

CMA engineering Inc.

Qualifications & Experience

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1. Introduction

CMA engineering Inc. has been incorporated since 1986 and has since then accomplished a number of projects in the manufacturing end of the forest products and mining industries. Services have been rendered on various projects for part or all of the following facets which includes, but is not restricted to, the conceptual design, engineering, equipment procurement, project management, construction management and start up amongst others of board plants (OSB, Particleboard and MDF), sawmills, metallurgical sites and various mining projects.

CMA engineering Inc. also offers a wide range of management consulting services for medium size businesses and large corporations. CMA has done a number of feasibility studies, cost-benefit analyses, business planning, budget preparation and personnel training. All our professional services are offered in both French and English.

Values of single projects have ranged from less than \$65,000.00 to as high as \$95 million.

2. Company Profile

The pertinent data on CMA engineering Inc. is as follows:

Corporate Name	CMA engineering Inc.	
Address	60 Wilson Ave. - Suite 101 Timmins, Ontario P4N 2S7	
Telephone	(705) 360-5525	CMA engineering Inc.
Fax	(705) 360-5062	CMA engineering Inc.
E-Mail	cma@cmaeng.com	
Company established	1986	
Legal Status	Private Corporation	
Officer	President, Mr. Claude Malette	

Banking Facility	National Bank of Canada	
	151 Algonquin East Timmins, Ontario P4N 1A6	
Telephone	(705) 267-7991	
Fax	(705) 268-3541	

Insurance Broker

Telephone

Fax

Nexus Canada Inc.2141 LaSalle Blvd., Building A
Sudbury, Ontario

P3A 2A3

(705) 525-4805

(800) 461-1153

(705) 525-4673

Legal Counsel

Telephone:

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Carrel & Partners

P.O. Box 638

1136 Alloy Drive

Thunder Bay, Ontario

P7C 4W6

(807) 346-3000

(807) 346-3600

3. Key Personnel

CMA engineering Inc. provides detail engineering on the mechanical, electrical and civil aspect of projects with the following key personnel which are supported by a staff of 18 or more professionals.

Key Personnel are:

Claude Malette, P. Eng., (see included C.V.)

- Provides conceptual design, project management, equipment procurement and detailed mechanical, electrical and civil/structural engineering.
- Provides management consulting services.

Gilles Lemire, B.A. (Econ.) (see included C.V.)

- Provides conceptual design, project management and equipment procurement services.
- Provides detailed mechanical/civil design and CAD operation.
- Provides management consulting services.

Francesco Pugliese, P. Eng., (see included C.V.)

- Provides conceptual design, project management, equipment procurement and detailed mechanical and civil/structural engineering and CAD operation.
- Provides management consulting services.

Alain Malette, Engineer (see included C.V.)

- Provides conceptual design, project management, equipment procurement and detailed mechanical, electrical and civil/structural engineering.
- Provides management consulting services.

Todd Plut, P. Eng., (see included C.V.)

- Provides conceptual design, project management, equipment procurement and detailed electrical engineering and CAD operation.

- Provides management consulting services.

4. Experience Overview - Mining

Following is a list of mining projects accomplished by CMA since its inception.

- Sept 11 **Xstrata Fraser Morgan Site (Sudbury, Ontario)**
to Dec 11 Provided conceptual design and budget preparation for a number of projects at the Xstrata Fraser Morgan underground nickel mine in Sudbury, Ontario. Projects were:
- Fraser mine traction wheel car unloading system.
 - Fraser mine crusher area PLC upgrade.
 - Fraser mine hoist motor cooling system.
 - Onaping mine dewatering system.
- Dec 11 **Xstrata Fraser Morgan Site (Sudbury, Ontario)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the installation of an air cooling system for the hoist motors for the Xstrata Fraser Nickel Mine in Sudbury, Ontario.
- Oct 11 **Lac Des Iles Mines Ltd. (Lac des Iles, Ontario)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of Concrete Rock Rill (CRF) backfill plant for the Lac Des Iles Mines Ltd. palladium mine in Lac des Iles (near Thunder Bay), Ontario.
- Nov 11 **Lac Des Iles Mines Ltd. (Lac des Iles, Ontario)**
to present Provided detail engineering for various projects at the Lac Des Iles Mines Ltd. Palladium mine in Lac des Iles (near Thunder Bay), Ontario. Projects were:
- Provided foundation design for mine exhaust fan system.
 - Provided all required design for underground crusher area overhead crane system.

- Jan 12 **Brigus Black Fox Gold Mine (Matheson, Ontario)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the complete underground electrical infrastructure for the Brigus Black Fox Gold mine in Matheson, Ontario.
- May 11 **Cementation/Resolution (Arizona)**
to present Provided detail review and stamping of mechanical drawings for the #9 and #10 Shaft sinking and underground development for the Resolution Cooper Mine in Arizona.
- May 11 **Cementation/Hecla (Idaho)**
to present Provided detail review and stamping of mechanical drawings for the shaft sinking and the underground development for the Hecla Silver Mine in Idaho.
- May 11 **Goldcorp (Red Lake, Ontario)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a Paste Delivery System for the Goldcorp Gold Mines in Red Lake, Ontario.
- March 11 **Goldcorp (Red Lake, Ontario)**
to Feb 12 Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a Concrete Batch Plant for the Goldcorp Gold Mines in Red Lake, Ontario.
- April 11 **Goldcorp (Red Lake, Ontario)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a Shotcrete Unloading System for the Goldcorp Gold Mines (Shaft #3 and Reid Shaft) in Red Lake, Ontario.

- Jan 11 **Accurate Electric/Northgate (Matachewan, Ontario)**
to Nov 11 Provided detail electrical design for the Truck Shop and Warehouse for the Northgate Gold Mine in Matachewan, Ontario.
- May 11 **DMC/Jansen (Toronto, Ontario)**
to Aug 11 Provided detail engineering (Civil and Structural) for the shaft sinking for the DMC Jansen Potash Project in Saskatchewan.
- June 11 **Brigus Gold (Timmins, Ontario)**
Provided detail engineering (Civil, Structural and Mechanical) for the installation of a Jib Crane System for the Brigus Gold Mine in Timmins, Ontario.
- May 11 **Xstrata Kidd Met Site (Timmins, Ontario)**
to June 11 Provided project management for the dismantling and relocation of a 50MW transformer from the Xstrata Kidd Met Site in Timmins, Ontario to the Xstrata Falconbridge Smelter in Sudbury, Ontario.
- Jan 11 **Cementation/Northgate (Matachewan, Ontario)**
to present Provided detail engineering (Civil, Structural and Mechanical) for the construction of a new Headframe ore/waste silo complete with outfeed conveyor system for the Northgate underground gold mine in Matachewan, Ontario.
- Jan 11 **Xstrata Sudbury Smelter (Sudbury, Ontario)**
to Sept 11 Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a furnace exhaust gas guillotine system (031 Fan) and the replacement of an existing ventilation system (012) for the Xstrata Nickel Smelter in Sudbury, Ontario.

- Jan 11 **Brigus Gold (Timmins, Ontario)**
to Aug 11 Provided detail engineering (Civil, Structural and Mechanical) for the modification to a rock screening system at the Brigus Gold mine mill in Timmins, Ontario.
- Feb 10 **Lake Shore Gold (Timmins, Ontario)**
to March 11 Provided conceptual design and budget preparation for Headframe load out conveyor and storage system for the Lake Shore Gold Timmins West Gold mine in Timmins, Ontario.
- July 10 **Cementation/Hecla (Idaho, USA)**
to Jan 11 Provided detail engineering (Civil, Structural and Mechanical) for the construction of ore bin unloaders, conveyor systems, dewatering (permanent and for shaft sinking), air/water services and ventilation systems.
- May 10 **Cementation/Northgate (Matachewan, Ontario)**
to Dec 10 Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a new Hoist House for the Northgate underground gold mine in Matachewan, Ontario
- May 10 **Goldcorp Hollinger (Timmins, Ontario)**
to present Provided conceptual design, budget preparation and detail engineering (Civil, Structural, Mechanical and Electrical) for the dewatering system of the McIntyre shaft for the Goldcorp Hollinger Gold Mine Project in Timmins, Ontario.
- April 10 **Lake Shore Gold Corp. (Timmins, Ontario)**
to present Provided complete PLC and HMI programming for the conversion to PLC5 and the expansion of Lake Shore's Bell Creek Gold mill

in Timmins, Ontario.

- April 10 **Lake Shore Gold Corp. (Timmins, Ontario)**
to July 10 Provided detail engineering (Mechanical, Civil, Structural and Electrical) for the conversion of DC motors to AC motors for the production and service hoists at Lake Shore's underground gold mine in Timmins, Ontario.
- Dec 09 **Detour Gold Mine (Detour Lake, Ontario)**
to June 10 Provided mine safety manual and indoctrination procedure for the Detour Lake Gold Mine in Detour Lake, Ontario.
- Nov 09 **Connotec/Vale Refinery (Thompson, Manitoba)**
to Jan 11 Provided detail engineering (Civil, Structural and Mechanical) for the replacement of the building structural steel for the Refinery Tank House at the Thompson Manitoba Nickel Refinery. Total value of project is approximately \$7,000,000.00.
- Nov 09 **Lakeshore Gold Corp. (Timmins, Ontario)**
to Nov 10 Provided programming and start-up assistance for the new ammonia treatment plant, the automation of the stench gas system and provide PLC/HMI programming for various projects for Lake Shore's underground gold mine in Timmins, Ontario.
- Nov 09 **Goldcorp Hoyle Pond (Timmins, Ontario)**
to Nov 10 Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the Tunnel and Gallery system for the new services (13,800 volt cable, water lines and air lines) to the existing Hoist House of the Goldcorp Gold Mine in Timmins, Ontario.

- June 09 to Aug 09 **Connotec/Vale Smelter (Thompson, Manitoba)**
 Provided detailed engineering (Civil, Structural and Mechanical) for the installation of a sampler system at the Vale INCO Thompson, Manitoba Nickel Smelter. Total value of project was approximately \$500,000.00.
- June 09 to Dec 10 **Areva TD (Montreal, Quebec)**
 Provided project management services for the new Ontario Hydro substation project at Gold Center, Ontario. Project duration of 14 months.
- March 09 to present **Goldcorp (Red Lake, Ontario)**
 Provided pre-feasibility study and detail engineering for 5.5km drift project and also provide detail mechanical, civil/structural and electrical engineering on various expansion projects at the four (4) Goldcorp gold mines at the Red Lake site.
 Among others, CMA is providing services for:
- All required detail engineering for a 19,000ft underground High Speed Tram system between the Reid Gold Mine and the new Bruce Channel Gold deposit.
 - All required detail engineering (Mechanical, Civil and Structural) for the construction of the new Hoist House for the Cochenour mine that will service the Bruce Channel Gold ore body.
 - Assisted with the Trade Off Study for the deepening of the No. 3 Shaft. CMA provided all required work for the Winze and Ramp for the Trade Off Study.
 - Provide mechanical, electrical, civil and structural engineering services for the “Life of Mine” design for the new Bruce Channel Mine.
 - Provide detail electrical design for surface infrastructure for

the Campbell Complex, Balmer Complex, new Hostel and new Dry.

- Provided all required detailed engineering (Civil, Structural and Mechanical) for the construction of a sinking winch hoist house for the Cochenour mine that will service the Bruce Channel gold ore body.
- Provided detail engineering for various hydrostatic bulkheads for the existing Cochenour underground gold mine.

May 09 **Apollo Gold (Timmins, Ontario)**

to May 10 Provided detail engineering for various mill modifications for the Apollo Gold Stock mill in Timmins, Ontario.

Jan 09 **Vale INCO (Copper Cliff, Ontario)**

to Mar 09 Provided detail engineering (Mechanical, Civil, Structural and Electrical) for various projects for the Vale INCO smelter in Copper Cliff, Ontario.

Jan 09 **Xstrata (Mattagami, Québec)**

to Aug 09 Provided PLC and HMI programming for Xstrata Zinc mine in Mattagami, Québec.

Jan 09 **Debeers (Victor Mine, Ontario)**

to June 09 Provided detail engineering for the redesign of a number of chutes in the mill for the Debeers Victor Diamond mine in the James Bay lowland area.

- Oct 08 **Cementation Canada (North Bay, Ontario)**
to Dec 08 Provided assistance for the preparation of the pre-feasibility study for the development of the underground winze Project for the Craig Nickel Mine Project.
- June 08 **Dumas Contracting (Timmins, Ontario)**
to Jan 09 Provided detail engineering (Mechanical, Civil, Structural and Electrical) for the complete design of the underground infrastructure (vent doors, dewatering system, rock breakers and maintenance shop) and the mine Vent Raise fan System for the Crowflight nickel mine project in Wabowden, Manitoba. Total value of the project was approximately \$4,000,000.00.
- June 08 **McIntosh (North Bay, Ontario)**
to Oct 08 Provided detail engineering (Mechanical, Civil and Structural) for the complete underground fuel delivery and storage system for the Diavik Diamond Mine Project. Total value of the project was approximately \$1,500,000.00.
- Mar 08 **Xstrata Smelter (Sudbury, Ontario)**
to Jan 09 Provided conceptual design, budget preparation, detail engineering (Mechanical, Civil, Structural and Electrical) and project management for 10 individual projects for the Xstrata Smelter in Sudbury, Ontario. Total value of projects varied from \$10,000.00 to \$4,000,000.00.
- Feb 08 **Cementation Canada (North Bay, Ontario)**
to Dec 08 Provided detail engineering (Mechanical, Civil, Structural and Electrical) for a new Hoist House for the Vale Inco Copper Cliff Deep nickel mine project. Total value of the project was

approximately \$25,000,000.00.

- Feb 08 **McIntosh (Sudbury, Ontario)**
to Feb 09 Provided detail engineering (Mechanical, Civil and Structural) for the complete mine exhaust system for the Xstrata Nickel Rim mine in Sudbury, Ontario.
- Jan 08 **McIntosh (Sudbury, Ontario)**
to Oct 08 Provided electrical engineering design for the underground dewatering and ore handling systems for the Xstrata Nickel Rim mine in Sudbury, Ontario.
- Jan 08 **Liberty Mines (Timmins, Ontario)**
to Feb 08 Provided Civil and Structural engineering for an overhead crane system for the maintenance shop for the Liberty Nickel mine in Timmins, Ontario. Also provided commissioning assistance for their newly constructed mill.
- Jan 08 **Lake Shore Gold Mine (Timmins, Ontario)**
to Feb 08 Provided detail engineering for the replacement of Ball mill fines ore infeed conveyor for the Lake Shore Gold mine in Timmins, Ontario.
- Sept 07 **Goldcorp (Timmins, Ontario)**
to Dec 07 Provided electrical engineering design, PLC/HMI programming and start up assistance for the remote operation of a rock breaker and a locomotive system for the Goldcorp Hoyle Pond mine in Timmins, Ontario.

- Oct 07 **J.S. Redpath (North Bay, Ontario)**
to Nov 07 Provided electrical engineering design for the collar house, shaft and hoist room for the Liberty mine in Timmins, Ontario.
- July 06 **J.S. Redpath (North Bay, Ontario)**
to Jan 07 Provided electrical engineering design, PLC/HMI programming and start up assistance for a ventilation shaft project for the Porcupine Joint Venture Hoyle Pond mine in Timmins, Ontario.
- June 06 **PJV [Porcupine Joint Venture] (Timmins, Ontario)**
to Dec 06 Provided electrical engineering design, PLC/HMI programming and start up assistance for a complete underground ventilation fan automation project for a gold mine. Total value of project was approximately \$700,000.00.
- June 05 **St. Andrew Goldfield (Matheson, Ontario)**
to Aug 05 Provided conceptual design, detail engineering, project management and commissioning for the installation of a High Voltage line, Transformer, PDC system for a new Gold mine. Total value of project was approximately \$785,000.00.
- Aug 04 **St. Andrew Goldfields (Matheson, Ontario)**
to Aug 05 Provided mining planning, electrical, civil and mechanical detail engineering for 3 separate gold mine sites (Stock, Clavos, Taylor).
- Aug 04 **Porcupine Joint Venture (South Porcupine, Ontario)**
to present Providing detail electrical design and PLC programming for various project for an underground gold mine.

- Apr 04 **Falconbridge Inc. (Timmins, Ontario)**
to Jan 05 Provided mechanical pre-commissioning and commissioning procedures for the underground equipment at mine D of the Kidd Creek mine in Timmins, Ontario. Also provided on site project coordination of the construction of some of the same equipment.
- Feb 04 **Agrium Inc. (Kapusking, Ontario)**
to Jan 05 Provided on an ongoing basis detail engineering on a number of projects for a phosphate mine in Kapuskasing, Ontario. Also provided as built Mechanical and Civil drawings of the existing mill complex.
- Apr 03 **Placer Dome (Musselwhite, Ontario)**
to May 03 Provided system evaluation of complete underground crushing system for a Gold mine. Provided lists of problems and solutions complete with associated cost for suggested modifications.

5. Experience Overview - Forestry

Following is a list of forestry projects accomplished by CMA since its inception.

- June 11 **Tolko (Meadow Lake, Saskatchewan)**
to Sept 11 Provided conceptual design and budget preparation for the installation of a primary strand screening system, a secondary fines screening system and a fines blending system for the Tolko OSB Mill in Meadow Lake, Saskatchewan.
- March 11 **Norbord (Nacogdoches, Texas)**
to present Provided conceptual design, budget preparation, project financial benefits and detail engineering (Civil, Structural, Mechanical and Electrical) for the installation of a secondary fines screening system and a fines blending system at the Norbord OSB Mill in Nacogdoches, Texas.
- March 11 **Norbord (Guntown, Mississippi)**
to Aug 11 Provided conceptual design, budget preparation, project financial benefits and detail engineering (Civil, Structural, Mechanical and Electrical) for the installation of a secondary fines screening system, a fines blending system and a fines recovery system for the Norbord OSB Mill in Guntown, Mississippi.
- April 11 **Norbord (Cordele, Georgia)**
to Sept 11 Provided conceptual design, budget preparation and project financial benefits for the installation of a primary screening (for line 2 only), a secondary screening and a fines blending system for two separate production lines for the Norbord OSB Mill in Cordele, Georgia.

- April 11 **Norbord (Joanna, South Carolina)**
to Oct 11 Provided conceptual design, budget preparation and project financial benefits for the installation of a primary strand screening system, a secondary fines screening system and a fines blending system for the Norbord OSB Mill in Joanna, South Carolina.
- Jan 11 **Norbord (LaSarre, Québec)**
to present Provided detail engineering (Civil, Structural, Mechanical and Electrical) for the construction of a new resin/wax storage and piping system for the Norbord OSB mill in LaSarre, Québec.
- Feb 11 **Norbord (Bemidji, Minnesota)**
to Aug 11 Provided conceptual design and budget preparation for the addition of heated log pond systems and the replacement of the existing debarking systems for the Norbord OSB mill in Bemidji, Minnesota. Also provided detail engineering for the replacement of the existing two A-5 ring debarker units with larger A-8 units.
- Nov 10 **Georgia Pacific (Earlton, Ontario)**
to Feb 11 Provided conceptual design and budget preparation for the required modification and repairs to the Georgia Pacific debarking system in Earlton, Ontario.
- Jan 10 **Norbord (Val D'Or/LaSarre, Québec)**
to June 10 Provided conceptual design and budget preparation for a new dryer system, a new hot pond system and a screening system for Norbord's LaSarre and Val D'Or OSB mills in Québec.

- Aug 09 **Hearst Biomass Energy (Hearst, Ontario)**
to Nov 10 Provided engineering (Civil, Structural, Mechanical and Electrical) for preparation of layouts and construction budgets for the construction of a new 10 MW Biomass power generation unit in Hearst, Ontario. Total Value of project is approximately \$35,000,000.00.
- Nov 08 **LUA – Prairies Forest Product (Neepawa, Manitoba)**
to Sept 10 Provided fire appraisal, budget preparation for the reconstruction of a wood manufacturing plant. Total cost of repairs was approximately \$12,000,000.00.
- Feb 09 **Sunbay Energy (Chapleau, Ontario)**
to May 09 Provided conceptual design, budget preparation, detail engineering, project management, PLC/HMI programming and commissioning for a new 20 megawatt biomass generating plant in Chapleau, Ontario. Total value of project is approximately \$95,000,000.00.
- Jan 09 **IMS Expert Services Inc (Pensacola, Florida)**
to April 09 Provided expert witness service for Ainsworth Forestry Product in the litigation against Potlach Corp. Provided evaluation on 131 claims put forward by Ainsworth.
- Sept 08 **LUA – Millar Western (Fox Creek, Alberta)**
to Feb 09 Provided fire appraisal budget preparation for the reconstruction of a sawmill damaged by a fire. Total cost of project was approximately \$45,000,000.00.

- Apr 06 **LUA - Haavaldsrud (Hornepayne, Ontario)**
to Feb 07 Provided fire appraisal budget preparation, detail engineering, project management, construction management, PLC/HMI programming and commissioning for the reconstruction of a sawmill damaged by a fire. Total cost of project was approximately \$7,900,000.00.
- Feb 06 **JM Huber (Easton, Maine)**
to Apr 08 Provided conceptual design and budget preparation, detail engineering, project management, PLC/HMI programming and commissioning for a new drying/heat generation/dry ESP system for an OSB mill and this
in order to meet MACT (Maximum Achievable Control Technologies) compliance. Total value of project was approximately \$40,000,000.00 (U.S.).
- Feb 06 **JM Huber (Easton, Maine)**
to Oct 06 Provided conceptual design and budget preparation for a new pond/debarking/stranding system for an OSB mill. Total value of project was approximately \$35,000,000.00 (U.S.).
- Jan.06 **Grant Forest Products Inc. (Timmings, Ontario)**
to Mar 06 Provided conceptual design and budget preparation for a complete mill environmental compliance plan, which includes improving the drying system and heat generating systems by possibly modifying existing equipment and/or adding new equipment. Total value of project to be determined.

- Jan. 06 **Ainsworth (Barwick, Ontario)**
to Sept 06 Provided conceptual design, budget preparation, detail engineering, PLC/HMI programming and commissioning for the addition of four wave feeder systems after their pond outfeed jackladders. Total value of project was approximately \$1,500,000.00.
- Mar 05 **Ainsworth (Cook, Minnesota)**
to Sept 06 Provided conceptual design and budget preparation for a primary and secondary screening system and a fines blending system for an OSB mill. Total value of project was approximately \$7,500,000.00.
- Aug 05 **Ainsworth (Barwick, Ontario)**
to Sept 06 Provided conceptual design, budget preparation, detail engineering, PLC/HMI programming and commissioning for a Strand Reclaim System for an OSB mill. Total value of project was approximately \$5,500,000.00.
- Mar 05 **Norbord (Lasarre, Québec)**
to Dec 06 Provided conceptual design, budget preparation, detail engineering, project management, PLC/HMI programming and commissioning for a second log debarking system for an OSB mill. Total value of project was approximately \$3,800,000.00.
- Mar 05 **Norbord (Val-d'Or, Québec)**
to Nov 05 Provided conceptual design and budget preparation for a second log debarking system for an OSB mill. Total value of project was approximately \$3,900,000.00.

- Nov 04 **Grant Forest Products Inc. (Timmins, Ontario)**
to Nov 05 Provided conceptual design, detail engineering, project management, PLC/HMI programming and commissioning for a strander system (2 units) for an OSB mill. Total value of project was approximately \$21,000,000.00.
- Continuous **Incidents/Fire Investigations and Damage Appraisals**
Projects - **Underwriters Adjustment Bureau Ltd.**
- **Crawford-THG**
- **Cunningham Lindsay**
- **Maltmans Loss Adjusters**
- **MGI Loss Adjusters**
- Provided evaluation of damages following incidents/fires on manufacturing plants and mobile equipment. Determine cause of incidents/fires and appraise damages as well as provide expenditure supervision on repairs. On average, will perform such services 6 to 8 times per year with claims ranging in value from approximately \$100,000.00 to \$45,000,000.00.
- June 05 **Tembec (Chapleau, Ontario)**
to Nov 05 Provided detail engineering and detail fabrication drawings for a new stack installation for a dry kiln system and provided detail engineering for the relocation of a chip conveyor system. Also provided engineering services on various projects at the Tembec Chapleau sawmill.
- Apr 05 **Columbia Forest Product (Hearst, Ontario)**
to Aug 05 Provided engineering services on various projects for a plywood mill and a particle board mill in Hearst. Among others, services provided were for the certification of 45 lifting devices, various ventilation systems and an oil catch basin system.

- Mar 05 **JM Huber (Crystal Hill, Virginia)**
to Apr 05 Provided engineering and detail fabrication drawings for the addition of larger pivoting distribution screws above the forming stations of an OSB mill. Total value of project was approximately \$150,000.00.
- Feb 05 **JM Huber (Commerce, Georgia)**
to Mar 05 Provided engineering and detail fabrication drawings for the addition of larger pivoting distribution screws above the forming stations of an OSB mill. Total value of project was approximately \$150,000.00.
- Jan 04 **Weyerhaeuser (Wawa, Ontario)**
to Jan 06 Provided detail electrical design and PLC programming for various projects for an OSB mill.
- Aug 04 **Grant Forest Product Inc (Timmins, Ontario)**
to Oct 04 Provided conceptual design and budget preparation of a complete dryer/screening/heat generation system for an OSB mill. Total value of project was approximately \$44,000,000.00.
- May 04 **Grant Forest Products Inc. (Timmins, Ontario)**
to Feb 05 Provided conceptual design, detail engineering project management, PLC/HMI programming and commissioning of a log pond/loader system for an OSB mill. Total value of project was approximately \$6,000,000.00.
- Aug 03 **Voyageur Panels (Barwick, Ontario)**
to Mar 04 Provided conceptual design, procurement, detail engineering, PLC/HMI programming of a fines recovery project for an OSB

mill. Total value of project was approximately \$2,300,000.00.

- Oct 03 **Tembec (Timmins, Ontario)**
to Nov 03 Provided conceptual design and budget preparation for the addition of a slasher system for a sawmill. Total value of project was approximately \$3,400,000.00.
- May 03 **Weyerhaeuser (Wawa, Ontario)**
to Nov 03 Provided conceptual design, detail engineering, PLC/HMI programming and commissioning for the installation of a paint booth/straper system for an OSB mill. Total value of project was approximately \$1,150,000.00.
- May 03 **Grant Forest Product Inc. (Timmins, Ontario)**
to May 04 Provided conceptual design, procurement, detail engineering, project management, PLC/HMI programming and commissioning for the installation of 3 mat scales for two OSB production lines.
- Jan 03 **Abitibi Consolidated (Iroquois Falls, Ontario)**
to Feb 03 Provided conceptual design and budgetary estimate for the modification to the existing ventilation station of the paper machine number 3 room which was to be converted into a maintenance shop.
- Apr 03 **Grant Forest Product Inc. (Englehart, Ontario)**
to May 04 Provided conceptual design, procurement, detail engineering, PLC/HMI programming and commissioning for the installation of a drum debarking system for an OSB mill. Total value of project was approximately \$6,500,000.00.

- Mar 03 **Luzenac North America (Penhorwood, Ontario)**
to June 03 Provided conceptual design and detail engineering for the installation of an “Air Fluidized Grinding” system for a Talc mine. Total value of project was approximately \$6,000,000.00.
- Nov 02 **Grant Forest Product Inc. (Timmins, Ontario)**
to May 03 Provided Isometric drawings of all systems of an OSB mill. Isometric drawings were produced to assist mill in equipment lock out procedure.
- Nov 02 **Proboard Inc. (Atikokan, Ontario)**
to Aug 03 Provided feasibility study, conceptual design, detail engineering, and procurement for the installation of a green end screening system, dryer dust burner system and plant Baghouse system for a particleboard mill. Total value of all projects was approximately \$7,300,000.00.
- Sept 02 **Grant Forest Product Inc. (Timmins, Ontario)**
to Sept 03 Provided conceptual design and equipment procurement for the installation of a wet electrostatic precipitator system for three OSB dryers. Total value of project was approximately \$7,700,000.00.
- June 02 **Nexfor Norbord (Cochrane, Ontario)**
to Nov 02 Provided conceptual design and detail engineering for the construction of a pond Jack Ladder system for a plywood mill. Total value of project was approximately \$250,000.00
- Aug 02 **Grant Forest Product Inc. (Timmins, Ontario)**
to Sept 03 Provided conceptual design, detail engineering for the installation of a fines dryer system for an OSB mill. Total value of project was

approximately \$5,900,000.00.

- Sept 02 **Kruger-Longlac Wood Industries (Longlac, Ontario)**
to Oct 02 Provided conceptual design and detail engineering for the construction of pond log forwarding systems for an OSB Mill. Total value of project was approximately \$1,000,000.00.
- Sept 02 **Nexfor Norbord (Val d'Or, Québec)**
to Jan 03 Provided conceptual design and budget preparation for the transformation of OSB board into a value added product (water resistant OSB). Total value of project was approximately \$13,000,000.00.
- July 02 **Nexfor Norbord (Val d'Or, Québec)**
to Nov 02 Provided conceptual design and detail engineering for a total of seven (7) projects for the modernisation of an OSB plant. Projects are in the sawing, blending and press area. Total value of projects was approximately \$6,000,000.00.
- July 02 **Nexfor Norbord (Cochrane, Ontario)**
to Aug 02 Provided conceptual design and budget preparation for the addition of baghouse system and various noise reduction projects. Total value of project was approximately \$1,740,000.00.
- May 02 **Footner Forest Products (High Level, Alberta)**
to July 03 Provided conceptual design, detail engineering, project management, PLC/HMI programming and commissioning for the installation of a fines blending project for an OSB mill. Total value of project was approximately \$3,400,000.00.

- Apr 02 **Domtar (Elk Lake, Ontario)**
to July 02 Provided detail engineering for the installation of a dry kiln system. Total value of project was approximately \$2,500,000.00.
- Feb 02 **Grant Forest Products Inc. (Timmins, Ontario)**
to Jan 03 Provided conceptual design and detail engineering for the installation of a drum debarking system for an OSB mill. Total value of project was approximately \$3,400,000.00.
- Nov 01 **Domtar (Elk Lake, Ontario)**
to Sept 02 Provided conceptual design and detail engineering for the repairs and modifications to an existing bark burning thermal oil system. Total value of project was approximately \$2,800,000.00.
- Oct 01 **Kruger-Longlac Wood Industries (Toronto, Ontario)**
to Nov 02 Provided conceptual design, detail engineering, project management, PLC/HMI programming and commissioning for the installation of a second transformation plant in Toronto, Ontario. In this plant, 4' x 8' OSB sheets are cut up and laminated with a plastic membrane for use in sub flooring (DriCore). Total value of project was approximately \$6,000,000.00
- Jan 02 **Kruger-Longlac Wood Industries (Longlac, Ontario)**
to Aug. 02 Provided conceptual design, detail engineering, project management, PLC/HMI programming and commissioning for the installation of a sanding system for a hard wood veneer plant. Total value of project was approximately \$2,000,000.00

- Jan 02 **Tembec (Timmins, Ontario)**
to Feb 02 Provided budget preparation for the upgrade of a large log sawing line and an optimised edger system. Total value of project was in excess of \$13,000,000.00.
- Jan 02 **Nexfor Norbord (Val d'Or, Québec)**
to July 02 Provided conceptual design, detail engineering and project management for the introduction of an Isocyanite binder in an OSB mill. Total value of project was approximately \$200,000.00
- Aug 01 **Kruger-Longlac Wood Industries (Longlac, Ontario)**
to June 02 Provided conceptual design and budget preparation for the upgrade of an existing Waferboard and Plywood Plant. Total upgrades exceeded \$11,000,000.00.
- Aug 01 **Kruger-Longlac Wood Industries (Longlac, Ontario)**
to Dec 01 Provided feasibility study for the construction of a new OSB Plant adjacent to an existing plant. Total value of project was approximately \$160,000,000.00.
- Sept 01 **Tembec (Cochrane Division, Ontario)**
to Oct 01 Provided conceptual design and budget preparation for a sawmill screening system. Total value of project was approximately \$2,000,000.00.
- Aug 01 **Anthony Domtar (Sault Ste. Marie, Ontario)**
to Nov 01 Provided conceptual design and detail engineering for the complete catwalk/access system for a new I-Joint plant. Total value of project was approximately \$400,000.00.

- June 01 **Columbia Forest Products (Hearst, Ontario)**
to present Provided conceptual design, detail engineering, project management, PLC/HMI programming and commissioning for the repairs of a particle board plant following an explosion and also provide the same for the addition of a second green screening system. Total value of project was approximately \$3,900,000.00
- Aug 01 **Temple Inland (Pembroke, Ontario)**
to Feb 02 Provided detail engineering on numerous modifications to the finishing line of an MDF Plant. Total value of project was approximately \$120,000.00.
- Feb 00 **Grant Forest Products Inc. (Timmins, Ontario)**
to Aug 00 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the conversion from relay to PLC of an OSB line and relocation of the control room for the same line. Total value of project was approximately \$1,400,000.00.
- April 00 **Grant Forest Products Inc. (Timmins, Ontario)**
to Nov 00 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the installation of a truck unloading station. Total value of project was approximately \$500,000.00.
- April 00 **Grant Forest Products Inc. (Timmins, Ontario)**
to Dec 00 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the modifications and recommissioning of an OSB line. Total value of project was approximately \$5,000,000.00.

- March 00 **Grant Forest Products Inc. (Timmins, Ontario)**
to June 00 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the installation of a new mud conveying system for an OSB Mill Pond System. Total value of project was approximately \$300,000.00.
- Jan 00 **Domtar Inc. (Chapleau Division, Ontario)**
to June 01 Provided conceptual design, engineering, project management, PLC/HMI programming on numerous projects such as a Chip Conveying/Blowing System, High Speed Debarking Project, Electrical Infrastructure Project, HewSaw Sawing Line Project, Planer/Trimmer PLC Conversion, Random Length Sawmill Optimized Trimmer Project and Dry Kiln Project. Total value of all projects was approximately \$13,300,000.00.
- Jan 00 **Domtar Inc. (White River Division, Ontario)**
to Apr 01 Provided conceptual design, engineering, project management, PLC/HMI programming on numerous projects such as an Electrical Infrastructure Project, In Line Grader Project, HewSaw Sawing Line Project and High Speed Debarking Project. Total value of all projects was approximately \$8,910,000.00.
- Jan 00 **Domtar Inc. (Nairn Centre Division, Ontario)**
to Dec 01 Provided conceptual design, engineering, project management, PLC/HMI programming on numerous projects such as an In Line Grader/Optimizer Project, Random Length Sawmill Optimized Trimmer Project and a complete new Debarking System. Total value of all projects was approximately \$7,000,000.00.

- Jan 00 **Domtar Inc. (Elk Lake Division, Ontario)**
to Dec 00 Provided conceptual design, engineering, project management, PLC/HMI programming on numerous projects such as Dry Kiln System/Konus Upgrade and Edger Project. Total value of all projects was approximately \$4,200,000.00.
- Jan 00 **Domtar Inc. (Timmins Division, Ontario)**
to Nov 00 Provided conceptual design, engineering, project management, PLC/HMI programming on numerous projects such as Optimized Edger System, In Line Grader Project, Planer Project and Planer Building. Total value of all projects was approximately \$9,242,000.00.
- Jan 00 **Domtar Inc. (Sault Ste. Marie Division, Ontario)**
to Sept 01 Provided conceptual design and budget preparation on numerous projects.
- Jan 00 **Domtar Inc. (Quévillon, Malartic, Val d'Or and Matagami Divisions, Québec)**
to Dec. 00 Provided conceptual design for the installation of a new HewSaw Sawing Line for each of the four (4) locations. Total value of all projects was approximately \$16,000,000.00.
- Dec 99 **Grant Forest Products Inc. (Timmins, Ontario)**
to July 00 Provided conceptual design, engineering, PLC/HMI programming and commissioning for the installation of a ducting and stack system for the press and dryer system of an OSB Mill. Total value of project was approximately \$1,500,000.00.

- Dec 99 **Grant Forest Products Inc. (Timmins, Ontario)**
to March 01 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the installation of a new bark conveying and hogging system. Total value of project was approximately \$2,700,000.00
- Dec 99 **Grant Forest Products Inc. (Timmins, Ontario)**
to March 01 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the installation of a complete fines Turbo Blending System. Total value of project was approximately \$6,200,000.00.
- June 99 **Columbia Forest Products (Hearst, Ontario)**
to Feb 01 Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the addition of a pre-drying and refining system and for the replacement/increase in dry screening/refining system and for the replacement of the complete press/forming line system for a particleboard plant. Total value of project was approximately \$16,000,000.00
- Apr. 99 **Elk Lake Planing Mill (Elk Lake, Ontario)**
to Dec 99 Provided numerous improvements to sawmill and to conveying system. Total value of project was approximately \$350,000.00.
- Apr. 99 **Tolko Industries (High Prairie, Alberta)**
to Dec 99 Provided conceptual design and engineering for a log processor (debarker) for an OSB plant. Total value of project was approximately \$1,500,000.00.

- Apr. 99
to Nov 99 **Grant Forest Products Corp. (Timmins, Ontario)**
Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the retrofit of the pond log forwarding and feeding system for an OSB plant. Total value of project was approximately \$2,600,000.00.
- Apr 99
to Oct 99 **North Superior Forest Product (Wawa, Ontario)**
Provided conceptual design, engineering, project management, PLC/HMI programming and commissioning for the relocation of the stranders control room, the conversion of an HMI station to using Wonderware software and the installation of a data gathering Management Information System (MIS). Total value of project was approximately \$410,000.00.
- Apr 99
to Nov 99 **Grant Forest Products Corp. (Timmins, Ontario)**
Provided conceptual design, engineering, project management and commissioning for the installation of a log scanner system (5 scanners) and forming station level sensors (8 sensors) for an OSB mill. Total value of project was approximately \$136,000.00.
- Feb 99
to Aug 99 **Columbia Forest Products (Hearst, Ontario)**
Provided conceptual design, engineering, project management and commissioning for the installation of a chip conveyor and a silo unloader system for a plywood plant. Total value of project was approximately \$350,000.00.
- Mar 99
to Jan 00 **Progressive Machinery Inc./Tafisa Project (Lac-Mégantic, Qc)**
Provided electrical engineering, PLC and HMI programming for complete finishing system of a new particle board plant. Project involved approximately 2000 hours of work.

- Feb 99 **Domtar (Lebel-sur-Quévillon, Québec)**
to Mar 99 Provided conceptual design and construction budget for new softwood sawmill with yearly production of 200 MMFBM/year. Total value of project was approximately \$50,000,000.00.
- Feb 99 **Tolko Industries (High Prairie, Alberta)**
to April 99 Provided conceptual design and engineering for the installation of 12 non heated make up air units for an OSB mill. Total value of project was approximately \$450,000.00.
- Mar 99 **Grant Forest Products Corp. (Toronto, Ontario)**
to Oct 99 Provided conceptual design and programming for the Management Information System (MIS) that allowed the Toronto head office to communicate with the mill to obtain continuous updates on various information. Total value of project was approximately \$50,000.00.
- Dec 98 **Grant Forest Products Corp. (Timmins, Ontario)**
to Feb 99 Provided conceptual design, engineering, project management and commissioning for the installation of a high pressure pneumatic system. Total value of project was approximately \$202,000.00.
- Dec 98 **Columbia Forest Products, Levesque Div. (Hearst, Ontario)**
to Sept 99 Provided conceptual design, engineering, project management and commissioning for the installation of a complete sawing system for a particleboard plant. Total value of project was approximately \$750,000.00.

- Dec 98 **Tolko Industries (High Prairie, Alberta)**
to Oct 99 Provided conceptual design, engineering, project management and commissioning for a fines blending system for an OSB plant. Total value of project was approximately \$1,600,000.00.
- Oct 98 **Grant Forest Products Corp. (Timmins, Ontario)**
to Present Provided general PLC and HMI station programming for general plant improvement.
- Oct 98 **Columbia Forest Products, Levesque Div. (Hearst, Ontario)**
to Mar 99 Provided conceptual design, engineering, project management and commissioning for the installation of a complete sander baghouse system for a particleboard plant. Total value of project was approximately \$600,000.00.
- Aug 98 **Tolko Industries (High Prairie, Alberta)**
to Feb 99 Provided conceptual design, engineering, project management and commissioning for a press exhaust fan system. Total value of project was approximately \$650,000.00.
- June 98 **Proboard Ltd. (Atikokan, Ontario)**
to Nov 98 Provided, for insurance purpose, complete plant appraisal. Providing budgetary proposals for a new blending system, press exhaust fan system, a cut to size saw system and a complete heat energy system for a particleboard plant.

- June 98 **Lecours Lumber (Calstock, Ontario)**
to Nov 98 Provided a feasibility study and conceptual design for the relocation and construction of a new sawmill. Total value of project was approximately \$55,000,000.00.
- Feb. 98 **Grant Forest Products Corp. (Englehart, Ontario)**
to Oct. 98 Provided conceptual design, engineering, programming, project management and commissioning for the installation of a plant wide control network system and the installation of a new control room in replacement of the (3) three existing ones. Total value of project was approximately \$700,000.00.
- Sept 97 **Columbia Forest Products, Levesque Div. (Hearst, Ontario)**
to Aug 98 Provided conceptual design, engineering, project management and commissioning for the installation of a blending system, resin metering system, a wet screening system and also converted the relay control system to PLC for a particleboard plant. Total value of project was approximately \$3,300,000.00.
- March 98 **Emtek Industries (Timmins, Ontario)**
To May 98 Provided engineering, equipment procurement and also reviewed business plan for a rubber recycling plant to be built in the Toronto, Ontario region.
- Apr 98 **E.B. Eddy - J.E. Martel Div. (Chapleau, Ontario)**
to June 98 Provided a feasibility study and conceptual design for the installation of a high speed small log curve sawing line and for the complete optimization of the existing debarking system. Total value of project was approximately \$6,500,000.00.

- April 97 **Levesque Plywood Limited (Hearst, Ontario)**
to Sept 97 Provided conceptual design, engineering, project management and commissioning for the installation of raw material bin sorting system. Total value of project was approximately \$950,000.00.
- Nov 96 **Globe Machine (Tacoma, Washington)**
to Dec 97 Provided start-up assistance on equipment sold by Globe Manufacturing to mills in Pembroke, Ontario (MacMillan Bloedel (MDF)), North Carolina (Weyerhaeuser (particleboard)), Wawa, Ont. (Jager Strandboard (OSB)) and Maniwaki, Quebec (Forex Maniwaki (OSB)).
- Nov 96 **E.B. Eddy (Nairn Centre, Ontario)**
to July 97 Provided a feasibility study for the refurbishment and modernisation of the heat generation system and wood waste system for their sawmill operation in Nairn Centre. Total value of projects was approximately \$1,100,000.00 and \$650,000.00.
- Jan 97 **Tolko Industries (High Prairie, Alberta)**
to June 97 Provided conceptual design, engineering, project management and commissioning for the conversion to liquid from powdered resin of a blending system. Total value of project was approximately \$530,000.00. Provided cost analysis for various projects at the same mill.
- Oct 96 **Norbord (Cochrane, Ontario)**
to June 97 Provided assistance on a number of small projects in their Plywood mill in Cochrane.

- April 97 **Tolko Industries (High Prairie, Alberta)**
to May 97 Provided a feasibility study for the addition of a wet screening system for their OSB plant in Alberta. Total value of project was approximately \$3,800,000.00.
- Oct 96 **Levesque Plywood Limited (Hearst, Ontario)**
to Feb 97 Provided a feasibility study for the expansion of their existing particleboard plant. Total value of project was approximately \$22,000,000.00.
- Oct 96 **Longlac Wood Industries Inc. (Longlac, Ontario)**
to Dec 96 Provided a feasibility study for the modernisation of their existing waferboard plant. Total value of project was approximately \$8,970,000.00.
- April 96 **Stone & Webster Canada Ltd. (Toronto, Ontario)**
to Oct. 96 **(Eagle Forest Products Limited Partnership, Miramichi, NB)**
Provided project management for completion of construction and commissioning of a new OSB plant. Plant was equipped with a 12 opening (8' X 24') press. Total value of project was approximately \$80,000,000.00.
- Year **Malette Inc. (Timmins OSB Division, Ontario)**
1994-1996 Provided conceptual design, engineering, project management, construction management and commissioning for the construction of a retrofitted OSB plant. Total value of project was approximately \$80,000,000.00. Output of plant (16 X 8' X 24') will be the worlds largest for an 8' or 9' wide line.

Year 1994 **Malette Inc. (Timmins OSB Division, Ontario)**

Provided a feasibility study for a new OSB plant to produce 466 million square feet per year of OSB.

Isoboard Inc. (Toronto, Ontario)

Provided consulting services on feasibility of building new plant to produce board with straw. Established cost of project and production cost.

Norbord Inc. (Cochrane Division, Ontario)

Provided consulting services on feasibility of expanding production at their existing plant. Established cost of project.

Proboard Ltd. (Atikokan, Ontario)

Provided complete engineering, project management and construction management for the installation of a complete Refining System. Total value of project was approximately \$1,000,000.00.

Proboard Ltd. (Atikokan, Ontario)

Provided complete engineering, project management and construction management for the installation of a Sanding/Baghouse system and various other projects. Total value of project was approximately \$2,000,000.00.

Malette Inc. OSB Division (Timmins, Ontario)

Provided project and construction management on reconstruction of Dryer Control Room following destruction by fire. Total value of project was approximately \$300,000.00.

UAB (Sudbury, Ontario)

Provided evaluation of damages following a fire at the Rexwood Particleboard Plant. Total value of damages was approximately \$300,000.00.

Year 1993 **Malette Inc., Malette Lumber Division (Timmins, Ontario)**

Provided engineering and construction management for the dismantlement and reinstallation of two (2) Wood Burner Systems for two (2) Lumber Dry Kilns. Total value of project was approximately \$400,000.00.

Year 1992 - 1993 **Malette Inc., Waferboard Division (Timmins, Ontario)**

Provided conceptual design, engineering, project management and construction management for the conversion of a Particleboard Plant to manufacture oriented strand board. Total value of project was approximately \$5,350,000.00.

Year 1992 **Malette Inc., Waferboard Division (Timmins, Ontario)**

Provided conceptual design, engineering, project management and construction management for a complete Wood Dryer System for a Particleboard Plant. Total value of project was approximately \$900,000.00.

Year 1992 **Malette Inc., Waferboard Division (Timmins, Ontario)**

Provided engineering and project management for the conversion of a Waferboard Plant to manufacture oriented strand boards.

Total value of project was approximately \$700,000.00.

Year 1991 **Underwriters adjustment Bureau Ltd. (Ottawa, Ontario)**

Provided fire and wind damage appraisal to a Particleboard Plant.

Total value of damages was approximately \$480,000.00.

Atlantic Waferboard (Chatham, New Brunswick)

Provided assistance to Maintenance Department and set up a Preventive Maintenance Program for an OSB mill.

Bussell & Co. Inc. (Ontario)

Provided fire damage appraisal of a Planer Mill/Dry Kiln Complex. Total value of damages was approximately \$500,000.00.

Field Lumber (1956) Ltd. (Field-Out, Ontario)

Provided project and construction management for reconstruction of sawmill, Automatic Sorter and Heat Generation System. Total value of repairs was approximately \$400,000.00.

Underwriters Adjustment Bureau Ltd. (Sudbury, Ontario)

Provided fire damage evaluation for the reconstruction of a building and repairs to equipment of an Automatic Lumber Sorter and Heat Generation System. Total value of damages was approximately \$525,000.00.

Panneaux Noranda Inc. (Lac-des-Îles, Québec)

Set up a plant quality control program and did engineering and project management for all modifications necessary to production line so as to bring quality of particleboard produced to market standards.

Year **Panneaux Noranda Inc. (Lac-des-Îles, Québec)**
 1990-1991 Provided engineering and project management for the installation of a building over existent equipment. Total value of project was approximately \$320,000.00.

Year 1990 **Norbord Inc. (Cochrane Division, Ontario)**
 Provided engineering for a 50,000 CFM Dust Extraction System. Total value of project was approximately \$150,000.00.

Underwriters Adjustment Bureau Ltd. (Sudbury, Ontario)

Provided damage evaluation and expenditure supervision for the reconstruction of sections of a building and repairs to equipment of a sawmill in Opatatika. Total value of damages was approximately \$65,000.00

Malette Kraft Pulp & Power (Smooth Rock Falls, Ontario)

Completed start up of a recently constructed 200,000 lb/hr Steam Boiler. Total value of numerous modifications was approximately \$150,000.00.

Year	Panneaux Noranda Inc. (Lac-des-Îles, Québec)
1990-1991	Provided engineering and provided construction management for the installation of a melamine lamination line and a paint line for a particleboard mill. Total value of project was approximately \$6,224,000.00.
Year 1990	Waferboard Corp. Inc. (Timmins, Ontario)
	Provided engineering and project management for the reconstruction of 2-24 m BTU/hr Heat Generation Systems. Total value of project was approximately \$2,050,000.00
	R.P. Insurance Adjusters Inc. (Toronto, Ontario)
	Provided fire damage evaluation for the reconstruction of 2 - 24m BTU/hr Heat Generation Systems. Total value of damages was approximately \$2,050,000.00.
	Norbord Industries Inc. (Lac-des-Îles, Québec)
	Provided engineering for the installation of a six (6) ton overhead crane for a Maintenance Shop. Total value of project was approximately \$75,000.00.
	Atlantic Waferboard Inc. (Chatham, New Brunswick)
	Provided engineering and project management of the installation of two Dust Extraction Systems. Total value of project was approximately \$220,000.00.
Year	Atlantic Waferboard Inc. (Chatham, New Brunswick)
1989-1990	Provided engineering and Project management of the installation of a 30m BTU/hr Heat Generating Unit. Total value of project was approximately \$1,600,000.00.

Year 1989 **Atlantic Waferboard Inc. (Chatham, New Brunswick)**
 Provided engineering, preparation and management for a scheduled plant shutdown. Total value of project was approximately \$750,000.00.

Rexwood Products Ltd. (Ontario)

Provided engineering for fines conveying and storage system. Total value of project was approximately \$650,000.00.

Year **Bison ACM Chemical Inc. (Canada & U.S.A.)**
 1989-1990 Claude Malette was on a retainer with Bison ACM as technical representative.

Year 1989 **Rexwood Products Ltd. (Ontario)**
 Provided engineering, preparation and management of a scheduled plant shutdown. Total value of projects was approximately \$235,000.00.

Year **Rexwood Products Ltd. (Ontario)**
 1988 - 1989 Provided engineering, project management and construction management for the construction of a new Particleboard Plant. Project total disbursement was approximately \$22,000,000.00.

Year 1988 **Underwriters Adjustment Bureau Ltd. (Sudbury, Ontario)**
 Provided fire damage evaluation and expenditure supervision for the reconstruction of a building and repairs of a Log Debarking System. Total value of project was approximately \$250,000.00.

Year 1987 **CMA** worked on a number of small assignments for various clients.

6. CURRICULUM VITAE

Name: **Claude Malette**

Education: September 1975 to May 1979
Queen's University at Kingston, Ontario
Bachelors of Applied Science in Mechanical Engineering

Languages: Fluently bilingual in English and French

Work Experience:

- November 1986 to Present **Principal with CMA engineering Inc. (CMA)**
CMA does engineering and management consulting work in the manufacturing end of the forest products and mining industry.
- February 1986 to October 1986 **Louisiana Pacific Panel Products Ltd., Dawson Creek, British Columbia**
As Project Manager, participated in the conception, engineering and equipment purchasing of a 450-TDP Waferboard Plant with total disbursement of \$50 million.
- September 1983 to January 1986 **Waferboard Corporation Limited Timmins, Ontario**
Director of Engineering and Services.
- December 1981 to September 1983 **Waferboard Corporation Limited Timmins, Ontario**
Plant Manager for a period of twelve months of a newly constructed Particleboard Plant and Project Manager for a period of nine months during conception, engineering and construction of same plant.

May 1979
to
December 1981

**Malette Waferboard (Division of Waferboard Corp.)
St-Georges de Champlain, Québec**

Plant superintendent for a period of fifteen months of a newly constructed Waferboard Plant and project superintendent/engineer for a period of seventeen months during conception, design and construction of plant.

May 1979
to
September 1979

**Waferboard Corporation Limited
Timmins, Ontario**

Project Engineer for the conception, design and equipment purchasing of a 70,000,000 board ft/year lumber dressing mill and a 30 ton fixed pivoting jib crane.

Professional Affiliations

Claude Malette is a licensed professional engineer in:

- Ontario
- Quebec
- Manitoba
- Nunavut
- State of Maine
- State of Arizona
- State of Idaho

Claude Malette, P. Eng.

Name: **Alain Malette**

Education: September 1978 to May 1982
University of Ottawa at Ottawa, Ontario
Bachelor of Applied Science in Mechanical Engineering

Languages: Fluently Bilingual in French and English

Work Experience:

June 2000 **CMA engineering Inc.**
to present Provide engineering and management consulting work in the manufacturing end of the forest products and mining industry.

Projects: **Norbord – Nacogdoches**
- Fines Screening/Blending Study
- Fines Screening/Blending Project

Norbord – Guntown
- Fines Screening/Blending Study
- Fines Screening/Blending Project

Norbord – Cordele
- Strand and Fines Screening/Blending Study

Norbord – Joanna
- Strand and Fines Screening/Blending Study

Goldcorp – Hollinger
- Dewatering System of the McIntyre Shaft

Xstrata – Sudbury Smelter
- 031 Fan Isolation Vavle
- 012 Fan Replacement Casing and Impellor

Goldcorp – Red Lake Gold Mines
- Bruce Channel Sustainable Production Scoping Study
- High Speed Tram Feasibility Study
- Paste Delivery System

Lake Shore Gold Mine
- Hoist System Upgrades Project
- Hoist House Offices
- Underground Mechanical Shop

- Hoist House Mezzanine

Diavik Diamond Mine

- Underground Fuel Delivery System Project

Xstrata – Falconbridge Smelter

- Several mill upgrade projects

Xstrata – Nickel Rim

- Mine Exhaust Fan System

Goldcorp Musselwhite

- Underground Crushing System
- Underground Conveying System
- Surface Fire Protection System

Falconbridge Mine D

- Preparation of Maintenance Manual and Inspection Sheet for Mine D Project

Luzenac Talc Mines

- Grinding System Project

Agrium

- Material Handling
- Structural Steel Project

Huber Engineered Woods

- MACT Compliance Project

Columbia Forest Products, Levesque Div.

- Pre-Dryer System
- Multi-Opening Press Project
- Various Pneumatic Project

Kruger – DriCore Division

- DriCore Production Line Project

Grant Forest Products, Timmins OSB Div.

- Turbo Blending Project
- Truck Dump Project
- Hog System Project
- OSB Line 2 Re-commissioning
- Various Pneumatic System Projects
- Pond 7 & 8 Project
- Strander Project

Domtar Inc.

- Edger Project
- Dry Kiln Project
- Konus Project

Completed various other projects for Nexfor, Proboard, Tembec, Falconbridge, Kinross and others.

Nov. 98
to May 00

Kinross Gold Corp.

Maintenance Superintendent

Responsible for all the mechanical and electrical maintenance at the Hoyle Pond Mine and Bell Creek Mill.

Feb. 97
to Oct 98

Royal Oak Mines Ltd.

Manager of Maintenance

Responsible for all the mechanical and electrical maintenance at the mine site of Pamour #1, Hoyle and Nighthawk Lake.

This included the maintenance of the open pit equipment (85 ton trucks, shovels, etc...), underground equipment (scoop tram, truck, etc...), mill and crushing plant maintenance, hoist and compressor, head frame (sheave, cable, etc...) and underground crusher, loading pockets and locomotives.

The maintenance department is comprised of approximately 65 tradesmen, which include welders, diesel mechanics, electrician-instrumentation, millwrights, machinist and pipe fitters).

Sept. 96
to Feb 97

CMA engineering

Mechanical Engineer

Provided on a contractual basis Engineering and management consulting work in the manufacturing end of the forest products industry.

Oct. 89
to Aug 96

Malette Inc., Timmins OSB Division

General Manager

1992 converted a Waferboard line to a Oriented Strand Board line.

1994 converted a Particle Board line to a Oriented Strand Board line.

1995 installed a new Oriented Strand Board line with an 8' X 24' 16 opening press.

Increased production by 40%.

Increased quality #1 board from 95% to 98%

Decreased the amount of claims paid out per year from \$80,000.00/yr to \$5,000.00/yr.

Decreased the lost work days from an average of 500 days/yr to 6 days/yr.

Timmins OSB Division employed 160 employees.

Negotiated three collective bargaining agreements.

Dealt with grievances and arbitrations.

The Timmins OSB plant was awarded the Ron Baker Award for Excellence in OSB manufacturing for the year 1995. The award was presented by the Structural Board Association which regroups plants from North and South America and Europe.

Oct. 86

Malette Inc., Waferboard Division

to Oct 89 *Plant Engineer*

As Plant Engineer, created and implemented the following programs:

maintenance program for operation.

wrote up manuals for hydraulic trouble-shooting for all systems.

designed and installed air system to transport fines and dust.

Assisted mechanical department in their maintenance planning.

organized quality control department.

planned maintenance and wrote up procedures for the thermal oil system.

July 85

Malette Inc., Malette Wood Product Division

to Oct 86

Mechanical Superintendent

Was in charge of the Mechanical Department for a paint line, a print line and a melamine overlay press line and 3 cut to size lines.

July 82

to April 85

Westinghouse Canada

Field Engineer in Libya, Africa

Worked on the installation, overhaul and maintenance of gas turbine.

Interests:

1999

Member of the Mine and Aggregate Safety and Health Association underground equipment committee.

1998

Co-chairman of the Porcupine Mine Safety Group.

1992-1996

Member of the Structural Board Association technical committee.

Name: **Gilles Lemire**

Education: September 1990 to May 1994
University of Ottawa
Bachelor of Arts in Economics

Languages: Fluently bilingual in English and in French

Work Experience:

May 1994 to present **CMA engineering Inc.**
Provide project management services.
Provide detail mechanical engineering and CAD operation.

Projects: Tolko – Meadow Lake
- Fines Screening/Blending Study

Norbord – Nacogdoches
- Fines Screening/Blending Study
- Fines Screening/Blending Project

Norbord – Guntown
- Fines Screening/Blending Study
- Fines Screening/Blending Project

Norbord – Cordele
- Strand and Fines Screening/Blending Study

Norbord – Joanna
- Strand and Fines Screening/Blending Study

Goldcorp – Red Lake Gold Mines
- Bruce Channel Sustainable Production Scoping Study
- High Speed Tram Feasibility Study

Northgate Minerals – Young Davidson Project
- Hoist House Project

Vale Inco – Thompson, MB Refinery
- Refinery Steel Replacement Project

Detour Gold Corporation
- Provided a Safety Manual and Construction Site
Indoctrination Program

Xstrata – Onaping Depth

- Pre-Feasibility Study

Vale Inco – Copper Cliff Smelter Complex

- Scrap Bin #5 Repairs
- MK Converter Lifting Procedure

Crowflight Minerals

- Underground Infrastructure (Dewatering, Main Ventilation System, Rock Breakers)

Xstrata – Nickel Rim

- Mine Exhaust Fan System

Goldcorp Musselwhite

- Underground Crushing System
- Underground Conveying System
- Surface Fire Protection System

Luzenac Talc Mines

- Grinding System Project

Agrium

- Material Handling
- Structural Steel Project

Huber Engineered Woods

- MACT Compliance Project

Columbia Forest Products, Levesque Div.

- Several plant upgrade projects

Kruger – DriCore Production Line Project**Grant Forest Products, Timmins OSB Div.**

- Turbo Blending Project
- Rotor Debarker Project
- Ponds 7 & 8 Project & Strander Project

Footner Forest Products

- Turbo Blending Project

Voyageur Panel

- Turbo Blending Project

Tolko High Prairie OSB

- Turbo Blending Project
- Rotor Debarker Project

Eagle Forest Products Project

- Mechanical Coordinator

Tembec – OSB 3 Project

- Provided general project administration and purchasing/expediting requirements for project.

Completed various other projects for Nexfor, Proboard, Domtar, Tembec, Temple Inland, Weyerhaeuser and others.

Name: **Francesco Pugliese**

Education: 1999 to 2004
Bachelor Degree of Engineering (Mechanical)
Carleton University, Ottawa, Ontario

Languages: English

Work Experience:

2004
to present

**CMA Engineering Inc
Timmins, Ontario**
Provide project management services.
Provide conceptual design, detail equipment design, equipment procurement, piping systems, generating installation specifications and overall mechanical, civil and structural engineering.

Projects: **DMC – Jansen**
- Shaft Sinking and Surface Infrastructure Design

Goldcorp – Various Projects at Red Lake

- Hoist House Design
- Shaft Deepening Design
- Underground High Speed Tram Design
- Shotcrete Unloading System Design
- Concrete Batch Plant Design

Hecla – Lucky 7 Mine

- Various underground projects including material handling, mine services, shaft construction.

Northgate Minerals – Young Davidson Project

- Complete Hoist House Design

Vale Inco – Copper Cliff Deep Project

- Complete Hoist House Design

Vale Inco – Totten Mine

- Temporary Mucking System

Xstrata – Nickel Rim

- Exhaust Fan System

Liberty Mines

- Maintenance Shop Overhead Crane System

Lake Shore Gold Mines

- Fines Ore Conveyor

Huber Engineered Woods - Easton, Maine

- MACT Compliance Project

Ainsworth Engineered - Barwick, Ontario

- Strand Reclaim Project

Ainsworth Engineered - Cook, Minnesota

- Strander Project

Huber Engineer Woods - Crystal Hill, Virginia

- Dual Screw Upgrade Project
- Orienter Upgrade Project

Huber Engineer Woods – Commerce, Georgia

- Dual Screw Upgrade Project

Norbord Industry Inc – Val-Dor, Quebec

- Debarker Upgrade Project

MGR (Tembec-Panneaux) – Grande Mere, Quebec

- Bark Conveyor System

Agrium – Kapuskasing, Ontario

- SAG Mill Conveyor Project

Grant Forest Products – Timmins, Ontario

- Ponds 7 & 8 Project
- Strander Project

2003-2004

GlaxoSmithKline Inc (GSK)**Mississauga, Ontario**

Validated engineered drawings and equipment information.

2000-2002

(Summer)

Boiler Lancer**Kidd Creek Metallurgical Division****Porcupine, Ontario****Professional Affiliations**

Francesco Pugliese is a licensed Professional Engineer in the Province of Ontario.

Name: **Todd Plut, P. Eng.**

Education: July 2004 to April 2006
Lakehead University
Thunder Bay, Ontario
Bachelor of Engineering Degree, Major in Electrical

September 2001 to March 2003
RCC College of Technology
Concord, Ontario
Electronics Engineering Technologist Diploma

September 1998 to April 2001
University of Waterloo
Waterloo, Ontario
Bachelor of Science Degree

Languages: English

Work Experience:

May 2006
to Present

**CMA engineering Inc. (CMA)
Timmins (Ontario)**

Provide detail electrical engineering, and equipment procurement.

Projects:

Xstrata – Sudbury Smelter

Provided detail electrical engineering.

- 50MVA Transformer Relocation from Xstrata Met Site to Sudbury
- Scrap Bin #5 North Modifications Project
- Nickel Rim Mine Permanent Dewatering Project

Goldcorp – Porcupine Gold Mines

Provided detail electrical engineering.

- Hollinger Dewatering Project
- Hoyle Pond Transformer Project

Goldcorp – Red Lake Gold Mines

Provided detail electrical engineering for underground workings.

- High Speed Tram Project
- Life of Mine Project
- Balmer Complex Substation Project
- Concrete Batch Plant Project

- Balmer Complex Parking Lot Project
- Hostel and Dry Building Communications Project

Hearst Biomass Project

Provide electrical layouts.

- 10 MW Biomass Power Generation Unit

Sunbay Energy Corp.

Provide detail electrical engineering.

- 20 MW Biomass Generating Plant

LUA – Millar Western

Provide fire appraisal for the reconstruction of a wood manufacturing plant.

Crowflight Minerals Inc. – Wabowden

Provide detail electrical engineering.

- Underground Mine Infrastructure Project

Inco – Copper Cliff Deep

Provide detail electrical engineering.

- Hoist Building Electrical & Surface Power Distribution

Xstrata – Nickel Rim

Provide detail electrical engineering, and PLC software generation.

- Underground Mine Dewatering System
- Ore Handling System

Huber Engineered Woods

Provide detail electrical engineering, equipment procurement.

- MACT Compliance Project

Ainsworth

Provide detail electrical engineering.

- Strand Reclaim Project

Norbord

Provide detail electrical engineering.

- Rotor Debarker Project

Goldcorp – Hoyle Pond

Provide detail electrical engineering.

- New Vent Shaft Project
- Complete Underground Ventilation Automation

May 2005
to Aug 2005

**Accurate Electric
Timmins, Ontario**

Electrician's Apprentice working in commercial and industrial settings.

February 2004
to June 2004

**Accurate Electric
Timmins, Ontario**

Electrician's Apprentice working in commercial and industrial settings.

Professional Affiliations

Todd Plut is a licensed member of the "Professional Engineers of Ontario" (P.E.O.).