# Position Summary

This position functions as a professional chemist, under close supervision, within the Chemistry Section. This position maintains an emphasis on analysis of agriculturally related samples (animal feeds, fertilizers, dairy products, etc.) and environmental related samples (pesticide spills, groundwater, soil, vegetation, etc.). Sample work assignments or areas of emphasis may be adjusted by management staff to meet the operational needs of the laboratory, including maximizing work efficiency during the year and/or cross-training of staff to support other units.

All work is performed in accordance with agency and laboratory protocols, policies, quality assurance (including analysis of proficiency or competency samples), and safety standards (e.g. ensure waste/residue is disposed of properly, wearing safety glasses). This position will support Bureau plans and initiatives and may be required to give expert testimony in court.

# Goals and Worker Activities

**85% GOAL A: Performance of Analysis of Samples within the Chemistry Section**

A.1 Analyze samples as assigned, following procedures outlined in the laboratory SOPs.

A.2 Use instrumentation (e.g. GC/MS, LC/MS, GC) in the analysis of pesticides.

A.3 Use instrumentation (e.g. LC, LC/MS, Nitrogen Analyzer, ICP/MS) in the analysis of feeds.

A.4 Use instrumentation (e.g. Segmented Flow Analyzer, Nitrogen Analyzer) in the analysis of fertilizers.

A.5 Analyze dairy products for phosphatase and fat.

A.6 Assist with instrument operation.

A.7 Assist in the preparation of laboratory samples (e.g. feeds, fertilizer, soil, vegetation) for analysis (e.g. sieving, grinding, blending, extracting, representative sampling, etc.).

A.8 Prepare reagents and standards as required.

A.9 Provide analytical support to the Chemistry Section in support of DARM/DFRS special projects.

A.10 Perform other duties as assigned.

A.11 Provide analytical support on quality assurance projects (e.g. matrix extension to a test method or test method detection limit studies).

# 10% GOAL B: Participation in Bureau Initiatives

B.1 Assist in the preparation and maintenance of inventory of chemicals, standards, and solutions used in the analysis of samples.

B.2 Provide support for test validation, periodically informing the Lead Worker and/or supervisor of the results, inconsistencies, trends, etc.

B.3 Provide support for Bureau Quality Assurance Program by following appropriate policies and procedures.

B.4 Support the Bureau Safety Program by following appropriate policies and procedures (e.g., ensure waste/residue is disposed of appropriately, wearing safety glasses, etc.)

# 5% GOAL C: Maintenance of Expertise as a Professional Chemist.

C.1 Maintain technical expertise by reviewing scientific articles and attending training sessions pertinent to the position.

C.2 Write comprehensive and legible reports of work performed and results obtained.

C.3 Appear as an expert witness in court in support of litigation resulting from data obtained by sample analysis.

# Knowledge, Skills, and Abilities

1. Working knowledge of the principles, practices and techniques of analytical chemistry.
2. Working knowledge of the theory, operation, maintenance, and calibration of Gas Chromatographs, Liquid Chromatographs, Inductively Coupled Plasma-Mass Spectrometry, Mass Spectrometry, UV-Vis Spectrophotometers.
3. Some knowledge of the principles and operation of data processing microcomputers.
4. Some knowledge of the techniques used to confirm the presence of pesticide and/or industrial chemical residues.
5. Working knowledge of laboratory safety practices.
6. Some knowledge of Quality Assurance Principles and how to analyze quality assurance samples.
7. Some knowledge of statistical parameters, techniques, procedures and their relationship to laboratory analyses.
8. Proficient in Microsoft Word and Excel.
9. Effective record keeping skills.
10. Some knowledge of team building techniques.

# Special Requirements

1. Ability to lift up to 50 lbs.
2. Ability to work with a range of chemicals, reagents, live cultures, etc. - some of which may necessitate use of protective equipment.