



Agri-Waste Technology, Inc.

Management System Policy and GHG  
Statement of Qualifications



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## **Overview of Agri-Waste Technology, Inc.**

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Agri-Waste Technology, Inc. (AWT) is a professional engineering and soils firm, specializing in environmental consulting. AWT is a private, registered small business that completes all projects from the corporate office, located in Raleigh, North Carolina. AWT was incorporated on February 2, 1984 by the State of North Carolina. AWT's ownership structure includes 4 shareholders:

- Jeffrey Vaughan, President
- Chris Mosley, Vice President
- Hal Langenbach, Secretary
- Kevin Davidson, Treasurer

AWT has been providing engineering, agronomy, and soils consulting services, with extensive expertise in waste systems engineering and nutrient planning to residential, industrial, municipal, and commercial clients nationwide and internationally in Russia, China, India, Mexico and Canada, for over 25 years.

AWT's diverse and highly-skilled staff boasts 75 years of combined experience along with diverse educational backgrounds and continual industry related training. This diverse staff includes professional engineers, licensed soil scientists, agronomists, GIS/GPS computer mapping technicians, irrigation designers, GHG verifiers and subsurface waste system operators.

AWT can assist facilities with generating, quantifying or verifying carbon credits. Greenhouse Gas emission offsets can be created by collecting and destroying or utilizing biogas created from anaerobic treatment of animal manure, converting cropland to grassland, converting from conventional till to no-till management of cropland, managing rangeland using sustainable methods and creating energy from renewable sources. Additional credits may be available for anaerobic digester projects where renewable energy is created in the form of electricity or pipeline quality gas. AWT is experienced with a variety of GHG verification and offset protocols including those used by Chicago Climate Exchange, California Climate Action Registry, RGGI, Voluntary Carbon Standard, Gold Standard, AgRefresh and C-Lock. AWT can assist with navigating the GHG market and quantifying carbon credits and creating project design documents in any of these markets. AWT follows the guidelines associated with ISO 14064-3 and 14065, which are standards that provide clear and consistent specifications for quantifying, monitoring, reporting and verifying GHG emission offsets.

AWT has been providing independent verification to agricultural clients and carbon offset project developers nationwide, and has recently expanded our client base to India. Since 2006, AWT has been certified through the Chicago Climate Exchange (CCX) as an approved third-party verifier for offset projects in the following categories: Agricultural Methane and Combustion, Agricultural Soil Carbon Sequestration, Rangeland Soil Carbon, Renewable Energy and Landfill Methane. Aside from the carbon credit verification services, AWT has also assisted organizations with carbon offset

calculations/models and project design documents, general GHG offset consulting, feasibility determinations, alternative protocol development for unique GHG offset projects, monetization evaluations and review of engineering designs for anaerobic digesters. In 2009, three staff members of AWT became Certified Greenhouse Gas Verifiers with CSA America, Inc.

### **Validation/Verification Team Members**

Each member of the validation/verification team has detailed knowledge regarding the CCX, CCAR, VCS and CDM programs and protocols, as well as the following: eligibility requirements, implementation in different jurisdictions (as applicable), effective communication and validation/verification requirements and guidelines. All members adhere to the following:

- Demonstrate competence with their roles and responsibilities
- Provide ethical conduct and are independent
- Avoid any actual or potential conflicts of interest with the responsible party and the intended users of the GHG information
- Provide truthful and accurate validation/verification activities, conclusions and reports
- Meet the requirements of the standards of the GHG programme

AWT's validation/verification team members include the following:

### **Team Leaders**

#### **Jeffrey D. Vaughan, Ph.D., CPAg/SSc/CCA, L.S.S, President/Senior Soil Scientist**

Jeffrey D. Vaughan, President of AWT, also manages the soil science/agronomy division. Dr. Vaughan's degrees include a B.S. in Agronomy from Virginia Polytechnic Institute and State University in May of 1991; M.S. in Crop and Soil Environmental Sciences from Virginia Polytechnic Institute and State University in December of 1994; and Ph.D. in Soil Science from North Carolina State University in December of 1997. Dr. Vaughan has been published in numerous soil science and agronomy publications. Dr. Vaughan's credentials include: Certified Crop Advisor (CCA), Certified Professional Agronomist (CPAg), and Certified Professional Soil Scientist (CPSSc) as certified by ARCPACS; Licensed Soil Scientist, licensed by the North Carolina Board for Licensing of Soil Scientists; Certified Professional Soil Scientist as certified by the Virginia Board for Professional Soil Scientists and Wetland Professionals, Certified Soil Classifier as certified by the South Carolina Department of Natural Resources, Nutrient Management Consultant as licensed by the State of Maryland, Certified Nutrient Management Planner as certified by the Commonwealth of Virginia, Certified Septic System Inspector as certified by the North Carolina Onsite Wastewater Contractors and Inspectors Certification Board, Subsurface Water Pollution Control System Operator, NRCS Technical Service Provider, CSA America, Inc. Verifier for Greenhouse Gas and a Chicago Climate Exchange (CCX) Verifier for Agricultural Soil Carbon Sequestration and Rangeland Soil Carbon Sequestration.

Dr. Vaughan is a member of American Society of Agronomy, Soil Science Society of America, and Soil and Water Conservation Society. Dr. Vaughan's daily responsibilities

include: soils evaluations for septic system (residential and commercial) suitability, septic system inspections, wetland delineations and residential and commercial septic system designs. Vaughan's main validation/verification responsibilities include: development of operational policies, senior project manager, site visits (when required), records review and validation/verification statements for projects including: no-till, grassland and rangeland.

**Chris Mosley, P.E., Vice President**

Chris Mosley, Vice President of AWT, received his B.S. in Biological and Agricultural Engineering in 1996 from North Carolina State University and M.S. in Agricultural and Biological Engineering in 1998 from Purdue University. Mosley is a registered Professional Engineer in the states of North Carolina, South Carolina, Alabama, Ohio, Texas and Nebraska, CSA America, Inc. verifier for greenhouse gas and a Chicago Climate Exchange (CCX) verifier for agricultural methane and combustion and renewable energy. Mosley is also a NRCS TSP in North Carolina, South Carolina, Alabama, Georgia, Indiana, Kentucky, Michigan, Minnesota, Ohio and Wisconsin and is a North Carolina Technical Specialist.

Mosley's daily responsibilities include: engineering design and specifications for commercial and residential septic systems, permitting, irrigation planning, stormwater design and sediment and erosion control design. Mosley's main validation/verification responsibilities include: supervision of policies and procedures, validation/verification statements, delegation of authority of committees, contractual agreements, conflict of interest review, senior project manager, site visits (when required) and records review for projects including: agricultural methane and combustion, renewable energy, no-till, grassland and rangeland.

**Team Members**

**Chris McGee, Assistant Agronomist/Soil Scientist**

Chris McGee is an Assistant Agronomist/Soil Scientist for AWT. McGee received his B.S. in Environmental Science with a concentration in Soil Science in 2006 from North Carolina State University. In 2007, McGee became a NC Soil Scientist in Training and will continue to advance under the guidance of the soil science/agronomy division. In 2009, McGee became a certified verifier of greenhouse gas for CSA America, Inc. McGee's daily responsibilities include: septic and well inspections, soils evaluations, saturated hydraulic conductivity and infiltration testing, drain field layouts and nutrient management. McGee's main validation/verification responsibilities include: collection of pertinent documentation, communication with aggregators or verification project director, site visits (when required), development of verification reports and overall support.

**Julie Peele, Environmental Technician/GIS Specialist**

Julie Peele is an Environmental Technician and GIS Specialist. Peele received her B.S. with a concentration in Environmental Studies from the University of North Carolina at Wilmington in 1997. Peele earned her certification in Wetland Determination and Delineation, Intermittent and Perennial Stream Identification for Regulatory Applications and Introduction to ArcView. Peele's daily responsibilities include: obtaining permits,

delineation of jurisdictional wetlands, writing Comprehensive Nutrient Management Plans (CNMP) and overall technical support for the senior project engineers. Peele's main validation/verification responsibilities include: GIS related to agricultural soil carbon and rangeland sequestration projects, collection of pertinent documentation, communication with aggregators and ranchers, site visits (when required), ecological site description and plant identification and overall support.

**Derrick Smith L.S.S., Soil Technician**

Derrick Smith, Soils Technician received his B.S. in Environmental Science from North Carolina State University in 2006. In 2009, Smith became a Licensed Soil Scientist for the State of North Carolina. Smith's daily responsibilities include: septic and well inspections, soils evaluations, saturated hydraulic conductivity and infiltration testing and drain field layout. Smith's main validation/verification responsibilities include: GIS related to agricultural soil carbon and rangeland sequestration projects, development of verification reports and overall support.

**Technical Reviewer/Technical Expert**

**Hal Langenbach, P.E., Senior Project Engineer**

Hal Langenbach, Senior Project Engineer, received his B.S. in Biological and Agricultural Engineering with a concentration in Soil and Water/Environmental Engineering from North Carolina State University in 1995. Langenbach maintains his Professional Engineering licenses for the states of North Carolina, Oklahoma, Illinois, Minnesota, Wisconsin and Kentucky. Langenbach also holds certifications in the following: NCSU Stormwater BMP Inspector and NPPC Environmental and Odor Assessor. Langenbach's daily responsibilities include: waste system design, nutrient management planning, site visits, wetland determination and delineation, permitting and annual reporting. Langenbach's main validation/verification responsibilities include: desk audits and report writing for biomass and methane capture projects, monitoring the performance of all members of the validation/verification team, which includes a combination of reviewing the validation/verification findings, reports, onsite observations and client feedback. Langenbach also manages the internal review of each validation/verification project to determine whether or not all necessary areas have been accurately completed, free from material discrepancies, determine if the activities provide the level of assurance agreed to at the beginning of the validation/verification process and provides oversight for impartiality. Finally, Langenbach determines any necessary additional training requirements for members of the team to include: training on GHG validation/verification requirements, processes and activities.

**Kevin Davidson, P.E., Senior Project Engineer**

Kevin Davidson, Senior Project Engineer, received his B.S. in 1992 and M.S. in 1995 in Biological and Agricultural Engineering from North Carolina State University. Davidson is a registered Professional Engineer in the states of North Carolina, Virginia, Iowa and Oklahoma. Davidson is a member of the National Society of Professional Engineers and the North Carolina Society of Professional Engineers. Davidson's daily responsibilities include: engineering design and specifications for commercial and residential septic systems, permitting, irrigation planning, stormwater design, sewer design and sediment

and erosion control. Davidson's main validation/verification responsibilities include: desk audits and report writing for wind projects, and managing the appeals, complaints and disputes.

Langenbach and Davidson will work together on sharing all responsibilities associated with the technical reviewer and technical expert positions, based on the nature of the project. Langenbach will be responsible for handling the appeals, complaints and disputes for all wind projects and Davidson will be responsible for all additional projects.

### **Finance Manager**

#### **Lisa Tilley, Office Manager/Bookkeeper**

Tilley received her undergraduate degree from Meredith College in Raleigh and her master's degree from the University of North Carolina at Chapel Hill. Lisa serves as AWT's office manager and bookkeeper - scheduling site visits / inspections, tracking accounts payable and receivable, and coordinating office operations to ensure organizational effectiveness. Tilley's main validation/verification responsibilities include: managing the project budgets and financial responsibilities and oversight for impartiality.

### **Internal Peer Reviewer**

#### **Melissa Mottern, Director of Marketing**

Mottern received her B.S. in Business Administration and Marketing from Cedar Crest College in 2002. Melissa serves as the Director of Marketing. Her main responsibilities include: client development and promotions, advertising, marketing research analysis, implementation planning and overall management of the marketing department. Mottern's main validation/verification responsibilities include: oversight for impartiality and internal peer reviewer.

### **Subcontractors**

#### **Nilesh Gupta, Founder/Director**

Nilesh Gupta is the founder and director of Green Point Energy (GPE), which is based in Jaipur, India. GPE is focused on CDM project development under the Kyoto Protocol. Gupta has been working with AWT as a third-party verification team member since 2008, completing site visits and material preparation for all projects located in India. Gupta's qualifying experience includes: providing CDM consulting and advisory services, advising organizations on long-term and short-term business and operations strategies and active involvement with all aspects of project execution.

#### **Tabitha Smith, Founder/Director**

Tabitha Smith is the founder and director of Organic CO<sub>2</sub> and has been working for AWT as a subcontractor since 2008. Smith's past qualifying experience includes: range management specialist for several cattle companies located in the Midwest and development of range surveys. Smith also developed grazing, range management and environmental plans for ranches. Smith was also previously employed by the NRCS and developed EQIP contracts, as well as completing field inspections on native rangeland, cropland, CRP grazing and haying. Smith's main responsibilities for AWT include: site visits and material preparation.

### **Eric Wickens, Assistant to Wickens Salt Creek Ranch**

Eric Wickens began working for AWT as a subcontractor in 2009 and currently assists with his families ranch in Hilger, Montana. Wickens qualifying experience includes: designing and implementing rotational grazing systems, developing photo monitoring sites throughout ranches, creating detailed maps for certified ranches, developing wildlife habitat on ranches and overall involvement with all aspects of the ranch. Wicken's main responsibilities for AWT include: site visits and material preparation.

An internal peer reviewer will also be selected at the start of each project. This individual will be responsible in providing an evaluation of the validation/verification process and outcomes. The peer reviewer will assess the work of the team leader and the validation/verification team from the initial contact with the client to the completion of the process.

AWT sufficiently documents all verification activities to ensure consistency with all required program criteria and with the ISO 14065 requirements.

### **Training (Attachment D)**

All employees receive proper training, which includes the following:

- Guidance and understanding of ISO 14604-3 guidelines, policies and procedures
- GHG protocols, terminology and guidelines
- Desk audit protocols, terminology and guidelines
- Field audit shadowing of protocols and documentations
- Assistance with developing the verification/validation report

### **Management**

AWT's senior management has overall authority and responsibility as follows:

- a) Development of operational policies: Jeff Vaughan
- b) Supervision of the implementation of policies and procedures: Chris Mosley
- c) Supervision of finances: Lisa Tilley
- d) The adequacy of validation/verification activities: Chris Mosley
- e) The resolution of appeals and complaints: Kevin Davidson/Hal Langenbach
- f) Validation/Verification statements: Jeff Vaughan and Chris Mosley
- g) Delegation of authority to committees or individuals to undertake, as required, defined activities on its behalf: Chris Mosley
- h) Contractual arrangements: Chris Mosley
- i) Providing adequate, competent resources for validation/verification activities: Chris Mosley
- j) Monitoring the performance of all team members: Hal Langenbach/Kevin Davidson
- k) Managing the internal review of all validation/verification projects: Hal Langenbach/Kevin Davidson



- l) Determination of additional training for team members: Hal Langenbach/Kevin Davidson
- m) Internal Peer Reviewer: Melissa Mottern
- n) Overview of Impartiality: Melissa Mottern and Lisa Tilley

### **Appointing a Team Leader**

Jeff Vaughan and Chris Mosley are competent leaders and are able to effectively manage the validation/verification team for AWT. Both individuals have advanced educational backgrounds and over 20 years of combined experience between them. Vaughan and Mosley are competent in the following areas:

- Understanding appropriate GHG terminology and language
- Ability to assign appropriate team members to designated projects, based on their competence and scope of work
- Ability to review reports, evaluate any missing information and apply critical thinking
- Ability to understand the validation/verification objectives and their impact on the assignment of team members
- Ability to challenge findings from team members
- Ability to ensure the validation/verification is performed based on the specific requirements and to manage the development of the validation/verification report
- Ability to manage audit team members

### **Competencies of Personnel**

AWT employs highly qualified staff members based on education and experience for all positions associated within the organization. All members of the validation/verification team have been carefully selected and have sufficient competence for completing all types and ranges of activities. All team members receive training, attend conferences, and remain updated with new information to stay abreast to the latest developments and to ensure conformity and relevance.

The following tools were used to evaluate personnel to guarantee the knowledge, experience and understanding of the GHG programs:

- Jeff Vaughan—internal peer review of validation/verification documentation, performance review, witnessing validation/verification activity, performance review, CCX certification, CSA America Inc. exam and adequate evidence of relevant previous experience
- Chris Mosley—internal peer review of validation/verification documentation, performance review, witnessing validation/verification activity, performance review, CCX certification, CSA America Inc. exam and adequate evidence of relevant previous experience
- Kevin Davidson—witnessing validation/verification activity, performance review, and adequate evidence of relevant previous experience
- Hal Langenbach—witnessing validation/verification activity, performance review, peer review and adequate evidence of relevant previous experience

- Chris McGee—witnessing validation/verification activity, performance review, CSA America Inc. exam and adequate evidence of relevant previous experience
- Julie Peele—witnessing validation/verification activity, performance review, and peer review
- Derrick Smith—witnessing validation/verification activity, performance review, and peer review

AWT's validation/verification team completes all initial research, development of maps, site visit(s), report preparation, desk audits, communication between clients and provides the overall validation/verification statement for each project. All team members have additional access to relevant internal expertise for advice on specific matters relating to validation/verification activities, sectors or areas within the scope of their work. Furthermore, all members have demonstrated knowledge of validation/verification processes, requirements, methodologies, other relevant GHG programme provisions and applicable legal requirements.

### **Deployment of Personnel**

Each member of the validation/verification team is experienced to handle the following criteria:

- Ability to understand the GHG program's guidelines and requirements referenced throughout ISO 14065
- Ability to understand and apply the validation/verification process related to the applicable GHG program
- Ability to explain the entire validation/verification process
- Ability to ask the client sufficient questions, so that the entire goal is addressed and understood
- Ability to explain findings from the validation/verification process, the meaning of the findings and their consequences

### **Validation/Verification**

Based on the full context within which the information is presented, AWT will assess any errors, omissions and/or misrepresentations. This assessment will be used to plan and direct the validation/verification process. In assessing this risk, AWT will look at the following factors:

- The structure of the organization and the approach used to assign responsibility for monitoring and reporting GHG emissions
- The approach and commitment of management to GHG monitoring and reporting
- Development and implementation of policies and processes for monitoring and reporting
- Processes used to check and review calculation methodologies
- Design and maintenance of the GHG information system
- Complexity and nature of operations
- Complexity of the computer information system used to process the information
- The state of calibration and maintenance of meters used and the types of meters used

- Reliability and availability of input data
- Assumptions and estimations applied
- Results of previous assessments (if available)
- Aggregation of data from different sources
- Other assurance processes to which the systems and data are subjected—internal audit, external reviews and certifications

Once these results are viewed and deemed accurate, AWT will amend the sampling plan as necessary. AWT will then examine the GHG data and information to develop an accurate account of the project’s GHG assertion. AWT will determine whether or not the project conforms to the validation/verification criteria and any discrepancies will be addressed. AWT will then examine whether or not the validation/verification evidence collected supports the GHG assertion, by evaluating the collected evidence in the assessments of controls, GHG data and information and applicable GHG program criteria to support the GHG assertion. It will then be determined whether or not the GHG assertion is without material discrepancies and that AWT provided the level of assurance agreed upon in the original contract. Any modifications to the GHG assertion will then be evaluated, so that all evidence supports its findings.

**Validation/Verification Team Technical Expertise**

Each member of the validation/verification team understands the generic knowledge associated with GHG and global warming. They are also fluent in the technologies applicable to the sectors in which validation/verification reports are prepared.

For each specific project, all members are knowledgeable in the following areas:

- Relevant GHG sources, sinks and reservoirs (SSR)
- Quantification methodologies—direct measurement via probes, baseline calculations, use of conversion factors, stoichiometric calculations, estimation methodologies and the conservativeness of these approaches.
- Monitoring techniques—correct installation and usage of equipment, calibration procedures and consequences for data quality, inspection of monitoring equipment, accuracy, uncertainty, interpretation of software GHG assertions
- Materiality
- Abilities related to GHG assertions—completeness of a GHG assertion, determine whether or not the GHG assertion meets GHG program requirements and the significance of a GHG assertion and what needs to be checked
- Abilities regarding the validation/verification agreements—understanding contracts between AWT and the client and be able to manage potential conflicts on project boundaries or other issues that could lead to double counting/claims relating to ownership and analyzing risk and failures associated with the use of data and data systems
- Auditing expertise—assess GHG information system to determine whether or not the data is identified, collected, analyzed and reported correctly, design an agreeable sampling plan, analyze all risks, identify failures and assess the impact.

### **Specific GHG Project Validation/Verification Team Competencies**

The Validation/Verification team has the expertise to assess all applicable processes, procedures and methodologies and are competent in the following areas:

#### **Validation:**

- Select, justify and quantify the baseline scenario, including underlying assumptions
- Able to determine the conservativeness of the baseline scenario
- Able to define the baseline scenario and GHG project boundaries
- Demonstrate equivalence between the type and level of activities, goods or services of the baseline scenario and the GHG project
- Demonstrate that GHG project activities are additional to baseline scenario activities
- Demonstrate conformity with GHG programme requirements
- Knowledge of relevant sector trends that may impact selection of the baseline scenario

#### **Verification:**

- Evaluate consistency between the validated GHG project plan the GHG project implementation
- Confirm the ongoing appropriateness of the validated GG project plan, including its baseline scenario and underlying assumptions

### **Use of Contracted Verifiers**

AWT currently contracts three verifiers on an as-needed basis, which includes: Tabitha Smith, Eric Wickens and Nilesh Gupta for specific site visits located throughout the United States and abroad. AWT takes full responsibility in hiring all contracted verifiers and follows a strict protocol to guarantee that each verifier conforms with ISO 14064-3 and 14065 and that their educational background, professional experience, training and qualifications meet the necessary standards.

Once the best-qualified candidates are determined, all contracted verifiers are required to sign a written agreement, by which they must comply with applicable policies and procedures, address confidentiality and independence from commercial and other interests and notify AWT of any conflicts of interest. AWT then contacts their client and receives written consent to use the contracted verifier for that particular project. *Contracting of Verification Services Document (Attachment E)*

### **Outsourcing**

AWT completes all validation/verification projects in-house using the designated team members. At this time, no projects have been outsourced. If AWT would need to outsource any additional services the following would take place:

- AWT will take full responsibility for the validation/verification
- Independent evidence of the outsourced body would be provided, which demonstrates conformity with ISO 14064-3

- AWT will receive consent from our client/responsible party to use the outsourced body
- All above information will be documented appropriately throughout the contract between AWT and the client

### **Avoidance of Conflicts of Interest**

AWT determines and reports any conflicts of interest or lack thereof to the administering program. AWT will strive to avoid any conflicts of interest for validation/verification projects through the following measures:

- AWT and its subcontractors will not use personnel with an actual or potential conflict of interest
- AWT and its subcontractors will not validate and verify GHG assertions from the same GHG project unless authorized by the applicable GHG programme
- AWT and its subcontractors will not validate or verify GHG assertion where it provided GHG consultancy services to the responsible party that support the GHG assertion
- AWT and its subcontractors will not validate or verify a GHG assertion where a relationship with those who provided GHG consultancy services to the responsible party that support the GHG assertion poses an unacceptable risk to impartiality which could be based on: ownership, governance, management, personnel, shared resources, finances, contracts, marketing, and payment of a sales commission or other inducement for the referral of a new client
- AWT and its subcontractors will not validate or verify a GHG assertion using personnel who were engaged by those who provided GHG consultancy services to the responsible party in support of the GHG assertion
- AWT and its subcontractors will not offer products or services that pose an unacceptable risk to impartiality
- AWT and its subcontractors will not outsource the review and issuance of the validation or verification statement
- AWT and its subcontractors will not state or imply that verification of a GHG assertion would be simpler, easier, faster or less expensive if a specified GHG consultancy service were used

### **California Climate Action Registry**

CCAR requires that all verifiers must demonstrate that they do not have significant conflicts of interest with participants in the following ways:

- Organizational COI—In the application process, AWT demonstrates that we have internal mechanisms in place to help maintain our objectivity in verification activities. (*Conflict of Interest Declaration of Ability & Intent to Comply-Appendix I*)
- Case-by-Case COI—Before a contract is signed, AWT demonstrates that any pre-existing relationship between us and the participant will not impair impartiality in verifying a GHG emissions report
- Emerging COI—For a period of one year following a verification, AWT will monitor our relationship with the participant to ensure impartiality has been

protected throughout the verification process. (*Form COI-AB: Notification of Verification Activities & Request for Evaluation of Potential for COI between Verifier and CCAR Members-Appendix 2*)

If AWT identifies a potential or actual COI, AWT will also submit a plan to avoid, neutralize or mitigate the COI situation. Furthermore under the CCAR regulations, if AWT has completed any consulting services for a client, AWT must wait 3 years prior to providing any validation/verification services.

AWT will demonstrate that our organization is capable of identifying and mitigating situations that would impair our ability to render an impartial verification opinion by demonstrating:

- Clearly-defined organizational boundaries, internal structures and relationships with other companies that have management or financial control over the applicant
- The presence of internal mechanisms to identify and mitigate organizational and personal COIs with any potential clients
- The ability to be objective in providing verification activities

### **Chicago Climate Exchange**

The Chicago Climate Exchange requires that all verifiers must demonstrate that they do not have significant conflicts of interest with participants, by submitting the following:

- Statement of any potential or actual conflicts of interest that may result from undertaking verification projects
- CCX Project Specific Conflicts of Interest form
- CCX Conflict of Interest Questionnaire
- All forms must be signed by both the participant and AWT and submitted to CCX

### **Liability and Financing**

AWT evaluates all financial risks associated with all validation/verification projects. AWT enters into a contract with each client, prior to starting any portion of the project. The contract outlines the budgeted allotment to successfully complete their validation/verification project. Once the contract is signed, the client is obligated to pay AWT the full amount according to the terms of the contract.

AWT has sufficient arrangements, including money in reserves and through our insurance company, to cover liabilities arising from the activities and areas in which we operate. Each project is covered by general liability and professional liability insurance, which includes \$1,000,000 per claim and \$2,000,000 aggregate. AWT retains authority and responsibility for all validation/verification activities, decisions and verification statements.

### **Agreement**

The signed contract outlines the level of assurance agreed upon with the client, scope of services, objectives, amount and type of evidence necessary to achieve the agreed level of

assurance, methodologies for determining representative samples and risks for potential errors, omissions or misrepresentations. *Sample Contract (Attachment F)*

### **Objectives**

All objectives will be outlined in the contractual agreement that will be provided prior to the commitment of any work by AWT. These objectives are clearly outlined and can be adjusted as necessary based on the clients needs. For VSC, the objective will be in conformance with the VCS 2007 requirements and VCS program methodologies as applicable to the specific project.

### **Scope**

The scope of work will be outlined in the contractual agreement and will include necessary information for the validation/verification, the level of scrutiny to which selected data will be subjected and the intended use of the results of the validation/verification. The scope will also be included in the verification report. For VCS, the criteria will include VCS 2007 or other GHG program as approved under the VCS program.

### **Schedule**

AWT will provide each client with a schedule outlining the validation/verification process activities and tasks, along with the project managers' name, contact information and designated team members.

### **Levels of Assurance**

AWT will then examine the GHG data and information to develop an accurate account of the organization's or project's GHG assertion. AWT will determine whether or not the organization or project conforms to the validation/verification criteria and any discrepancies will be addressed. AWT will then examine whether or not the validation/verification evidence collected supports the GHG assertion, by evaluating the collected evidence in the assessments of controls, GHG data and information and applicable GHG program criteria to support the GHG assertion. It will then be determined whether or not the GHG assertion is without material discrepancies and that AWT provided the level of assurance agreed upon in the original contract. Any modifications to the GHG assertion will then be evaluated, so that all evidence supports its findings. For all VCS validation/verification projects, the levels of assurance will be reasonable for both validation and verification.

### **Materiality**

Based on the full context within which the information is presented, AWT will assess any errors, omissions and/or misrepresentations. This assessment will be used to plan and direct the verification process. In assessing this risk, AWT will look at the following factors:

- The structure of the organization and the approach used to assign responsibility for monitoring and reporting GHG emissions
- The approach and commitment of management to GHG monitoring and reporting
- Development and implementation of policies and processes for monitoring and reporting

- Processes used to check and review calculation methodologies
- Complexity and nature of operations
- Complexity of the computer information system used to process the information
- The state of calibration and maintenance of meters used and the types of meters used
- Reliability and availability of input data
- Assumptions and estimations applied
- Aggregation of data from different sources
- Other assurance processes to which the systems and data are subjected—internal audit, external reviews and certifications

For VCS, the materiality will be 5% except for mega projects where it will be 1%.

### **Confidentiality**

AWT has developed a document titled, *Confidentiality/Non-Disclosure Agreement (Attachment G)*, which outlines the policies and procedures by which all staff members abide. AWT guarantees that all client information remains strictly confidential and that client information will not be disclosed to a third-party without written consent, by the client. All employees have signed this agreement upon accepting employment with AWT, which ensures that no employee will disclose or use any client confidential information, either during or after their employment. Furthermore, no one is permitted to remove or make copies of any client records, reports or documents without prior management approval. AWT will inform the client and/or responsible party before placing any information on the public domain.

### **Commitment to Impartiality**

AWT guarantees to act impartially and will avoid unacceptable conflicts of interest in all verification projects, by management, staff members and contracted verifiers. AWT is able to avoid potential or actual organizational conflicts of interest because there are no other related entities involved (i.e. a parent company). AWT guarantees to review all information received from prospective clients to determine potential risks to impartiality. Potential personal conflicts of interest are determined by the utilization of an *Internal Conflict of Interest (Attachment H)* document and an *Impartiality (Attachment I)* document that are both signed by each verification team member for every verification project.

### **Mechanism for Oversight of Impartiality**

AWT has an independent committee that provides oversight to guarantee that impartiality is being achieved throughout each validation/verification project. This independent committee consists of Lisa Tilley and Melissa Mottern. Tilley and Mottern provide impartial monitoring and review to ensure independence. Each team member follows the following procedures, which include:

- AWT first researches each company to determine the client's parent company and any subsidiaries
- All staff members are then made aware of these findings at the initial team meeting to determine if impartiality will be compromised by any of the members



- The team members then sign the *Impartiality (Attachment I)* document, which confirms that all members will act impartial throughout the entirety of the project
- At this point the members discuss any potential conflicts of interest, as well as any potential conflicts of interest that could arise and all members then sign the *Internal Conflict of Interest (Attachment J)* document.
- AWT then evaluates the finances and sources of income to demonstrate that commercial, financial and other factors do not compromise impartiality.

### **Information Provided to a Client or Responsible Party**

All clients/responsible parties will receive the following information: this management systems document, a detailed description of the validation/verification process, changes to the validation/verification requirements and the relevant GHG program that may affect the objectives, schedule of validation/verification activities and tasks, information on team members, fees, validation/verification reference policy and information on procedures for handling complaints and appeals.

If a client has any objections to any of the team members assigned to complete their validation/verification project, then that team member will be eliminated from the project and the team will be reconfigured to include an additional member on staff. Any additional client accommodations will be authorized on a case-by-case basis.

### **Personnel Records**

AWT maintains all employees up-to-date information regarding education, professional experience, training, qualifications and performance monitoring. AWT's office manager, Lisa Tilley, maintains these records.

### **Records**

All records are stored securely onto AWT's internal server and appropriately identified, collected, indexed, filed, stored, maintained and disposed properly resulting from GHG activities. These records are only accessible by internal staff members. All clients records will remain confidential and onsite at AWT's home office, located in Raleigh, North Carolina. Upon request, records pertaining to the verification will be retained or destroyed in agreement between the participating parties and in accordance with the validation/verification plan and any applicable GHG program and contractual arrangements. Specifically for VCS, all records and documents will be kept for at least five years after the end of the project crediting period, even if verification is not carried out for the whole project crediting period.

AWT records are precise and accurate and include the following information for each client:

- Application information and validation/verification scopes
- Contractual agreements signed by participant and AWT
- Records pertaining to any decision-making
- Confirmation of the completion of validation/verification activities, including findings and information on material or non-material discrepancies

- Validation/Verification statements
- Records of complaints and appeals and any subsequent correction or corrective action, if applicable
- Personnel records, including evidence of the competence of validators/verifiers and technical experts
- Records of internal audits taken based on the results of the audits
- Records of management reviews and actions taken based on the reviews

#### **Publicly Accessible Information**

AWT maintains clear, traceable and accurate information about all activities and sectors in which we operate. All files are securely held behind locked doors and are only accessible by the verification team. AWT's publicly accessible information includes: this Management System Document, website and brochure.

#### **Corrective and Preventive Actions**

AWT's internal audit provides an opportunity for improvement to identify areas of concern, which determines evidence of non-compliance with the relevant GHG requirements. If these outcomes arise, AWT will implement the necessary actions, record the results of these actions and review the effectiveness of the actions taken.

## Third-Party Verifiers

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AWT has been certified through the Chicago Climate Exchange (CCX)<sup>1</sup> as an approved third-party verifier for offset projects in the following categories:

- Agricultural Methane and Combustion
- Agricultural Soil Carbon Sequestration
- Rangeland Soil Carbon
- Renewable Energy
- Landfill Methane<sup>2</sup>

As a verifier, AWT provides independent third-party review of project reports, maintenance of project activity and attests to the accuracy of the provided data. AWT completes each verification process with a four-step approach, which includes:

### Chicago Climate Change

- **Pre-engagement:** AWT is initially contacted by an aggregator/project owner to complete a verification project. Team leaders review the preliminary documentation from the aggregator or project owner and discuss goals and constraints. At this point, AWT determines general conflict of interest and prepares the verification proposal including the sampling plan and verification approach. AWT then negotiates and prepares the contract, impartiality, project overview and outsourcing (if applicable) internal documents. Once a signed contract is received, the team leader and members are assigned. The team will then outline the scope, objectives, timeline, budget and eligibility requirements. This eliminates any roadblocks and allows all team members to accurately document the verification activities, conclusions and reports and maintain open-communication with our clients.
- **Approach:** The information gathering process then takes place, which includes:
  - Description of the procedures and systems used to collect, document and process GHG emissions data at the facility level
  - Description of quality control procedures applied (internal audits, comparison with last year's data, recalculation by a second person, etc.)
  - Listing of responsible individuals for collecting GHG emissions data at each site and at the corporate level, if applicable
  - Information on uncertainties, qualitative and if available, quantitative

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<sup>1</sup> CCX is the world's first and North America's only active voluntary, legally binding integrated trading system to reduce emissions of all six greenhouse gases (GHGs), with offset projects worldwide. CCX employs independent verification and has been trading GHG emission reductions since 2003.

<sup>2</sup> Dr. Morton Barlaz partners with AWT for all landfill carbon offset projects. Dr. Barlaz has extensive experience in many aspects of landfill design including: waste decomposition, carbon sequestration, gas management and life-cycle analysis.

Once all documentation has been collected and reviewed for completeness, AWT creates maps and other materials that are relevant to the project. At this point additional information/clarification is requested, if needed.

- **Verification:** Desk/field audits will then be completed to enable AWT to obtain sufficient and appropriate evidence of the completeness, accuracy and reliability of reported information.
- **Verification Statement:** Once the desk/field audits are finalized, all relevant information is compiled into a final document. This document is then reviewed by team leaders and the technical reviewer and the verification report and statement is issued to the aggregator/project owner for approval. AWT then addresses any questions and contestations. Once approved, AWT submits the verification report to the registry.

### **California Climate Action Registry**

- **Pre-engagement:** AWT is initially contacted by an aggregator/project owner to complete a verification project. The team leaders review the preliminary documentation from the aggregator or project owner and discuss goals and constraints. At this point, AWT submits case-specific notification of verification activities and request for evaluation of conflict of interest forms to CCAR. Once CCAR has acknowledged that the project can move forward, AWT and the participant finalize the contract. AWT then completes the project review, impartiality and outsourcing (if applicable) internal documents and submits them to participant. AWT then holds a kick-off meeting with participants, which includes: introduction of team leader and members, outlining the scope, objectives, timeline, budget and eligibility requirements. This eliminates any roadblocks and allows all team members to accurately document the verification activities, conclusions and reports and maintain open-communication with our clients.
- **Approach:** AWT conducts the verification activities in accordance with the General Verification Protocol, which includes:
  - Identifying emissions sources
  - Reviewing methodologies and management systems
  - Verifying emission estimates

Once all documentation has been collected and reviewed for completeness, AWT creates maps and other materials that are relevant to the project. At this point additional information/clarification is requested, if needed.

- **Verification:** Desk/field audits will then be completed to enable AWT to obtain sufficient and appropriate evidence of the completeness, accuracy and reliability of reported information.

- **Verification Opinion and Report:** Once desk and field audits are finalized, all relevant information is compiled and the verification opinion and verification report are created. This information is then reviewed by team leaders and the technical reviewer. The verification opinion and report is then issued to the aggregator/project owner for approval. AWT then addresses any questions and contestations. Once approved, AWT completes the verification form and verification activity log via CARROT and the verification opinion is submitted to CCAR.

### **Voluntary Carbon Standard**

- **Pre-engagement:** AWT is initially contacted by an aggregator/project owner to complete a CDM project. AWT then signs VCS's validation and verification agreement before performing any activities. The team leaders review the preliminary documentation from the aggregator or project owner and discuss goals and constraints. At this point, AWT prepares the verification proposal including the sampling plan and verification approach. AWT then negotiates and prepares the contract and submits the conflict of interest document to the VCS. AWT then completes the impartiality, project overview and outsourcing (if applicable) internal documents. Once a signed contract is received, the team leader and members are assigned. The team then outlines the scope, objectives, timeline, budget and eligibility requirements. This eliminates any roadblocks and allows all team members to accurately document the verification activities, conclusions and reports and maintain open-communication with our clients.
- **Approach:** The information gathering process then takes place, which includes:
  - Description of the procedures and systems used to collect, document and process GHG emissions data at the facility level
  - Description of quality control procedures applied (internal audits, comparison with last year's data, recalculation by a second person, etc.)
  - Listing of responsible individuals for collecting GHG emissions data at each site and at the corporate level, if applicable
  - Information on uncertainties, qualitative and if available, quantitative

Once all documentation has been collected and reviewed for completeness, AWT creates maps and other materials that are relevant to the project. At this point additional information/clarification is requested, if needed.

- **Verification:** Desk/field audits will then be completed to enable AWT to obtain sufficient and appropriate evidence of the completeness, accuracy and reliability of reported information.
- **Validation/Verification Opinion and Report:** Once desk/field audits are finalized and all relevant information is compiled, AWT then assesses the claim against the VCS 2007.1. The following VCS templates are then completed to

include: validation of the VCS project description, including the assessment of additionality, validation report and deed and the verification report and deed. The validation/verification report and statement are signed and issued to the aggregator/project owner for approval. AWT then addresses any questions and contestations. Once approved, the validation/verification report is then submitted to the VCS.

## **Chicago Climate Exchange Verification Step-By-Step Process**

1. Receive inquiry for verification services
2. Senior staff members review preliminary documentation, approved Project Implementation Document (PID) and any results of previous assessments (if applicable) from aggregator or project owner and discuss goals and constraints. This review will include determining the following:
  - Nature, scale and complexity of the verification activity to be undertaken on the client's behalf
  - Confidence in the responsible party's GHG information and assertion
  - Completeness of the responsible party's GHG information and assertion and the eligibility of the responsible party to participate in the GHG programme
3. AWT will then assess the controls for sources of potential errors, omissions and misrepresentations, while taking the following into account:
  - Selection and management of the GHG data and information
  - Risk of a material discrepancy occurring
  - Processes for collecting, procession, consolidating and reporting GHG data and information
  - Risk that the controls of the organization or GHG project will not prevent or detect a material discrepancy
  - Risk that the validator or verifier will not detect any material discrepancy that has not been corrected by the controls of the organization or GHG project
4. Determine general conflict of interest (Attachment J)
5. Prepare verification proposal including sampling plan (Attachment K) and verification approach
6. Negotiate and prepare contract (Attachment F), impartiality (Attachment I), project overview (Attachment L) and outsourcing (Attachment E) (if applicable) documents (*internal documents*)
7. Form validation/verification team by completing the following:
  - Assign team leader
  - Determine validation/verification team members
  - Outline scope, objectives, level of assurance, criteria and materiality
  - Design and maintenance of the GHG information system
  - Design a timeline, budget and eligibility requirements
8. Request full project documentation, which could include:
  - Description of the procedures and systems used to collect, document and process GHG emissions data at the facility level

- Description of quality control procedures applied (internal audits, comparison with last year's data, recalculation by a second person, etc.)
  - Listing of responsible individuals for collecting GHG emissions data at each site and at the corporate level, if applicable
  - Information on uncertainties, qualitative and if available, quantitative
9. Review project documentation for completeness, create maps and other materials relevant to the project
10. Request additional information/clarification and the sampling plan is amended (if needed)
11. Schedule and perform site visit/field audit (if required)
12. Complete desk audit and compile site visit information
13. Write verification report and statement (*Appendix 1*), to include the following:
- An opening or introductory statement including:
    - Identification of the Project Proponent's assertions and CCX Protocol and verification requirements against which the verification was conducted
    - A statement of the roles and responsibilities of the organization-level or GHG project-level management, and the roles and responsibilities of the Verifier including full contact information
  - A section detailing the scope of the verification work including:
    - Reference to the principles and requirements of the applicable CCX protocol, which may be accompanied by an approved PID or documented CCX verification requirements against which the verification was conducted
    - Reference to the verification scope, objectives, and criteria, including the level of assurance required
    - A description of the work the verification team performed, including the techniques and processes used to test the GHG information and associated GHG assertion prepared by the Project Proponent
  - A section detailing the conclusions containing:
    - A reference to the CCX Protocol and approved PID requirements used to prepare the GHG assertion
    - GHG information and performance verified
    - The level of assurance provided by the verification, consistent with the agreed verification scope, objectives, time period and criteria assertion
    - Presentation of the resolution of any qualifications
    - Conclusions on the GHG assertion



- A completed CCX verification checklist corresponding to the appropriate project type (Appendix 2). The completeness, accuracy and quality of evidence of each checklist item should be described in this section to ensure that the level of verification was performed such that no material discrepancy exists at the level of assurance required by CCX rules. For each item in the checklist, the Verifier should state the methods by which the criteria were evaluated, including:
  - Review of documentation, records, equipment, data or measurements
  - An elaboration of on-site inspections
  - Interviews and meetings
  - The identification of and resolution to any corrective action requests
  - Other relevant evidence utilized by the Verifier to reach their conclusion
  
- A Verification Statement will be completed to its entirety and submitted to CCX.

14. Review verification report and statement and sign report

15. Send verification report to aggregator/project owner for approval

16. Address questions and contestations

17. Submit verification report to registry

18. Previous Assessments--If a previous verification has been completed for the client, then AWT would request a copy of the report to review it and make sure that all relevant information is addressed appropriately. Reviewing these reports helps to eliminate any duplicate site/desk audits and views the conclusion, so that it can be carried forward to the current report appropriately.

## **California Climate Action Registry Verification Step-By-Step Process**

1. Participant selects a verifier
2. Senior staff members review preliminary documentation and any results of previous assessments (if applicable) from aggregator or project owner and discuss goals and constraints. This review will include determining the following:
  - Nature, scale and complexity of the verification activity to be undertaken on the client's behalf
  - Confidence in the responsible party's GHG information and assertion
  - Completeness of the responsible party's GHG information and assertion and the eligibility of the responsible party to participate in the GHG programme
3. AWT will then assess the controls for sources of potential errors, omissions and misrepresentations, while taking the following into account:
  - Selection and management of the GHG data and information
  - Risk of a material discrepancy occurring
  - Processes for collecting, procession, consolidating and reporting GHG data and information
  - Risk that the controls of the organization or GHG project will not prevent or detect a material discrepancy
  - Risk that the validator or verifier will not detect any material discrepancy that has not been corrected by the controls of the organization or GHG project
4. Verifier submits case-specific notification of verification activities and request for evaluation of Conflict of Interest (Complete *COI-AB, Appendix 3*) form to CCAR at a minimum of 10 business days prior to beginning any verification services (*submit updated COI form every year*)
5. Verifier and participant finalize contract (Attachment F)
6. Verifier then completes project overview (Attachment L), impartiality (Attachment I) and outsourcing (Attachment E) (if applicable) documents (*internal documents*) and submits to client for signatures
7. Verifier holds a kick-off meeting with participants, which includes:
  - Introduction of the verification team
  - Review and confirmation of verification process and scope, objectives, level of assurance, criteria and materiality
  - Design a timeline, budget and eligibility requirements
  - Transfer of background information, underlying activity data and results of previous assessments (if applicable)
  - Review and confirmation of the verification process and schedule

8. Conducting verification activities in accordance with the General Verification Protocol (*all verification should be completed by October 31 of the year the report is submitted to CCAR*)
  - Identifying emissions sources
  - Reviewing methodologies and management systems
  - Verifying emission estimates
  - Amend Sampling Plan (if necessary)
9. Preparing verification opinion (*Appendix 4*) and verification report (*Appendix 5*). The verification opinion is a brief, one-page summary that confirms the verification activities and outcomes. The verification report includes the following elements:
  - a. The scope of the verification process
  - b. The standard used to verify emissions
  - c. A description of the verification activities based on size and complexity of the participant's operations
  - d. A list of the emissions sources identified
  - e. A description of the sampling techniques and risk assessment methodologies employed for each source
  - f. An evaluation of the participant's emissions report compliance with the California Registry's General Reporting Protocol
  - g. A comparison of the participant's overall emission estimates with the verifier's overall emission estimates
  - h. A list of material discrepancies, if any
  - i. A list of immaterial discrepancies, if any
  - j. A general conclusion to be reflected in the Verification Opinion forwarded to the California Registry
10. Exit meeting is scheduled, so that the verifier and participant can discuss the verification report and opinion (*participant has up to 30 days to review and to make comments*)
11. Verifier completes verification form and verification activity log via CARROT
12. Participant forwards verification opinion to the California Registry
13. California Registry then completes the reporting process
14. Recodkeeping--AWT will keep participants hard and electronic copies for a minimum of seven years to include the following:
  - Participant's GHG emissions report (printable from CARROT)
  - Verification report
  - Verification Opinion
  - Contact information for the lead verifier and a responsible corporate officer at the participants organization

- General description of the participant's organization
  - Geographic boundaries
  - Number of facilities and operations assessed in the verification activities
  - GHGs evaluated
  - Sources of emissions identified
  - Assessment of emission factors, demonstrating greater accuracy if not default emission factors
  - Copies of fuel use, mileage or other activity data records used in sample recalculations
  - Verification methodology used based on the size and complexity of the participant
  - Sampling procedures for selecting site visits
  - Dates of site visits
  - Verifiers evaluation of the participants management systems
  - Verifiers estimates of the participants emissions
15. Previous Assessments—If a previous verification has been completed for the client, then AWT would request a copy of the report to review it and make sure that all relevant information is addressed appropriately. Reviewing these reports helps to eliminate any duplicate site/desk audits and views the conclusion, so that it can be carried forward to the current report appropriately.

## **Voluntary Carbon Standard Validation/Verification Step-By-Step Process**

1. Participant Selects a Verifier
2. Senior staff members review preliminary documentation and any results of previous assessments (if applicable) from aggregator or project owner and discuss goals and constraints. This review will include determining the following:
  - Nature, scale and complexity of the validation/verification activity to be undertaken on the client's behalf
  - Confidence in the responsible party's GHG information and assertion
  - Completeness of the responsible party's GHG information and assertion and the eligibility of the responsible party to participate in the GHG programme
3. AWT will then assess the controls for sources of potential errors, omissions and misrepresentations, while taking the following into account:
  - Selection and management of the GHG data and information
  - Risk of a material discrepancy occurring
  - Processes for collecting, procession, consolidating and reporting GHG data and information
  - Risk that the controls of the organization or GHG project will not prevent or detect a material discrepancy
  - Risk that the validator/verifier will not detect any material discrepancy that has not been corrected by the controls of the organization or GHG project
4. Once the verifier is chosen to complete a CDM project, the verifier must sign VCS validation and verification agreement with the VCS Association before performance of any validation/verification in connection with VCS Program.
5. The project proponent submits its VCS project description, monitoring plan and reports, proof of title, validation report (if available), results of previous assessments (if applicable) and other information required to the accredited validation/verification body.
6. The validator/verifier prepares validation/verification proposal including sampling plan (Attachment L) and validation/verification approach.
7. Validator/verifier then negotiates and prepares contract (Attachment F)
8. Validator/verifier submits the Conflict of Interest (Attachment J) document to the VCS Association.
9. Validator/verifier then completes the project overview (Attachment L), impartiality (Attachment I) and outsourcing (Attachment E) (if applicable) documents and submits to client for signature. (*internal documents*)

10. Form validation/verification team by completing the following:
  - a. Assign team leader
  - b. Determine validation/verification team members
  - c. Outline scope, objectives, level of assurance, criteria and materiality
  - d. Design a timeline, budget and eligibility requirements
11. Review project documentation for completeness, create maps and other materials relevant to the project
12. Request additional information/clarification and amend sampling plan (if necessary)
13. Schedule and perform site visit/field audit (if required)
14. Complete desk audit and compile site visit information
15. An accredited VCS Program validator/verifier then assesses the claim against the VCS 2007.1 and produces:
  - I. **Validation** - validation of the VCS Project Description (PD) including an assessment of additionality. (Complete *Project Description Template-Appendix 6*)
    1. **Validation Components**, which are checked during the validation:
      - Participation requirements are met
      - Comments of stakeholders—collected and addressed
      - Environmental Impact Assessment (EIA) undertaken
      - Project meets additionality requirements
      - Baseline is established
      - Appropriate methodologies for Certified Emission Reductions (CER) calculation and monitoring are selected
      - Mew methodologies get approved before validating the projects using them
      - Take written approval of the voluntary participation from the designated national authority
      - Make Project Design Document (PDD) available to public and consider their comment before validation
      - Inform project participants on:
        - Confirmation of validation and date of submission or
        - Explanation of reasons for non-acceptance
      - Submit request for registration to Executive Board (EB)
      - Make validation report publicly available
    2. **Validation Report**-Complete *Validation Report Template-(Appendix 7)*
    3. **Validation Deed**-Complete *Validation Deed-(Appendix 8)*

**II. Verification-Periodic independent review by DOE of emissions of GHG that occurred as a result of registered CDM project.**

1. **Verification Components**, which are checked during the verification:
  - Verifies projects documentations are as per requirement
  - Conduct site audits and collect outside data to determine reductions in emissions
  - Identify and inform the project participants of any concerns related to conformity
  - DOE provides a verification report to the project participants and EB. The report is made publicly available
  - DOE then certifies in writing the CERs for the specific time period
2. **Verification Report-Complete Verification Report Template-(Appendix 9)**. For AFOLU projects the verification report shall also confirm the project's non-permanence risk rating and the amount of credits that must be deposited in the AFOLU Pooled Buffer Account.
3. **Verification Deed-Complete Verification Deed-(Appendix 10)**

16. Review validation/verification report and statement and sign report(s)
17. Send validation/verification report(s) to aggregator/project owner for approval
18. Address questions and contestations
19. The project proponent opens a VCS Registry account, including submitting a signed copy of the VCS Program Terms and Conditions, and then submits the VCS PD, validation report, monitoring report, verification report and proof of title to the VCS Registry operator.
20. The VCS Registry operator checks the documentation submitted to ensure that the required VCS Program documents have been submitted. If the VCS Registry operator is satisfied, it submits electronic copies of these documents to the VCS Project Database and requests VCU serial numbers for the VCUs. Projects that received an up-front validation, but have not had any GHG emissions reductions or removals verified can volunteer to be recorded on the VCS Project Database in line with the normal VCS Program requirements.
21. The VCS Project Database checks that the project has not been previously registered under the VCS Program, by searching to see that the project's GPS boundaries have not been registered in the VCS Project Database. It then issues VCU serial numbers to the VCS Registry, logging these on the VCS Program Project Database along with project documentation. In case of AFOLU projects, the VCS Registry in which the

project is registered deposits the appropriate amount of credits, as indicated in the approved verification report into the AFOLU Pooled Buffer Account. The VCS Registry operator requests and receives payment from the project proponent of the VCS Registration Levy.

22. The VCS Registry deposits any original documentation submitted into custodial service. The VCS Registry issues VCUs into the account of the project proponent.
23. Recordkeeping—Validator/verifier will keep all documents and records used for the validation/verification project in a secure and retrievable manner for at least 2 years after the end of the project-crediting period.
24. Previous Assessments—If a previous verification has been completed for the client, then AWT would request a copy of the report to review it and make sure that all relevant information is addressed appropriately. Reviewing these reports helps to eliminate any duplicate site/desk audits and views the conclusion, so that it can be carried forward to the current report appropriately.



### **Facts Discovered After the Verification Statement**

AWT will consider appropriate action if facts that could materially affect the verification statement are discovered by our client, responsible party or GHG program after the issuance to include the following:

- AWT will determine if the facts have been adequately disclosed in the GHG assertion
- AWT will consider if the verification statement requires revision
- AWT will discuss the matter with the client, responsible party or GHG program

If the verification statement requires a revision, AWT will implement a process to issue a revised report and statement, which specifically addresses the reason for the revision. AWT will obtain sufficient evidence and identify relevant information up to the date of the verification statement. If facts that could materially affect the verification statement are discovered after this date, the verifier will consider appropriate action.

### **Special Verifications**

If AWT receives complaints from a client or responsible party regarding their verified statement, then AWT will accomplish the following:

- AWT will notify, in advance, the client, responsible body or both, of the conditions under which the special validation/verification is to be conducted
- AWT will use additional care in assigning validation/verification team members if there is a lack of opportunity for the responsible party

### **Changes to the Validation/Verification Requirements**

GHG programs are constantly evolving, as are their guidelines and requirements. AWT works one-on-one with each client to correctly apply the verification procedures set forth by the applicable GHG program. AWT remains in contact with each client on a continual basis to keep them posted of the progress and to request any additional information as needed. Throughout the validation/verification process, some changes regarding the requirements and relevant GHG program may take place that may affect the objectives. AWT will assist in eliminating roadblocks and make a smooth transition for everyone involved. All validation/verification reports will be in English and will describe the process, any issues that were raised along with their resolutions and the final conclusions reached by AWT. All reports will comply with each programs template requirements and will be signed, dated and presented on company letterhead.

### **Appeals, Complaints and Disputes (Attachment M)**

AWT will commit to the following regarding all appeals:

- The Project Manager assigned to the project will field the appeal
- AWT has a documented process to manage, evaluate, take necessary corrective action and make necessary appeals

- AWT will be responsible for all decisions at all levels of the appeals-handling process
- AWT will ensure that the individual engaged in the appeals-handling process is different from those who carried out the verification and prepared statements on the GHG assertion, to include: Kevin Davidson or Hal Langenbach
- AWT will advise the appellant of receipt of the appeal, the appeals-handling process, the individual engaged in the process and shall provide reports and formal notice of the outcome
- AWT will ensure that decisions on appeals do not result in any discriminatory actions against the appellant

AWT will commit to the following regarding complaints from any clients:

- The Project Manager assigned to the project will field the complaint
- AWT has a documented process to manage, evaluate, take necessary corrective action and make decisions on complaints
- AWT will be responsible for all decisions at all levels of the complaint-handling process
- AWT will safeguard the confidentiality of the complaint and subject of the complaint
- AWT, upon receipt of complaint, will confirm whether the complaint relates to verification activities and whether the verification body is responsible
- AWT will ensure that the individual engaged in the complaint-handling process is different from those who carried out the verification and prepared statements on the GHG assertion, to include: Kevin Davidson or Hal Langenbach

If a dispute still can't be resolved at this point, both parties must state their consent to submit irreconcilable differences for review to the designated program. At that point, their appointed Dispute Resolution Committee will make the final decision.

## **Accreditations**

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AWT is currently pursuing accreditation to become a certified third-party verifier for:

### **ANSI Accreditation under ISO 14065 Requirements**

To become an accredited validator and verifier

### **Chicago Climate Exchange (CCX)**

- Agricultural Methane and Combustion
- Agricultural Soil Carbon Sequestration
- Rangeland Soil Carbon
- Renewable Energy
- Energy Efficiency

### **California Climate Action Registry (CCAR)**

Project Protocols-Livestock Gas Capture/Combustion

### **Voluntary Carbon Standard (VCS)**

- Energy Industries
- Agriculture
- Waste Handling and Disposal
- Forestry and Land Management
- Manufacturing

## **Project Experience**

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### **TerraPass Inc.**

AWT provided consulting services for GHG offsets, which included a fully functional model for swine and dairy methane digesters to calculate baseline, project and leakage emissions based on the ACM0010 and AM56 CDM protocols, science editing services for project design documents, monthly monitoring document consisting of maintenance/inspection/record keeping requirements in order to maximize credits and on-going technical consulting services as needed.

AWT also provided consulting services for Landfill GHG Offsets, including the landfill gas model and project design documents, which included science edit of landfill gas model, science editing services for the first project design document and on-going technical consulting services, as needed.

### **Fibrowatt**

AWT provided consulting services to Fibrowatt, which included the projects in Minnesota, North Carolina and Arkansas. AWT assisted the Fibrominn facility located in Minnesota with decision-making relative to the monetization of environmental assets. AWT also advised Fibrowatt on how to maximize revenue of environmental assets for planned facilities in North Carolina and Arkansas. This activity included the evaluation of potential environmental assets and comparative calculations of GHG offset credits based on options determined by the joint effort of AWT and Fibrowatt. Upon reaching a decision on where the offset credits would be registered, a protocol was established to streamline data collection and recordkeeping prior to bringing the projects on-line in order to maximize offset credits.

### **Farm Power Northwest**

AWT provided consulting services to Farm Power Northwest LLC for their regional digester project planned in Skagit County, Washington. AWT was consulted to determine the baseline case calculations and project case calculations on five farms, as well as assisting in developing the verification plan and monitoring plan.

### **Environmental Power Corporation**

AWT has provided agricultural methane verification services for Environmental Power Corporation (EPC), on an as needed basis, for three sites located in Wisconsin. AWT's verification services include ongoing verification reports for Chicago Climate Exchange. AWT has also worked extensively with EPC to develop a co-digestion protocol for determining GHG emissions offsets associated with co-digestion of dry manure and organic substrate.

### **AgRefresh**

AWT provided GHG offset verification services for three dairy anaerobic digester projects located in Washington and Wisconsin. The offset verification reporting was based on the AgRefresh standard and protocol.

### **Carbonless Promise**

AWT provided GHG offset verification for approximately 94,000 acres of rangeland/grassland/conservation tillage in Montana. Four verification reports were developed and submitted to the Chicago Climate Exchange for these acres (two reports covering rangeland and two reports covering grassland/conservation tillage). All grassland/conservation tillage contracts were verified through a field audit, so that a 10% representation (or random sample) would be confirmed for the acres enrolled. All rangeland projects were first-year verifications and were verified (both by desk and field audit) so that a 10% representation (or random sample) would be confirmed for the group of ranches whose acres enrolled were under 10,000 contracted acres. For the ranches over 10,000 contracted acres, a desk audit and on-site visit was completed for 100% (all ranches).

AWT has completed first year verifications for phases I and II and is currently working on phase III of this project as well as second year verifications for phases I and II. Phase III includes verification services for rangeland, grassland and conservation tillage projects totaling approximately 440,000 acres.

### **North Dakota Farmers Union**

AWT provided GHG offset verification for approximately 407,000 acres of rangeland, grassland and conservation tillage for pools 1 and 2. Once field audits were completed, pictures (one overview and one close-up for each point), GPS Points and site visit notes for all ranches were compiled and verification reports were prepared for each farm/ranch in the pools. These projects have included ranches/farms in Virginia, Maryland, Oklahoma, Colorado, South Dakota, Montana, Idaho, Wyoming and New Mexico.

AWT is currently working on second year verifications for Pool 1 and Pool 2 rangeland and first year verification for Pool 3. Our current North Dakota Farmers Union assignments total approximately 250,000 acres.

### **Ranchlands Management**

AWT completed the GHG offset verification for approximately 234,000 acres of rangeland in Texas and Colorado associated with SW Pool 1 and approximately 223,000 acres of rangeland in Texas and New Mexico associated with SW Pool 2. One verification report has been submitted to the Chicago Climate Exchange for each pool.

We are currently contracted to provide verification services for and additional pool located in TX/OK and another located in Wyoming totaling approximately 226,000 acres in addition to the second year verification of SW Pool 1.

### **Natural Capital**

AWT completed the GHG offset verification for approximately 64,855 acres of rangeland, no-till and grassland in Montana. The verification process included: initial review of maps/records, a site visit to accomplish the field verification, and three verification reports covering all of the acreage for rangeland, no-till and grassland,

respectively. We are currently working on Pool 2 which consists solely of rangeland contracts located in Montana and Wyoming totaling approximately 870,000 acres.

### **Global Green Energy**

AWT has completed the GHG offset verification for two wind energy projects located in India. AWT verified the carbon credits due to renewable energy production and wrote verification reports based on the CCX renewable energy protocol in conjunction with applicable CDM protocols and associated calculation tools. Three other wind projects are under contract.

### **SunOne Solutions**

AWT completed the GHG offset verification for approximately 400,000 acres of rangeland, grassland, and conservation tillage located in Nebraska. The verification process included initial review of maps/records, site visits to accomplish the field audit, and verification reports covering all of the acreage for rangeland, grassland and conservation tillage. AWT is currently working on a rangeland pool for SunOne Solutions that includes approximately 547,000 acres of rangeland located in Texas, Nebraska, Montana and Wyoming.

### **RCM International**

AWT provided agricultural methane and renewable energy verification services for Castelanelli Brothers Dairy, located in California. AWT's verification services included a site visit to verify all components of the digester system, verification of biogas/methane concentration data and electricity generation data, calculation of methane offset credits and wrote a verification report based on the CCX protocol.

### **C-Lock Technology**

AWT provided GHG offset verification for approximately 23,000 acres of soil carbon sequestration and fuel use reduction located in South Dakota. The verification process included an initial review of maps, records and model documentation, a site visit to accomplish the field verification and review of the model and two verification reports signed by AWT.

### **National Carbon Offset Coalition**

AWT provided GHG offset verification services for approximately 349,000 acres of rangeland located in New Mexico and Texas. The verification process included desk audits (review of contracts, records, maps, etc.) and field audits of all ranches in Pool 4 and 5. One verification report was filed with the Chicago Climate Exchange for each pool.

### **Rolling Plains Crop Insurance**

AWT is currently under contract and is in the process of providing verification services for approximately 905,000 acres of rangeland and grassland located in Texas, Colorado, South Dakota and Montana.

### **CARBONyatra**

AWT has completed three renewable energy (wind) projects and is under contract for an additional six renewable energy (wind) projects located in India. All of these projects are Chicago Climate Exchange projects using the CCX Renewable Energy protocol in conjunction with the grid connected renewable energy CDM protocol and associated calculation tools. In addition to the wind projects, we have completed two biomass to energy project verifications and one methane recovery/renewable energy project with two additional related projects under contract. The biomass and methane recovery/renewable energy projects are based on several CDM protocols including AMS III.H (Methane Recovery in Wastewater Treatment), ACM0006 (Consolidated methodology for electricity generation from biomass residues) and AMS I.D (Grid connected renewable electricity generation).

### **Mission Climate**

AWT has completed one renewable energy (wind) project verification in India. The verification report was submitted to and approved by the Chicago Climate Exchange.

### **Agrinergy**

AWT has completed one biomass to energy project verification located in India. The verification report was submitted to and approved by the Chicago Climate Exchange. The biomass project emission reduction calculations were based on ACM0006 and AMS I.D.

### **Ecolutions**

AWT has completed two renewable energy (wind) projects and is under contract for an additional renewable energy (wind) project located in India. All of these projects are Chicago Climate Exchange projects using the CCX Renewable Energy protocol in conjunction with the grid connected renewable energy CDM protocol and associated calculation tools.

## **Validation/Verification Team Members Resumes**

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**Jeffrey David Vaughan**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27520

### **EDUCATION**

Ph.D. Soil Science, December, 1997.

North Carolina State University, Raleigh, North Carolina.

M.S. Crop and Soil Environmental Sciences, December 1994.

Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

B.S. Agronomy, May 1991.

Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Concentration: Crop Science and Turfgrass Management. Minor: Agricultural Economics.

### **EXPERIENCE**

President/Senior Agronomist/Soil Scientist-Agri-Waste Technology, Inc., Raleigh, NC,  
March 1998 - Present.

- Oversee a comprehensive records management system (called the Nutri-Link System or NLS) developed for managing/monitoring livestock farming operations and insuring compliance with federal/state/local regulations. Assess all waste management records in NLS to insure proper farm management/compliance and make recommendations for corrective action when needed. The types of records maintained with this system include waste/effluent land application, waste/effluent analysis, field maps and identifications, crop types, crop yield/analysis, soil analysis, well water analysis, freshwater irrigation, precipitation, livestock water use, waste lagoon levels, and waste lagoon pumping. Farms in the following states use NLS: Illinois, Kansas, Kentucky, Missouri, North Carolina, Oklahoma, Texas, and Wisconsin. The following companies participate in the NLS: Cargill Pork, Inc., DeKalb Swine Breeders, Inc., Hanor Company, Inc., Iowa Select Farms, Inc., Land O' Lakes Ag Services, Inc., National Farms, Inc., New Dominion Farms, Inc., Pig Improvement Company, Inc., Seaboard Farms, Inc., and Vall, Inc.
- Oversee weekly management of 21 MGD municipal wastewater land application system on approximately 4500 acres.
- Develop expert reports and presentations and provide depositions regarding soils, agronomy, land application of waste, etc., for clients involved in litigation.
- Develop cropping systems and nutrient application recommendations for livestock waste management plans, nutrient management plans, environmental permits, and pollution prevention plans.



- Make fertility and liming recommendations for a variety of crop/soil systems in the United States. These recommendations are made using soil analyses and up-to-date crop and soils information on a site and/or state specific basis.
- Diagnose crop abnormalities and suggest corrective action(s).
- Make sampling, handling, and analysis recommendations for soils, crops, waste, and freshwater (ground and surface).
- Provide basic information on crops (types, management, etc.) and soils (management, nutrient transformations, etc.) to clients as needed.
- Audit waste application systems and cropping systems for livestock farming operations and recommend necessary management upgrades/changes.
- Interact with federal/state/local regulatory officials to insure compliance with recordkeeping/monitoring requirements and in the preparation of livestock waste (nutrient) management plans, environmental permits, and pollution prevention plans.
- Interact with laboratory personnel to insure proper quality assurance and control. The labs dealt with include A&L Analytical Laboratories, Inc., Midwest Laboratories, Inc., North Carolina Department of Agriculture-Agronomic Division, Prairie Analytical Systems, Inc., Southern Testing and Research Laboratories, Inc., and Servi-Tech Laboratories, Inc.
- Conduct soil evaluations and develop soil scientist reports for wastewater (industrial, municipal, residential) system suitability as well as permit applications and wastewater system design.
- Conduct wastewater system inspections in the central NC area.
- Manage nine full-time and two part-time employees.
- Participate in the marketing of company services through client contact and mailing materials development.
- Verification of offset projects, which include no-till, grassland and rangeland

Ph.D. Graduate Student, Soil Science Department, North Carolina State University, Raleigh, North Carolina, January 1995 - December 1997.

- Dissertation title: Assessment of Winter Cover Crops and Manure for Supplying Nitrogen to Corn and Burley Tobacco.
- Planned and designed Ph.D. research project with the assistance of Dr. G.D. Hoyt.
- Investigated the effectiveness of soil testing and plant analysis for predicting burley tobacco and corn nitrogen needs following winter cover cropping or manure application.
- Investigated cover crop residue decomposition and N mineralization patterns in conventional and no-till corn systems using nylon mesh bags.
- Prepared research presentations for the National Meetings of the American Society of Agronomy and the state meetings of the Soil Science Society of North Carolina.

- Assisted in planting, fertilization, and soil sampling (using a Giddings Soil Probe) operations associated with Ph.D. research project.
- Sampled plant tissue and soil at specific plant growth stages for Ph.D. research project.
- Conducted 2M KCl soil extractions and plant tissue drying and grinding associated with doctoral research project.
- Analyzed soil and plant samples for nitrate-nitrogen using the Nitrate Quick Test kit developed by Hawk Creek Laboratory in conjunction with Pennsylvania State University.
- Statistically analyzed data from Ph.D. research project using the Statistical Analysis System (SAS).

M.S. Graduate Student, Crop and Soil Environmental Sciences Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, August 1991 - December 1994.

- Thesis title: Management and Assessment of Winter Cover Crop Systems for Supplying Nitrogen to Corn in the Mid-Atlantic Region of the United States.
- Planned and designed master's research project with the assistance of Dr. G.K. Evanylo.
- Studied the ability of soil testing and plant analysis to predict nitrogen contributions from winter cover crops to corn.
- Studied the influence of winter cover crop spring kill time, particle size, and soil incorporation on the nitrogen availability from winter cover crops to corn.
- Assisted in the preparation of research presentations for the National Meetings of the American Society of Agronomy.
- Assisted in tillage, planting, fertilization, and spraying operations associated with master's research project.
- Sampled plant tissue and soil at specific plant growth stages for master's research project.
- Executed lab work including 2M KCl soil extractions, plant tissue drying and grinding, plant tissue digestion for total Kjeldahl nitrogen (TKN) analysis, and prepared buffer solutions, color reagents, and other reagents for various laboratory analyses.
- Analyzed soil samples for nitrate-nitrogen using the Nitrate Quick Test kit developed by Hawk Creek Laboratory in conjunction with Pennsylvania State University, N-Trak Quick Test kit developed by the Hach Company in conjunction with Iowa State University, and the Cardy Nitrate Quick Test kit developed by Spectrum Technologies.
- Operated a Lachat Quikchem Automated Ion Analyzer for soil nitrate-nitrogen and ammonium-nitrogen analysis and plant tissue TKN analysis.
- Managed an undergraduate student worker from May 1992 - September 1992 and March 1993 - May 1994.
- Statistically analyzed data from master's research project using the Statistical Analysis System (SAS).

Undergraduate Research Student, Agronomy Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, May 1990 - February 1991.

- Studied yield potential of prolific corn hybrids as influenced by plant population.
- Assisted in tillage, spraying, and data collection operations associated with undergraduate research project.

Lab Technician (Mechanic) A, Agricultural Engineering Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, summers of 1987 - 1990.

- Assisted in building and assembling machine components for various projects (i.e. used metal and woodworking shops).
- Assisted in planting, tillage, harvesting, and drying various crops including corn, sweet sorghum, grain sorghum, broccoli, cabbage, peanuts, and various forage crops.
- Worked on projects dealing with sustainable agriculture, conservation tillage, energy use, and soil compaction.

Data Entry Operator, Virginia Geographic Information Systems (VirGIS) Project, Agricultural Engineering Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, summers of 1985 - 1989 and March 1990 - May 1991.

- VirGIS was a project studying the non-point source pollution runoff into the Chesapeake Bay.
- Interpreted maps including United States Geographical Service 7.5 minute topographic sheets, county soil surveys, and high altitude infrared aerial photographs.
- Digitally encoded data (manually and electronically) using IBM PC and IBM 3090 mainframe computers and Numonics Electrical Digitizing Tablets.

#### Publications/Presentations

Vaughan, Jeffrey D., Greg D. Hoyt, and Arthur G. Wollum. 2008. Assessment of Burley Tobacco Nitrogen Needs after Cover Cropping and Manure Application. Tobacco Sci. 47:1- 10 (in press).

Vaughan, Jeffrey D. and Greg D. Hoyt. 2008. Evaluation of a Quick Test Method for Tobacco Petiole Nitrate Analysis. Tobacco Sci. 47:11-12 (in press).

Vaughan, J.D., G.D. Hoyt, and A.G. Wollum, II. 2000. Cover crop nitrogen availability to conventional and no-till corn: soil mineral N, corn N status, and corn yield. Commun. Soil Sci. Plant Anal. 31:1017-1041.

Vaughan, J.D. and G.K. Evanylo. 1999. Soil nitrogen dynamics in winter cover crop-corn systems. Commun. Soil Sci. Plant Anal. 30:31-52.

Vaughan, J.D. and G.K. Evanylo. 1998. Corn response to cover crop species, spring desiccation time, and residue management. *Agron. J.* 90:536-544.

Vaughan, J.D. and G.D. Hoyt. 1997. Nitrogen dynamics in conventional and no-till corn systems following winter cover cropping. *Soil Sci. Soc. North Carolina Proc.* 40:47-60.

Vaughan, J.D., G.D. Hoyt, and A.G. Wollum. 1997. Mineralization of cover crop and manure nitrogen in burley tobacco production systems. *Agron. Abstr.* p. 295.

I presented a poster of the same title at the 1997 National Meetings of the American Society of Agronomy in Anaheim, California.

Hoyt, G.D., J.D. Vaughan, and A.G. Wollum. 1997. Cover crop decomposition and nitrogen release in conventional and no-till corn. *Agron. Abstr.* p. 296.

I presented a poster of the same title at the 1997 National Meetings of the American Society of Agronomy in Anaheim, California.

Vaughan, J.D. and G.D. Hoyt. 1996. Nitrogen dynamics in conventional and no-till corn systems following winter cover cropping. *Agron. Abstr.* p. 294.

Vaughan, J.D. and G.K. Evanylo. 1994. Nitrogen cycling in cover crop-corn rotations. *Agron. Abstr.* p. 351.

Evanylo, G.K. and J.D. Vaughan. 1993. Nitrogen availability to corn under varying cover crop management. *Agron. Abstr.* p. 271.

I presented a poster of the same title at the 1993 National Meetings of the American Society of Agronomy in Cincinnati, Ohio.

Vaughan, J.D. and G.K. Evanylo. 1993. Soil and tissue testing to determine nitrogen availability from cover crops to corn. *Agron. Abstr.* p. 290.

I presented a talk of the same title at the National Meetings of the American Society of Agronomy in Cincinnati, Ohio.

Ess, D.R., D.H. Vaughan, J.D. Vaughan, and G.K. Evanylo. 1992. Nutrient management strategies for sustainable cropping systems. ASAE Paper No. 928509.

Vaughan, J.D. and G.K. Evanylo. 1992. Nitrogen dynamics in reduced-till corn following winter cover cropping. *Agron. Abstr.* p. 294.

I presented a poster of the same title at the 1992 National Meetings of the American Society of Agronomy in Minneapolis, Minnesota.

Vaughan, J.D., J.R. McKenna, and S.T. Reed. 1991. Evaluation of genetic-population interactions as they relate to prolificacy and silk delay in corn. *Agron. Abstr.* p. 3.

I presented a talk of the same title at the 1991 Southern Branch Meetings of the American Society of Agronomy in Fort Worth, Texas.

### **Teaching**

Taught Soils Laboratory (SSC 012) in Spring Semesters of 1995 - 1996 and Fall Semesters of 1995 and 1997 in the Soil Science Department at North Carolina State University.

- Prepared and administered weekly lectures and laboratory experiments, prepared and graded tests and homework assignments, and assigned final grades associated with this lab.
- Received an overall rating of 4.63 out of 5.00 by student evaluation.

Taught Soils Laboratory (CSES 3124) in Fall Semesters of 1991 - 1993 and Spring Semesters of 1993 - 1994 in the Crop and Soil Environmental Sciences Department at Virginia Polytechnic Institute and State University.

- Prepared and administered weekly lectures and laboratory experiments, prepared and graded tests and homework assignments, and assigned final grades associated with this lab.
- Assisted or taught in some lectures, prepared test questions, and graded quizzes associated with Soils (CSES 3114) in Fall Semesters of 1991-1993 and Spring Semesters of 1993-1994.
- Received an overall rating of 3.50 out of 4.00 by student evaluation.

Teaching Assistant for Soil Fertility and Management (CSES 4214) in Spring Semesters of 1993 - 1994 in the Crop and Soil Environmental Sciences Department at Virginia Polytechnic Institute and State University.

- Prepared, administered, and graded homework assignments.
- Prepared and presented one lecture each semester.
- Assisted in exam preparation, administration, and grading.
- Assisted in assigning final grades.

**HONORS/ACTIVITIES** - All items are from Virginia Polytechnic Institute and State University unless otherwise specified.

- Selected to attend the Tenth Annual Graduate Student Professional Development Workshop in 1996 for North Carolina State University, College of Agriculture and Life Sciences, graduate students.
- Selected to present my research at the 1996 Chancellor's Circle for North Carolina State University scholarship donors.
- William Walton Stevens and Emily Inscoc Stevens Conservation Graduate Fellowship from North Carolina State University, 1996 - 1997.
- Fred Bond Graduate Scholarship from North Carolina State University, 1996 - 1997.
- Graduate Teaching Assistant Award Honorable Mention, 1994.

- David R. Spence Graduate Scholarship, 1993.
- Moderator for the "Cover Crops for Soil Fertility" section of the 1992 Virginia Sustainable Agriculture Conference.
- Alpha Zeta Outstanding Senior in Crop and Soil Environmental Sciences, 1991.
- Sigma Xi Undergraduate Research Award, 1991.
- John Lee Pratt Animal Nutrition Scholarship, 1990.
- Agronomy Club Scholarship, 1988.
- John Lee Pratt Memorial Scholarship, 1987.
- Treasurer of Agronomy Club, 1989 - 90.
- Chair of Agronomy Club annual fundraiser for two years, 1989 - 90.
- Member of Agricultural Club Council, 1990 - 1991.
- Representative for the Dean of the College of Agriculture and Life Sciences at my former high school recruiting potential students, 1990.

### **MEMBERSHIPS/TITLES**

- Certified Crop Advisor (CCA), Certified Professional Agronomist (CPAg), and Certified Professional Soil Scientist (CPSSc) as certified by ARCPACS, A Federation of Certifying Boards in Agriculture, Biology, Earth and Environmental Sciences.
- Technical Service Provider (TSP) for the Natural Resources Conservation Service.
- CCX Verifier for Agricultural Soil Carbon Sequestration and Rangeland Soil Carbon Sequestration
- CSA America, Inc. Verifier for Greenhouse Gas
- Licensed Soil Scientist as licensed by the North Carolina Board for Licensing of Soil Scientists.
- Certified Professional Soil Scientist as certified by Virginia Board for Professional Soil Scientists and Wetland Professionals.
- Certified Soil Classifier as certified by the South Carolina Department of Natural Resources.
- Subsurface Water Pollution Control System Operator as certified by the North Carolina Water Pollution Control Systems Operators Certification Commission.
- Certified Septic System Inspector as certified by the North Carolina Onsite Wastewater Contractors and Inspectors Certification Board.
- Nutrient Management Consultant as licensed by the State of Maryland, Maryland Department of Agriculture, Office of Resource Conservation.
- Certified Nutrient Management Planner as certified by the Commonwealth of Virginia, Department of Conservation and Recreation, Division of Soil and Water Conservation.
- Member of American Society of Agronomy.
- Member of Soil Science Society of America.
- Member of Soil and Water Conservation Society.
- Member of Alpha Zeta, Gamma Sigma Delta and Phi Sigma

**Christopher T. Mosley**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27606

**Education** North Carolina State University (1992-1996)  
Degree: Bachelor of Science in Biological and Agricultural Engineering  
Concentration: Soil and Water / Environmental  
GPA: 3.8 / 4.0 Summa Cum Laude

Purdue University (1996-1998)  
Degree: Master of Science in Agricultural and Biological Engineering  
Concentration: Soil and Water / Environmental  
GPA: 3.9 / 4.0

**Work Experience**

September 2000-  
Present **Agri-Waste Technology, Inc.**  
*Vice President*  
Responsibilities: Project management, engineering design and specifications for animal waste management systems and residential septic systems, nutrient management planning, waste management planning, permitting, irrigation planning, greenhouse gas offset quantification and verification.

August 1998-  
September 2000 **North Carolina State University**  
*Research Assistant*  
Responsibilities: Data collection, management, and analysis; equipment maintenance and troubleshooting; hydrologic model testing and evaluation; redesign of gypsum dispenser.

August 1996-  
August 1998 **Purdue University**  
*Graduate Research Assistant*  
Responsibilities: Master's thesis research; teaching DRAINMOD to graduate and undergraduate students; organizing and gathering data for long-term agricultural research center; and field work.

Summer 1996 **Precision Partners, Hope, IN**  
Position: *Crop Scout*  
Responsibilities: Checked corn and soybeans for crop growth, weeds, and injury; wrote reports for farmers; and advised farmers of potential problems.

Summer 1994 **Will Connell, Agricultural Consultant**  
PO Box 422, Greenville, NC 27835-0422  
Position: *Crop Scout*

Responsibilities: Checked tobacco, peanuts, and cotton for crop growth, weeds, and injury.

### **Professional Licenses and Certifications**

- 2005-Present: North Carolina, Professional Engineer (License #029424)
- 2006-Present: South Carolina, Professional Engineer (License #025556)
- 2008-Present: Nebraska, Professional Engineer (License #E-12617)
- 2008-Present: Alabama, Professional Engineer (License #29693-E)
- 2008-Present: Ohio, Professional Engineer (License #73355)
- 2009-Present: Texas, Professional Engineer (License #102607)
- 2006-Present: NRCS Technical Service Provider
- 2006-Present: NC Technical Specialist
- 2006-Present: National Society of Professional Engineers
- 2006-Present: NC Society of Professional Engineers
- 2007-Present: Chicago Climate Exchange (CCX) Verifier for Agricultural Methane & Combustion, Landfill Methane and Renewable Energy
- 2009-Present: CSA America, Inc. Verifier for Greenhouse Gas

### **Publications**

Master's Thesis, Title: "*Prediction of subsurface drain flow and water table depth in southern Indiana.*"

Wang, X, C.T. Mosley, J.R. Frankenberger, E.J. Kladvko. 2006. "Subsurface drain flow and crop yield predictions for different drain spacings using DRAINMOD" *Agricultural Water Management* 79(2006):113-136.

### **Technical Skills**

- Computer-aided drawing software (AutoCAD, ProE)
- Remote sensing software
- Water quality modeling software including GLEAMS, DRAINMOD, AGNPS, ANSWERS, and SWAT.
- GIS software including GRASS, ARC/INFO, and ARCVIEW.
- Nutrient Management Software (AWM, AFOPRO, MMP, NutMan, WatNut)
- Erosion Software (RUSLE2)

### **Honors**

- Graduate research assistantship offers from Purdue University, Texas A&M, and Virginia Tech (1996).
- Graduate fellowship offer from the University of Illinois at Urbana-Champaign (1996).
- Phi Kappa Phi honor society (1996).
- Charles W. Suggs, R.J. Reynolds, and NC Section ASAE scholarships (1993-1996).



**Kevin D. Davidson**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27606

**Education** North Carolina State University (1989-1992)  
Degree: Bachelor of Science in Biological and Agricultural Engineering

North Carolina State University (1992-1995)  
Degree: Master of Science in Agricultural and Biological Engineering

**Work Experience**

1995-Present **Agri-Waste Technology, Inc., Raleigh, NC**  
*Senior Project Engineer*  
Responsibilities: Project management, engineering design and specifications for animal waste management systems and residential septic systems, nutrient management planning, waste management planning, permitting, irrigation planning and greenhouse gas offset quantification and verification.

**Professional Licenses and Certifications**

- North Carolina, Professional Engineer (License #024582)
- Oklahoma, Professional Engineer (License #19353)
- Virginia, Professional Engineer (License #0402 045600)
- Iowa, Professional Engineer (License #19214)

**Publications**

K. Davidson. “Relative Odor Levels from Swine Production Facilities and Lagoons”, Presented at 7<sup>th</sup> International Symposium on Agricultural and Food Processing Wastes.

K. Davidson. “Manure Management and Odor Control-Current Industry Setting and Future Technologies”, Presented at American Association of Swine Practitioners.

**Technical Skills**

- Computer-aided drawing software (AutoCAD)
- Nutrient Management Software (AWM, MMP)
- Erosion Software (RUSLE2)

**Honors**

- Gamma Sigma Delta-Honorary Agricultural Fraternity
- Outstanding Teaching Assistant

**Hal Langenbach**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27606

**Education** North Carolina State University (1992-1995)  
Degree: Bachelor of Science in Biological and Agricultural Engineering  
Concentration: Soil and Water / Environmental

**Work Experience**

1995-Present **Agri-Waste Technology, Inc., Raleigh, NC**  
Senior Project Engineer

- Project management
- Engineering design and specifications for anaerobic lagoon systems for the treatment of livestock waste
- Development of Nutrient Management Plans for livestock operations throughout the United States
- Perform site visits for routine and construction inspections
- Develop and provide training to managers of livestock operations
- Develop construction plans and specifications for compacted clay liners and flexible membrane liners
- Provide coordination between clients and regulatory authorities
- Greenhouse Gas Offset quantification and verification

**Professional Licenses and Certifications**

- North Carolina, Professional Engineer (License #25452)
- Oklahoma, Professional Engineer (License #23308)
- Kentucky, Professional Engineer (License #25955)
- Illinois, Professional Engineer (License #62060717)
- Wisconsin, Professional Engineer (License #396826)
- Minnesota, Professional Engineer (License #46804)
- NC Stormwater BMP Inspector
- NPDC Environmental and Odor Assessor

**Training and Technical Skills**

- Computer-aided drawing software (AutoCAD)
- Remote sensing software
- Water quality modeling software including DRAINMOD
- Erosion Software (RUSLE2)
- Wetland delineation of jurisdictional wetlands in coastal and piedmont soils
- Sediment and erosion control design and inspections
- Low impact development design for construction projects
- Stormwater wetland design
- Soil mechanics and damage prevention during excavation

**Christopher E. McGee, APSS**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27520

### **Education**

North Carolina State University (2001-2006)  
Degree: Bachelor of Science in Environmental Science  
Concentration: Soil Science  
GPA: 3.6 / 4.0  
Dean's List 2005

### **Work Experience**

**October 2005-Present**

**Agri-Waste Technology, Inc., Raleigh, NC**

*Assistance Agronomist/Soil Scientist*

- Assist with Comprehensive Nutrient Management Plans (CNMPs) for the NRCS in Ohio, South Carolina, and Virginia
- Conduct soil evaluations and delineations for on-site wastewater disposal systems
- Wetland and stream delineation
- Perform septic/well inspections, collect soils samples, and conduct in-situ saturated hydraulic conductivity tests
- Routine septic system design/layout for on-site wastewater systems
- Assist in Greenhouse Gas offset crediting/verification

### **Professional Tools**

- Nutrient Management Software (AWM, AFOPro, MMP, NutMan, WatNut)
- Erosion Software (RUSLE2)
- Coursework with ArcGIS and Solidworks

### **Honors and Activities**

- North Carolina Licensed Soil Scientist (LSS) in Training
- Associate Professional Soil Scientist
- Certified North Carolina Septic Inspector through the North Carolina On-Site Wastewater Contractors and Inspectors Certification Board
- CSA America, Inc. Greenhouse Gas Verifier
- Member of the NCSU Soil Judging Team (2006)
- Recipient of the 2006 Hubert J. Byrd Memorial Scholarship from the Soil Science Society of North Carolina
- Member National Beta Club, EAA Young Eagles Program, and Who's Who Among America High School Students

**Julie A. Peele**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27520

**Education**

University of North Carolina at Wilmington (1997)  
Degree: Bachelor of Science in Biology  
Concentration: Chemistry and Environmental Science

Southeastern Community College (1994)  
Degree: Associates in Science

**Work Experience**

- Sept. 2005-Present    **Agri-Waste Technology, Inc., Raleigh, NC**  
*Environmental Technician/GIS Specialist*  
Responsibilities: Perform wetland determination and delineation. Capable of getting all necessary 404/401 and Nationwide permitting from the Army Corps of Engineers and Department of Water Quality for wetland delineation. Provide waste management assistance to producers and agricultural co-operations by writing Comprehensive Nutrient Management Plans/Nutrient Management Plans. Effective in ArcView software in order to develop maps for clients. Work closely with Senior Engineers to complete agricultural, land development and wastewater treatment system design projects. Maintain weekly/monthly records for various agriculture clients. Successfully maintain weekly/monthly records for various agriculture clients and create reports based on data. Assist with Greenhouse Gas validation/verification.
- March 2002-  
September 2005    **Triangle Environmental Services; RTP, NC**  
*Laboratory Analyst*  
Responsibilities: Test and analyze air samples utilizing the Method 25 procedure. Work closely with the EPA to ensure laboratory practices follow strict air quality standards. Assist in data analysis. Examine air samples using gas chromatography. Responsible for quality assurance and quality control of air vessels containing samples. Possess problem-solving skills needed to maintain and repair laboratory equipment. Proficient in Microsoft Word and Excel. Retain incredible rapport with clients to assist them with any problems or concerns they may have with collecting samples. Always prioritize projects to ensure deadlines are met. Continue to exhibit excellent multitasking skills in this dynamic environment.

January 2001-  
January 2002

**Southeastern Community College, Whiteville, NC**

*Instructor of Water Quality*

Responsibilities: Instruct Water Quality course and lab for the Environmental Science Technology Program. Single handily developed course syllabus, lectures, exam material, and lab material. Class topics include common components of water, water source, water law, water treatment procedures and the design of water treatment plant. Lessons incorporate use of professional laboratory equipment such as, spectrophotometer, suspended solids and turbidity analyzers, compound microscope, and reagents needed to determine nutrients and contamination in water.

February 1999-  
January 2002

**Home Depot, Wilmington, NC**

*Horticulturist*

Responsibilities: Provide expert knowledge to customers regarding soil chemistry, pesticides, herbicides, fungicides, fertilizers, selection and placement of plants in their homes and landscapes. Coordinate a weekly public informational seminar concerning customer's lawn and garden needs. Responsible for ordering and managing all live goods in the department by utilizing Windows based software. Command efficient skills in interpreting sales reports, previous sales histories, and weekly inventory reports. Successfully train new associates on how to use the computer system, product knowledge, and Home Depot procedures.

**Additional Training**

- Certificate of Completion for Introductory to ArcView ESRI, January 2006
- Certificate of training in Wetland Determination and Delineation, NCSU, October 2006
- Certificate of training in Intermittent and Perennial Stream Identification for Regulatory Applications, NCSU, October 2008
- Certificate of training in Rain Garden Design and Construction, NCSU, August 2009
- North Carolina Plant Professional Certification; NC Extension Service and NCSU, June 2000
- Department Supervisor Training; Home Depot, June 2000
- Master Gardener Certification Course; NC Extension Service and NCSU, March 2000
- North Carolina Pesticide Certification; NC Agricultural Extension Service and NCSU, July 1998
- Hazardous Material Training, April 1996

**Derrick A. Smith**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27606

### **EDUCATION**

**NC State University, Raleigh, NC**  
Bachelor of Science Degree in Environmental Science  
Graduated Cum Laude May 2006

### **EXPERIENCE**

- 7/2009 – Present      **Agri-Waste Technology, Inc., Raleigh, NC**  
Soils Technician  
Conducts soil evaluations and delineations for on-site wastewater disposal systems. Perform septic/well inspections, collect soils samples, and conduct in-situ saturated hydraulic conductivity tests. Provide routine septic system design/layout for on-site wastewater systems and assist in Greenhouse Gas offset crediting/verification.
- 1/2007 – 7/2009      **Soil and Environmental Consultants, PA, Raleigh, NC**  
Project Manager  
Performed detailed soil surveys to determine soil/site suitability for large and small conventional or alternative on-site waste treatment systems. Obtain permits from regulatory authorities for individual, community, and commercial waste treatment systems. Design reports and create CAD based maps for clients based on field evaluation and GPS data collection.
- 5/2005 – 1/2007      Staff Soil Scientist  
Collected GPS data using Trimble units. Assisted licensed soil scientists with detailed and preliminary soil evaluations for subsurface and surface waste disposal systems and on-site water designs. Drew septic layouts and soil maps using AutoCAD.
- 5/2005 – 6/2005      **NC State University, Raleigh, NC**  
Soil Scientist Research Assistant  
Assisted a PhD candidate with a project in phosphorous leaching in coastal plain soils.

### **MEMBERSHIPS & CERTIFICATIONS**

- NC Licensed Soil Scientist #1311
- Member, Person County Planning Board
- Notary Public

**Lisa Tilley**  
5400 Etta Burke Court, Suite 200  
Raleigh, NC 27606

### **Education**

**University of North Carolina at Chapel Hill (May 2000)**  
M.S. Special Education in Early Childhood Intervention and Family Support

**Meredith College, Raleigh (May 1993)**  
Bachelor of Arts Degree in Spanish  
Concentration in Mathematics

**North Carolina Teaching Licensure**  
Spanish K-12, English-as-a-Second Language K-12, and Graduate Level Birth–K

### **Work Experience**

**Feb. 2009-Present**

**Agri-Waste Technology, Inc., Raleigh, NC**  
*Office Manager/Bookkeeper*

- Manages the accounts payable and receivable
- Scheduling site visits / inspections
- Coordinates office operations to ensure organizational effectiveness.

**July 2004–Feb. 2009**

**Wake County Public School System, Raleigh, NC**  
*The Literacy Connection (TLC) Project Assistant & Data & Evaluation Coordinator, Project Enlightenment*

- Plan, implement, and evaluate all Project Enlightenment services
- Complete summative evaluation activities including data collection, preparation of quarterly data reports
- Manage day-to-day business operations of programs including statistical reporting, purchasing, accounting, contracts, payroll, and recruitment and payment of substitute teachers
- Track budget expenditures, run and interpret budget and personnel reports
- Create Service Agreements, Purchase Orders, Direct Pays and Invoices
- Extensive knowledge of Microsoft Word, Microsoft Excel, Microsoft Access, Oracle, MySequel, and NC Wise data systems

**Aug. 2000–July 2004**

**Wake County Public School System, Raleigh, NC**  
*Lead Teacher, Title I Pre-kindergarten Programs & Migrant Education Program*

- Provide intervention services to Title I Pre-kindergarten students and Migrant Education students, grades K-12
- Plan, implement, and evaluate summer Migrant Education program for grades K-5
- Hire and daily supervise approximately 20 staff members at summer Migrant program
- Assist Pre-kindergarten teachers in the implementation of developmentally-appropriate practices
- Train Title I Pre-kindergarten staff on the implementation of Creative Curriculum, the Brigance Preschool Screening, and the WCPSS Title I Curriculum Mapping Project

**March 2002–June, 2005**

**Agency for Public Telecommunications, Raleigh, NC**  
*Bilingual Telephone Operator*

- Answer the telephone and direct English and Spanish language calls to the live call-in programs of Open Net and Open Net en Español
- Operate the teleprompter for English and Spanish program broadcasts

**January 1997–July 2000**

**Wake County Public School System, Raleigh, NC**  
*Pre-Kindergarten Teacher*

- Develop developmentally, age-appropriate activities for migrant and at-risk preschoolers
- Assess, supervise, and teach approximately sixteen at-risk pre-kindergarteners
- Translate for weekly and monthly parenting classes

**May 1996–January 1997**

**DENR Division of Health Promotion, Raleigh, NC**  
*Bilingual Materials Specialist*

- Contact state agencies to request bilingual materials
- Collect, evaluate, and abstract all incoming bilingual materials
- Develop the NC Health and Human Service's electronic database of bilingual materials

**Aug. 1996–Jan. 1997**

**NC Primary Health Care Association, Cary, NC**  
*Farmworker Health Library Database Coordinator*

- Review, abstract, and enter farmworker health materials into the Farmworker Health Library database
- Organize the layout of the Farmworker Health Library



**Melissa Mottern**  
5400 Etta Burke Court  
Raleigh, NC 27606  
919-859-0669

**EDUCATION**

**Bachelor of Science in Business**, May 2002  
Minor: Marketing  
Cedar Crest College, Allentown, PA  
Overall GPA 3.49  
Deans List

**WORK HISTORY**

**Director of Marketing**  
2007-Present

**Agri-Waste Technology, Inc., Raleigh, NC**  
Develops company marketing/advertising initiatives  
Manages client development/promotions  
Obtains marketing research analysis/implementation  
Oversees marketing/advertising budget  
Manages/develops/updates website

**Real Estate Agent**  
2006-2007

**Coldwell Banker Heritage Real Estate, Easton, PA**  
Assisted clients throughout the entire real estate transaction  
Marketed and advertised on behalf of clients  
Educated clients regarding market changes

**Coordinator of Interactive Marketing**  
2004-2006

**BNK Advisory Group, Bethlehem, PA**  
Managed/developed/updated website  
Supervised marketing budget  
Developed educational/promotional materials  
Assisted in development of promotional campaigns

**Associate Manager**  
2003-2004

**Kaplan Test Prep and Admissions, Allentown, PA**  
Hired, trained, and supervised center staff/teachers of 23  
Supervised overall center operations  
Assisted in development of marketing/promotional programs  
Presented to enrolled/prospective students

**ORGANIZATIONS/COMMITTEES**

Home Builders Association (HBA) 2007-Present  
Home Builders Association of Wake County 2007-Present  
Home Builders Association Green Building Initiative 2007-Present  
Green Building Initiative Education Committee Member 2007-Present  
Green Building Initiative Sales & Marketing Committee Member 2007-Present

## **Nilesh Gupta**

Director – Green Point Energy Private Limited

Telephone: 0141-4004530

Email: [nilesh@greenpointenergy.net](mailto:nilesh@greenpointenergy.net)

## **Education**

### **The Chubb Institute, Jersey City, NJ (1997-1998)**

Diploma in Computer Programming

Concentration: Computer Software Development

GPA: 3.9 / 4.0

### **University of Bombay, India (1990-1993)**

Bachelors Of Commerce

Concentration: Business, Industrial Psychology

GPA: 3.6 / 4.0

## **Experience**

**October 2007-Present**

### **Green Point Energy Private Limited**

*Founder /Director*

- Developed the business plan/focus areas within the clean energy space
- Identified projects and undertook pre-feasibility studies for numerous projects with focus on CDM and carbon markets
- Worked closely with the electricity distribution company for identifying areas and strategy for supply side and demand side efficiencies

**July 2007-March 2008**

### **Genus Power Infrastructures Limited**

*Consultant*

- Provided CDM (Clean Development Mechanism) consulting & advisory services to Genus in identifying and developing CDM projects based on the UNFCCC methodologies. Project undertaken was based on UNFCCC methodology AM0046–“Energy efficient lamp (CFL) replacement project”
- Interacted with the Climate Change Team of the Federal Government of Belgium to sponsor the project
- Submitted the PIN (Project Idea Note) and detailed proposal for executing the project covering technical, financial and operational plan involving replacement of 2,000,000 GLS bulbs with Energy Efficient Lamps (CFL)

- Worked with the local electricity distribution company to develop the plan for distribution and monitoring of the project
- Conducted the feasibility study in terms of internal strengths and operational readiness to be able to diversify and undertake the project
- Developed the detailed project report and financial feasibility report

**March 2005 -April 2007**

**Genus Power Infrastructures Ltd.**

*Full-Time Independent Consultant*

- Genus is a diversified electronics manufacturer based at Jaipur, India and is a leader in the power sector metering products and services. A full time consulting engagement that involved advising senior management on long term and short term business and operations strategy
- Assisted the company management by providing strategic consulting & operational leadership for the company's foray into the Home & Industrial Products covering branding, marketing, promotions, product portfolio strategy, including new product manufacturing & sourcing.
- Planned and executed the branding and PR initiatives by deploying various creative and innovative strategies. The efforts resulted in Genus Inverters becoming the 4th most recalled brand in India in a short span of 2 years
- Led the nationwide sales and servicing team for multiple product streams
- Inverters, UPS, Batteries, Set Top Box, and Energy Management Systems.
- Successfully managed a team of over 100 people.
- Built the nationwide sales and distribution network and oversaw revenues of Rs. 30 crores (US\$ 6.7 million)
- Identified and developed export markets in Africa and Middle East for power backup products
- Initiated and managed the strategic sourcing office based in Shenzhen, China with full P&L responsibility. Made the operations self sustaining in a short span of 3 months.
- Provided strategic insight to the management with respect to newer growth areas with trends, projects and financial models to capitalize on the emerging market trends

**July 1998-February 2005**

**Sogeti USA LLC, A Cap Gemini S.A. Company, NJ**

*Consultant--Client: Mercedes Benz USA LLC*

- At Mercedes Benz, I worked on number of projects in various capacities with the Strategic Retail Systems
- Dealer and Customer Systems (NetStar) application security and administration, Single Sign On strategy and implementation, software packaging, deployment and migrations and dealer system production support. Implemented the Single Sign On strategy for NetStar with all the internal and external applications/websites. Provided documentation and support to external vendors for implementing the Single Sign On strategy for NetStar. Also developed the Java based servers to provide Encryption services across various applications
- Strategic Retail Systems (NetStar) re-architecture and development of the intranet based thick Java Client to J2EE thin client application framework. Designed the NetStar shell web application and transitioned the pure Java based shell to HTML and developed a JavaScript and Java based framework to communicate with NetStar applications to manage user login, resource security and application launch. Developed the migration plan for applications groups from Java thick client to thin client. Provided the short term and long-term solution strategy for managing the transition and dual framework coexistence.
- Application deployment automation for packaging, distribution and user registration. Developed the process for automating user registration, billing, hardware/software requirements checking and installation of the Netstar application and third party applications Also, developed the application install packages NetStar and third party applications using InstallAnywhere for automating deployment, user registration and billing.
- Retail Systems Application Enhancement–Reports and Security Module. Re-engineered and enhanced the performance of the Reports Security System. Designed, crafted specifications and developed a Java Notes API based solution and integrated it with the Reports Delivery System on Lotus Domino.
- Dealer Management Systems Integration - As technical lead for migration of all the data transmission processes from MBNet to integration with the new NetStar system. Performed data mapping analysis for sourcing data into the NetStar applications.

**Tabitha Smith**  
Director – Organic CO<sub>2</sub>  
719-353-1033  
whoa@tsquarterhorses.com

### **Education**

Ranching for Profit School, Colorado Springs, Colorado (1997)

Branson High School, Branson, Colorado (1994-1997)

### **Experience**

- 2008-Present      **Organic CO<sub>2</sub>**  
*Director/Founder*
- Research/material preparation for site visits
  - Site visits for AWT on an as-needed basis
  - Provides information on findings/observations to AWT
- 2007-Present      **Clock Cattle Company, Baca County, Colorado**  
*Range Management Specialist*
- Design and implement rotational grazing operations for approximately 600 mother cows
  - Developed extensive range management and environmental plan for a proposed lease of Smith Ranch owned by the Nature Conservancy located in Lincoln County, Colorado.
  - Development of several websites
- 2004-2009      **Baca County Conservation District, Springfield NRCS**  
*Range Conservation Specialist*
- Developed EQIP Contracts, Range Management Plans and Grazing Plans
  - Completed field inspections in Baca County for Compliance Spot Checks on Native Rangeland and Crop Land
  - Completed field inspections for CRP grazing and haying
- 2001-2002      **Johnson Ranch, Elm Springs, South Dakota**  
*Range Management Assistant*
- Range Grazing Plans
  - Rotation Schedules
  - Overall assistance with cattle and haying operation
- 2000-2001      **Rush Creek Cattle Company, Haswell, Colorado**  
*Range Conservation Specialist*

- Range Grazing Plans
- Rotation Schedules
- Overall assistance with cattle and haying operation

1997-1999

**Sharp Cattle Company, Las Animas County, Colorado**

*Range Management Specialist*

- Conducted Range Surveys
- Developed Grazing Plans

**Eric Paul Wickens**  
11960 Salt Creek Road  
Hilger, MT 59451  
(406) 462 – 5376  
ewickens@mtintouch.net

### **Education**

B.S. in Natural Resources and Rangeland Ecology  
Montana State University, Bozeman, MT  
Graduated December 2006

Ranch Management Program  
Texas Christian University, Fort Worth, TX  
Graduated May 2002

### **Agricultural Work Experience**

1981-Present

#### **Family Ranch**

Wickens Salt Creek Ranch - Hilger, MT

- Design and implement rotational grazing system
- Develop wildlife habitat on the ranch
- Involved in all aspects of farming
- Created multiple monitoring sites throughout ranch
- Raise and care for cattle
- Ride and train horses

January 2007- Present

#### **Project Technician**

Montana State University-Bozeman, MT

- Design rotational grazing systems
- Develop photo monitoring sites throughout the ranch
- Provide technical assistance to ranchers
- Create detailed maps for every certified ranch

### **Work Experience**

Seasonal 2000-Present

#### **Hunting Guide**

Dog Creek Outfitters - Winifred, MT

- Guided individual and group hunts
- Dressed and cared for meat

January 2006-May 2006

#### **Concrete Laborer**

Structural Concrete - Bozeman, MT

- General Concrete labor
- Set and poured foundations

January 2001-May 2001

**Maintenance**

Timec - Vallejo, CA

- Worked as a mechanic in oil refineries
- Performed emergency and routine maintenance

**Involvement and Awards**

- Member-Board of Directors for Bank of the Rockies in Lewistown
- Member- Montana Stockgrowers
- Member-Fergus County Livestock Association
- Member-Winifred Rural Volunteer Fire Department
- Assistant Coach Winifred High School Football
- Member-Winifred Stockyard Association
- Former member of the Winifred FFA Chapter
- Academic Merit Scholarship from TCU



## References

<p><b>TerraPass, Inc.</b>  <i>Tom Arnold and Peter Freed</i>            568 Howard Street            5<sup>th</sup> Floor            San Francisco, CA 94105            415-692-3407            tom@terrapass.com</p>	<p><b>Fibrowatt</b>  <i>John O’Neill</i>            One Summit Square, Suite 200            1717 Langhorne-Newton Road            Langhorne, PA 19047            401-338-3537            john.oneill@fibrowattusa.com</p>
<p><b>Farm Power Northwest</b>  <i>Daryl/Kevin Mass</i>            1934 South Wall Street            Mount Vernon, WA 98273            210-527-7631            daryl_mass@hotmail.com</p>	<p><b>Environmental Power Corporation</b>  <i>Mark Hall</i> (now with Lakeside Energy)            1 Cate Street            Portsmouth, NH 03801            603-431-1780            mhall@lakesideenergy.com</p>
<p><b>AgRefresh</b>  <i>Jeffrey Frost</i>            PO Box 843            Burlington, VT 05402            802-859-0099            jfrost@agrefresh.com</p>	<p><b>Carbonless Promise</b>  <i>Mike Lammi</i>            PO Box 787            Stillwater, MN 55082            888-640-9848 x3            mikel@carbonlesspromise.com</p>
<p><b>North Dakota Farmers Union</b>  <i>Liz Mathern</i>            PO Box 2136            Jamestown, ND 58401            701-252-2341 x154            lmathern@ndfu.org</p>	<p><b>Ranchlands Management</b>  <i>Travis Hill</i>            4545 County Road 345            Paducah, TX 79248            806-346-6208            thill@ARI-slc.com</p>
<p><b>Natural Capital</b>  <i>Ryan Allen</i>            224 E. Main Street            Bozeman, MT 59715            406-551-2090            rallen@natural-capital.com</p>	<p><b>SunOne Solutions</b>  <i>John Hodges</i>            33 Flatbush Ave, 5<sup>th</sup> Floor            Brooklyn, NY 11217            202-415-3644            john@sunonesolutions.com</p>
<p><b>C-Lock Technology</b>  <i>Vincent Cook</i>            1225 17<sup>th</sup> Street, Suite 1300            Denver, CO 80202            303-293-2992            myeuen@c-locktech.com</p>	<p><b>Mission Climate</b>  <i>Milind Chittawar</i>            RH-13, Sanchayani Prestige            Nagpur, India 440 022            +91 712 2289659            missionclimate@yahoo.com</p>
<p><b>Global Green Energy, LLC</b>  <i>Chandram Mookim</i>            15 East, Suite #709, 47<sup>th</sup> Street            New York, NY 10036            201-606-2425            cmookim@globalgreen-energy.com</p>	<p><b>Green Point Energy P. Limited</b>  <i>Nilesh Gupta</i>            501 Pearl Oasis, B-16            Bapu Nagar, Jaipur 302015            +91 141 4004530            Nilesh@greenpointenergy.net</p>