USUAL & CUSTOMARY JOB ANALYSIS/DESCRIPTION

JOB TITLE:	**Laboratory Technician II**
DEPARTMENT:	**Environmental Services**
EMPLOYER:	**Vallejo Sanitation and Flood Control District**
	450 Ryder Street, Vallejo, California 94590
DATE PREPARED:	**6/9/2004**
WORK SCHEDULE/HOURS:	**9/80 work schedule; 8 to 9 hours per shift, 4-5 days per week**
EMPLOYEE:	
D/I:	
CLAIM NUMBER:	

Employer's Business: The employer, Vallejo Sanitation and Flood Control District, is a government agency responsible for the collection and treatment of wastewater from the sanitary sewer system and the protection from storm water.

Job Functions

Overview:

Under general supervision of the Environmental Services Director, the Laboratory Technician II performs tests to assist in the control of the wastewater treatment plant. The Laboratory Technician II procures and analyzes the treatment plant influent, effluent and sludge to determine compliance with prescribed requirements; keeps records and reports results to Senior Laboratory Technician on a daily basis; enters data on a computer; and, performs other related responsible work as required.

Essential Functions:

The employee performs laboratory tests such as BOD, COD, Suspended Solids, Oil and Grease, Coliform, Chlorine residual, pH, and Dissolved Oxygen, Colorimetric analysis, flow-through acute toxicity bioassays, and heavy metal analysis.

The employee operates laboratory equipment such as pH meters, analytical balances, DO meters, drying ovens, UV/VIS spectrophotometers, A.A. spectrophotometers, autoclaves and microscopes.

The employee maintains records, keeps the laboratory and equipment clean and performs routine preventative maintenance and minor repairs on the equipment and may perform other related duties as assigned.

The employee collects samples from the treatment plant, remote industrial or random collection points.

The employee collects samples for routine laboratory analysis.

The employee analyzes samples and reports to the Senior Laboratory Technician on a daily basis.

The employee operates laboratory equipment.

The employee compiles and collects data in the field.

The employee helps prepare reports of analytical results.

The employee prepares and analyzes QA/QC samples.

The employee performs miscellaneous duties as required.

The employee performs BOD testing, includes transferring liquids from a 15-liter bottle and into smaller sized sample containers, mixes the contents and inserts a probe to test.

The employee performs oil/grease and ammonia testing in conjunction with working underneath a ventilation hood. Includes shaking bottled liquid contents, transferring liquids from a 1-liter container into smaller sample containers. Ammonia testing requires the employee to insert a probe, utilizing a keypad to program the testing equipment and obtaining the test results.

The employee works at a counter, has the option to utilize a stool, and observes organisms through microscopes.

The employee performs microbiology tasks. Includes setting items in and out of the incubator.

The employee utilizes a 10-key calculator to assess calculations.

The employee performs metal analysis. Includes utilizing specialty equipment to measure metals in solutions.

The employee performs bioassays. Includes placing fish in a water tank and monitoring the fish to assure solution compliance.

The employee connects/disconnects tubing to and from equipment, as needed utilizes a screwdriver to assemble or disassemble equipment.

The employee maintains a variety of laboratory equipment including sampling, flow metering and other associated equipment. Includes utilizing a washcloth to wipe and clean equipment, as needed a screwdriver to assemble/disassemble the sampler while cleaning.

The employee, as needed, works at a sink to wash and clean glassware. Includes utilizing brushes, sponges and water to wash items. Once washed, the employee places the glassware on a sink counter or glass rack. Alternatively, the employee sets and retrieves items in and out of an automated dishwasher.

The employee utilizes a trigger-operated pipette to transfer liquids into test tubes.

The employee places and sets items in and out of a microwave, includes opening the microwave door, placing the item in the microwave and pressing microwave buttons to activate. Alternatively, the employee, sets/retrieves items from the oven.

The employee retrieves, relocates and handles sample jugs, containers, flasks, precision instrumentation and other related items.

The employee utilizes a computer keyboard, mouse and views a monitor to enter or retrieve lab data.

The employee utilizes a writing utensil to complete paperwork including logs, reports and lab data.

The employee performs laboratory tests and procuring samples to assist in the control of the wastewater treatment plant. Includes measuring, utilizing laboratory tools to scoop/transfer powders, utilizing an electric scale to weigh solids.

The employee sanitizes lab tools and equipment Includes setting/retrieving items in and out of an autoclave. The employee opens/closes the autoclave door, places and retrieves tools or equipment from the autoclave racks and activates the autoclave.

The employee, in the absence of the Environmental Aide, maintains a clean wet well located on the plant grounds, four times per shift. Includes inspecting the well, as needed utilizing a brush to scrub and remove debris from the equipment, opening a waste water valve and filling a 20-liter bottle, assessing the temperature and placing the bottle on a 2-wheeled dolly for transport. At the lab, the employee places the 20-liter bottle on a workbench, turns the bottle several times to thoroughly mix the liquefied contents and dispenses the liquid into four separate 1-gallon containers.

The employee maintains records of analysis.

The employee mixes liquids, includes setting items on an electric vibrating plate or alternatively utilizes a glass stir tool to mix liquids.

The employee operates an oxygen meter to assess oxygen levels in liquids, includes inserting a probe in a container.

Marginal Functions:

The employee utilizes a copier to make copies, as needed. This entails opening the copier door in an upward/downward motion (exertion <5 lbs.), placing the paperwork on the copier and pressing a button to activate the copier. Alternatively, the employee places a stack of papers on a document holder and presses a button to activate.

The employee retrieves and sets paperwork/files, as needed, in and out of file cabinet drawers.

The employee utilizes a fax machine, as needed. This entails setting individual papers in the fax machine, pressing 7 to 10 buttons to obtain the desired telephone numbers and pressing a button to activate the fax.

Minimum Qualifications

EDUCATION & EXPERIENCE	Completion of college level courses in the physical or biological sciences field equivalent to an A.S. degree and two (2) years of experience. Experience may be substituted for education on a one (1) year of experience for one year of education basis up to a maximum of one (1) year. Experience must be in a laboratory performing tests similar to those described herein.

KNOWLEDGE, SKILLS & ABILITIES	Ability to generate reliable results and perform routine QA/QC procedures Understand and follow oral and written instructions Work with others and accept direction Ability to prepare clear, complete and technically accurate data summaries and reports. A strong background in applied chemistry and math General knowledge of wastewater treatment process Familiar with computer spreadsheets, databases, and word processing programs. Able to communicate effective with others and represent the District at public events Ability to communicate with irate or difficult people Ability to accept constructive criticism from supervisor, coworkers, subordinate employees

LICENSE(S)	Must possess a California Water Pollution Control Association certificate as a Grade II Laboratory Technologist at the time of employment. Must possess a valid California Class C Driver's License at the time of employment. The ability to drive District vehicles is a specific requirement for this position. For that reason, it is the employee's responsibility to maintain a driving record that is acceptable to the District's insurance carrier or be subject to dismissal.

WEIGHED ITEMS	Bottles on a rack – 15 pounds 2.5 gallon container with a liquid solution – less than 25 pounds Cooler with ice packs – 10 pounds Container of bottled water – 30 pounds
EXERTIONAL FORCE	Autoclave door handle – up to 25 pounds Incubator door handle – up to 25 pounds

Physical Demands

For the purpose of determining frequency of activity, this job analyst refers to an eight-hour workday.

STANDING	**Frequency:**	3 to 5 hours.
	Duration:	Seconds to less than 5 minutes at a time.
	Surfaces:	Concrete, tile.
	Associated Tasks:	Working at a sink and washing glassware, utilizing the microwave, transferring liquids, maintaining a variety of laboratory equipment including the autoclave, electric vibrating plate, inspecting and maintaining a clean wet well, performing microbiology, metal analysis, bioassays, connecting/disconnecting tubing, performing oil/grease and ammonia testing, shaking bottled liquid contents.
WALKING	**Frequency:**	3 to 5 hours.
	Duration:	Seconds to less than 5 minutes at a time.
	Surfaces:	Concrete, tile.
	Associated Tasks:	To and from the wet well, within the laboratory, relocating tools, equipment, samples.
SITTING	**Frequency:**	Up to 1 hour.
	Duration:	Less than ½ hour at a time.
	Surfaces:	Cushioned office chair.
	Associated Tasks:	Utilizing a computer, writing, reading, weighing samples.
KNEELING/ CROUCHING/ SQUATTING	**Frequency:**	Less than 10 times.
	Duration:	Seconds at a time.
	Surfaces:	Concrete, tile.
	Associated Tasks:	Retrieving and setting items including samples on and off lower areas/shelves.
CRAWLING	**Frequency:**	Not a job requirement.
	Duration:	
	Surfaces:	
	Associated Tasks:	
LAYING ON BACK/STOMACH	**Frequency:**	Not a job requirement.
	Duration:	
	Surfaces:	
	Associated Tasks:	
CLIMBING/ BALANCING	**Frequency:**	0 to 4 times.
	Duration:	Seconds at a time.
	Surfaces:	Stepstool.
	Associated Tasks:	Ascending or descending stepstool to retrieve items from higher shelves.

BENDING		
Waist:	**Frequency**:	Less than 5 minutes.
	Duration:	Seconds at a time.
	Associated Tasks:	Possibly while inspecting the wet well, utilizing brushes to clean the wet well, retrieving items from lower shelves. The motion is in a forward direction between 5 and 65-degrees.
Head/Neck:	**Frequency:**	3 to 4 hours.
	Duration:	Seconds to less than 5 minutes at a time.
	Associated Tasks:	Utilizing a microscope to observe organisms, performing metal analysis, bioassays, ammonia and oil/grease testing, transferring liquids/samples, reading, writing, operating laboratory equipment.
Wrists:	**Dominant Hand:**	
	Frequency	2 to 3 hours.
	Dominant:	Less than 1 to 2 hours.
	Non-Dominant:	Less than ½ hour.
	Bilateral:	1 to 2 hours.
	Duration:	Seconds to less than 5 minutes at a time.
	Associated Tasks:	Handling sample containers, transferring samples, utilizing laboratory equipment

TWISTING/ROTATING		
Waist:	**Frequency**:	Not a job requirement.
	Duration:	
	Description:	
	Associated Tasks:	
Head/Neck:	**Frequency**:	1 to 2 hours.
	Duration:	Seconds at a time.
	Associated Tasks:	Aiding visually, during normal body mechanics to perform laboratory tasks. The motion is center to the right back to center or center to the left back to center less than 45-degrees.
Wrists:	**Dominant Hand:**	
	Frequency	1 to 2 hours.
	Dominant:	Less than 1 hour.
	Non-Dominant:	Less than ½ hour.
	Bilateral:	Less than 1 hour.
	Duration:	Seconds to less than 5 minutes at a time.
	Associated Tasks:	Shaking containers, connecting/disconnecting tubing from equipment, transferring samples to and from containers, flasks, test tubes, screwing or unscrewing sample container caps.

UPPER EXTREMITY USE:	**Dominant Hand: [indicate LEFT or RIGHT]**

REACHING		
Primary Reach Zone: (elbows bent at waist level, hands in forward extension)	**Frequency**	Up to ½ hour.
	Dominant:	Less than 15 minutes.
	Non-Dominant:	0
	Bilateral:	Less than 15 minutes.
	Duration:	Seconds to less than 5 minutes at a time.
	Associated Tasks:	Utilizing a computer keyboard, mouse to enter or retrieve data.
Above Shoulder Level	**Frequency**	10 to 20 times.
	Dominant:	10 to 20 times.
	Non-Dominant:	Alternated with dominant.
	Bilateral:	Alternated with dominant.
	Duration:	Seconds at a time.
	Associated Tasks:	Retrieving or setting items/paperwork on and off higher shelves.
Between Waist and Shoulder Level	**Frequency**	5 to 6 hours.
	Dominant:	1 to 2 hours.
	Non-Dominant:	Less than 1 hour.
	Bilateral:	4 to 5 hours.
	Duration:	Seconds to less than 15 minutes at a time.
	Associated Tasks:	Working at a sink and washing glassware, transferring liquids, maintaining a variety of laboratory equipment including the autoclave, electric vibrating plates, inspecting and maintaining a clean wet well.
Below Waist Level	**Frequency**	Less than 10 times.
	Dominant:	Less than 10 times.
	Non-Dominant:	Alternated with dominant.
	Bilateral:	Alternated with dominant.
	Duration:	Seconds at a time.
	Associated Tasks:	Retrieving or setting items on and off lower shelves, possibly samples.
PUSHING/ PULLING	**Frequency**	Up to 5 minutes.
	Dominant:	Alternated with bilateral.
	Non-Dominant:	Alternated with bilateral.
	Bilateral:	Up to 5 minutes.
	Duration:	Seconds at a time.
	Associated Tasks:	Opening or closing dishwasher door, relocating a 2-wheeled dolly to transfer samples, opening or closing the autoclave door, microwave door.

LIFTING/CARRYING		
0 to 10 lbs.	**Objects:**	Variety of laboratory tools, sample containers, test tubes, tools, powder samples, brushes, paperwork, writing utensil, glassware, washcloths.
	Frequency	5 to 6 hours.
	Dominant:	1 to 2 hours.
	Non-Dominant:	Less than 1 hour.
	Bilateral:	4 to 5 hours.
	Distance:	0 to less than 100 feet.
	Height:	Ground to shoulder or above.
	Associated Tasks:	Handling and utilizing a variety of laboratory tools, sample containers, test tubes, tools, handles laboratory supplies, utilizing a writing utensil to complete paperwork.
11 to 25 lbs.	**Objects:**	Fish tank, sample jugs.
	Frequency	Up to 10 times.
	Dominant:	0
	Non-Dominant:	0
	Bilateral:	Up to 10 times.
	Distance:	0 to less than 5 feet.
	Height:	Ground to waist level.
	Associated Tasks:	Retrieving and relocating a fish tank, sample jugs.
26 to 50 lbs.	**Objects:**	Not a job requirement.
	Frequency	
	Dominant:	
	Non-Dominant:	
	Bilateral:	
	Distance:	
	Height:	
	Associated Tasks:	
51 to 75 lbs.	**Objects:**	Not a job requirement.
	Frequency	
	Dominant:	
	Non-Dominant:	
	Bilateral:	
	Distance:	
	Height:	
	Associated Tasks:	
75 to 100 lbs.	**Objects:**	Not a job requirement.
	Frequency	
	Dominant:	
	Non-Dominant:	
	Bilateral:	
	Distance:	
	Height:	
	Associated Tasks:	
100+ lbs.	**Objects:**	Not a job requirement.
	Frequency	
	Dominant:	
	Non-Dominant:	
	Bilateral:	
	Distance:	
	Height:	
	Associated Tasks:	

HAND DEMANDS		
Simple Grasping	**Frequency:**	4 to 5 hours.
	Dominant:	1 to 2 hours.
	Non-Dominant:	Less than 1 hour.
	Bilateral:	3 to 4 hours.
	Duration:	Seconds to less than 15 minutes at a time.
	Associated Tasks:	Handling lab tools, opening or closing microwave, handling sample containers, utilizing a telephone handset.
Power Grasping	**Frequency:**	Less than 5 minutes.
	Dominant:	0
	Non-Dominant:	0
	Bilateral:	Less than 5 minutes.
	Duration:	Seconds at a time.
	Associated Tasks:	Retrieving and relocating fish tank, sample jugs, opening or closing the autoclave.
Fine Manipulation	**Frequency:**	Less than 1 to 2 hours.
	Dominant:	Less than 1 hour.
	Non-Dominant:	Less than 15 minutes.
	Bilateral:	Less than 1 hour.
	Duration:	Seconds to less than 15 minutes at a time.
	Associated Tasks:	Utilizing a computer keyboard, mouse, writing utensil to complete notes, paperwork, pressing telephone buttons to make outgoing calls, removing or replacing test tube caps, manipulating bolts, nuts, small parts while assembling and disassembling the sampler, utilizing a pipette in conjunction with utilizing the thumb to transfer liquids.

SPECIAL ENVIRONMENT	Indoors, vehicle cab, climate controlled
	Outdoors, all weather conditions
	Laboratory setting, working around chemicals, solutions

MACHINES/TOOLS	Flow metering devices Glassware Sample containers Microwave Computer keyboard Writing utensil Telephone Measuring devices Brushes Electric vibrating plates Fax machine Copy machine Pipette Microscope 10-key calculator Ammonia testing equipment Grease testing equipment PH meter Analytical balances DO meters Drying ovens Autoclave Microscope Screwdrivers Sampler

Note: The following are not physical requirements of this job: crawling, laying on back/stomach, twisting waist.

ADDITIONAL REQUIREMENTS: Depending on the exposure, the employee is required to wear foot, hand, eye, face, respiratory, hearing, and head protection equipment.

EMPLOYER COMMENTS:	
This Job Analysis accurately represents the duties of a Laboratory Technician II to the best of my knowledge.	
EMPLOYER CONTACT NAME:	
EMPLOYER SIGNATURE:	DATE:

EMPLOYEE COMMENTS:	
This Job Analysis accurately represents the duties of a Laboratory Technician II to the best of my knowledge. I understand that I cannot add hours to the physical demands breakdown if the total would then be greater than the number of hours in an average workday.	
EMPLOYEE NAME:	
EMPLOYEE SIGNATURE:	DATE: