tools on-site consistent with Table A?	# workers	**OK / NA M**	Fire tools on hand in at two active chipper sites were not as per regulation.
E19. Debris piles as per guidelines (FS-G003)? Round piles, 7th pile wildlife retention, debris piled on road, ATV (< 3 m) access on access roads, 25 m from timber, etc. (differ for sat chipping)	OK		
E20. Riparian protection as required by timber harvest haul operating plan?	OK		Several good examples noted and buffer widths measured in the field were as per plan.
E21. Soil / site disturbance.		L	Winter harvest generally had low soil disturbance, Excessive rutting where soil will have to be remediated noted at N36.85.24.5 + W31.85.23.5
E22. Utilization	OK		
E23. Reclamation	OK		Good road roll-back noted in several areas.