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Concentration Levels of Particulate Matter of Common Dental Lab Materials in a Military Dental Lab

A Thesis Presented to
The Faculty of the Advanced Education in General Dentistry, Two-Year Program
United States Army Dental Activity, Fort Hood, Texas
And the Uniformed Services University of the Health Sciences Post Graduate Dental College
In partial fulfillment of the Requirements for a
Degree of Masters of Science in Oral Biology

By
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January 2016

Concentration Levels of Particulate Matter of Common Dental Lab Materials in a Military Dental Lab

A REPORT ON
a project to investigate concentration Levels of Particulate Matter of Common Dental Lab Materials in a Military Dental Lab

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Concentration Levels of Particulate Matter of Common Dental Lab Materials in a Military Dental Lab

ABSTRACT

Background: Chronic inhalation of particulate matter can lead to pneumoconiosis, which is a broad group of lung diseases caused by the inhalation of a variety of organic or inorganic dusts or chemical irritants, usually over a prolonged period of time. Common materials used in dental laboratories include feldspathic porcelains, which are silica and alumina based; glass ceramics composed of quartz, lithium disilicate, phosphor oxide, alumina, and potassium oxide; high noble metals; wax; gypsum (which contains calcium sulfate, plaster of paris and crystalline silica); and denture acrylic composed mainly of methyl methacrylate and benzoyl peroxide. All of these materials, when adjusted or polished, can produce particulate matter that can pose a respiratory threat when inhaled.

Purpose: Determining particulate matter amount and concentration in the Billy Johnson Dental Clinic Laboratory while staff complete normal daily tasks will ensure those who work in this location are not being exposed to hazardous quantities of air contaminants.

Materials and Methods: Grab air samples were collected using a Lighthouse Handheld 3016 Airborne Particle Counter at 13 workstations within the dental laboratory as well control samples every 90 minutes starting at 0700 to 1900 hours when the dental laboratory was fully operational with ventilation systems in operation over a consecutive 5 day work week to determine areas of the lab with the highest particulate counts. Real time air particulate sampling was conducted in specific locations in the lab using SKC 224-PCXR4 Sampling Pumps to achieve an 8 hour time weighted average exposure for gypsum, silica, methyl methacrylate, paraffin wax and total particulate as well as methyl methacrylate vapor.

Results: There was a statistically significant difference in particulate count by workstation ($p < 0.001$) and in total volume of particulates by workstation ($p < 0.001$). Workstation 6 had the highest particulate count and total volume of all the workstations in the main laboratory. If particulate count is normalized by maximum particulate size the distribution of particulates in the hall air is closer to the outside air than the laboratory air. The average particulate count at 1730 in the lab was 1.7 times greater than at 0630 ($p < 0.001$). The average total volume at 1730 was 4.0 times greater than at 0630 ($p < 0.001$). The ventilation system does not completely clear particulates from the air during the workday but it does significantly clear the particulates from the air during periods of inactivity. General area real time sampling results for gypsum, methyl methacrylate vapor, methyl methacrylate particulate, paraffin wax and total particulate show 8 hour TWA that are below required limits set out by OSHA, NIOSH and ACGIH.

Conclusion: Breathing zone sampling is the industry hygiene standard to determine exposure using personal sampling pumps using the filtering media specified by OSHA. The current study showed that there were areas that had higher particulate counts than other areas, which is related to the functions of the workstation. General area real time sampling results for gypsum, methyl methacrylate vapor, methyl methacrylate particulate, paraffin wax and total particulate show 8 hour TWA that are below required limits set out by OSHA, NIOSH and ACGIH. If the results of the gravimetric analysis of silica is compared to the NIOSH quartz respirable limit (0.02 mg/m3) and not the limits given for particulate not otherwise regulated (5 mg/m^3), then exposure to silica was over the NIOSH REL 8 hour TWA on the 18^{th} of August 2015. It is recommended that breathing zone real time sampling is completed while a dental laboratory technician is adjusting ceramic restorations, ensuring the local exhaust is in operation as well as sampling units are paused whenever the technician leaves the area. The results of this study show that the Billy Johnson Dental Clinic laboratory have adequate ventilation in place to provide for a safe work environment based on the results of this study.

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INTRODUCTION

Pulmonary disease remains one of the most common forms of workplace injury in the United States. With 860 000 workers and former workers being diagnosed with occupational diseases each year, more than half of these cases involve the lungs.[1] Approximately 45 000 people die annually in the United States from occupational lung disease.[1] Brief exposure to hazardous material can lead to disease, although the risk of occupational lung disease increases with repeated or chronic exposure.[1] Chronic inhalation of particulate matter can lead to pneumoconiosis, which is a broad group of lung diseases caused by the inhalation of a variety of organic or inorganic dusts or chemical irritants, usually over a prolonged period of time.[2,3,4] The health hazards are not limited to pneumoconiosis. Other results include silicosis, coughing, wheezing, shortness of breath, aggravated asthma, chronic bronchitis, decreased lung function and lifelong respiratory disease.[2,3,4] The type and severity of disease depends on the composition of the particulate dust as well as the size, shape, solubility and reactivity of the particles.[5] Most particulate matter is removed from the lungs via mucocilliary escalator but over time particles can accumulate at alveolar duct bifurcations.[6] When this occurs the particles can tear the alveolar wall prior to macrophages phagocytizing these particles.[7] More reactive particles trigger the macrophages to release products that are toxic to the lungs.[6] Leukotriene B4 and cytokines IL-8, MIP-α, TNF-α, IL-6 recruit and activate an inflammatory response.[6] This leads to the release of IL-1, TNF-α, fibronectin, platelet-derived growth factor and insulin-like growth factor, which induces fibroblast proliferation and collagen deposition.[6, 7] Collagen accumulates to form distinct fibrotic lesions that thicken airway walls and can impair respiratory function across a wide region of the lungs.[7] Diagnostic methods for patients with suspected occupational lung disease include a questionnaire detailing the patient's occupational and pulmonary history, chest radiography to look for abnormalities in the lungs, spirometry to assess pulmonary function and

echocardiography.[1,8] Other diagnostic methods include blood tests such as serologic tests and arterial blood gas analysis to measure how well the lungs are able to exchange oxygen and carbon dioxide and to quantify blood acid/base balance.[1] Pulse oximetry can be used instead of arterial blood sampling as it can measure the degree of oxyhemoglobin saturation.[1]

The role of the lungs is to deliver oxygen to the bloodstream and body tissues and to expel carbon dioxide.[9] The diaphragm is the primary respiratory muscle with accessory respiratory muscles located in the neck, back, abdomen and chest.[9] Muscular contraction pulls the diaphragm downward, displacing lower ribs upward and outward to increase lung volume.[9] This results in atmospheric air being pulled into the lungs due to the negative pressure gradient.[9] Elastin fibers located in the lungs allow the lungs to recoil and expel gases when muscular contraction pauses.[9] The recoil and expulsion reverse the air pressure gradients allowing expiration of air located in the alveoli of the lungs back to the atmosphere[9] Pulmonary ventilation or breathing is the process to these alternating pressure gradients with muscular contraction and elastic recoil.[9]

The lungs are positioned within the pleural cavity of the thorax.[9] Two thin pleural membranes encase the lungs.[9] Theses membranes are lubricated with interstitial fluids to prevent friction and tissue damage due to constant movement of lungs during respiration.[9] Inhaled air passes through the nose and mouth and proceeds down the upper respiratory tract and then into the main stem bronchi of the right and left lobes of the lung.[9] The right lobe is divided into 3 lobes, whereas the left is divided into 2 lobes.[9] The main stem bronchi, which are supported by hyaline cartilage and smooth muscle, further divide into bronchial trees within each lobe, with the main bronchi entering each of the main segments.[9] The bronchi further subdivide towards the lung peripheries and are termed bronchioles, which are made up of smooth muscle and elastic tissue.[9] As they further branch out they become respiratory bronchioles that become active

respiratory tissue.[9] These bronchioles terminate in vascular alveolar sacs that contain clusters of alveoli.[9] These alveoli are wrapped in capillaries and are the location where respiratory gas exchange occurs as oxygen diffuses through the walls of alveoli into the enveloping capillaries.[9] Conversely, carbon dioxide rich blood is delivered from the right pulmonary arteries of the heart to the capillaries encompassing the alveoli in the lungs.[9] The carbon dioxide diffuses through the capillary walls and the walls of the alveoli and is expelled from the lower respiratory tract.[9] The lungs contain approximately 2 400 kilometers of airway and 300 to 500 million alveoli.[6]

The respiratory tract contains a number of defenses.[1] The nose to the bronchi is covered with ciliated pseudostratified columnar epithelium.[1] Glands and mucous producing goblet cells are found interspersed between epithelial cells.[1] Cilia and mucous trap particulates, and the cilia beat in one direction to move mucus towards the throat where it is swallowed and neutralized by stomach acid or expectorated. [1] This is called the mucocilliary escalator and functions to prevent mucus accumulation in the lungs and keep the lower respiratory tract free of foreign debris.[1] The smooth muscles of the bronchioles help regulate airflow and stimulate the cough reflex that also expels particulate matter and microbes and noxious gases.[1] The bronchioles are also populated with immune macrophage cells, which search for foreign bodies and engulf them through phagocytosis.[1]

As mentioned above, the manner in which particulate matter affects humans depends on particulate concentration, chemical composition and dimensions.[10] Inspiratory fractions are those that have a dimension of 100 microns or less.[10] The upper respiratory tract blocks particles that are over 30 µm, and they are excreted with mucous.[10] Particles with dimensions of 20 µm or less reach the trachea, bronchus and bronchioles.[10] Those with dimensions below 7 µm will reach the pulmonary alveolus.[10] These last two groups are known as the pulmonary fraction.[10] It is particles with these sizes that can accumulate over time and cause pathological changes.[10]

Common materials used in dental laboratories include feldspathic porcelains, which are silica and alumina based; glass ceramics composed of quartz, lithium disilicate, phosphor oxide, alumina, and potassium oxide; high noble metals; wax; gypsum (which contains calcium sulfate, plaster of paris and crystalline silica); and denture acrylic composed mainly of methyl methacrylate and benzoyl peroxide. All of these materials, when adjusted or polished, can produce particulate matter that can pose a respiratory threat when inhaled.[11] The association between lung involvement and a specific contaminant is difficult to determine in dental laboratory technicians due to exposure to different contaminants over many years.[11] It has been found in many studies that the respiratory symptoms and findings among dental laboratory technicians are cough and phlegm, decreased FEV_1 as well as a higher rate of confirmed pneumoconiosis are directly related to the length of time they had been working as a dental laboratory technician.[3,8,12,13,14]

Silicon dioxide, also known as silica, is a chemical compound that is an oxide of silicon with the chemical formula SiO_2.[15] Silica is most commonly found in nature as quartz, and in many parts of the world, silica is the major constituent of sand.[15] Silica is one of the most complex and most abundant families of materials, existing both as several natural minerals and being produced synthetically.[15] Exposure to silica in the past has mainly been associated with industries that involve mining, quarrying, sandblasting, masonry, founding and ceramics.[16] Excessive inhalation of silica results in four main types of lung disease, which are simple silicosis, complicated silicosis, accelerated silicosis, and acute silicoproteinosis.[17] Silicosis is an irreversible disease and advanced stages are progressive even if the individual is removed from the exposure.[18] It is marked by nodular fibrosis and shortness of breath.[18] A common glass ceramic used today in dental laboratories is Ivoclar's IPS e.max CAD blocks. After crystallization, this material contains 57 to 80 percent SiO_2 by weight, introducing a potential source of silica contamination for dental laboratories.[19]

Gypsum rock is mined or quarried, crushed and ground into a fine powder. In a process called calcining, the powder is heated to approximately 350 degrees fahrenheit, driving off three fourths of the chemically combined water.[20] The calcined gypsum, or hemihydrate, becomes the base for gypsum plaster, gypsum board and other gypsum products.[20] A number of calcium sulfate, gypsum based materials are used in the dental laboratory for the fabrication of dental models and mounting models on articulators, thus introducing further particulate matter into the work environment. This material is considered as a nuisance dust as long as it contains less than one percent of crystallized silica, and is considered fibrogenic dust if the concentration of crystallized silica is greater than one percent. Both can contribute to the development of pneumoconiosis over time.[18]

Methyl methacrylate, a volatile synthetic chemical that is used for fabricating dentures, night guards and orthodontic appliances, has been noted in the lungs of dental laboratory technicians.[21] This monomer is 90 percent methyl methacylate and very volatile, thus when in use, the odor produced is very potent.[22] Methyl methacrylate is rapidly absorbed and distributed following inhalation or oral administration to experimental animals.[22] Data on absorption following dermal exposure is limited, though it has been observed to cause contact type dermatitis in some dental laboratory technicans.[22] In both experimental animals and humans, methyl methacrylate is rapidly metabolized to methacrylic acid. Following inhalation, 16–20 % of the chemical is deposited in the upper respiratory tract of rats, where it is primarily metabolized by local tissue esterases. [23] The most frequently observed effect after repeated inhalation exposure to methyl methacrylate at the lowest concentration is irritation of the nasal cavity.[23] Effects on the kidney and liver at higher concentrations have also been reported.[23] The monomer mentioned above is mixed with prepolymerized methyl methacrylate powder to fabricate the dental products listed above.[24] Adjusting polymerized methyl methacrylate releases

fine particulate matter into the air making it readily available for inhalation.[24] This is yet another material that contributes to the quantity of nuisance dust found in dental laboratories.

According to the Occupational Safety and Health Administration (OSHA) website, there are currently no specific OSHA standards for dental laboratories. However, exposure to numerous biological, chemical, environmental, physical, and psychological workplace hazards that may apply to dental laboratories are addressed in specific standards for the general industry. In general, exposure limit for respirable particulate is 5 mg/m^3 per 8 hour period with a total particulate exposure of 15mg/m^3 per 8 hour period.[25] They also quantify this by stating 15 million particles per cubic foot (mppcf) and 50 mppcf respectively for nuisance dust.[25] The World Health Organization (WHO) has published air quality guidelines recommending that exposure of particulate matter smaller than 10µm in diameter (PM_{10}) to be 20 $\mu g/m^3$ annual mean and 50 $\mu g/m^3$ 24-hour mean.[17] It has also recommended that $PM_{2.5}$ to be 10 $\mu g/m^3$ annual mean and 25 $\mu g/m^3$ 24-hour mean.[17]

Table 1: Exposures limits established by national organizations to particulates and vapors commonly found in dental laboratories

Contaminant	**OSHA PEL** (8-hr TWA)	**NIOSH REL** (8-hr TWA)	**ACGIH TLV** (8-hr TWA)
Silica – Respirable dust	10 mg/m^3 / **(**$\%SiO_2 + 2$)	0.05 mg/m^3	0.025 mg/m^3
Cristobalite	[10 mg/m^3 / **(**$\%SiO_2 + 2$)] /2	0.05 mg/m^3	not established
Quartz, respirable dust	30 mg/m^3 / **(**$\%SiO_2 + 2$)	0.05 mg/m^3	0.1 mg/m^3
Gypsum –Respirable	5 mg/m^3	Not established	3 mg/m^3
Total Dust	15 mg/m^3	10 mg/m^3	10 mg/m^3
Methyl Methacrylate Vapor	410 mg/m^3	410 mg/m^3	205 mg/m^3 TWA 410 mg/m^3STEL
Paraffin Wax	Not established	2 mg/m^3	2 mg/m^3
Methyl Methacrylate -respirable	5 mg/m^3	Not established	3 mg/m^3
Particulate -total	15 mg/m^3	Not established	10 mg/m^3
Total Particulate -respirable	5 mg/m^3	Not established	3 mg/m^3
-total	15 mg/m^3	Not established	10 mg/m^3

TWA- 8 hr time weighted average, TLV- threshold limit value, REL – recommended exposure limit
PEL – Permissible Exposure Limit, NOISH - National Institute of Occupational Safety and Health,
ACGIH – American Conference of Government Industrial Hygienist

To help reduce exposure, it is recommended that laboratory spaces have a negative pressure, where there is a difference in the amount of air mechanically exhausted from the

laboratory space compared to the amount of air mechanically supplied in order to prevent uncontrolled vapors and particulates from leaving the laboratory.[26] If space pressurization is not feasible, a ventilation design with increased ventilation rates must be implemented.[26] Additionally, use of workstation ventilation units help to decrease individual exposure as they pull contaminants away from workers.[26] Porcelain/ceramics rooms and prosthodontics laboratory ventilations systems should be operating at the ventilation criteria set out by DoD which is currently noted as 10 total air exchanges per hour and 2.5 air changes of outdoor air per hour.[26] Another way to decrease exposure is by using a disposable surgical mask. These masks are comprised of a meshwork of fibers and paper filters that block particles as small as 3 to 5µm in diameter.[27,28] However, as disposable surgical masks cannot remove particles smaller than 3µm, the use of a reusable surgical respirator might be beneficial if employment requires 8-hour days in a dental lab setting.[29] The use of a reusable surgical respiratory also ensures a tight fit, thus preventing the passage of inspired air around the periphery of commonly used disposable surgical masks.[29] Decreasing potential exposure using various approved protective measures is key to ensuring a safe and healthy work environment. Though it has be shown that use of this protective measure is key to minimizing potential exposure, a number of studies have shown that mask use in dental laboratories is as low as 70 percent.[8]

Air quality sampling is conducted to quantify occupational exposures in the workplace. In most cases, when a qualitative positive determination is made using grab samples, real time sampling is necessary to determine the extent of the exposure, adequacy of control methods in use, or additional controls required to eliminate or minimize the hazard.[30] There are two major types of air samples used to determine the airborne concentration of contaminants: personal samples and general area samples.[30] Personal samples involve collecting breathing zone (BZ) samples. To obtain the sample, air is collected from within the breathing zone of the employee, a

hemisphere forward of the shoulders and centered at the nose, with a radius of approximately 6 to 9 inches.[30] Attaching the sampling device to the employee and having the employee wear the sampling device for the entire work shift is the ideal sampling method.[30] If an employee is not willing to have the sampling device attached to them directly, a second individual can hold the detector tube within the breathing zone of the employee to collect one or a series of samples.[30] For general area (GA), the sampling equipment is place in a fixed location in the work area. The draw-back of this type of sampling is that it cannot be used to evaluate true employee exposure. It may be used to determine whether personal sampling is required if levels collected are above occupational exposure limits.[30]

PURPOSE

Dental laboratory technicians (both military and civilian), dental residents, mentors and support staff are exposed to various particulates during the performance of daily laboratory procedures in this military facility, the Billy Johnson Dental Clinic Laboratory. The pouring of study models using gypsum based stone, trimming of dyes for crown fabrication, fabrication and polishing of gold and ceramic restorations; and fabricating and altering acrylic partial dentures are all ways in which particulates get released into the air.[31] Determining particulate matter amount and concentration in this dental laboratory while staff are completing normal daily tasks will ensure those who work in this location are not being exposed to hazardous quantities of air contaminants.

RESEARCH QUESTIONS/HYPOTHESES

Research Question 1: Are there areas of the dental laboratory that have higher quantities of airborne particulate matter than other areas?

Null Hypothesis 1: There are no areas of the dental laboratory that have higher quantities of airborne particulate matter than other areas.

Research Question 2: Is the ventilation system adequate in preventing airborne particulate matter from leaving the dental laboratory?

Null Hypothesis 2: The ventilation system in the dental laboratory is not adequate in preventing airborne particulate matter from leaving the dental laboratory.

Research Question 3: Is the ventilation system adequate in evacuating airborne particulate matter in the dental laboratory after 8 hours of vacancy?

Null Hypothesis 3: The ventilation system in the dental laboratory is not adequate evacuating airborne particulate matter in the dental laboratory after an 8 hour period of vacancy.

Research Question 4: Are particulate matter concentrations levels for gypsum, methyl methacrylate, silica, paraffin wax in the Billy Johnson dental laboratory in compliance with OSHA/NIOSH permissible 8 hour TWA limits?

Null Hypothesis 4: Particulate matter concentration levels for gypsum, methyl methacrylate, silica and paraffin wax in the Billy Johnson dental laboratory are not in compliance with OSHA/NIOSH permissible 8 hour TWA exposure limits.

Research Question 5: Are methyl methacrylate vapor levels in the Billy Johnson dental laboratory in compliance with OSHA/NIOSH permissible 8 hour TWA?

Null Hypothesis 5: Vapor levels of methyl methacrylate in the Billy Johnson dental laboratory are not in compliance with OSHA/NIOSH permissible 8 hour TWA exposure limit

MATERIALS AND METHODS

Prior to any sampling, members from the Industrial Hygiene Service from CRDAMC trained the primary investigator on the set up and use of the Lighthouse Handheld 3016 Airborne Particle Counters, SKC 224-PCXR4 Sampling Pumps, Gilian Pump Dual Mode Low Flow sampler Model LFS 113D, BIOS Defender Calibrator, Model 520-series.

Part I:

Grab air samples were collected using a Lighthouse Handheld 3016 Airborne Particle Counter at 13 workstations within the dental laboratory every 90 minutes starting at 0700 to 1900 hours when the dental laboratory was fully operational with ventilation systems in operation over a consecutive 5 day work week. Figure 1 shows a diagrammatic representation of the layout of the laboratory and sampling locations and Table 2 identifies the workstations based on location and/or function. The control groups were samples collected at 13 workstations in the laboratory, an outdoor sample near the air intake louver for the building, and a sample in the hallway just outside of the dental laboratory. They were all taken at 0630 after the lab had been vacant for a minimum of 8 hours. Outdoor and hall samples were taken daily every 90 minutes starting at 0700 hours to provide further controls. The samples were taken at a level that would correspond to a person's breathing zone for that workstation. At a number of workstations people were sitting, whereas at other workstations people were standing. Prior to particulate grab air sampling sessions, the particulate counter was response checked using a zero air filter to purge the instrument with particulate free ambient air. The Lighthouse Handheld 3016 Airborne Particle Counter provided 5 particle size channels of simultaneous counting at a flow rate of 0.1 cubic

foot per minute (2.83 liters per minute). The model available from the Fort Hood Industrial Hygiene Service had channels for 0.3, 0.5, 1.0, 2.5, 5.0 and 10 microns. Each sample ran for 21 seconds resulting in 0.035 cubic feet (0.991 liters) of air collected per sample. The Lighthouse meter gave particulate quantity per size per volume of air collected. This allowed for identification of laboratory areas with the lowest and highest particulate count. Data was collected on prepared worksheets making note if someone was working at the workstation or not when a measurement was taken and what material they were working with. Data was then copied into Excel Spread sheet for analysis. A complete copy of data collect is located in Appendix A. A volume of particulate collected was determined for each particulate count assuming each particle was a perfect sphere and corresponded to the size of the channel through which it was collected. For some of the readings taken inside the lab where real time air particulate sampling was also complete, the values were converted to a concentration using the molecular weights for 0.1mircons of gypsum, paraffin wax, silica and methyl methacrylate making the assumption that it was only one type of particulate collected based on the main function of that workstation and each particle was a perfect sphere and corresponded to the size of the channel through which it was collected.[32,33]

Figure 1: Diagram demonstrating locations for grab air sampling with Lighthouse Handheld 3016 Airborne Particle Counter

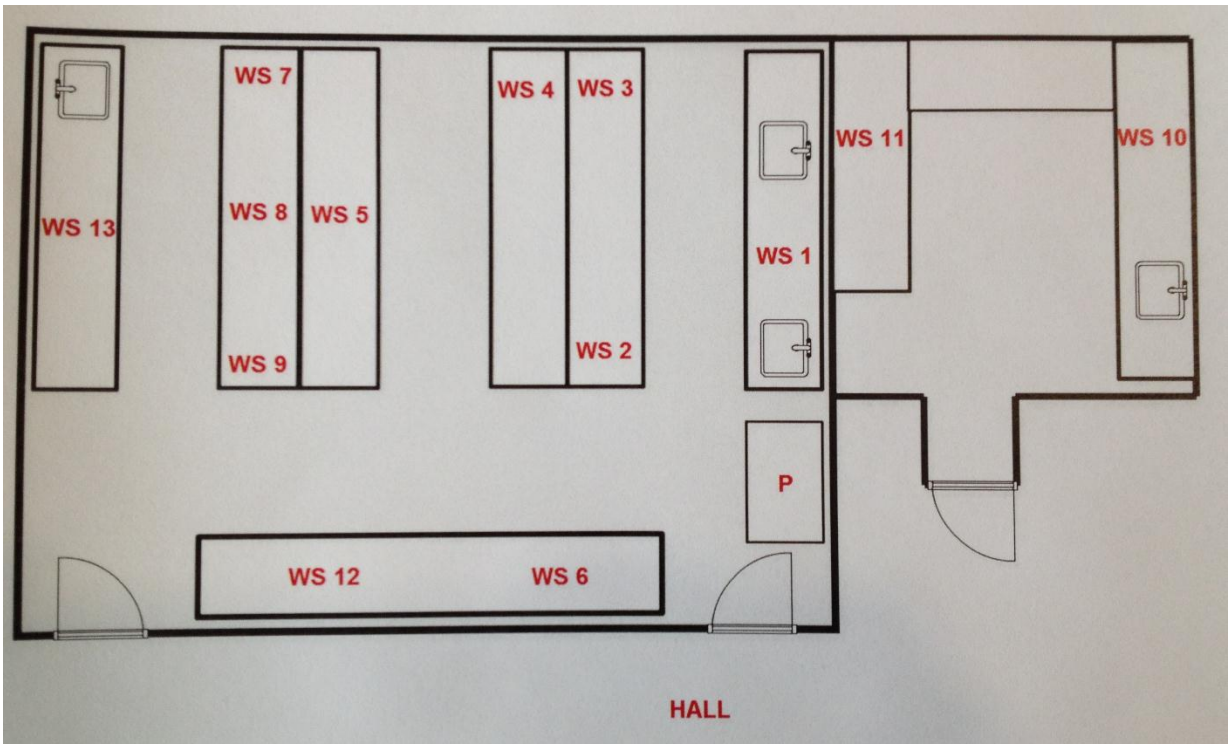


Table 2: Workstation number, location and function.

Workstation	Location	Workstation	Location
1	Stone distribution area	8	Senior Lab tech adjusting workstation in middle of bench
2	Resident workstation closest to main door	9	Pindexing workstation
3	Resident workstation area closest to window	10	Clean waxing station on the right side of room
4	Removable prosthesis lab tech workstation	11	Clean porcelain stacking area on left side of the room
5	Junior lab tech workstation	12	Pressing oven work bench
6	Buffstone automatic dispenser area	13	Resin Rock automatic dispenser area
7	Senior Lab tech adjusting workstation next to wall		

Part II:

Real time air particulate sampling was conducted using SKC 224-PCXR4 Sampling Pumps supplied by the Industrial Hygiene Service of Fort Hood to achieve an 8 hour time weighted average exposure for specific particulates. This was completed during normal hours of operation and simultaneously while grab air sampling was being conducted. These units collect particulate in the air using media filters and air flow rates according to specifications set out in the ANALYTICS Industrial Hygiene Laboratory Directory (AIHLD) which is in line with Occupational Health and Safety Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH) and Environmental Protection Agency (EPA) analytical requirements. The media filter and flow rate correspond to the specific substances targeted to be examined, which are gypsum particulate, silica particulate, methyl methacrylate vapor, methyl methacrylate particulate and paraffin wax particulate. A Gilian Dual mode low flow sampler pump was used to sample for methyl methacrylate vapor as this pump would accommodate the low flow rate required to accurately collect this vapor.

Prior to real time air sampling, the sampling pump was calibrated by the primary investigator with the designated blanks of specific media to provide the specific flow rate required as outlined by the AIHLD. A BIOS Defender Calibrator. Model 520-series was used to accomplish this calibration. A medium flow unit was used for media that required a flow of 1.0 liters of air per minute or greater. The low flow unit was used for media that required less than 1.0 liters of air per minute. Figure 3 below demonstrates the set up for this procedure using a medium flow unit prior to the addition of the medium blanks, which are shown in Figure 2. Figure 4 demonstrates the calibration of the Gilian Dual mode low flow sampler pump. There were sufficient pumps so each pump was only testing for one type of particulate per day. To calibrate the pumps the desired flow rate was dialed in on SKC pump. Using the BIOS Defender

Calibrator a total of 5 consecutive readings were taken every second and recorded. The average was recorded to two decimal places. The same procedure was also carried out when each sampling pump was done being utilized for the day. There were sufficient pumps so each pump was only testing for one type of particulate per day. If the average flow rates of the pre and post sampling calibration were within 5 percent of each other, then the average of these two flow rates was accepted as the sampling flow rate and used when calculating total volume of air collected. See Table 3 for an example.

Table 3: Recorded calibration of SKC pumps when sampling for Gypsum and total particulate on 18 August 2015.

Pump #	Type	Sample for	PRE-CAL FLOW READINGS (lpm)					PRE-CAL (lpm)	POST CAL FLOW READINGS (lpm)					POST-CAL (lpm)	5% Cal Check	Avg Flow (lpm)	Reported Flow (lpm)
545538	SKC	Gypsum	2.44	2.5	2.5	2.5	2.5	2.49	2.45	2.48	2.47	2.47	2.47	2.47	OK	2.48	2.48
545536	SKC	Total Particulate	1.91	1.91	1.91	1.92	1.91	1.91	1.86	1.86	1.86	1.86	1.86	1.86	OK	1.88	1.88

The flow rate determined the amount of time required to obtain a specific volume of air through the sample media, which in turn dictated the number of samples required to determine an eight hour time-weighted average. The specific volume required was suggested by AIHLD according to requirements set out by the governing organizations mentioned above. Table 4 shows suggested sampling times and flow rates for the materials being investigated. When pumps were calibrated these flow rates were adhered to as close as possible.

Table 4: Sampling time and flow rate based on particulate matter

SAMPLING FOR	Media	Flow (lpm)	Vol (ltr)	Suggested Sampling Rate (lpm)	Per Sample Time (min)	Vol (ltrs)	Samples Required
Calcium Sulfate (gypsum)	MCE, 0.8 um, 37mm, 3-pc.	1.0-3.0	100-1,000	2.50	300	750	1-2 samples for 8 hr TWA
Methyl Methacrylate (Vapor) [TWA]	SKC 226-81	0.03-0.2	10	0.15	60	9	6-8 samples for 8hr TWA
Methyl Methacrylate (Particulate)	Follow total particulate below						Follow total particulate below
Silica Crystalline Profile (Respirable) [Silica dioxide = SiO2]	PVC, 37mm, 5.0um, Pre-Weigh, 3-pc	2.5 (SKC cyclone)	300-900	2.50	330	825	1-2 samples for 8hr TWA
Paraffin Wax Fumes	Glass FF, 37mm, 1.0um, 2-pc, 226-709	1.0	200-600	1.00	400	400	Need 1- 2 samples for 8hr TWA
Total Particulates	PVC, 37mm, 5.0um, Pre-Weigh, 3-pc	1.5-2.0	50-1,000	1.90	210	399	Need 2-3 samples for 8hr TWA

Figure 2: Media blanks for calibration

Figure 3: Calibration of SKC 224-PCXR4 using a Medium Flow BIOS Defender Calibrator, Model 520-series

Figure 4: Calibration of a Gilian Pump Dual Mode Low Flow sampler Model LFS 113D using a Low Flow BIOS Defender Calibrator, Model 520-series

As the dental laboratory is somewhat organized based on function, one pump was set up at corresponding workstations to collect air samples for a specific material corresponding to the material which is mainly used in that area. The collection media was placed as close as possible to a dental laboratory technician's breathing zone without actually pinning the collection media on the technician. A total of 2 areas were tested for gypsum particulate (workstation 1 and in between workstation 2 and 3), 1 for methyl methacrylate vapor (workstation 4), 1 for methyl methacrylate particulate (workstation 4), 1 for silica particulate (workstation 8) and 1 for paraffin wax (workstation 10). A total particulate analysis will be conducted in the hallway outside the lab and just inside the lab near the pumice station. Only enough samples required to determine an 8 hour time weighted average for that material were collected due to cost of analysis. Figure 5 shows examples of real time testing equipment set up.

Figure 5: Real time particulate sampling in Hallway just outside of the lab and at workstation 1 near the stone distribution area

Once all sampling was completed, the sampling volume of air for each sample was calculated using the determined reported flow rate from the calibration sheets multiplied by the time over which the sample was collected. This information as well as the sampling media and non-utilized blanks were packaged and sent to ANALYTICS Industrial Hygiene Laboratory for analysis. Analysis was performed according to protocols developed by NIOSH and OSHA.

Table 5: Analysis protocol as per ANALYTICS Industrial Hygiene Laboratory 2015-2016 Directory of Services

Contaminant	Analysis Protocols
Silica - General Respirable dust Silica Profile - Cristobalite Quartz, respirable dust Tridymite	NIOSH 0600 NIOSH 7500 NIOSH 7500 NIOSH 7500
Gypsum	NIOSH 7300
Methyl Methacrylate Vapor	Rohm & Hass IH9805
Paraffin Wax Fumes	OSHA STGAP
Methyl Methacrylate Particulate	NIOSH 0500
Total Particulate	NIOSH 0500

Results were reported back to the Industrial Hygiene department and 8 hour TWA were calculated for each contaminant.

STATISTICAL ANALYSIS

In this study the independent variables were time (during working hours, after the lab has been empty for a minimum of 8 hours) and location (dental laboratory, outdoors, and hallway). The dependent variables were particulate (0.3. 0.5, 1.0, 2.5, 5.0, 10 microns of gypsum, silica and methyl methacrylate, paraffin wax) and vapor (methyl methacrylate). Particle counts were provided for 17 August 2015 through 21 August 2015 from 0630 to 1730 at selected time intervals for workstations 1 through 13, and the hall outside the laboratory and outside the building. Multiple statistical analyses were completed to address the multiple hypotheses proposed, and they will be discussed in the results section. Tests used include a one-way analysis of variance test (ANOVA), Student-Newman-Keuls test, post hoc Bonferroni test, Kruskall-Wallis ANOVA, Mann-Whitney rank sum test and Kolmogorov-Smirnov test. When looking at volume of particulate, volume is associated with weight and weight is associated with concentration. To estimate volume of individual particles, it was assumed the particles were spherical and assumed the size to be the diameter and used the equation for the volume of a sphere, $V = 4/3\pi r^3$. This was then multiplied by the particle count to calculate the total volume.

RESULTS

A one-way analysis of variance test (ANOVA) on particulate count and total volume by workstation was completed with descriptive results shown in Table 6. According to the ANOVA, there was no statistically significant difference in particulate count between

workstations ($p > 0.05$). There was a statistically significant difference in total volume of particulates between workstations ($p = 0.001$).

On the post hoc Student-Newman-Keuls test, workstation 6 was significantly different from all other workstations in total volume of particulates ($p < 0.05$). On the post hoc Bonferroni test, the difference in significance ranged from $p = 0.016$ to $p = 0.001$. The distributions of particulates by count and total volume respectively are graphed in Figures 6 and 7, respectively. The data are not normally distributed, so the results were confirmed with the Kruskall-Wallis ANOVA in Table 8, which shows there was a statistically significant difference in particulate count by workstation ($p < 0.001$) and in total volume of particulates by workstation ($p < 0.001$). Workstation 6 had the highest particulate count and total volume of all the workstations in the main laboratory. Because the data was not normally distributed, the results of the Kruskal-Wallis ANOVA were accepted. There are areas of the dental laboratory that have higher quantities of airborne particulate matter than other areas.

Table 6a: One Way ANOVA Descriptive Statistics- mean particulate counts and mean total volume

Workstation		N	Mean	Std. Dev.	Std. Error	95% CI for Mean		Minimum	Maximum
						Lower	Upper		
Particulate Count	1	270	4624.1	16350.3	995.0	2665.0	6583.2	0.0	231272.0
	2	270	4381.4	13408.9	816.0	2774.7	5988.0	0.0	153808.0
	3	270	3587.3	8797.1	535.4	2533.3	4641.4	1.0	89408.0
	4	270	3894.8	9466.6	576.1	2760.6	5029.1	1.0	70197.0
	5	270	5033.2	14784.6	899.8	3261.7	6804.7	0.0	121800.0
	6	270	6973.8	18632.5	1133.9	4741.3	9206.3	0.0	163744.0
	7	270	4498.2	11388.9	693.1	3133.6	5862.8	0.0	117144.0
	8	270	4212.0	9769.5	594.6	3041.4	5382.5	1.0	77232.0
	9	270	3807.1	9524.1	579.6	2665.9	4948.2	0.0	96440.0
	10	270	4006.0	12181.9	741.4	2546.4	5465.6	0.0	116347.0
	11	270	3278.9	8080.0	491.7	2310.8	4247.1	0.0	44582.0
	12	270	4890.5	12914.4	785.9	3343.1	6437.9	0.0	103600.0
	13	270	3835.2	9449.1	575.1	2703.0	4967.3	0.0	96978.0
	Total	**3510**	**4386.3**	**12307.4**	**207.7**	**3979.0**	**4793.6**	**0.0**	**231272.0**
Total Volume	1	270	4527.3	16415.7	999.0	2560.4	6494.2	0.0	217294.0
	2	270	4736.3	13734.3	835.8	3090.7	6381.9	0.0	158127.2
	3	270	6726.2	22167.8	1349.1	4070.1	9382.3	6.8	231431.2
	4	270	5875.0	14123.5	859.5	4182.7	7567.2	8.8	112574.0
	5	270	7574.8	39927.0	2429.9	2790.8	12358.8	0.0	567582.4
	6	270	269578.2	2558698.9	155717.5	-37001.7	576158.2	0.0	32062646.0
	7	270	11586.5	85062.8	5176.8	1394.4	21778.7	0.0	1324184.4
	8	270	37622.2	508787.8	30963.8	-23340.1	98584.5	7.3	8344089.6
	9	270	4273.3	16106.6	980.2	2343.4	6203.2	0.0	182212.8
	10	270	620.5	1275.8	77.6	467.7	773.4	0.0	12042.8
	11	270	500.3	930.0	56.6	388.9	611.7	0.0	6283.2
	12	270	6101.1	25126.5	1529.1	3090.5	9111.7	0.0	331438.8
	13	270	8543.2	76649.9	4664.8	-640.9	17727.3	0.0	1249833.2
	Total	**3510**	**28328.1**	**726601.1**	**12264.3**	**4282.2**	**52373.9**	**0.0**	**32062646.0**

Table 6b: One-way ANOVA on particulate count and total volume by workstation.

		Sum of Squares	df	Mean Square	F	Sig.
Particulate Count	Between Groups	2796467847.4	12	233038987.3	1.541	.102
	Within Groups	528719528082.1	3497	151192315.7		
	Total	531515995929.5	3509			
Total Volume	Between Groups	17306737334563.3	12	1442228111213.6	2.748	.001
	Within Groups	1835266607287000.0	3497	524811726418.9		
	Total	1852573344621560.0	3509			

Table 7: Post hoc – SNK to determine if particulate total volumes were significantly significant

Total Volume				
			Subset for alpha = 0.05	
	Workstation	**N**	**1**	**2**
Student-Newman-Keuls	11	270	500.3	
	10	270	620.5	
	9	270	4273.3	
	1	270	4527.3	
	2	270	4736.3	
	4	270	5875.0	
	12	270	6101.1	
	3	270	6726.2	
	5	270	7574.8	
	13	270	8543.2	
	7	270	11586.5	
	8	270	37622.2	
	6	270		269578.2
	Sig.		1.000	1.000

Figure 6: Distribution of mean particulate count according to workstations

Figure 7: Distribution of mean total volume of particulate according to workstation in micrometers cubed. Workstation 6 value is close to 270000. Not visible so can better visualize remaining workstations

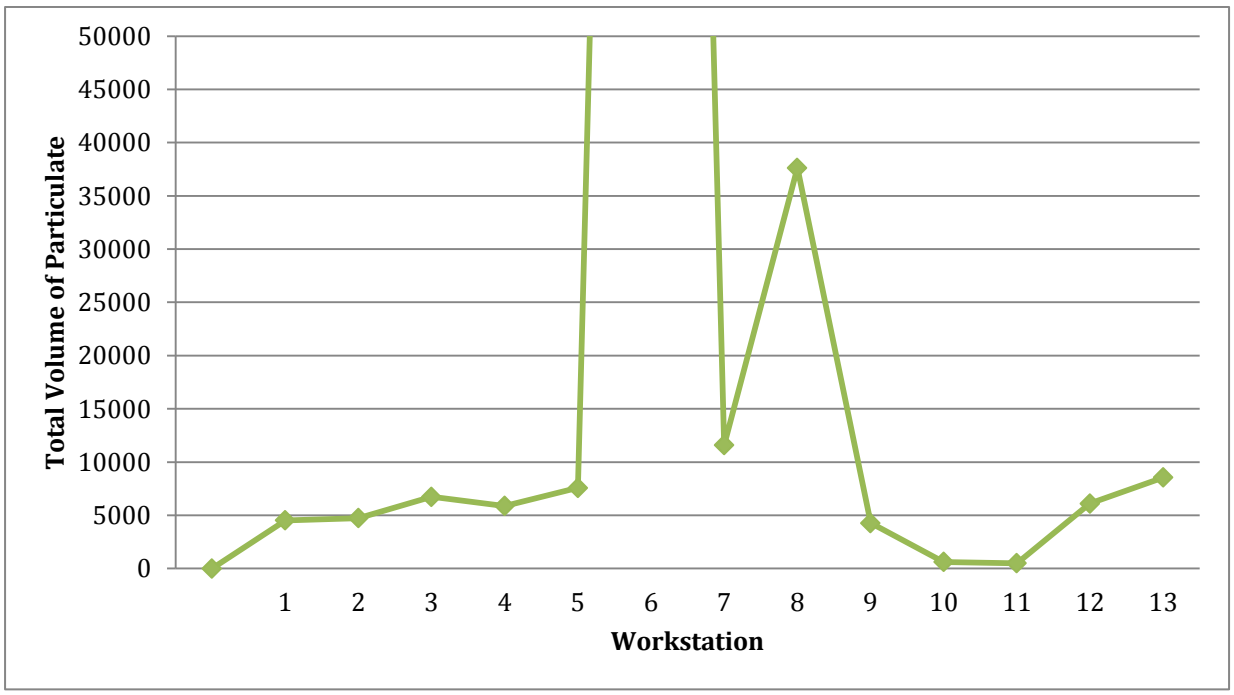


Table 8: Kruskal-Wallis ANOVA on particulate count and total volume of particulates**.**

Workstation	N	Particulate count Mean Rank	Total Volume Mean Rank
1	270	1733.88	1718.27
2	270	1789.60	1793.28
3	270	1852.39	1876.70
4	270	1899.95	1935.86
5	270	1852.60	1885.22
6	270	1873.72	1866.94
7	270	1834.44	1866.44
8	270	1808.92	1844.66
9	270	1745.51	1765.40
10	270	1420.67	1336.20
11	270	1408.90	1290.73
12	270	1832.50	1871.48

Table 8b: Test Statistics a,b

	Particulate Count	TotalVolume
Chi-Square	79.615	132.805
df	12	12
Asymp. Sig.	**.000**	**.000**

a. Kruskal Wallis Test
b. Grouping Variable: Workstation

To examine the ability of the ventilation system to prevent airborne particulate matter from leaving the dental laboratory, a one-way ANOVA on particulate count and total volume of particulate material of the laboratory hall and outside air samples was performed. In this analysis, all workstations were categorized as a single group to get an average for the laboratory (1 = laboratory, 2 = hall, 3 = outside). The ANOVA results below in tables 9 and 10 show there was a statistically significant difference in particulate count between locations ($p < 0.001$). There was no statistically significant difference in total volume of particulates between workstations ($p > 0.05$).

On the post hoc Student-Newman-Keuls test, location 3 (outside) was significantly different from all other locations in total particulate count ($p < 0.05$). On the post hoc Bonferroni test, the statistical significance was $p < 0.001$. The distributions of particulates by count and total volume are graphed in Figures 8 and 9, respectively.

Table 9: Descriptive Statistics- Mean particulate count and mean total volume for all workstations in the laboratory(1) collectively, the hall(2) and outside(3).

		N	Mean	Std. Dev.	Std. Error	95% CI for Mean		Minimum	Maximum
						Lower	Upper		
Particulate Count	1	3510	4386.3	12307.4	207.7	3979.0	4793.6	0.0	231272.0
	2	270	3101.5	12088.8	735.7	1653.0	4549.9	0.0	132593.0
	3	270	14275.2	31744.3	1931.9	10471.7	18078.8	0.0	132935.0
	Total	4050	4959.9	14636.6	230.0	4509.0	5410.9	0.0	231272.0
Total Volume	1	3510	28328.1	726601.1	12264.3	4282.2	52373.9	0.0	32062646.0
	2	270	2788.9	7352.0	447.4	1908.0	3669.8	0.0	75398.4
	3	270	3563.0	9027.5	549.4	2481.3	4644.6	0.0	95818.8
	Total	4050	24974.5	676476.6	10629.8	4134.2	45814.7	0.0	32062646.0

Table 10: One-way ANOVA on particulate count and total volume comparing all workstations in the laboratory(1) collectively, the hall(2) and outside(3)

		Sum of Squares	df	Mean Square	F	Sig.
Particulate Count	Between Groups	25516516445.0	2	12758258222.5	61.329	.000
	Within Groups	841899198039.9	4047	208030441.8		
	Total	867415714484.9	4049			
Total Volume	Between Groups	296151869266.7	2	148075934633.3	.323	.724
	Within Groups	1852609806804960.0	4047	457773611763.0		
	Total	1852905958674230.0	4049			

Figure 8: Distribution of mean particulate count of all workstations in the laboratory(1) collectively, the hall(2) and outside(3)

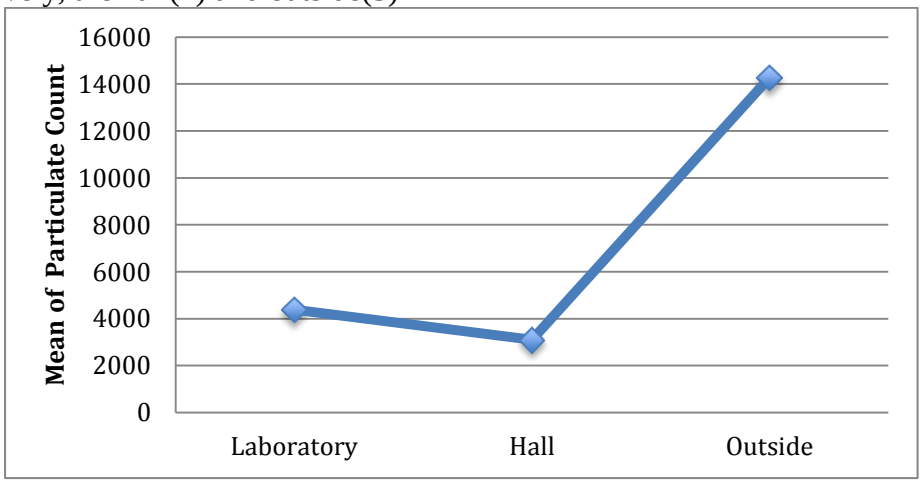
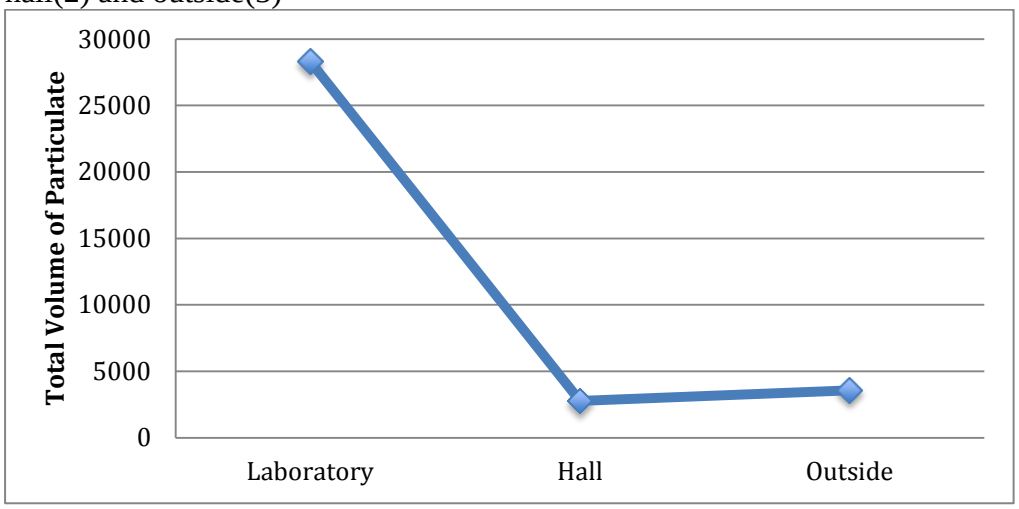


Figure 9: Distribution of mean total volume of particulate in the laboratory(1) collectively, the hall(2) and outside(3)



The data is not normally distributed, so the results were confirmed with the Kruskall-Wallis ANOVA in Table 11. There was a statistically significant difference in particulate count by location ($p < 0.001$). There was a statistically significant difference in total volume of particulates by location ($p < 0.001$). The Mann-Whitney rank sum test between the laboratory, hall and outside was performed. There was a statistically significant difference in particulate count between the outside air when compared to both the laboratory and the hall ($p < 0.001$). There was a statistically significant difference in total volume of particulates between the outside environment when compared to both the laboratory and the hall ($p < 0.001$).

Table 11. Kruskal-Wallis ANOVA on particulate count and total volume of particulate

Laboratory (1), Hall (2), Outside (3)		N	Mean Rank
Particulate Count	1	3510	2012.13
	2	270	1878.05
	3	270	2346.74
	Total	4050	
Total Volume	1	3510	1993.63
	2	270	1857.39
	3	270	2607.89
	Total	4050	

Test Statistics[a,b]

	Particulate Count	Total Volume
Chi-Square	25.132	75.171
df	2	2
Asymp. Sig.	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: WS1_HA2_OS3

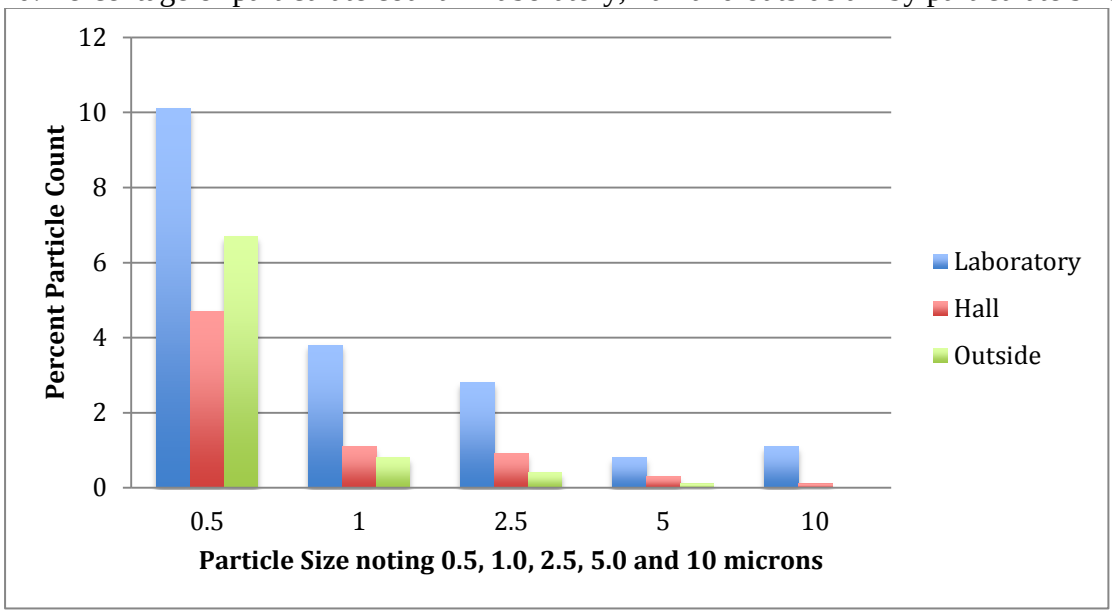
Because the data was not normally distributed, the results of the Kruskal-Wallis ANOVA were accepted. The outside location where sampling was completed has a significantly higher particulate count and a significantly higher total volume of particulates than the laboratory and hall areas. The particulate counts and total particulate volumes in the laboratory and hall are not significantly different. The types of particulates from the laboratory were classified into six categories (gold, gypsum, methyl methacrylate, silica, paraffin wax, general particulate) with the default category being "general particulate". In the hall and outside locations, all particulates were classified in the default category. Because all of the particulates in the hall and outside locations are classified as general particulate, we cannot identify them as coming from the laboratory.

If particulate count is normalized by maximum particulate size, as shown in the Table 12 and graphed, the distribution of particulates in the hall air is closer to the outside air than the laboratory air. The laboratory has a higher percentage of 0.5, 1.0, 2.5, 5.0 and 10 micron size particles when compared to the hall and outside air. For 0.3 microns the hall and the outside air had similar percentages, 92.9 and 92.0% respectively, whereas the laboratory had 81.4%.

Table 12: Particulate count in laboratory, hall and outside air by particulate size normalized with particulate count as the dependent variable

Location	Particulate Size	Mean	Std. Deviation	N	%
(Laboratory) 1	0.3	21422.58	21375.79	585	81.4%
	0.5	2651.54	6095.25	585	10.1%
	1.0	1009.68	4827.06	585	3.8%
	2.5	733.36	5093.41	585	2.8%
	5.0	216.77	1595.05	585	0.8%
	10.0	284.14	3385.34	585	1.1%
(Hall) 2	0.3	17290.89	25379.39	45	92.9%
	0.5	866.62	1251.91	45	4.7%
	1.0	204.47	286.91	45	1.1%
	2.5	168.04	280.02	45	0.9%
	5.0	57.40	100.82	45	0.3%
	10.0	21.38	25.95	45	0.1%
(Outside) 3	0.3	78840.09	31655.43	45	92.0%
	0.5	5732.60	4220.73	45	6.7%
	1.0	653.60	319.11	45	0.8%
	2.5	327.42	160.36	45	0.4%
	5.0	74.78	79.77	45	0.1%
	10.0	22.87	36.58	45	0.0%

Figure 10: Percentage of particulate count in laboratory, hall and outside air by particulate size



To examine if the ventilation system in the dental laboratory was adequate in evacuating airborne particulate matter after an 8 hour period of vacancy, the total particulate count and total volume of particulate was examined at 0630 and 1730.

Table 13: Descriptive Statistics – Mean particulate count and total volume of particulate at 0630 and 1730 at workstations 1 through 13 as determined by the Mann-Whitney rank sum test

Time - 1 – 0630 2 - 1730		N	Mean	Std. Deviation	Std. Error Mean
Particulate Count	1	390	2054.064	7345.2664	371.9420
	2	390	3463.392	8045.3126	407.3902
Total Volume	1	390	331.0530	864.60196	43.78082
	2	390	1337.4140	3565.84108	180.56338

A Mann-Whitney test for the average particulate count and total particulate volume at 0630 and 1730 was completed after the distributions were significantly different from normal on the Kolmogorov-Smirnov test. The Mann-Whitney test revealed the average particulate count at 1730 was 1.7 times greater than at 0630 ($p < 0.001$). The average total volume at 1730 was 4.0 times greater than at 0630 ($p < 0.001$). The ventilation system does not completely clear particulates from the air during the workday but it does significantly clear the particulates from the air during periods of inactivity. Figure 11 below shows a time series analysis of particulate count showing the difference in particulate count at workstation 6 from the end of the workday to the next morning after a minimum 8 hour vacancy period. When examining Figures 12 and 13, the particle count in the hallway shows a very similar distribution regarding clearance, but the outside particle count shows a decrease between night and day, but not as drastically.

Figure 11: Time Series analysis of particulate count at workstation 6

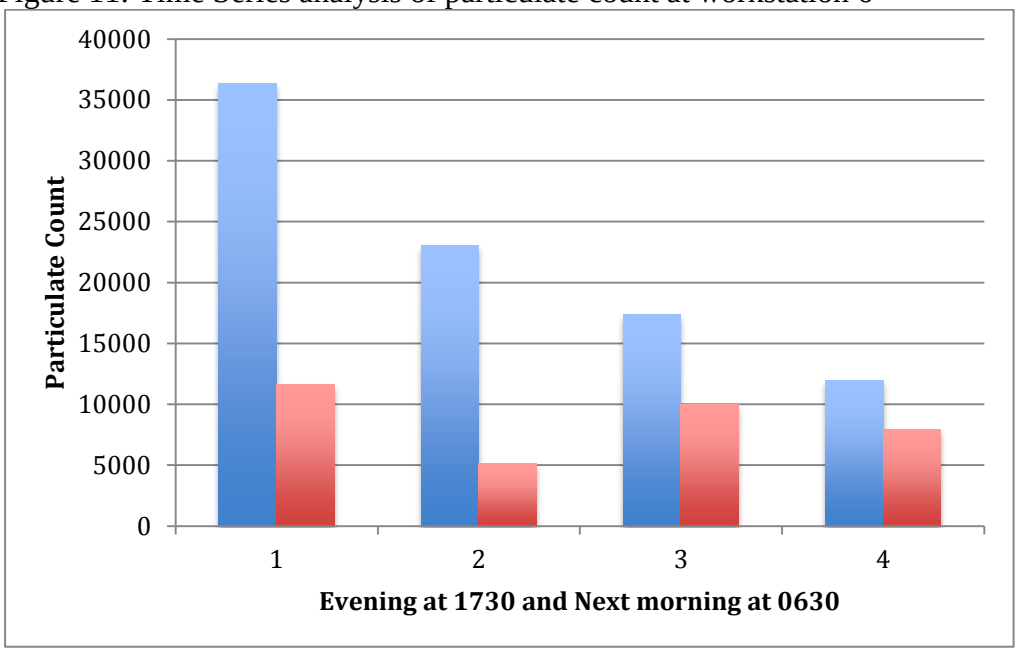


Figure 12: Time Series analysis of particulate count in Hallway

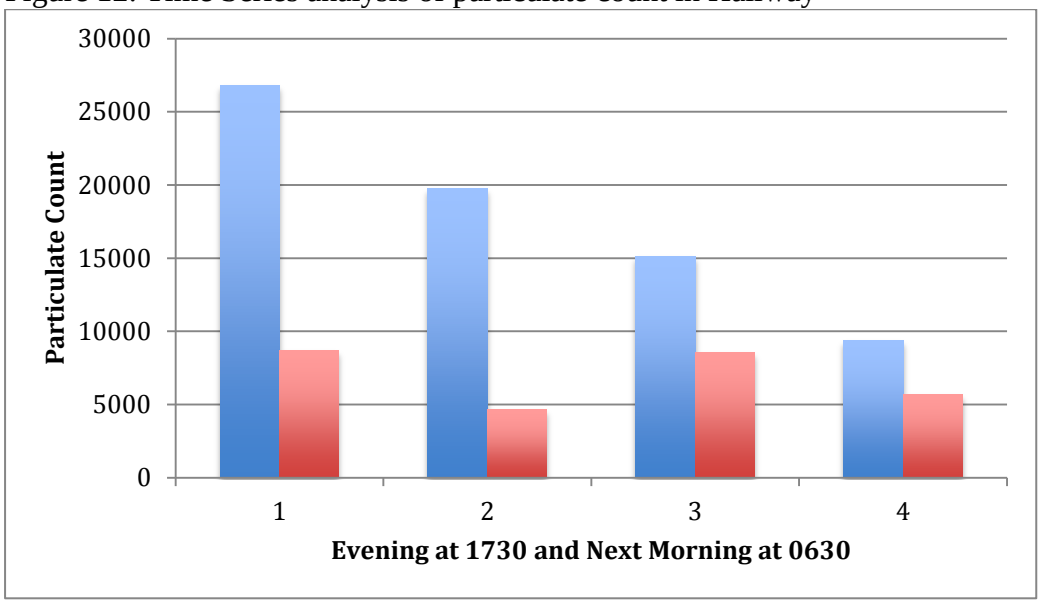
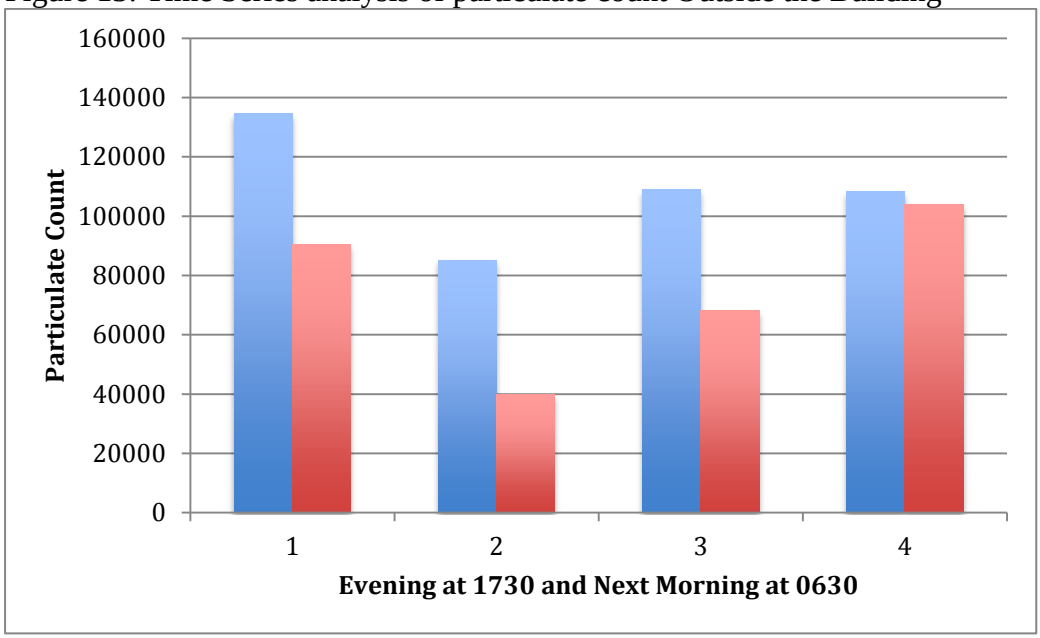


Figure 13: Time Series analysis of particulate count Outside the Building



As the Lighthouse Handheld 3016 Airborne Particle Counter is not capable of determining the exact concentration of specific particulate matter in the air, real time sampling was conducted. Results received were compiled and an 8 hour time weighted average (TWA) was determined that could be compared to OSHA PEL or NIOSH REL. An 8 hour time weighted is computed as follows:

E = (Ca Ta+Cb Tb+. . .Cn Tn)÷8.
E is the equivalent exposure for the working shift.
C is the concentration during any period of time T where the concentration remains constant.
T is the duration in hours of the exposure at the concentration C.

Appendix C displays these results. Some results were returned from the lab with an identifier. A "less than" (<) value indicates the result is less than the limit of quantitation which means it represents the reporting limit for the analysis. There is still a value associated with it and is used in the TWA, and the identifier is carried through to indicate a less than value.

Table 14: Real time sampling results with respective 8hr TWA calculated

Contaminant	Sample Location	Date	Allowable 8 hr TWA (mg/m^3)	Regulatory Agency	Analytics Reported 8hr TWA (mg/m^3)
Gypsum (Calcium Sulfate)	WS01	18-Aug-15	5	OSHA	0.1544
Methyl Methacrylate	WS04	19-Aug-15	410	OSHA	< 0.1111
Total Particulate	Hall	18-Aug-15	5	OSHA	< 0.1664
Total Particulate	Hall	19-Aug-15	5	OSHA	< 0.1152
Silica	WS8	18-Aug-15	0.05	NIOSH	< 0.2575
Silica	WS8	19-Aug-15	0.05	NIOSH	< 0.0420
Paraffin Wax	WS10	18-Aug-15	2	NIOSH	< 0.2056

The above table shows the real time sampling results with their respective 8hr TWA. All contaminants were below acceptable OSHA personal exposure limits except silica.

There was a statistically significant difference in both particulate count and total volume of particulate between the clean and production laboratories on the Mann Whitney sum test ($p < 0.001$). This was not one of the original research questions but was one that came to light during the analysis of the data. When the mean particulate count from workstations 1 thru 9, 12 and 13, which were in the production laboratory were compared to the mean particulate count from workstations 10 and 11, which were in the clean laboratory, using the independent sample t-tests the distribution passed the Levine's test for equality of variances. The standard deviations for volume differ by a factor of 579. The Kolmogorov-Smirnov tests indicate that the distributions are significantly different from normal. Equality of variance and normal distributions are necessary assumptions for the t-test. Thus a non-parametric Mann-Whitney rank sum test was used and is shown in Table 15 below.

Table 15a: Statistical Analysis showing the determination that there was a significant difference in particulate count and particulate volume between the production and clean laboratories.

		N	Mean	Std. Deviation	Std. Error Mean
Particulate Count	Production Laboratory	594	5187.7	11995.0	492.2
	Clean Laboratory	108	4157.9	9876.4	950.4
Total Volume	Production Laboratory	594	36415.2	480216.0	19703.5
	Clean Laboratory	108	473.5	828.8	79.7

15b: T-test.

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Particulate Count	Equal variances assumed	1.286	0.257	0.842	700	0.400
	Equal variances not assumed			0.962	169.884	0.337
Total Volume	Equal variances assumed	2.027	0.155	0.777	700	0.437
	Equal variances not assumed			1.824	593.019	0.069

15c: Mann-Whitney test.

		N	Mean Rank	Sum of Ranks
Particulate Count	**Production Lab**	594	363.35	215831.50
	Clean Lab	108	286.31	30921.50
	Total	702		
Total Volume	**Production Lab**	594	368.90	219129.50
	Clean Lab	108	255.77	27623.50
	Total	702		

DISCUSSION

Based on the results of this study, the null hypothesis that there are not any areas of the dental laboratory that have higher quantities of airborne particulate matter than other areas was rejected. Workstation 6 was the location in the lab that had the highest mean particulate counts and mean particulate total volume over the 5 day sampling period. This is where the Smartbox X2 automatic stone dispenser was located. A number of readings using the Lighthouse Handheld 3016 Airborne Particle Counter were taken just at the start, during or after buffstone had been dispensed from the automatic dispenser to pour diagnostic impressions. It is believed that this is why such high particulate counts were recorded in this area. This area is not a full time workstation for a specific individual and is used by multiple individuals throughout the day. The table below demonstrates readings taken at 1000hrs each day for 5 days at workstation 6.

Table 16: Particulate count for workstation 6 at 1000hrs over a 5 day period

Particulate Size (μm)	**August 17th**	**August 18th**	**August 19th**	**August 20th**	**August 21st**
0.3	12510	34172	9934	12201	11787
0.5	1166	54391	1122	918	1131
1.0	357	81510	363	105	169
2.5	248	85882	235	106	103
5.0	57	26540	63	15	35
10.0	8	61235	25	12	12

On the18th of August you can see the large increase in particulate count when stone was being dispensed from the machine. On the 19th and the 21st someone in the area poured impressions after the mixing of stone and the use of the vacuum mix machine on the workbench near workstation 1. When looking at the Smartbox X2 automatic dispenser the stone does come out at a quick speed into a bowl containing water and produces visible particulate that has the opportunity to mix into the surrounding air when a smaller mixing bowl is utilized. In 2011 Ireland et al. reported on a study in which they examined particulate concentration while

depositing dental stone into a bowl of water from a KaVo plaster hopper, wet trimming of study models, trimming removable appliance and polishing removable appliances. They reported that the levels of dust produced was highest in the area where stone was being deposited into bowls and mixed by hand. Their study design measured the particulate concentration using a pDr-1200 real time active air sampler collecting 5 micron sized particles. Concentration is measured with this sampling device as the intensity of the light scattered forward by the airborne particles passing through the sensing chamber is linearly proportional to their concentrations. In this study the pDr-1200 sampler was ran for 20 consecutive minutes and observations were made every 15 seconds as to what the particulate concentration was. Five 20 minute sessions were conducted thus allowing for 400 observations to be made. The assumption was made that the particulate they collected was only gypsum. They then used the maximum concentration data of 37.65 mg/m^3 to calculate the 8 hour TWA. It was found that the 8 hour TWA, though how this was determined was not reported, for this area was 7.8 mg/m^3 which is above the workplace exposure limit (WEL) of 4 mg/m^3. This WEL is based on guidelines set out by Control of Substance Harmful to Health regulations, 2002.[5]

In the present study the highest quantity of airborne particulate was recorded over 21 seconds using the Lighthouse Handheld 3016 Airborne Particle Counter on the 18th of August at 1000 hours at workstation 6, reaching 343,730 particles ranging from 0.3 to 10 microns in size. If the particulate count was converted to a volume assuming that each particle was a perfect sphere and using the formula $V = 4/3\pi r^3$ x particulate count, the total volume of airborne particulate collected at 1000 hours at workstation 6 would have been 34,549,032.74 cubic microns ($\mu m^{3)}$. In a worst case scenario approach, as done by Ireland, it was assumed that the only particulate the lighthouse meter collected was gypsum and that a technician continuously

worked at this station for 8 hours constantly. If this were to occur they would be constantly producing a particulate volume of 34,549,032.74μm^3 every 21 seconds. The 8 hour TWA was calculated to be 11.45 mg/m^3, as seen in Appendix B, which is over the OSHA PEL 8 hour TWA of 5 mg/m^3 for respirable fraction of gypsum Though it is highly unlikely that an individual would be working at this station in this fashion, it does show the result would be an exposure over the OSHA PEL 8 hour TWA. If you look at the grab air samples that were collected using a Lighthouse Handheld 3016 Airborne Particle Counter sampling for the 18th of August at workstation 6, and assumed that every sample that was collected every 21 seconds between each 90 minute interval was what was recorded at the last reading, it would be calculated that the 8 hour TWA for this workstation would be 2.62 mg/m^3, as seen in Appendix B, which is below the PEL 8-hr TWA for gypsum.

Though the use of the automatic dispenser decreases the labor and time involved in the stone measuring process by 20 to 25% according to the manufactures website, it does result in higher particulate count when compared to dispensing from a plaster hopper by hand and into a bowl. The August 19th reading at 0930 that was taken with the lighthouse meter at the stone distribution area, while an individual was actively dispensing stone out of the hopper using a large spoon and placing it into a mixing bowl. The airborne particulate count measured over 21 seconds was 37746. This particle count is 9 times less than what was detected when the automatic dispenser was dispensing stone. Though the Smartbox X2 increase accuracy and efficiency it does not lead to a clean and dust free procedure as indicated by its brochure. Operation of this type of unit in front of a bench top extractor would reduce particulate matter that would be available for respiration as well as the use of personal protective equipment.

When examining the ability of the ventilation system to prevent airborne particulate matter from leaving the dental laboratory, the null hypothesis cannot be accepted nor rejected based on the fact that the tested particulate outside the building and in the hallway was deemed as general particulate and the tested particulate in the laboratory was classified into one of six categories (gold, gypsum, methyl methacrylate, silica, paraffin wax, general particulate) with the default category being "general particulate". Because all of the particulate in the hallway and outside locations are classified as general particulate, we cannot identify them as coming from the laboratory. This is a flaw in the study design. However if the particulate count is normalized by maximum particulate size, the lab demonstrates that it has a higher percentage of 0.5, 1.0, 2.5, 5.0 and 10 micron size particles than the hallway and the outside air. As the hallway and outside air particulate size percentages mimic each other closely, one could speculate that this is a sufficient correlation to show that laboratory ventilation system prevents particulate matter of a specific size from exiting the laboratory.

In this study, real time air sampling using SKC 224-PCXR4 sampling pumps was conducted in the hallway and just inside the laboratory (locations "H" and "P" on Figure 1) on the 18^{th} and 19^{th} of August to look at total particulate concentration. Just inside the doorway the total concentration was found to be 1.006 mg/m^3 and 0.874 mg/m^3 respectively on the fore mentioned days, with the concentrations in the hallway being 1.331 mg/m^3 and 0.922 mg/m^3. Using this analysis the concentration in the hallway is slightly higher than the laboratory with a difference of 0.132 mg/m^3 and 0.048 mg/m^3. When a personal exposure limit of 8 hour TWA is computed using these numbers the difference between the hallway and laboratory on these two days respectively is 0.04 mg/m^3 and 0.006 mg/m^3, which is minor when looking at a respirable PEL 8 hour TWA for general particulate of 5 mg/m^3.

Studies that have looked at the use of ventilation systems in dental laboratories have commonly found that many small laboratories lack proper ventilation systems and bench top extractors.[5,34,35] Another problem is the hood extractor and bench top extractor's power switch is left to be controlled by those working in the lab.[32] This is the case in the lab in the current study which can lead to bench top extractors not being turned on. During the course of this study dental laboratory technicians were encouraged to turn on bench top extraction units when any work was completed at a workstation that had one. This suggestion was not always followed by people utilizing the lab. When looking at the current bench top extraction units they all have nozzles of different sizes and designs attached to tubes that are 7cm in diameter. Brune and Beltesbrekke reported that the exposure to gypsum was reduced more than 99% when working 10 cm away from a tube inlet. They also demonstrated that by using a nozzle attached to a tube inlet, the suction capacity at a working point 70mm from the nozzle was the same as if working at a distance of 35 mm for a straight tube.[28] In the laboratory in the current study the ideal working point for proper ergonomics puts the distance to the nozzle 210mm to 240mm which results in further exposure to airborne particulate. To further evaluate the effectiveness of bench top extraction units in this laboratory specifically, further studies would be required.

The null hypothesis that the ventilation system in the dental laboratory is not adequate in evacuating airborne particulate matter after an 8 hour period of vacancy was rejected. As workstation 6 had the highest mean particulate count and volume throughout the week of testing, a time series analysis of total volume of particulate was completed on this workstation. The maximum volume during the day was 35,000,000 $\mu m^{3.}$ By the end of the day, the total volume of particulates is below 15,000 μm^3. By the following morning the total volume was below 5,000μm^3. The volume of a spherical 21.3 μm particle is 5,060μm^3. The volume of a spherical

30.6 μm particle is 15,002 μm^3. In comparison, neutrophils and macrophages, which are also involved in the pathology of silicosis, are 9 to 15 microns and 20 to 80 microns in diameter, respectively.[6] The aim of the current study was not to look at the specifics of the current ventilation system but to evaluate its ability in evacuating airborne contaminants during a period of 8 hours of vacancy. There are no set standards set by OSHA regarding ventilation in dental laboratories specifically but it does provide standards in reference to general industry in standard 1910.94.[36] In the Department of Defence, Unified Facilities Criteria design manual it states that a dental prosthodontic/orthodontic labs must involve air that is completely exhausted from the lab to the outside environment and not re-circulated and that the exhaust should be 10% more than the supply. It also states that 6 changes of air per hour are required in dental prosthodontics/orthodontic labs and 10 changes of air per hour are required for a porcelain/ceramics room.[26] Air change is the minimum total air changes per hour required to meet ventilation requirements. These rates are considered the minimum required for normal health and comfort consideration. Additional air may be required for temperature, dilution, and odor control, as well as air requirements for such items as hoods, glove boxes, clean-air stations, combustion equipment, and dust collectors though guidance on how to determine this is not provided.[26] According to ANSI/AIHA Z9.5 section 2.1.2 an air change per hour cannot be specified that will meet all conditions. It further recommends that air changes per hour is not the appropriate concept for designing contaminant control systems and that contaminants should be controlled at the source, i.e. bench top extraction units.[37] All outdoor air is filtered prior to entry into building rooms and hallways, and to facilitate this, filters are located in different aspects of the ventilation system. Minimum efficiency reporting value (MERV) is a measurement scale designed in 1987 by the American Society of Heating, Refrigerating and Air-Conditioning

Engineers (ASHRAE) to rate the effectiveness of air filters.[38] A filter with a minimum efficiency reporting value (MERV) of 8 is required for all government buildings and is located just upstream of AC equipment.[26] These filters are rated for filtering 70-85% of particulate measuring from 3 to 10 microns in size.[38] Dental laboratories in a government setting require a filter with a MERV of 13 shall be placed downstream of the supply fan.[26] This filter rating means that this filter can filter less than 75% of particulate measuring 0.3 to 1 microns, 90% or greater of particulate measuring 1.0 to 3.0 microns and 90% or greater of particulate measuring 3.0 to 10.0 microns.[38] The current study shows there is a mean higher count of particulate in the outside air compared to the lab and the hallway. This suggests that the current filtering system is working adequately in removing particulate from the outside air prior to entering the building.

When analyzing the data in the current study, there is a trend that particulate count was higher when a measurement was taken while someone was working then when no work was being completed. An example of this is at workstation 7 on the 20th of August when an individual was adjusting a gold bridge without the bench top extraction unit on. The total particulate count was 128161 particles and total particulate volume of 1858937.74 μm^3. This was the highest recorded value at this workstation for the week of sampling. When a reading was taken 90 minutes later at the same station the total particulate count had dropped to 11147 and the total particulate volume was 6971.83μm^3. These readings are 11 and 266 times less than the previous measurement. As mentioned earlier bench top extraction units were not always utilized when work was being completed at the workstations. This is an observation that should have been recorded regularly to determine if there were potential differences in particulate count with and without the bench top exhaust units functioning. Particulate sampling could also be

completed in more frequent intervals to further evaluate the rate at which particulate counts decrease once a specific task is completed.

When examining concentration levels using real time SKC 224-PCXR4 sampling pumps all concentration levels came back in compliance with OSHA and NIOSH permissible 8-hour TWA exposure limits except silica, if the respirable dust value is compared to limits for silica established by NIOSH. Workstation 8 was sampled for two 8-hour TWA on separate days, the 18th and 19th of August. On the 18th of August the concentration of respirable dust was 0.2575 mg/m^3 and on the 19th of August it was 0.0420 mg/m^3. It was noted that during sampling the technician was not constantly at the workstation and when sampling was complete the technician had finished working in that area for the day. It is assumed that there was not any further exposure during the 8 hour shift even though sampling was only completed for only 4 and 5.17 hours respectively, thus an 8 hour TWA was calculated.[30] Even though sampling was conducted as close to an individual breathing zone as possible it is still considered general area sampling and cannot be used to evaluate true employee exposure but does suggest the need for further study. The ANALYTICS Industrial Hygiene Laboratory 2015-2016 Directory of Services recommends that respirable silica samples are to be analyzed using a NIOSH 7500 XRD method to examine for quartz, cristobalite and tridymite. Samples were collected in the method required for this analysis, but to determine a weight of silica the lab analyzed the sample first by a gravimetrics to determine a concentration of particulate. This aspect of the analysis was completed using the NIOSH 0600 guidelines, which is for particulates not otherwise regulated, respirable. Then the respirable concentrations of crystalline quartz, cristobalite and tridymite were determined using an X-ray powder diffraction to give concentrations of 0.04 to 0.045 mg/m^3 for quartz and cristobalite and zero for tridymite. For samples that are weighted for a total amount the assumption is made that what is collected is for the most part a pure sample. For

chemical specific analysis the samples were analyzed for that particular chemical. In this study the values obtained from chemical specific analysis were below all occupational health and safety maximum concentrations. If the value obtained for respirable dust is compared to the allowed concentration of general particulate dust, which is 5mg/m^3 according to OSHA then the concentration is below PEL 8-hour TWA. In correspondence with the Industrial Hygiene Service at CRDAMC in Fort Hood it was stated to compare the respirable dust value to those listed for quartz respirable as we are assuming it was a pure sample. If compared to the NIOSH REL 8 hour TWA the concentration measured on the 18th of August was over the acceptable limit. If compared to the ACGIH TLV 8-hr TWA then the concentration on both days are over the acceptable limit. Threshold limit values refer to airborne concentrations of chemical substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse effects. ACGIH TLVs are based solely on health factors, there is no consideration given to economic or technical feasibility thus this value is often preferred by industrial hygienists. Silicosis as a result of working in the dental profession has been described in the literature.[16, 39, 40, 41] In a 2004 the Centers for Disease Control and Prevention published a cast report describing 3 cases of silicosis in men that had worked in dental laboratories for 28 to 46 years. It was noted that 2 of the 3 men did not wear any type of personal protection when working and performed multiple duties as a dental laboratory technician.[16] Silica is found in many dental laboratory products such as feldspathic porcelain, IPS e.max CADCAM crowns, IPS e.max pressed crowns, gypsum and Cojet to name a few. In a study by Mayer et. al. they described that Cojet is Aluminum oxide granules covered with crystalline silica. The purpose of their study was to examine the use of chairside units for administering Cojet using a typodont to simulate exposure to a patient. In this study they found that the concentration for crystalline silica was well below 0.02mg/m^3 but it does not report the

values that they obtained. They noted that the use of chairside suction while using the microetcher significantly ($P<0.001$) decreased the exposure concentration.[39] Different procedures in the dental laboratory produce different levels of silica. In a study by Kim et al. the level of silica content in dust collected when polishing a porcelain crown versus stacking a porcelain crown was almost doubled.[41] Though the event of CADCAM dentistry has decreased the need for stacking porcelain and has theoretically increased the accuracy of crown fabrication, the need to adjust crowns after fabrication still exists. During this current study, the air sampling for silica particulate was conducted while the dental laboratory technician was adjusting e.max CADCAM crowns, highlighting that there is still a potential risk of over exposure.

The fabrication of removable prostheses involve the use of methyl methacrylate liquid and prepolymerized methyl methacrylate powder. In a study by Nayebzadeh and Dufresne in 1999 they found that local exhaust ventilation systems were significant in reducing peak concentration of methyl methacrylate vapor in the breathing zone of dental laboratory technicians, but was not efficient in reducing the concentration of airborne acrylic dusts. This study was conducted after the diagnosis of two cases of occupational asthma in two dental laboratory technicians.[42] Workstation 4 in the current study is considered the removable denture station, thus real time sampling was conducted for methyl methacrylate vapor as well as methyl methacrylate particulate. This area of the lab is not as busy as the fixed areas thus real time sampling was completed on the 18th and 19th of August as the removable dental laboratory technician had a number of cases to complete. The PEL 8 hour TWA determined for methyl methacrylate vapor and methyl methacrylate particulate were 7.7403 mg/m^3 and 0.1111 mg/m^3 respectively, which are well below OSHA PEL limits. This suggests that the local exhaust ventilations systems are adequate in reducing exposure to these materials. In Appendix E the bar graph showing the weekly distribution of particulate count for workstation 4 reveals that the

highest particulate counts obtained with the lighthouse meter were mainly on the 18th of August when volumes of methyl methacrylate vapor and methyl methacrylate powder were being measured out and mixed. As cases of generalized neuropathy, asthma and contact dermatitis have been documented in dental laboratory technicians, the use of gloves, masks and local exhaust ventilation is key in helping to prevent exposure. [21,22,43]

The current laboratory design in the Billy Johnson Dental clinic has a "clean lab" where the majority of waxing up of crowns, stacking of porcelain, staining a glazing of ceramic crowns as well as firing of ceramic crowns occurs. This is where workstations 10 and 11 were located. The results in Table 15a show the mean particulate count in the production lab is 20% higher but the mean total volume is 98.7% higher. This finding was to be expected based on the nature of work that is completed in this area. When porcelain is stacked it is mixed with distilled water minimizing the amount of airborne particulate matter. This is also true when adding ceramic material to a fixed prosthesis. Also the material that is used to stain and glaze ceramics are in liquid form thus further decreasing particulate exposure. Workstation 10 was tested for paraffin wax particulate specifically as this is the area where the full time fixed prosthodontic dental laboratory technicians complete the waxing up of cases. Paraffin wax is soft solid derivable from petroleum, coal or oil shale, which consists of a mixture of hydrocarbon molecules containing between twenty and forty carbon atoms.[44] Pure paraffin wax is widely regarded as nontoxic, but may possess some carcinogenic properties.[44] These properties are largely believed to be due to polycyclic aromatic hydrocarbons (PAH).[44] The term PAH commonly refers to a large class of organic compounds that contain carbon and hydrogen and consist of two or more fused aromatic rings.[45] PAHs are very widespread environmental contaminants.[45] They are formed during incomplete combustion of materials such as coal, oil, gas, wood, or garbage, or during pyrolysis, thermochemical decomposition of organic material at elevated temperatures in the absence of

oxygen, of other organic material, such as tobacco or charbroiled meat.[45] Occupational exposure to PAHs is primarily through inhalation and dermal contact.[45] The sampling for paraffin wax particulate in the current study resulted in a REL 8-TWA of 0.2056 mg/m^3 which is well below the 2 mg/m^3 limit put out by NIOSH. This sample was only collected over 3.5 hours as the dental laboratory technician was only waxing for this period of time. A worst case scenario assumption would be that the laboratory technician's exposure would have been the same for the next 4.5 hours of the work day as he would continue preforming his duties in the same fashion, the REL 8-TWA would be 0.47 mg/m^3 which is still less than the exposure limit listed above. The wax that was used for this case was ProArt Wax by Ivoclar Vivadent. According to the MSDS sheet for this product the two main components that require monitoring in the workplace are paraffin wax and hydrocarbons. Real time air sampling for other hydrocarbons would have been a beneficial addition to this study to determine what the REL 8-hour TWA is for dental laboratory technicians that spend periods of their work week using ProArt Wax.

Gypsum was also sampled using an SKC Pump between workstations 2 and 3 for a period of 8 hours, but it could not be compared to lighthouse meter readings collected at these workstations as it would not simulate potential exposure readings due to distance. The original purpose to testing in this area was to compare the real time sampling readings from those collected at workstation 1 to those collected directly across at an area between workstation 2 and 3 to see if there was any correlation in the concentrations. This was not carried out as the sampling pump in the area between workstation 2 and 3 ran out of power part way through the sampling and there was not enough media to repeat the sampling for both stations.

As the cost of real time air sampling can be expensive when it comes to the shipping and the analysis of samples collected, it would be beneficial if grab samples using a lighthouse meter

or a similar device could be used to estimate a concentration of exposure accurately. In a study by Tittarelli et al. they pointed out that the advantages of using particle counters are their mobility, low cost, ease of use and their ability to measure particle concentrations over short time intervals.[33] Gouriou et al. in 2004 found that particle counters provide good approximations of real exposure in various situations.[46] Tittarelli et al. wanted to assess whether values using a particle counter correlated with the values obtained using a device that determined a concentration measurement. To convert particle numbers to a mass they assumed particles were spherical and had a density of 1.65g/cm^3 and assumed an average particle diameter per channel based on the range of particle size the channel could collect. For concentration sampling they used a beta attenuation SM200 instrument to collect particulate matter that was 10 μm in size and filters that could be analyzed for composition and weight. To determine the concentration of particulate matter that was 2.5 μm in size they used a Charlie HV instrument. There results showed concentrations determined using the particulate counter and the SM200 were not significantly different but those determined using the Charlie HV instrument and the particulate counter were.[33] Onkorie et al. used the specific density of gypsum to calculate the concentration of all particulate matter counts in their study. They were looking at particulate counts while the lab staff completed waxing, grinding and gypsum dispensing activities at peak activity periods from August through December with the year not specified. Once the concentrations were determined 8-hour TWA were not calculated.[32] It is believed that this was due to the fact that the determined concentrations were well below the exposure limits, thus the need was not there. This study did disclose the number of total collected samples but did say the concentration was based on each sample involving one liter of air. In the current study 270 samples were taken at each workstation and control area over a 1 week period. Each sample ran for 21seconds allowing

0.991 liters of air to be sampled. At the locations where real time sampling was completed by SKC Pumps, the corresponding particulate counts were converted to a concentration. The specific gravity of gypsum, methyl methacrylate particulate, paraffin wax and silica were used in these conversions assuming that this is the only particulate that was being produced in these areas. For total particulate the specific gravity of gypsum was used. Appendix D details how these calculations were completed for the current study and Table #17 summarizes the results.

Table 17. Comparison of lighthouse meter calculated 8hr TWA compared to those received from sampling with SKC pumps.

Contaminant	Sample Location	Date	Allowable 8 hr TWA (mg/m^3)	Regulatory Agency	Lighthouse Meter Calc 8hr TWA (mg/m^3)	ANALYTICS Reported 8hr TWA (mg/m^3)
Gypsum (Calcium Sulfate)	WS01	18-Aug-15	5	OSHA	0.0257	0.1544
Methyl Methacrylate	WS04	19-Aug-15	410	OSHA	0.0088	< 0.1111
Total Particulate	Hall	18-Aug-15	5	OSHA	0.0081	< 0.1664
Total Particulate	Hall	19-Aug-15	5	OSHA	0.0010	< 0.1152
Silica	WS8	18-Aug-15	0.05	NIOSH	0.0186	< 0.2575
Silica	WS8	19-Aug-15	0.05	NIOSH	0.0108	< 0.0420
Paraffin Wax	WS10	18-Aug-15	2	NIOSH	0.0004	< 0.2056

As viewed above there is a significant difference between the values obtained using the real time sampling pumps and the lighthouse meter. It can be determined from this analysis that the conversion of particulate count to a concentration using the specific density of the material to help determine a concentration gives a lower 8-hour TWA than when real time sampling is conducted.

CONCLUSION

Breathing zone sampling is the industry hygiene standard to determine exposure using personal sampling pumps using the filtering media specified by OSHA.[30] Particulate counters and general area sampling can be used to determine areas of concern where breathing zone

sampling can be focused. The results of this study showed that there were areas in the dental laboratory that had higher particulate counts than other areas, which is related to the functions of the workstation as well as whether the workstation had someone working there at the time of sampling. To get more detailed results, more frequent particulate count sampling could be done as well as documenting whether the local exhaust was being utilized, would potentially be beneficial. As workstation 6 was the area with the highest particulate counts as well as highest particulate volumes it would be beneficial to complete real time general area particulate testing at this workstation especially since there is no local exhaust set up near this station. When looking at the local exhaust units at the individual stations it was observed that in order to have the majority of particulate to enter the hoods on the resident workbench ergonomics had to be compromised. It is suggested that these be switched out to ones which have a longer tube with a nozzle to proper ergonomics can be maintained. In the Billy Johnson Dental Clinic there are 3 full time dental laboratory technicians that work at multiple workstations throughout the day. They are not working on one particular task or with a specific material for 8 hours straight thus the risk of over exposure is further reduced. General area real time sampling results for gypsum, methyl methacrylate vapor, methyl methacrylate particulate, paraffin wax and total particulate show 8 hour TWA that are below required limits set out by OSHA, NIOSH and ACGIH. However if the results of the gravimetric analysis of silica is compared to the NIOSH quartz respirable limit (0.02 mg/m3) and not the limits given for particulate not otherwise regulated (5 mg/m^3), then exposure to silica was over the NIOSH REL 8 hour TWA on the 18^{th} of August 2015. It is recommended that breathing zone real time sampling is completed while a dental laboratory technician is adjusting ceramic restorations, ensuring the local exhaust is in operation as well as sampling units are paused whenever the technician leaves the area. In general the Billy

Johnson Dental Clinic production and clean laboratories have adequate ventilation in place to provide for a safe work environment based on the results of this study.

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APPENDIX A

Data collected using Lighthouse Handheld 3016 Airborne Particle Counter

Date August 2015	Time	Loc	Size	Hours	Particulate Count	Sum Count	Total Volume	Sum Volume	LocNote	Assumption
17	630	ws01	.3	630	15790.0	0	223.23	0.00		general particulate
17	630	ws01	.5	630	410.0	0	26.83	0.00		general particulate
17	630	ws01	1.0	630	13.0	0	6.81	0.00		general particulate
17	630	ws01	2.5	630	7.0	0	57.27	0.00		general particulate
17	630	ws01	5.0	630	4.0	0	261.80	0.00		general particulate
17	630	ws01	10.0	630	2.0	16226	1047.20	1623.14		general particulate
17	700	ws01	.3	700	15784.0	0	223.14	0.00		general particulate
17	700	ws01	.5	700	403.0	0	26.38	0.00		general particulate
17	700	ws01	1.0	700	15.0	0	7.85	0.00		general particulate
17	700	ws01	2.5	700	10.0	0	81.81	0.00		general particulate
17	700	ws01	5.0	700	1.0	0	65.45	0.00		general particulate
17	700	ws01	10.0	700	1.0	16214	523.60	928.23		general particulate
17	830	ws01	.3	830	27701.0	0	391.61	0.00	1 pers - mixing stone	gypsum
17	830	ws01	.5	830	4200.0	0	274.89	0.00	1 pers - mixing stone	gypsum
17	830	ws01	1.0	830	547.0	0	286.41	0.00	1 pers - mixing stone	gypsum
17	830	ws01	2.5	830	58.0	0	474.51	0.00	1 pers - mixing stone	gypsum
17	830	ws01	5.0	830	6.0	0	392.70	0.00	1 pers - mixing stone	gypsum
17	830	ws01	10.0	830	1.0	32513	523.60	2343.73	1 pers - mixing stone	gypsum
17	1000	ws01	.3	1000	18710.0	0	264.51	0.00	1 pers - pouring impression	gypsum
17	1000	ws01	.5	1000	3421.0	0	223.90	0.00	1 pers - pouring impression	gypsum
17	1000	ws01	1.0	1000	1459.0	0	763.93	0.00	1 pers - pouring impression	gypsum
17	1000	ws01	2.5	1000	1108.0	0	9064.83	0.00	1 pers - pouring impression	gypsum
17	1000	ws01	5.0	1000	255.0	0	16689.75	0.00	1 pers - pouring impression	gypsum
17	1000	ws01	10.0	1000	53.0	25006	27750.80	54757.72	1 pers - pouring impression	gypsum
17	1130	ws01	.3	1130	15988.0	0	226.03	0.00		gypsum
17	1130	ws01	.5	1130	806.0	0	52.75	0.00		gypsum
17	1130	ws01	1.0	1130	153.0	0	80.11	0.00		gypsum
17	1130	ws01	2.5	1130	137.0	0	1120.83	0.00		gypsum
17	1130	ws01	5.0	1130	75.0	0	4908.75	0.00		gypsum
17	1130	ws01	10.0	1130	63.0	17222	32986.80	39375.27		gypsum
17	1300	ws01	.3	1300	27202.0	0	384.56	0.00	1 pers- mounting cast	gypsum
17	1300	ws01	.5	1300	1878.0	0	122.92	0.00	1 pers - mounting cast	gypsum
17	1300	ws01	1.0	1300	489.0	0	256.04	0.00	1 pers - mounting cast	gypsum

17	1300	ws01	2.5	1300	297.0	0	2429.83	0.00	1 pers - mounting cast	gypsum
17	1300	ws01	5.0	1300	95.0	0	6217.75	0.00	1 pers-mounting cast	gypsum
17	1300	ws01	10.0	1300	19.0	29980	9948.40	19359.50	1 pers -- mounting cast	gypsum
17	1430	ws01	.3	1430	26917.0	0	380.53	0.00		gypsum
17	1430	ws01	.5	1430	1111.0	0	72.71	0.00		gypsum
17	1430	ws01	1.0	1430	175.0	0	91.63	0.00		gypsum
17	1430	ws01	2.5	1430	127.0	0	1039.02	0.00		gypsum
17	1430	ws01	5.0	1430	35.0	0	2290.75	0.00		gypsum
17	1430	ws01	10.0	1430	13.0	28378	6806.80	10681.44		gypsum
17	1600	ws01	.3	1600	55447.0	0	783.87	0.00	1 pers- working with stone models	gypsum
17	1600	ws01	.5	1600	6704.0	0	438.78	0.00	1 pers- working with stone models	gypsum
17	1600	ws01	1.0	1600	1172.0	0	613.66	0.00	1 pers- working with stone models	gypsum
17	1600	ws01	2.5	1600	356.0	0	2912.53	0.00	1 pers- working with stone models	gypsum
17	1600	ws01	5.0	1600	58.0	0	3796.10	0.00	1 pers- working with stone models	gypsum
17	1600	ws01	10.0	1600	18.0	63755	9424.80	17969.73	1 pers- working with stone models	gypsum
17	1730	ws01	.3	1730	31508.0	0	445.43	0.00		gypsum
17	1730	ws01	.5	1730	1015.0	0	66.43	0.00		gypsum
17	1730	ws01	1.0	1730	60.0	0	31.42	0.00		gypsum
17	1730	ws01	2.5	1730	33.0	0	269.98	0.00		gypsum
17	1730	ws01	5.0	1730	24.0	0	1570.80	0.00		gypsum
17	1730	ws01	10.0	1730	5.0	32645	2618.00	5002.06		gypsum
18	630	ws01	.3	3030	10634.0	0	150.33	0.00		general particulate
18	630	ws01	.5	3030	241.0	0	15.77	0.00		general particulate
18	630	ws01	1.0	3030	15.0	0	7.85	0.00		general particulate
18	630	ws01	2.5	3030	8.0	0	65.45	0.00		general particulate
18	630	ws01	5.0	3030	3.0	0	196.35	0.00		general particulate
18	630	ws01	10.0	3030	2.0	10903	1047.20	1482.96		general particulate
18	700	ws01	.3	3100	12660.0	0	178.98	0.00		general particulate
18	700	ws01	.5	3100	428.0	0	28.01	0.00		general particulate
18	700	ws01	1.0	3100	92.0	0	48.17	0.00		general particulate
18	700	ws01	2.5	3100	49.0	0	400.88	0.00		general particulate
18	700	ws01	5.0	3100	22.0	0	1439.90	0.00		general particulate
18	700	ws01	10.0	3100	5.0	13256	2618.00	4713.94		general particulate
18	830	ws01	.3	3230	21048.0	0	297.56	0.00		gypsum
18	830	ws01	.5	3230	680.0	0	44.51	0.00		gypsum
18	830	ws01	1.0	3230	103.0	0	53.93	0.00		gypsum
18	830	ws01	2.5	3230	63.0	0	515.42	0.00		gypsum
18	830	ws01	5.0	3230	20.0	0	1309.00	0.00		gypsum
18	830	ws01	10.0	3230	15.0	21929	7854.00	10074.42		gypsum

18	1000	ws01	.3	3400	24617.0	0	348.02	0.00	1 pers - mixing and pouring impressions	gypsum
18	1000	ws01	.5	3400	1289.0	0	84.37	0.00	1 pers - mixing and pouring impressions	gypsum
18	1000	ws01	1.0	3400	447.0	0	234.05	0.00	1 pers - mixing and pouring impressions	gypsum
18	1000	ws01	2.5	3400	338.0	0	2765.26	0.00	1 pers - mixing and pouring impressions	gypsum
18	1000	ws01	5.0	3400	115.0	0	7526.75	0.00	1 pers - mixing and pouring impressions	gypsum
18	1000	ws01	10.0	3400	36.0	26842	18849.60	29808.04	1 pers - mixing and pouring impressions	gypsum
18	1130	ws01	.3	3530	22811.0	0	322.48	0.00		gypsum
18	1130	ws01	.5	3530	758.0	0	49.61	0.00		gypsum
18	1130	ws01	1.0	3530	168.0	0	87.96	0.00		gypsum
18	1130	ws01	2.5	3530	129.0	0	1055.38	0.00		gypsum
18	1130	ws01	5.0	3530	31.0	0	2028.95	0.00		gypsum
18	1130	ws01	10.0	3530	14.0	23911	7330.40	10874.79		gypsum
18	1300	ws01	.3	3700	27965.0	0	395.35	0.00		gypsum
18	1300	ws01	.5	3700	2318.0	0	151.71	0.00		gypsum
18	1300	ws01	1.0	3700	1315.0	0	688.53	0.00		gypsum
18	1300	ws01	2.5	3700	1205.0	0	9858.41	0.00		gypsum
18	1300	ws01	5.0	3700	427.0	0	27947.15	0.00		gypsum
18	1300	ws01	10.0	3700	76.0	33306	39793.60	78834.75		gypsum
18	1430	ws01	.3	3830	27788.0	0	392.84	0.00	1 pers - mixing and pouring impressions	gypsum
18	1430	ws01	.5	3830	5558.0	0	363.77	0.00	1 pers - mixing and pouring impressions	gypsum
18	1430	ws01	1.0	3830	5553.0	0	2907.55	0.00	1 pers - mixing and pouring impressions	gypsum
18	1430	ws01	2.5	3830	5221.0	0	42714.31	0.00	1 pers - mixing and pouring impressions	gypsum
18	1430	ws01	5.0	3830	1563.0	0	102298.35	0.00	1 pers - mixing and pouring impressions	gypsum
18	1430	ws01	10.0	3830	415.0	46098	217294.00	365970.82	1 pers - mixing and pouring impressions	gypsum
18	1600	ws01	.3	4000	47801.0	0	675.77	0.00	2 pers - mixing and pouring impressions	gypsum
18	1600	ws01	.5	4000	8677.0	0	567.91	0.00	2 pers - mixing and pouring impressions	gypsum
18	1600	ws01	1.0	4000	3893.0	0	2038.37	0.00	2 pers - mixing and pouring impressions	gypsum
18	1600	ws01	2.5	4000	2580.0	0	21107.63	0.00	2 pers - mixing and pouring impressions	gypsum
18	1600	ws01	5.0	4000	517.0	0	33837.65	0.00	2 pers - mixing and pouring impressions	gypsum
18	1600	ws01	10.0	4000	111.0	63579	58119.60	116346.93	2 pers - mixing and pouring impressions	gypsum
18	1730	ws01	.3	4130	24361.0	0	344.40	0.00		gypsum
18	1730	ws01	.5	4130	1034.0	0	67.68	0.00		gypsum
18	1730	ws01	1.0	4130	93.0	0	48.69	0.00		gypsum
18	1730	ws01	2.5	4130	53.0	0	433.61	0.00		gypsum
18	1730	ws01	5.0	4130	6.0	0	392.70	0.00		gypsum

18	1730	ws01	10.0	4130	3.0	25550	1570.80	2857.87		gypsum
19	630	ws01	.3	5430	4944.0	0	69.89	0.00		general particulate
19	630	ws01	.5	5430	139.0	0	9.10	0.00		general particulate
19	630	ws01	1.0	5430	17.0	0	8.90	0.00		general particulate
19	630	ws01	2.5	5430	3.0	0	24.54	0.00		general particulate
19	630	ws01	5.0	5430	1.0	0	65.45	0.00		general particulate
19	630	ws01	10.0	5430	0.0	5104	0.00	177.89		general particulate
19	700	ws01	.3	5500	3780.0	0	53.44	0.00		general particulate
19	700	ws01	.5	5500	128.0	0	8.38	0.00		general particulate
19	700	ws01	1.0	5500	36.0	0	18.85	0.00		general particulate
19	700	ws01	2.5	5500	13.0	0	106.36	0.00		general particulate
19	700	ws01	5.0	5500	3.0	0	196.35	0.00		general particulate
19	700	ws01	10.0	5500	1.0	3961	523.60	906.97		general particulate
19	830	ws01	.3	5630	27345.0	0	386.58	0.00	1 pers- scooping out stone	gypsum
19	830	ws01	.5	5630	7215.0	0	472.22	0.00	1 pers- scooping out stone	gypsum
19	830	ws01	1.0	5630	2070.0	0	1083.85	0.00	1 pers- scooping out stone	gypsum
19	830	ws01	2.5	5630	834.0	0	6823.16	0.00	1 pers- scooping out stone	gypsum
19	830	ws01	5.0	5630	200.0	0	13090.00	0.00	1 pers- scooping out stone	gypsum
19	830	ws01	10.0	5630	82.0	37746	42935.20	64791.02	1 pers- scooping out stone	gypsum
19	1000	ws01	.3	5800	19353.0	0	273.60	0.00		gypsum
19	1000	ws01	.5	5800	3681.0	0	240.92	0.00		gypsum
19	1000	ws01	1.0	5800	1066.0	0	558.16	0.00		gypsum
19	1000	ws01	2.5	5800	550.0	0	4499.69	0.00		gypsum
19	1000	ws01	5.0	5800	101.0	0	6610.45	0.00		gypsum
19	1000	ws01	10.0	5800	15.0	24766	7854.00	20036.81		gypsum
19	1130	ws01	.3	5930	9184.0	0	129.84	0.00		gypsum
19	1130	ws01	.5	5930	702.0	0	45.95	0.00		gypsum
19	1130	ws01	1.0	5930	363.0	0	190.07	0.00		gypsum
19	1130	ws01	2.5	5930	326.0	0	2667.09	0.00		gypsum
19	1130	ws01	5.0	5930	82.0	0	5366.90	0.00		gypsum
19	1130	ws01	10.0	5930	10.0	10667	5236.00	13635.84		gypsum
19	1300	ws01	.3	6100	14231.0	0	201.19	0.00		gypsum
19	1300	ws01	.5	6100	1535.0	0	100.47	0.00		gypsum
19	1300	ws01	1.0	6100	485.0	0	253.95	0.00		gypsum
19	1300	ws01	2.5	6100	353.0	0	2887.98	0.00		gypsum
19	1300	ws01	5.0	6100	111.0	0	7264.95	0.00		gypsum
19	1300	ws01	10.0	6100	58.0	16773	30368.80	41077.33		gypsum
19	1430	ws01	.3	6230	16316.0	0	230.66	0.00	1 pers- pour up impressions	gypsum
19	1430	ws01	.5	6230	1942.0	0	127.10	0.00	1 pers- pour up impressions	gypsum
19	1430	ws01	1.0	6230	630.0	0	329.87	0.00	1 pers- pour up impressions	gypsum
19	1430	ws01	2.5	6230	450.0	0	3681.56	0.00	1 pers- pour up impressions	gypsum

19	1430	ws01	5.0	6230	109.0	0	7134.05	0.00	1 pers- pour up impressions	gypsum
19	1430	ws01	10.0	6230	17.0	19464	8901.20	20404.45	1 pers- pour up impressions	gypsum
19	1600	ws01	.3	6400	29951.0	0	423.42	0.00	1 pers - mixing	gypsum
19	1600	ws01	.5	6400	6467.0	0	423.27	0.00	1 pers - mixing	gypsum
19	1600	ws01	1.0	6400	2461.0	0	1288.58	0.00	1 pers - mixing	gypsum
19	1600	ws01	2.5	6400	1711.0	0	13998.12	0.00	1 pers - mixing	gypsum
19	1600	ws01	5.0	6400	396.0	0	25918.20	0.00	1 pers - mixing	gypsum
19	1600	ws01	10.0	6400	76.0	41062	39793.60	81845.19	1 pers - mixing	gypsum
19	1730	ws01	.3	6530	15887.0	0	224.60	0.00		gypsum
19	1730	ws01	.5	6530	519.0	0	33.97	0.00		gypsum
19	1730	ws01	1.0	6530	1581.0	0	827.81	0.00		gypsum
19	1730	ws01	2.5	6530	178.0	0	1456.26	0.00		gypsum
19	1730	ws01	5.0	6530	56.0	0	3665.20	0.00		gypsum
19	1730	ws01	10.0	6530	18.0	18239	9424.80	15632.64		gypsum
20	630	ws01	.3	7830	9115.0	0	128.86	0.00		general particulate
20	630	ws01	.5	7830	335.0	0	21.93	0.00		general particulate
20	630	ws01	1.0	7830	9.0	0	4.71	0.00		general particulate
20	630	ws01	2.5	7830	3.0	0	24.54	0.00		general particulate
20	630	ws01	5.0	7830	0.0	0	0.00	0.00		general particulate
20	630	ws01	10.0	7830	2.0	9464	1047.20	1227.24		general particulate
20	700	ws01	.3	7900	7765.0	0	109.78	0.00		general particulate
20	700	ws01	.5	7900	366.0	0	23.95	0.00		general particulate
20	700	ws01	1.0	7900	18.0	0	9.42	0.00		general particulate
20	700	ws01	2.5	7900	13.0	0	106.36	0.00		general particulate
20	700	ws01	5.0	7900	3.0	0	196.35	0.00		general particulate
20	700	ws01	10.0	7900	0.0	8165	0.00	445.86		general particulate
20	830	ws01	.3	8030	9201.0	0	130.08	0.00		gypsum
20	830	ws01	.5	8030	636.0	0	41.63	0.00		gypsum
20	830	ws01	1.0	8030	117.0	0	61.26	0.00		gypsum
20	830	ws01	2.5	8030	92.0	0	752.68	0.00		gypsum
20	830	ws01	5.0	8030	21.0	0	1374.45	0.00		gypsum
20	830	ws01	10.0	8030	11.0	10078	5759.60	8119.69		gypsum
20	1000	ws01	.3	8200	11373.0	0	160.78	0.00	models sitting out	gypsum
20	1000	ws01	.5	8200	739.0	0	48.37	0.00	models sitting out	gypsum
20	1000	ws01	1.0	8200	96.0	0	50.27	0.00	models sitting out	gypsum
20	1000	ws01	2.5	8200	71.0	0	580.87	0.00	models sitting out	gypsum
20	1000	ws01	5.0	8200	26.0	0	1701.70	0.00	models sitting out	gypsum
20	1000	ws01	10.0	8200	9.0	12314	4712.40	7254.38	models sitting out	gypsum
20	1130	ws01	.3	8330	11688.0	0	165.24	0.00		gypsum
20	1130	ws01	.5	8330	2631.0	0	172.20	0.00		gypsum
20	1130	ws01	1.0	8330	933.0	0	488.52	0.00		gypsum

20	1130	ws01	2.5	8330	338.0	0	2765.26	0.00		gypsum
20	1130	ws01	5.0	8330	17.0	0	1112.65	0.00		gypsum
20	1130	ws01	10.0	8330	8.0	15615	4188.80	8892.67		gypsum
20	1300	ws01	.3	8500	13581.0	0	192.00	0.00		gypsum
20	1300	ws01	.5	8500	1487.0	0	97.32	0.00		gypsum
20	1300	ws01	1.0	8500	59.0	0	30.89	0.00		gypsum
20	1300	ws01	2.5	8500	9.0	0	73.63	0.00		gypsum
20	1300	ws01	5.0	8500	1.0	0	65.45	0.00		gypsum
20	1300	ws01	10.0	8500	0.0	15137	0.00	459.30		gypsum
20	1430	ws01	.3	8630	11090.0	0	156.78	0.00		gypsum
20	1430	ws01	.5	8630	1309.0	0	85.67	0.00		gypsum
20	1430	ws01	1.0	8630	18.0	0	9.42	0.00		gypsum
20	1430	ws01	2.5	8630	3.0	0	24.54	0.00		gypsum
20	1430	ws01	5.0	8630	2.0	0	130.90	0.00		gypsum
20	1430	ws01	10.0	8630	0.0	12422	0.00	407.32		gypsum
20	1600	ws01	.3	8800	12491.0	0	176.59	0.00		gypsum
20	1600	ws01	.5	8800	1185.0	0	77.56	0.00		gypsum
20	1600	ws01	1.0	8800	54.0	0	28.27	0.00		gypsum
20	1600	ws01	2.5	8800	9.0	0	73.63	0.00		gypsum
20	1600	ws01	5.0	8800	5.0	0	327.25	0.00		gypsum
20	1600	ws01	10.0	8800	3.0	13747	1570.80	2254.10		gypsum
20	1730	ws01	.3	8930	16561.0	0	234.13	0.00		gypsum
20	1730	ws01	.5	8930	2039.0	0	133.45	0.00		gypsum
20	1730	ws01	1.0	8930	361.0	0	189.02	0.00		gypsum
20	1730	ws01	2.5	8930	138.0	0	1129.01	0.00		gypsum
20	1730	ws01	5.0	8930	28.0	0	1832.60	0.00		gypsum
20	1730	ws01	10.0	8930	8.0	19135	4188.80	7707.01		gypsum
21	630	ws01	.3	10230	7358.0	0	104.02	0.00		general particulate
21	630	ws01	.5	10230	271.0	0	17.74	0.00		general particulate
21	630	ws01	1.0	10230	9.0	0	4.71	0.00		general particulate
21	630	ws01	2.5	10230	7.0	0	57.27	0.00		general particulate
21	630	ws01	5.0	10230	1.0	0	65.45	0.00		general particulate
21	630	ws01	10.0	10230	2.0	7648	1047.20	1296.39		general particulate
21	700	ws01	.3	10300	7990.0	0	112.96	0.00		general particulate
21	700	ws01	.5	10300	324.0	0	21.21	0.00		general particulate
21	700	ws01	1.0	10300	41.0	0	21.47	0.00		general particulate
21	700	ws01	2.5	10300	28.0	0	229.08	0.00		general particulate
21	700	ws01	5.0	10300	6.0	0	392.70	0.00		general particulate
21	700	ws01	10.0	10300	7.0	8396	3665.20	4442.60		general particulate
21	830	ws01	.3	10430	8871.0	0	125.41	0.00		gypsum
21	830	ws01	.5	10430	478.0	0	31.29	0.00		gypsum

21	830	ws01	1.0	10430	102.0	0	53.41	0.00		gypsum
21	830	ws01	2.5	10430	98.0	0	801.76	0.00		gypsum
21	830	ws01	5.0	10430	37.0	0	2421.65	0.00		gypsum
21	830	ws01	10.0	10430	21.0	9607	10995.60	14429.12		gypsum
21	1000	ws01	.3	10600	10790.0	0	152.54	0.00		gypsum
21	1000	ws01	.5	10600	899.0	0	58.84	0.00		gypsum
21	1000	ws01	1.0	10600	121.0	0	63.36	0.00		gypsum
21	1000	ws01	2.5	10600	67.0	0	548.14	0.00		gypsum
21	1000	ws01	5.0	10600	16.0	0	1047.20	0.00		gypsum
21	1000	ws01	10.0	10600	9.0	11902	4712.40	6582.48		gypsum
21	1130	ws01	.3	10730	16415.0	0	232.06	0.00		gypsum
21	1130	ws01	.5	10730	1115.0	0	72.98	0.00		gypsum
21	1130	ws01	1.0	10730	63.0	0	32.99	0.00		gypsum
21	1130	ws01	2.5	10730	43.0	0	351.79	0.00		gypsum
21	1130	ws01	5.0	10730	8.0	0	523.60	0.00		gypsum
21	1130	ws01	10.0	10730	4.0	17648	2094.40	3307.82		gypsum
21	1300	ws01	.3	10900	15112.0	0	213.64	0.00		gypsum
21	1300	ws01	.5	10900	1166.0	0	76.31	0.00		gypsum
21	1300	ws01	1.0	10900	346.0	0	181.17	0.00		gypsum
21	1300	ws01	2.5	10900	231.0	0	1889.87	0.00		gypsum
21	1300	ws01	5.0	10900	72.0	0	4712.40	0.00		gypsum
21	1300	ws01	10.0	10900	13.0	16940	6806.80	13880.19		gypsum
21	1430	ws01	.3	11030	231272.0	0	3269.54	0.00	1 pers - pouring impressions	gypsum
21	1430	ws01	.5	11030	65497.0	0	4286.78	0.00	1 pers - pouring impressions	gypsum
21	1430	ws01	1.0	11030	13008.0	0	6810.99	0.00	1 pers - pouring impressions	gypsum
21	1430	ws01	2.5	11030	2582.0	0	21123.99	0.00	1 pers - pouring impressions	gypsum
21	1430	ws01	5.0	11030	198.0	0	12959.10	0.00	1 pers - pouring impressions	gypsum
21	1430	ws01	10.0	11030	26.0	312583	13613.60	62063.99	1 pers - pouring impressions	gypsum
21	1600	ws01	.3	11200	23644.0	0	334.26	0.00	1 pers - trimming in area	gypsum
21	1600	ws01	.5	11200	5160.0	0	337.72	0.00	1 pers - trimming in area	gypsum
21	1600	ws01	1.0	11200	1452.0	0	760.27	0.00	1 pers - trimming in area	gypsum
21	1600	ws01	2.5	11200	672.0	0	5497.80	0.00	1 pers - trimming in area	gypsum
21	1600	ws01	5.0	11200	118.0	0	7723.10	0.00	1 pers - trimming in area	gypsum
21	1600	ws01	10.0	11200	49.0	31095	25656.40	40309.55	1 pers - trimming in area	gypsum
21	1730	ws01	.3	11330	10712.0	0	151.44	0.00		gypsum
21	1730	ws01	.5	11330	546.0	0	35.74	0.00		gypsum
21	1730	ws01	1.0	11330	123.0	0	64.40	0.00		gypsum
21	1730	ws01	2.5	11330	95.0	0	777.22	0.00		gypsum
21	1730	ws01	5.0	11330	23.0	0	1505.35	0.00		gypsum
21	1730	ws01	10.0	11330	10.0	11509	5236.00	7770.14		gypsum
17	630	ws02	.3	630	15946.0	0	225.43	0.00		general particulate

17	630	ws02	.5	630	400.0	0	26.18	0.00		general particulate
17	630	ws02	1.0	630	24.0	0	12.57	0.00		general particulate
17	630	ws02	2.5	630	15.0	0	122.72	0.00		general particulate
17	630	ws02	5.0	630	3.0	0	196.35	0.00		general particulate
17	630	ws02	10.0	630	3.0	16391	1570.80	2154.05		general particulate
17	700	ws02	.3	700	15340.0	0	216.86	0.00		general particulate
17	700	ws02	.5	700	398.0	0	26.05	0.00		general particulate
17	700	ws02	1.0	700	40.0	0	20.94	0.00		general particulate
17	700	ws02	2.5	700	30.0	0	245.44	0.00		general particulate
17	700	ws02	5.0	700	13.0	0	850.85	0.00		general particulate
17	700	ws02	10.0	700	10.0	15831	5236.00	6596.15		general particulate
17	830	ws02	.3	830	22764.0	0	321.82	0.00	1 pers- working with stone models	gypsum
17	830	ws02	.5	830	3174.0	0	207.74	0.00	1 pers- working with stone models	gypsum
17	830	ws02	1.0	830	409.0	0	214.15	0.00	1 pers- working with stone models	gypsum
17	830	ws02	2.5	830	61.0	0	499.06	0.00	1 pers- working with stone models	gypsum
17	830	ws02	5.0	830	9.0	0	589.05	0.00	1 pers- working with stone models	gypsum
17	830	ws02	10.0	830	5.0	26422	2618.00	4449.82	1 pers- working with stone models	gypsum
17	1000	ws02	.3	1000	15840.0	0	223.93	0.00	1 pers- working with stone models	gypsum
17	1000	ws02	.5	1000	2317.0	0	151.65	0.00	1 pers- working with stone models	gypsum
17	1000	ws02	1.0	1000	1037.0	0	542.97	0.00	1 pers- working with stone models	gypsum
17	1000	ws02	2.5	1000	637.0	0	5211.46	0.00	1 pers- working with stone models	gypsum
17	1000	ws02	5.0	1000	161.0	0	10537.45	0.00	1 pers- working with stone models	gypsum
17	1000	ws02	10.0	1000	42.0	20034	21991.20	38658.66	1 pers- working with stone models	gypsum
17	1130	ws02	.3	1130	15426.0	0	218.08	0.00		gypsum
17	1130	ws02	.5	1130	718.0	0	46.99	0.00		gypsum
17	1130	ws02	1.0	1130	90.0	0	47.12	0.00		gypsum
17	1130	ws02	2.5	1130	58.0	0	474.51	0.00		gypsum
17	1130	ws02	5.0	1130	4.0	0	261.80	0.00		gypsum
17	1130	ws02	10.0	1130	1.0	16297	523.60	1572.11		gypsum
17	1300	ws02	.3	1300	25917.0	0	366.39	0.00		gypsum
17	1300	ws02	.5	1300	1601.0	0	104.79	0.00		gypsum
17	1300	ws02	1.0	1300	375.0	0	196.35	0.00		gypsum
17	1300	ws02	2.5	1300	270.0	0	2208.94	0.00		gypsum
17	1300	ws02	5.0	1300	71.0	0	4646.95	0.00		gypsum
17	1300	ws02	10.0	1300	22.0	28256	11519.20	19042.62		gypsum
17	1430	ws02	.3	1430	25843.0	0	365.35	0.00		gypsum
17	1430	ws02	.5	1430	1060.0	0	69.38	0.00		gypsum

17	1430	ws02	1.0	1430	141.0	0	73.83	0.00		gypsum
17	1430	ws02	2.5	1430	150.0	0	1227.19	0.00		gypsum
17	1430	ws02	5.0	1430	56.0	0	3665.20	0.00		gypsum
17	1430	ws02	10.0	1430	26.0	27276	13613.60	19014.54		gypsum
17	1600	ws02	.3	1600	35376.0	0	500.12	0.00		gypsum
17	1600	ws02	.5	1600	2113.0	0	138.30	0.00		gypsum
17	1600	ws02	1.0	1600	339.0	0	177.50	0.00		gypsum
17	1600	ws02	2.5	1600	179.0	0	1464.44	0.00		gypsum
17	1600	ws02	5.0	1600	41.0	0	2683.45	0.00		gypsum
17	1600	ws02	10.0	1600	26.0	38074	13613.60	18577.41		gypsum
17	1730	ws02	.3	1730	32968.0	0	466.08	0.00		gypsum
17	1730	ws02	.5	1730	1082.0	0	70.82	0.00		gypsum
17	1730	ws02	1.0	1730	50.0	0	26.18	0.00		gypsum
17	1730	ws02	2.5	1730	53.0	0	433.61	0.00		gypsum
17	1730	ws02	5.0	1730	23.0	0	1505.35	0.00		gypsum
17	1730	ws02	10.0	1730	14.0	34190	7330.40	9832.43		gypsum
18	630	ws02	.3	3030	10486.0	0	148.24	0.00		general particulate
18	630	ws02	.5	3030	262.0	0	17.15	0.00		general particulate
18	630	ws02	1.0	3030	19.0	0	9.95	0.00		general particulate
18	630	ws02	2.5	3030	11.0	0	89.99	0.00		general particulate
18	630	ws02	5.0	3030	4.0	0	261.80	0.00		general particulate
18	630	ws02	10.0	3030	0.0	10782	0.00	527.13		general particulate
18	700	ws02	.3	3100	13753.0	0	194.43	0.00		general particulate
18	700	ws02	.5	3100	436.0	0	28.54	0.00		general particulate
18	700	ws02	1.0	3100	97.0	0	50.79	0.00		general particulate
18	700	ws02	2.5	3100	45.0	0	368.16	0.00		general particulate
18	700	ws02	5.0	3100	17.0	0	1112.65	0.00		general particulate
18	700	ws02	10.0	3100	12.0	14360	6283.20	8037.76		general particulate
18	830	ws02	.3	3230	20841.0	0	294.63	0.00		gypsum
18	830	ws02	.5	3230	693.0	0	45.36	0.00		gypsum
18	830	ws02	1.0	3230	135.0	0	70.69	0.00		gypsum
18	830	ws02	2.5	3230	101.0	0	826.31	0.00		gypsum
18	830	ws02	5.0	3230	22.0	0	1439.90	0.00		gypsum
18	830	ws02	10.0	3230	12.0	21804	6283.20	8960.08		gypsum
18	1000	ws02	.3	3400	24070.0	0	340.28	0.00		gypsum
18	1000	ws02	.5	3400	1098.0	0	71.86	0.00		gypsum
18	1000	ws02	1.0	3400	350.0	0	183.26	0.00		gypsum
18	1000	ws02	2.5	3400	266.0	0	2176.21	0.00		gypsum
18	1000	ws02	5.0	3400	94.0	0	6152.30	0.00		gypsum
18	1000	ws02	10.0	3400	49.0	25927	25656.40	34580.32		gypsum
18	1130	ws02	.3	3530	22393.0	0	316.57	0.00		gypsum

18	1130	ws02	.5	3530	1093.0	0	71.54	0.00		gypsum
18	1130	ws02	1.0	3530	721.0	0	377.52	0.00		gypsum
18	1130	ws02	2.5	3530	624.0	0	5105.10	0.00		gypsum
18	1130	ws02	5.0	3530	130.0	0	8508.50	0.00		gypsum
18	1130	ws02	10.0	3530	31.0	24992	16231.60	30610.83		gypsum
18	1300	ws02	.3	3700	28276.0	0	399.74	0.00		gypsum
18	1300	ws02	.5	3700	1867.0	0	122.20	0.00		gypsum
18	1300	ws02	1.0	3700	1131.0	0	592.19	0.00		gypsum
18	1300	ws02	2.5	3700	995.0	0	8140.34	0.00		gypsum
18	1300	ws02	5.0	3700	289.0	0	18915.05	0.00		gypsum
18	1300	ws02	10.0	3700	55.0	32613	28798.00	56967.52		gypsum
18	1430	ws02	.3	3830	153808.0	0	2174.41	0.00	1 pers - grinding on model -no suction	gypsum
18	1430	ws02	.5	3830	39615.0	0	2592.80	0.00	1 pers - grinding on model -no suction	gypsum
18	1430	ws02	1.0	3830	9860.0	0	5162.70	0.00	1 pers - grinding on model -no suction	gypsum
18	1430	ws02	2.5	3830	3639.0	0	29771.57	0.00	1 pers - grinding on model -no suction	gypsum
18	1430	ws02	5.0	3830	733.0	0	47974.85	0.00	1 pers - grinding on model -no suction	gypsum
18	1430	ws02	10.0	3830	150.0	207805	78540.00	166216.33	1 pers - grinding on model -no suction	gypsum
18	1600	ws02	.3	4000	46974.0	0	664.08	0.00		gypsum
18	1600	ws02	.5	4000	7683.0	0	502.85	0.00		gypsum
18	1600	ws02	1.0	4000	2118.0	0	1108.98	0.00		gypsum
18	1600	ws02	2.5	4000	1086.0	0	8884.84	0.00		gypsum
18	1600	ws02	5.0	4000	235.0	0	15380.75	0.00		gypsum
18	1600	ws02	10.0	4000	60.0	58156	31416.00	57957.51		gypsum
18	1730	ws02	.3	4130	23004.0	0	325.21	0.00		gypsum
18	1730	ws02	.5	4130	949.0	0	62.11	0.00		gypsum
18	1730	ws02	1.0	4130	104.0	0	54.45	0.00		gypsum
18	1730	ws02	2.5	4130	82.0	0	670.86	0.00		gypsum
18	1730	ws02	5.0	4130	15.0	0	981.75	0.00		gypsum
18	1730	ws02	10.0	4130	7.0	24161	3665.20	5759.59		gypsum
19	630	ws02	.3	5430	4897.0	0	69.23	0.00		general particulate
19	630	ws02	.5	5430	120.0	0	7.85	0.00		general particulate
19	630	ws02	1.0	5430	36.0	0	18.85	0.00		general particulate
19	630	ws02	2.5	5430	6.0	0	49.09	0.00		general particulate
19	630	ws02	5.0	5430	0.0	0	0.00	0.00		general particulate
19	630	ws02	10.0	5430	0.0	5059	0.00	145.02		general particulate
19	700	ws02	.3	5500	4038.0	0	57.09	0.00		general particulate
19	700	ws02	.5	5500	147.0	0	9.62	0.00		general particulate
19	700	ws02	1.0	5500	30.0	0	15.71	0.00		general particulate
19	700	ws02	2.5	5500	15.0	0	122.72	0.00		general particulate

19	700	ws02	5.0	5500	4.0	0	261.80	0.00		general particulate
19	700	ws02	10.0	5500	7.0	4241	3665.20	4132.13		general particulate
19	830	ws02	.3	5630	27650.0	0	390.89	0.00		gypsum
19	830	ws02	.5	5630	7072.0	0	462.86	0.00		gypsum
19	830	ws02	1.0	5630	1839.0	0	962.90	0.00		gypsum
19	830	ws02	2.5	5630	618.0	0	5056.01	0.00		gypsum
19	830	ws02	5.0	5630	98.0	0	6414.10	0.00		gypsum
19	830	ws02	10.0	5630	37.0	37314	19373.20	32659.97		gypsum
19	1000	ws02	.3	5800	20350.0	0	287.69	0.00		gypsum
19	1000	ws02	.5	5800	3894.0	0	254.86	0.00		gypsum
19	1000	ws02	1.0	5800	1189.0	0	622.56	0.00		gypsum
19	1000	ws02	2.5	5800	630.0	0	5154.19	0.00		gypsum
19	1000	ws02	5.0	5800	144.0	0	9424.80	0.00		gypsum
19	1000	ws02	10.0	5800	25.0	26232	13090.00	28834.10		gypsum
19	1130	ws02	.3	5930	9431.0	0	133.33	0.00		gypsum
19	1130	ws02	.5	5930	777.0	0	50.85	0.00		gypsum
19	1130	ws02	1.0	5930	370.0	0	193.73	0.00		gypsum
19	1130	ws02	2.5	5930	133.0	0	1088.11	0.00		gypsum
19	1130	ws02	5.0	5930	84.0	0	5497.80	0.00		gypsum
19	1130	ws02	10.0	5930	17.0	10812	8901.20	15865.02		gypsum
19	1300	ws02	.3	6100	10121.0	0	143.08	0.00		gypsum
19	1300	ws02	.5	6100	5546.0	0	362.99	0.00		gypsum
19	1300	ws02	1.0	6100	5918.0	0	3098.66	0.00		gypsum
19	1300	ws02	2.5	6100	4959.0	0	40570.82	0.00		gypsum
19	1300	ws02	5.0	6100	1201.0	0	78605.45	0.00		gypsum
19	1300	ws02	10.0	6100	302.0	28047	158127.20	280908.20		gypsum
19	1430	ws02	.3	6230	13437.0	0	189.96	0.00		gypsum
19	1430	ws02	.5	6230	1310.0	0	85.74	0.00		gypsum
19	1430	ws02	1.0	6230	504.0	0	263.89	0.00		gypsum
19	1430	ws02	2.5	6230	348.0	0	2847.08	0.00		gypsum
19	1430	ws02	5.0	6230	153.0	0	10013.85	0.00		gypsum
19	1430	ws02	10.0	6230	72.0	15824	37699.20	51099.72		gypsum
19	1600	ws02	.3	6400	27521.0	0	389.07	0.00	1 pers - organizing models	gypsum
19	1600	ws02	.5	6400	5583.0	0	365.41	0.00	1 pers - organizing models	gypsum
19	1600	ws02	1.0	6400	2070.0	0	1083.85	0.00	1 pers - organizing models	gypsum
19	1600	ws02	2.5	6400	1348.0	0	11028.33	0.00	1 pers - organizing models	gypsum
19	1600	ws02	5.0	6400	340.0	0	22253.00	0.00	1 pers - organizing models	gypsum
19	1600	ws02	10.0	6400	62.0	36924	32463.20	67582.85	1 pers - organizing models	gypsum
19	1730	ws02	.3	6530	15990.0	0	226.05	0.00		gypsum
19	1730	ws02	.5	6530	579.0	0	37.90	0.00		gypsum
19	1730	ws02	1.0	6530	205.0	0	107.34	0.00		gypsum

19	1730	ws02	2.5	6530	303.0	0	2478.92	0.00		gypsum
19	1730	ws02	5.0	6530	128.0	0	8377.60	0.00		gypsum
19	1730	ws02	10.0	6530	30.0	17235	15708.00	26935.81		gypsum
20	630	ws02	.3	7830	9392.0	0	132.78	0.00		general particulate
20	630	ws02	.5	7830	350.0	0	22.91	0.00		general particulate
20	630	ws02	1.0	7830	18.0	0	9.42	0.00		general particulate
20	630	ws02	2.5	7830	8.0	0	65.45	0.00		general particulate
20	630	ws02	5.0	7830	1.0	0	65.45	0.00		general particulate
20	630	ws02	10.0	7830	0.0	9769	0.00	296.01		general particulate
20	700	ws02	.3	7900	7819.0	0	110.54	0.00		general particulate
20	700	ws02	.5	7900	371.0	0	24.28	0.00		general particulate
20	700	ws02	1.0	7900	26.0	0	13.61	0.00		general particulate
20	700	ws02	2.5	7900	31.0	0	253.62	0.00		general particulate
20	700	ws02	5.0	7900	10.0	0	654.50	0.00		general particulate
20	700	ws02	10.0	7900	7.0	8264	3665.20	4721.75		general particulate
20	830	ws02	.3	8030	8412.0	0	118.92	0.00		gypsum
20	830	ws02	.5	8030	837.0	0	54.78	0.00		gypsum
20	830	ws02	1.0	8030	508.0	0	265.99	0.00		gypsum
20	830	ws02	2.5	8030	471.0	0	3853.37	0.00		gypsum
20	830	ws02	5.0	8030	129.0	0	8443.05	0.00		gypsum
20	830	ws02	10.0	8030	29.0	10386	15184.40	27920.51		gypsum
20	1000	ws02	.3	8200	11331.0	0	160.19	0.00		gypsum
20	1000	ws02	.5	8200	805.0	0	52.69	0.00		gypsum
20	1000	ws02	1.0	8200	107.0	0	56.03	0.00		gypsum
20	1000	ws02	2.5	8200	70.0	0	572.69	0.00		gypsum
20	1000	ws02	5.0	8200	22.0	0	1439.90	0.00		gypsum
20	1000	ws02	10.0	8200	11.0	12346	5759.60	8041.09		gypsum
20	1130	ws02	.3	8330	9880.0	0	139.68	0.00		gypsum
20	1130	ws02	.5	8330	1038.0	0	67.94	0.00		gypsum
20	1130	ws02	1.0	8330	245.0	0	128.28	0.00		gypsum
20	1130	ws02	2.5	8330	116.0	0	949.03	0.00		gypsum
20	1130	ws02	5.0	8330	33.0	0	2159.85	0.00		gypsum
20	1130	ws02	10.0	8330	21.0	11333	10995.60	14440.37		gypsum
20	1300	ws02	.3	8500	13529.0	0	191.26	0.00		gypsum
20	1300	ws02	.5	8500	1462.0	0	95.69	0.00		gypsum
20	1300	ws02	1.0	8500	66.0	0	34.56	0.00		gypsum
20	1300	ws02	2.5	8500	18.0	0	147.26	0.00		gypsum
20	1300	ws02	5.0	8500	4.0	0	261.80	0.00		gypsum
20	1300	ws02	10.0	8500	10.0	15089	5236.00	5966.57		gypsum
20	1430	ws02	.3	8630	11308.0	0	159.86	0.00		gypsum
20	1430	ws02	.5	8630	1251.0	0	81.88	0.00		gypsum

20	1430	ws02	1.0	8630	45.0	0	23.56	0.00		gypsum
20	1430	ws02	2.5	8630	8.0	0	65.45	0.00		gypsum
20	1430	ws02	5.0	8630	1.0	0	65.45	0.00		gypsum
20	1430	ws02	10.0	8630	4.0	12617	2094.40	2490.60		gypsum
20	1600	ws02	.3	8800	12178.0	0	172.16	0.00	1 pers - seperating cast	gypsum
20	1600	ws02	.5	8800	1325.0	0	86.72	0.00	1 pers - seperating cast	gypsum
20	1600	ws02	1.0	8800	77.0	0	40.32	0.00	1 pers - seperating cast	gypsum
20	1600	ws02	2.5	8800	27.0	0	220.89	0.00	1 pers - seperating cast	gypsum
20	1600	ws02	5.0	8800	11.0	0	719.95	0.00	1 pers - seperating cast	gypsum
20	1600	ws02	10.0	8800	13.0	13631	6806.80	8046.85	1 pers - seperating cast	gypsum
20	1730	ws02	.3	8930	14096.0	0	199.28	0.00		gypsum
20	1730	ws02	.5	8930	1379.0	0	90.26	0.00		gypsum
20	1730	ws02	1.0	8930	233.0	0	122.00	0.00		gypsum
20	1730	ws02	2.5	8930	128.0	0	1047.20	0.00		gypsum
20	1730	ws02	5.0	8930	42.0	0	2748.90	0.00		gypsum
20	1730	ws02	10.0	8930	15.0	15893	7854.00	12061.63		gypsum
21	630	ws02	.3	10230	7177.0	0	101.46	0.00		general particulate
21	630	ws02	.5	10230	263.0	0	17.21	0.00		general particulate
21	630	ws02	1.0	10230	12.0	0	6.28	0.00		general particulate
21	630	ws02	2.5	10230	4.0	0	32.73	0.00		general particulate
21	630	ws02	5.0	10230	6.0	0	392.70	0.00		general particulate
21	630	ws02	10.0	10230	2.0	7464	1047.20	1597.58		general particulate
21	700	ws02	.3	10300	7030.0	0	99.38	0.00		general particulate
21	700	ws02	.5	10300	247.0	0	16.17	0.00		general particulate
21	700	ws02	1.0	10300	47.0	0	24.61	0.00		general particulate
21	700	ws02	2.5	10300	40.0	0	327.25	0.00		general particulate
21	700	ws02	5.0	10300	14.0	0	916.30	0.00		general particulate
21	700	ws02	10.0	10300	11.0	7389	5759.60	7143.31		general particulate
21	830	ws02	.3	10430	8675.0	0	122.64	0.00		gypsum
21	830	ws02	.5	10430	716.0	0	46.86	0.00		gypsum
21	830	ws02	1.0	10430	338.0	0	176.98	0.00		gypsum
21	830	ws02	2.5	10430	413.0	0	3378.86	0.00		gypsum
21	830	ws02	5.0	10430	219.0	0	14333.55	0.00		gypsum
21	830	ws02	10.0	10430	103.0	10464	53930.80	71989.69		gypsum
21	1000	ws02	.3	10600	9510.0	0	134.44	0.00		gypsum
21	1000	ws02	.5	10600	873.0	0	57.14	0.00		gypsum
21	1000	ws02	1.0	10600	164.0	0	85.87	0.00		gypsum
21	1000	ws02	2.5	10600	110.0	0	899.94	0.00		gypsum
21	1000	ws02	5.0	10600	47.0	0	3076.15	0.00		gypsum
21	1000	ws02	10.0	10600	19.0	10723	9948.40	14201.94		gypsum
21	1130	ws02	.3	10730	16130.0	0	228.03	0.00		gypsum

21	1130	ws02	.5	10730	1021.0	0	66.82	0.00		gypsum
21	1130	ws02	1.0	10730	86.0	0	45.03	0.00		gypsum
21	1130	ws02	2.5	10730	61.0	0	499.06	0.00		gypsum
21	1130	ws02	5.0	10730	21.0	0	1374.45	0.00		gypsum
21	1130	ws02	10.0	10730	16.0	17335	8377.60	10590.99		gypsum
21	1300	ws02	.3	10900	14212.0	0	200.92	0.00		gypsum
21	1300	ws02	.5	10900	894.0	0	58.51	0.00		gypsum
21	1300	ws02	1.0	10900	214.0	0	112.05	0.00		gypsum
21	1300	ws02	2.5	10900	140.0	0	1145.38	0.00		gypsum
21	1300	ws02	5.0	10900	35.0	0	2290.75	0.00		gypsum
21	1300	ws02	10.0	10900	4.0	15499	2094.40	5902.01		gypsum
21	1430	ws02	.3	11030	107989.0	0	1526.66	0.00	1 pers - trimming stone model	gypsum
21	1430	ws02	.5	11030	25679.0	0	1680.69	0.00	1 pers - trimming stone model	gypsum
21	1430	ws02	1.0	11030	4839.0	0	2533.70	0.00	1 pers - trimming stone model	gypsum
21	1430	ws02	2.5	11030	1037.0	0	8483.96	0.00	1 pers - trimming stone model	gypsum
21	1430	ws02	5.0	11030	114.0	0	7461.30	0.00	1 pers - trimming stone model	gypsum
21	1430	ws02	10.0	11030	22.0	139680	11519.20	33205.51	1 pers - trimming stone model	gypsum
21	1600	ws02	.3	11200	19387.0	0	274.08	0.00		gypsum
21	1600	ws02	.5	11200	3419.0	0	223.77	0.00		gypsum
21	1600	ws02	1.0	11200	1049.0	0	549.26	0.00		gypsum
21	1600	ws02	2.5	11200	468.0	0	3828.83	0.00		gypsum
21	1600	ws02	5.0	11200	131.0	0	8573.95	0.00		gypsum
21	1600	ws02	10.0	11200	53.0	24507	27750.80	41200.68		gypsum
21	1730	ws02	.3	11330	13900.0	0	196.51	0.00		gypsum
21	1730	ws02	.5	11330	1210.0	0	79.19	0.00		gypsum
21	1730	ws02	1.0	11330	244.0	0	127.76	0.00		gypsum
21	1730	ws02	2.5	11330	117.0	0	957.21	0.00		gypsum
21	1730	ws02	5.0	11330	32.0	0	2094.40	0.00		gypsum
21	1730	ws02	10.0	11330	15.0	15518	7854.00	11309.07		gypsum
17	630	ws03	.3	630	15765.0	0	222.87	0.00		general particulate
17	630	ws03	.5	630	411.0	0	26.90	0.00		general particulate
17	630	ws03	1.0	630	23.0	0	12.04	0.00		general particulate
17	630	ws03	2.5	630	9.0	0	73.63	0.00		general particulate
17	630	ws03	5.0	630	5.0	0	327.25	0.00		general particulate
17	630	ws03	10.0	630	4.0	16217	2094.40	2757.10		general particulate
17	700	ws03	.3	700	15380.0	0	217.43	0.00		general particulate
17	700	ws03	.5	700	410.0	0	26.83	0.00		general particulate
17	700	ws03	1.0	700	25.0	0	13.09	0.00		general particulate
17	700	ws03	2.5	700	29.0	0	237.26	0.00		general particulate
17	700	ws03	5.0	700	4.0	0	261.80	0.00		general particulate
17	700	ws03	10.0	700	3.0	15851	1570.80	2327.21		general particulate

17	830	ws03	.3	830	23218.0	0	328.24	0.00		gypsum
17	830	ws03	.5	830	3117.0	0	204.01	0.00		gypsum
17	830	ws03	1.0	830	471.0	0	246.62	0.00		gypsum
17	830	ws03	2.5	830	67.0	0	548.14	0.00		gypsum
17	830	ws03	5.0	830	10.0	0	654.50	0.00		gypsum
17	830	ws03	10.0	830	6.0	26889	3141.60	5123.10		gypsum
17	1000	ws03	.3	1000	16837.0	0	238.03	0.00		gypsum
17	1000	ws03	.5	1000	2432.0	0	159.17	0.00		gypsum
17	1000	ws03	1.0	1000	971.0	0	508.42	0.00		gypsum
17	1000	ws03	2.5	1000	604.0	0	4941.48	0.00		gypsum
17	1000	ws03	5.0	1000	136.0	0	8901.20	0.00		gypsum
17	1000	ws03	10.0	1000	23.0	21003	12042.80	26791.09		gypsum
17	1130	ws03	.3	1130	15716.0	0	222.18	0.00		gypsum
17	1130	ws03	.5	1130	768.0	0	50.27	0.00		gypsum
17	1130	ws03	1.0	1130	100.0	0	52.36	0.00		gypsum
17	1130	ws03	2.5	1130	49.0	0	400.88	0.00		gypsum
17	1130	ws03	5.0	1130	17.0	0	1112.65	0.00		gypsum
17	1130	ws03	10.0	1130	4.0	16654	2094.40	3932.74		gypsum
17	1300	ws03	.3	1300	27675.0	0	391.25	0.00		gypsum
17	1300	ws03	.5	1300	1602.0	0	104.85	0.00		gypsum
17	1300	ws03	1.0	1300	406.0	0	212.58	0.00		gypsum
17	1300	ws03	2.5	1300	284.0	0	2323.48	0.00		gypsum
17	1300	ws03	5.0	1300	83.0	0	5432.35	0.00		gypsum
17	1300	ws03	10.0	1300	442.0	30492	231431.20	239895.70		gypsum
17	1430	ws03	.3	1430	28823.0	0	407.48	0.00		gypsum
17	1430	ws03	.5	1430	1226.0	0	80.24	0.00		gypsum
17	1430	ws03	1.0	1430	222.0	0	116.24	0.00		gypsum
17	1430	ws03	2.5	1430	180.0	0	1472.63	0.00		gypsum
17	1430	ws03	5.0	1430	70.0	0	4581.50	0.00		gypsum
17	1430	ws03	10.0	1430	22.0	30543	11519.20	18177.28		gypsum
17	1600	ws03	.3	1600	35701.0	0	504.71	0.00		gypsum
17	1600	ws03	.5	1600	2000.0	0	130.90	0.00		gypsum
17	1600	ws03	1.0	1600	335.0	0	175.41	0.00		gypsum
17	1600	ws03	2.5	1600	202.0	0	1652.61	0.00		gypsum
17	1600	ws03	5.0	1600	85.0	0	5563.25	0.00		gypsum
17	1600	ws03	10.0	1600	32.0	38355	16755.20	24782.08		gypsum
17	1730	ws03	.3	1730	32997.0	0	466.49	0.00		gypsum
17	1730	ws03	.5	1730	1035.0	0	67.74	0.00		gypsum
17	1730	ws03	1.0	1730	62.0	0	32.46	0.00		gypsum
17	1730	ws03	2.5	1730	65.0	0	531.78	0.00		gypsum
17	1730	ws03	5.0	1730	25.0	0	1636.25	0.00		gypsum

17	1730	ws03	10.0	1730	10.0	34194	5236.00	7970.72		gypsum
18	630	ws03	.3	3030	10296.0	0	145.56	0.00		general particulate
18	630	ws03	.5	3030	279.0	0	18.26	0.00		general particulate
18	630	ws03	1.0	3030	22.0	0	11.52	0.00		general particulate
18	630	ws03	2.5	3030	11.0	0	89.99	0.00		general particulate
18	630	ws03	5.0	3030	2.0	0	130.90	0.00		general particulate
18	630	ws03	10.0	3030	2.0	10612	1047.20	1443.43		general particulate
18	700	ws03	.3	3100	13410.0	0	189.58	0.00		general particulate
18	700	ws03	.5	3100	511.0	0	33.44	0.00		general particulate
18	700	ws03	1.0	3100	159.0	0	83.25	0.00		general particulate
18	700	ws03	2.5	3100	121.0	0	989.93	0.00		general particulate
18	700	ws03	5.0	3100	33.0	0	2159.85	0.00		general particulate
18	700	ws03	10.0	3100	11.0	14245	5759.60	9215.66		general particulate
18	830	ws03	.3	3230	20649.0	0	291.92	0.00		gypsum
18	830	ws03	.5	3230	681.0	0	44.57	0.00		gypsum
18	830	ws03	1.0	3230	112.0	0	58.64	0.00		gypsum
18	830	ws03	2.5	3230	72.0	0	589.05	0.00		gypsum
18	830	ws03	5.0	3230	15.0	0	981.75	0.00		gypsum
18	830	ws03	10.0	3230	9.0	21538	4712.40	6678.33		gypsum
18	1000	ws03	.3	3400	24640.0	0	348.34	0.00		gypsum
18	1000	ws03	.5	3400	1326.0	0	86.79	0.00		gypsum
18	1000	ws03	1.0	3400	374.0	0	195.83	0.00		gypsum
18	1000	ws03	2.5	3400	262.0	0	2143.49	0.00		gypsum
18	1000	ws03	5.0	3400	70.0	0	4581.50	0.00		gypsum
18	1000	ws03	10.0	3400	26.0	26698	13613.60	20969.54		gypsum
18	1130	ws03	.3	3530	22863.0	0	323.22	0.00		gypsum
18	1130	ws03	.5	3530	1208.0	0	79.06	0.00		gypsum
18	1130	ws03	1.0	3530	644.0	0	337.20	0.00		gypsum
18	1130	ws03	2.5	3530	626.0	0	5121.46	0.00		gypsum
18	1130	ws03	5.0	3530	118.0	0	7723.10	0.00		gypsum
18	1130	ws03	10.0	3530	31.0	25490	16231.60	29815.64		gypsum
18	1300	ws03	.3	3700	27127.0	0	383.50	0.00		gypsum
18	1300	ws03	.5	3700	2275.0	0	148.90	0.00		gypsum
18	1300	ws03	1.0	3700	1712.0	0	896.40	0.00		gypsum
18	1300	ws03	2.5	3700	1513.0	0	12378.23	0.00		gypsum
18	1300	ws03	5.0	3700	418.0	0	27358.10	0.00		gypsum
18	1300	ws03	10.0	3700	114.0	33159	59690.40	100855.53		gypsum
18	1430	ws03	.3	3830	29589.0	0	418.31	0.00	1 pers - triming die	gypsum
18	1430	ws03	.5	3830	3807.0	0	249.17	0.00	1 pers - triming die	gypsum
18	1430	ws03	1.0	3830	2667.0	0	1396.44	0.00	1 pers - triming die	gypsum
18	1430	ws03	2.5	3830	2461.0	0	20134.06	0.00	1 pers - triming die	gypsum

18	1430	ws03	5.0	3830	801.0	0	52425.45	0.00	1 pers - triming die	gypsum
18	1430	ws03	10.0	3830	219.0	39544	114668.40	189291.82	1 pers - triming die	gypsum
18	1600	ws03	.3	4000	40996.0	0	579.57	0.00		gypsum
18	1600	ws03	.5	4000	6687.0	0	437.66	0.00		gypsum
18	1600	ws03	1.0	4000	2896.0	0	1516.35	0.00		gypsum
18	1600	ws03	2.5	4000	1970.0	0	16117.06	0.00		gypsum
18	1600	ws03	5.0	4000	500.0	0	32725.00	0.00		gypsum
18	1600	ws03	10.0	4000	181.0	53230	94771.60	146147.24		gypsum
18	1730	ws03	.3	4130	22104.0	0	312.49	0.00		gypsum
18	1730	ws03	.5	4130	960.0	0	62.83	0.00		gypsum
18	1730	ws03	1.0	4130	108.0	0	56.55	0.00		gypsum
18	1730	ws03	2.5	4130	73.0	0	597.23	0.00		gypsum
18	1730	ws03	5.0	4130	24.0	0	1570.80	0.00		gypsum
18	1730	ws03	10.0	4130	10.0	23279	5236.00	7835.90		gypsum
19	630	ws03	.3	5430	4865.0	0	68.78	0.00		general particulate
19	630	ws03	.5	5430	136.0	0	8.90	0.00		general particulate
19	630	ws03	1.0	5430	13.0	0	6.81	0.00		general particulate
19	630	ws03	2.5	5430	13.0	0	106.36	0.00		general particulate
19	630	ws03	5.0	5430	1.0	0	65.45	0.00		general particulate
19	630	ws03	10.0	5430	1.0	5029	523.60	779.89		general particulate
19	700	ws03	.3	5500	4057.0	0	57.35	0.00		general particulate
19	700	ws03	.5	5500	165.0	0	10.80	0.00		general particulate
19	700	ws03	1.0	5500	18.0	0	9.42	0.00		general particulate
19	700	ws03	2.5	5500	19.0	0	155.44	0.00		general particulate
19	700	ws03	5.0	5500	8.0	0	523.60	0.00		general particulate
19	700	ws03	10.0	5500	1.0	4268	523.60	1280.22		general particulate
19	830	ws03	.3	5630	24962.0	0	352.89	0.00		gypsum
19	830	ws03	.5	5630	6046.0	0	395.71	0.00		gypsum
19	830	ws03	1.0	5630	1507.0	0	789.07	0.00		gypsum
19	830	ws03	2.5	5630	551.0	0	4507.87	0.00		gypsum
19	830	ws03	5.0	5630	100.0	0	6545.00	0.00		gypsum
19	830	ws03	10.0	5630	44.0	33210	23038.40	35628.94		gypsum
19	1000	ws03	.3	5800	17736.0	0	250.74	0.00		gypsum
19	1000	ws03	.5	5800	3205.0	0	209.77	0.00		gypsum
19	1000	ws03	1.0	5800	946.0	0	495.33	0.00		gypsum
19	1000	ws03	2.5	5800	454.0	0	3714.29	0.00		gypsum
19	1000	ws03	5.0	5800	88.0	0	5759.60	0.00		gypsum
19	1000	ws03	10.0	5800	18.0	22447	9424.80	19854.52		gypsum
19	1130	ws03	.3	5930	9083.0	0	128.41	0.00		gypsum
19	1130	ws03	.5	5930	664.0	0	43.46	0.00		gypsum
19	1130	ws03	1.0	5930	358.0	0	187.45	0.00		gypsum

19	1130	ws03	2.5	5930	273.0	0	2233.48	0.00		gypsum
19	1130	ws03	5.0	5930	70.0	0	4581.50	0.00		gypsum
19	1130	ws03	10.0	5930	15.0	10463	7854.00	15028.30		gypsum
19	1300	ws03	.3	6100	9196.0	0	130.01	0.00		gypsum
19	1300	ws03	.5	6100	2652.0	0	173.57	0.00		gypsum
19	1300	ws03	1.0	6100	2541.0	0	1330.47	0.00		gypsum
19	1300	ws03	2.5	6100	2145.0	0	17548.78	0.00		gypsum
19	1300	ws03	5.0	6100	516.0	0	33772.20	0.00		gypsum
19	1300	ws03	10.0	6100	152.0	17202	79587.20	132542.23		gypsum
19	1430	ws03	.3	6230	13335.0	0	188.52	0.00		gypsum
19	1430	ws03	.5	6230	1284.0	0	84.04	0.00		gypsum
19	1430	ws03	1.0	6230	518.0	0	271.22	0.00		gypsum
19	1430	ws03	2.5	6230	435.0	0	3558.84	0.00		gypsum
19	1430	ws03	5.0	6230	120.0	0	7854.00	0.00		gypsum
19	1430	ws03	10.0	6230	36.0	15728	18849.60	30806.23		gypsum
19	1600	ws03	.3	6400	26263.0	0	371.29	0.00		gypsum
19	1600	ws03	.5	6400	4783.0	0	313.05	0.00		gypsum
19	1600	ws03	1.0	6400	1755.0	0	918.92	0.00		gypsum
19	1600	ws03	2.5	6400	1144.0	0	9359.35	0.00		gypsum
19	1600	ws03	5.0	6400	299.0	0	19569.55	0.00		gypsum
19	1600	ws03	10.0	6400	60.0	34304	31416.00	61948.15		gypsum
19	1730	ws03	.3	6530	15294.0	0	216.21	0.00		gypsum
19	1730	ws03	.5	6530	549.0	0	35.93	0.00		gypsum
19	1730	ws03	1.0	6530	214.0	0	112.05	0.00		gypsum
19	1730	ws03	2.5	6530	286.0	0	2339.84	0.00		gypsum
19	1730	ws03	5.0	6530	88.0	0	5759.60	0.00		gypsum
19	1730	ws03	10.0	6530	25.0	16456	13090.00	21553.63		gypsum
20	630	ws03	.3	7830	9639.0	0	136.27	0.00		general particulate
20	630	ws03	.5	7830	379.0	0	24.81	0.00		general particulate
20	630	ws03	1.0	7830	14.0	0	7.33	0.00		general particulate
20	630	ws03	2.5	7830	6.0	0	49.09	0.00		general particulate
20	630	ws03	5.0	7830	7.0	0	458.15	0.00		general particulate
20	630	ws03	10.0	7830	1.0	10046	523.60	1199.24		general particulate
20	700	ws03	.3	7900	8037.0	0	113.62	0.00		general particulate
20	700	ws03	.5	7900	446.0	0	29.19	0.00		general particulate
20	700	ws03	1.0	7900	121.0	0	63.36	0.00		general particulate
20	700	ws03	2.5	7900	152.0	0	1243.55	0.00		general particulate
20	700	ws03	5.0	7900	63.0	0	4123.35	0.00		general particulate
20	700	ws03	10.0	7900	28.0	8847	14660.80	20233.87		general particulate
20	830	ws03	.3	8030	8616.0	0	121.81	0.00		gypsum
20	830	ws03	.5	8030	750.0	0	49.09	0.00		gypsum

20	830	ws03	1.0	8030	408.0	0	213.63	0.00		gypsum
20	830	ws03	2.5	8030	377.0	0	3084.33	0.00		gypsum
20	830	ws03	5.0	8030	84.0	0	5497.80	0.00		gypsum
20	830	ws03	10.0	8030	18.0	10253	9424.80	18391.45		gypsum
20	1000	ws03	.3	8200	11913.0	0	168.42	0.00		gypsum
20	1000	ws03	.5	8200	825.0	0	54.00	0.00		gypsum
20	1000	ws03	1.0	8200	92.0	0	48.17	0.00		gypsum
20	1000	ws03	2.5	8200	54.0	0	441.79	0.00		gypsum
20	1000	ws03	5.0	8200	30.0	0	1963.50	0.00		gypsum
20	1000	ws03	10.0	8200	13.0	12927	6806.80	9482.67		gypsum
20	1130	ws03	.3	8330	9731.0	0	137.57	0.00		gypsum
20	1130	ws03	.5	8330	1250.0	0	81.81	0.00		gypsum
20	1130	ws03	1.0	8330	328.0	0	171.74	0.00		gypsum
20	1130	ws03	2.5	8330	160.0	0	1309.00	0.00		gypsum
20	1130	ws03	5.0	8330	38.0	0	2487.10	0.00		gypsum
20	1130	ws03	10.0	8330	13.0	11520	6806.80	10994.02		gypsum
20	1300	ws03	.3	8500	13809.0	0	195.22	0.00		gypsum
20	1300	ws03	.5	8500	1399.0	0	91.56	0.00		gypsum
20	1300	ws03	1.0	8500	68.0	0	35.60	0.00		gypsum
20	1300	ws03	2.5	8500	27.0	0	220.89	0.00		gypsum
20	1300	ws03	5.0	8500	17.0	0	1112.65	0.00		gypsum
20	1300	ws03	10.0	8500	14.0	15334	7330.40	8986.33		gypsum
20	1430	ws03	.3	8630	11049.0	0	156.20	0.00		gypsum
20	1430	ws03	.5	8630	1201.0	0	78.61	0.00		gypsum
20	1430	ws03	1.0	8630	51.0	0	26.70	0.00		gypsum
20	1430	ws03	2.5	8630	38.0	0	310.89	0.00		gypsum
20	1430	ws03	5.0	8630	9.0	0	589.05	0.00		gypsum
20	1430	ws03	10.0	8630	19.0	12367	9948.40	11109.85		gypsum
20	1600	ws03	.3	8800	17004.0	0	240.39	0.00	1 pers - grinding a cast	gypsum
20	1600	ws03	.5	8800	4040.0	0	264.42	0.00	1 pers - grinding a cast	gypsum
20	1600	ws03	1.0	8800	2133.0	0	1116.84	0.00	1 pers - grinding a cast	gypsum
20	1600	ws03	2.5	8800	2038.0	0	16673.39	0.00	1 pers - grinding a cast	gypsum
20	1600	ws03	5.0	8800	858.0	0	56156.10	0.00	1 pers - grinding a cast	gypsum
20	1600	ws03	10.0	8800	353.0	26426	184830.80	259281.93	1 pers - grinding a cast	gypsum
20	1730	ws03	.3	8930	13298.0	0	188.00	0.00		gypsum
20	1730	ws03	.5	8930	1578.0	0	103.28	0.00		gypsum
20	1730	ws03	1.0	8930	464.0	0	242.95	0.00		gypsum
20	1730	ws03	2.5	8930	403.0	0	3297.04	0.00		gypsum
20	1730	ws03	5.0	8930	163.0	0	10668.35	0.00		gypsum
20	1730	ws03	10.0	8930	102.0	16008	53407.20	67906.82		gypsum
21	630	ws03	.3	10230	7171.0	0	101.38	0.00		general particulate

21	630	ws03	.5	10230	272.0	0	17.80	0.00		general particulate
21	630	ws03	1.0	10230	21.0	0	11.00	0.00		general particulate
21	630	ws03	2.5	10230	32.0	0	261.80	0.00		general particulate
21	630	ws03	5.0	10230	14.0	0	916.30	0.00		general particulate
21	630	ws03	10.0	10230	9.0	7519	4712.40	6020.68		general particulate
21	700	ws03	.3	10300	6489.0	0	91.74	0.00		general particulate
21	700	ws03	.5	10300	228.0	0	14.92	0.00		general particulate
21	700	ws03	1.0	10300	48.0	0	25.13	0.00		general particulate
21	700	ws03	2.5	10300	34.0	0	278.16	0.00		general particulate
21	700	ws03	5.0	10300	10.0	0	654.50	0.00		general particulate
21	700	ws03	10.0	10300	15.0	6824	7854.00	8918.45		general particulate
21	830	ws03	.3	10430	9703.0	0	137.17	0.00		gypsum
21	830	ws03	.5	10430	940.0	0	61.52	0.00		gypsum
21	830	ws03	1.0	10430	566.0	0	296.36	0.00		gypsum
21	830	ws03	2.5	10430	528.0	0	4319.70	0.00		gypsum
21	830	ws03	5.0	10430	238.0	0	15577.10	0.00		gypsum
21	830	ws03	10.0	10430	110.0	12085	57596.00	77987.85		gypsum
21	1000	ws03	.3	10600	9844.0	0	139.17	0.00		gypsum
21	1000	ws03	.5	10600	1079.0	0	70.62	0.00		gypsum
21	1000	ws03	1.0	10600	439.0	0	229.86	0.00		gypsum
21	1000	ws03	2.5	10600	420.0	0	3436.13	0.00		gypsum
21	1000	ws03	5.0	10600	122.0	0	7984.90	0.00		gypsum
21	1000	ws03	10.0	10600	54.0	11958	28274.40	40135.07		gypsum
21	1130	ws03	.3	10730	15608.0	0	220.65	0.00		gypsum
21	1130	ws03	.5	10730	998.0	0	65.32	0.00		gypsum
21	1130	ws03	1.0	10730	86.0	0	45.03	0.00		gypsum
21	1130	ws03	2.5	10730	30.0	0	245.44	0.00		gypsum
21	1130	ws03	5.0	10730	7.0	0	458.15	0.00		gypsum
21	1130	ws03	10.0	10730	3.0	16732	1570.80	2605.39		gypsum
21	1300	ws03	.3	10900	14168.0	0	200.30	0.00		gypsum
21	1300	ws03	.5	10900	909.0	0	59.49	0.00		gypsum
21	1300	ws03	1.0	10900	227.0	0	118.86	0.00		gypsum
21	1300	ws03	2.5	10900	137.0	0	1120.83	0.00		gypsum
21	1300	ws03	5.0	10900	44.0	0	2879.80	0.00		gypsum
21	1300	ws03	10.0	10900	19.0	15504	9948.40	14327.68		gypsum
21	1430	ws03	.3	11030	89408.0	0	1263.98	0.00	1 pers - Grinding and trimming models	gypsum
21	1430	ws03	.5	11030	200.0	0	13.09	0.00	1 pers - Grinding and trimming models	gypsum
21	1430	ws03	1.0	11030	3892.0	0	2037.85	0.00	1 pers - Grinding and trimming models	gypsum
21	1430	ws03	2.5	11030	872.0	0	7134.05	0.00	1 pers - Grinding and trimming models	gypsum
21	1430	ws03	5.0	11030	93.0	0	6086.85	0.00	1 pers - Grinding and trimming models	gypsum

21	1430	ws03	10.0	11030	27.0	94492	14137.20	30673.02	1 pers - Grinding and trimming models	gypsum
21	1600	ws03	.3	11200	20749.0	0	293.33	0.00	Just finished grinding and trimming models	gypsum
21	1600	ws03	.5	11200	4138.0	0	270.83	0.00	Just finished grinding and trimming models	gypsum
21	1600	ws03	1.0	11200	1153.0	0	603.71	0.00	Just finished grinding and trimming models	gypsum
21	1600	ws03	2.5	11200	546.0	0	4466.96	0.00	Just finished grinding and trimming models	gypsum
21	1600	ws03	5.0	11200	157.0	0	10275.65	0.00	Just finished grinding and trimming models	gypsum
21	1600	ws03	10.0	11200	67.0	26810	35081.20	50991.69	Just finished grinding and trimming models	gypsum
21	1730	ws03	.3	11330	14184.0	0	200.52	0.00		gypsum
21	1730	ws03	.5	11330	1215.0	0	79.52	0.00		gypsum
21	1730	ws03	1.0	11330	268.0	0	140.32	0.00		gypsum
21	1730	ws03	2.5	11330	106.0	0	867.21	0.00		gypsum
21	1730	ws03	5.0	11330	41.0	0	2683.45	0.00		gypsum
21	1730	ws03	10.0	11330	18.0	15832	9424.80	13395.83		gypsum
17	630	ws04	.3	630	16448.0	0	232.53	0.00		general particulate
17	630	ws04	.5	630	396.0	0	25.92	0.00		general particulate
17	630	ws04	1.0	630	29.0	0	15.18	0.00		general particulate
17	630	ws04	2.5	630	12.0	0	98.18	0.00		general particulate
17	630	ws04	5.0	630	6.0	0	392.70	0.00		general particulate
17	630	ws04	10.0	630	6.0	16897	3141.60	3906.11		general particulate
17	700	ws04	.3	700	15831.0	0	223.81	0.00		general particulate
17	700	ws04	.5	700	476.0	0	31.15	0.00		general particulate
17	700	ws04	1.0	700	75.0	0	39.27	0.00		general particulate
17	700	ws04	2.5	700	95.0	0	777.22	0.00		general particulate
17	700	ws04	5.0	700	33.0	0	2159.85	0.00		general particulate
17	700	ws04	10.0	700	32.0	16542	16755.20	19986.50		general particulate
17	830	ws04	.3	830	22832.0	0	322.78	0.00	1 pers - polishing an acrylic appliance	Methyl methacrylate
17	830	ws04	.5	830	3230.0	0	211.40	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	830	ws04	1.0	830	562.0	0	294.26	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	830	ws04	2.5	830	116.0	0	949.03	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	830	ws04	5.0	830	8.0	0	523.60	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	830	ws04	10.0	830	10.0	26758	5236.00	7537.07	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1000	ws04	.3	1000	16417.0	0	232.09	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1000	ws04	.5	1000	2222.0	0	145.43	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1000	ws04	1.0	1000	824.0	0	431.45	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1000	ws04	2.5	1000	649.0	0	5309.63	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate

17	1000	ws04	5.0	1000	150.0	0	9817.50	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1000	ws04	10.0	1000	36.0	20298	18849.60	34785.70	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1130	ws04	.3	1130	15646.0	0	221.19	0.00		methylmethacrylate
17	1130	ws04	.5	1130	761.0	0	49.81	0.00		methylmethacrylate
17	1130	ws04	1.0	1130	146.0	0	76.45	0.00		methylmethacrylate
17	1130	ws04	2.5	1130	117.0	0	957.21	0.00		methylmethacrylate
17	1130	ws04	5.0	1130	42.0	0	2748.90	0.00		methylmethacrylate
17	1130	ws04	10.0	1130	49.0	16761	25656.40	29709.95		methylmethacrylate
17	1300	ws04	.3	1300	27005.0	0	381.78	0.00	1 pers- grinding on a nightguard	methylmethacrylate
17	1300	ws04	.5	1300	1904.0	0	124.62	0.00	1 pers- grinding on a nightguard	methylmethacrylate
17	1300	ws04	1.0	1300	638.0	0	334.06	0.00	1 pers- grinding on a nightguard	methylmethacrylate
17	1300	ws04	2.5	1300	500.0	0	4090.63	0.00	1 pers- grinding on a nightguard	methylmethacrylate
17	1300	ws04	5.0	1300	134.0	0	8770.30	0.00	1 pers- grinding on a nightguard	methylmethacrylate
17	1300	ws04	10.0	1300	49.0	30230	25656.40	39357.77	1 pers- grinding on a nightguard	methylmethacrylate
17	1430	ws04	.3	1430	27744.0	0	392.22	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1430	ws04	.5	1430	1683.0	0	110.15	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1430	ws04	1.0	1430	674.0	0	352.91	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1430	ws04	2.5	1430	526.0	0	4303.34	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1430	ws04	5.0	1430	223.0	0	14595.35	0.00	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1430	ws04	10.0	1430	76.0	30926	39793.60	59547.57	1 pers - polishing an acrylic appliance	methylmethacrylate
17	1600	ws04	.3	1600	37419.0	0	529.00	0.00		methylmethacrylate
17	1600	ws04	.5	1600	2465.0	0	161.33	0.00		methylmethacrylate
17	1600	ws04	1.0	1600	692.0	0	362.33	0.00		methylmethacrylate
17	1600	ws04	2.5	1600	662.0	0	5415.99	0.00		methylmethacrylate
17	1600	ws04	5.0	1600	324.0	0	21205.80	0.00		methylmethacrylate
17	1600	ws04	10.0	1600	215.0	41777	112574.00	140248.45		methylmethacrylate
17	1730	ws04	.3	1730	34417.0	0	486.56	0.00		methylmethacrylate
17	1730	ws04	.5	1730	1077.0	0	70.49	0.00		methylmethacrylate
17	1730	ws04	1.0	1730	74.0	0	38.75	0.00		methylmethacrylate
17	1730	ws04	2.5	1730	58.0	0	474.51	0.00		methylmethacrylate
17	1730	ws04	5.0	1730	21.0	0	1374.45	0.00		methylmethacrylate
17	1730	ws04	10.0	1730	7.0	35654	3665.20	6109.96		methylmethacrylate
18	630	ws04	.3	3030	11683.0	0	165.16	0.00		general particulate
18	630	ws04	.5	3030	305.0	0	19.96	0.00		general particulate
18	630	ws04	1.0	3030	24.0	0	12.57	0.00		general particulate
18	630	ws04	2.5	3030	7.0	0	57.27	0.00		general particulate
18	630	ws04	5.0	3030	1.0	0	65.45	0.00		general particulate
18	630	ws04	10.0	3030	3.0	12023	1570.80	1891.21		general particulate

18	700	ws04	.3	3100	14195.0	0	200.68	0.00		general particulate
18	700	ws04	.5	3100	541.0	0	35.41	0.00		general particulate
18	700	ws04	1.0	3100	118.0	0	61.78	0.00		general particulate
18	700	ws04	2.5	3100	99.0	0	809.94	0.00		general particulate
18	700	ws04	5.0	3100	28.0	0	1832.60	0.00		general particulate
18	700	ws04	10.0	3100	15.0	14996	7854.00	10794.41		general particulate
18	830	ws04	.3	3230	25675.0	0	362.97	0.00		methylmethacrylate
18	830	ws04	.5	3230	1967.0	0	128.74	0.00		methylmethacrylate
18	830	ws04	1.0	3230	1149.0	0	601.62	0.00		methylmethacrylate
18	830	ws04	2.5	3230	898.0	0	7346.76	0.00		methylmethacrylate
18	830	ws04	5.0	3230	199.0	0	13024.55	0.00		methylmethacrylate
18	830	ws04	10.0	3230	30.0	29918	15708.00	37172.64		methylmethacrylate
18	1000	ws04	.3	3400	25002.0	0	353.46	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1000	ws04	.5	3400	1219.0	0	79.78	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1000	ws04	1.0	3400	328.0	0	171.74	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1000	ws04	2.5	3400	276.0	0	2258.03	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1000	ws04	5.0	3400	89.0	0	5825.05	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1000	ws04	10.0	3400	28.0	26942	14660.80	23348.86	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	.3	3530	23636.0	0	334.15	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	.5	3530	1170.0	0	76.58	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	1.0	3530	622.0	0	325.68	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	2.5	3530	542.0	0	4434.24	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	5.0	3530	121.0	0	7919.45	0.00	1 pers- fabricating acrylic partial	methylmethacrylate
18	1130	ws04	10.0	3530	28.0	26119	14660.80	27750.89	1 pers- fabricating acrylic partial	methylmethacrylate
18	1300	ws04	.3	3700	26847.0	0	379.54	0.00	1 pers- polishing a partial	methylmethacrylate
18	1300	ws04	.5	3700	1470.0	0	96.21	0.00	1 pers- polishing a partial	methylmethacrylate
18	1300	ws04	1.0	3700	907.0	0	474.91	0.00	1 pers- polishing a partial	methylmethacrylate
18	1300	ws04	2.5	3700	848.0	0	6937.70	0.00	1 pers- polishing a partial	methylmethacrylate
18	1300	ws04	5.0	3700	294.0	0	19242.30	0.00	1 pers- polishing a partial	methylmethacrylate
18	1300	ws04	10.0	3700	78.0	30444	40840.80	67971.46	1 pers- polishing a partial	methylmethacrylate
18	1430	ws04	.3	3830	70197.0	0	992.39	0.00	1 pers- mixing acrylic	methylmethacrylate
18	1430	ws04	.5	3830	13659.0	0	893.98	0.00	1 pers- mixing acrylic	methylmethacrylate
18	1430	ws04	1.0	3830	3921.0	0	2053.04	0.00	1 pers- mixing acrylic	methylmethacrylate
18	1430	ws04	2.5	3830	1816.0	0	14857.15	0.00	1 pers- mixing acrylic	methylmethacrylate
18	1430	ws04	5.0	3830	405.0	0	26507.25	0.00	1 pers- mixing acrylic	methylmethacrylate
18	1430	ws04	10.0	3830	57.0	90055	29845.20	75149.01	1 pers- mixing acrylic	methylmethacrylate
18	1600	ws04	.3	4000	36703.0	0	518.88	0.00	1 pers- packing an acrylic partial	methylmethacrylate

18	1600	ws04	.5	4000	4673.0	0	305.85	0.00	1 pers- packing an acrylic partial	methylmethacrylate
18	1600	ws04	1.0	4000	1403.0	0	734.61	0.00	1 pers- packing an acrylic partial	methylmethacrylate
18	1600	ws04	2.5	4000	872.0	0	7134.05	0.00	1 pers- packing an acrylic partial	methylmethacrylate
18	1600	ws04	5.0	4000	237.0	0	15511.65	0.00	1 pers- packing an acrylic partial	methylmethacrylate
18	1600	ws04	10.0	4000	65.0	43953	34034.00	58239.04	1 pers- packing an acrylic partial	methylmethacrylate
18	1730	ws04	.3	4130	21726.0	0	307.14	0.00		methylmethacrylate
18	1730	ws04	.5	4130	954.0	0	62.44	0.00		methylmethacrylate
18	1730	ws04	1.0	4130	93.0	0	48.69	0.00		methylmethacrylate
18	1730	ws04	2.5	4130	67.0	0	548.14	0.00		methylmethacrylate
18	1730	ws04	5.0	4130	15.0	0	981.75	0.00		methylmethacrylate
18	1730	ws04	10.0	4130	11.0	22866	5759.60	7707.77		methylmethacrylate
19	630	ws04	.3	5430	4926.0	0	69.64	0.00		general particulate
19	630	ws04	.5	5430	135.0	0	8.84	0.00		general particulate
19	630	ws04	1.0	5430	26.0	0	13.61	0.00		general particulate
19	630	ws04	2.5	5430	12.0	0	98.18	0.00		general particulate
19	630	ws04	5.0	5430	11.0	0	719.95	0.00		general particulate
19	630	ws04	10.0	5430	6.0	5116	3141.60	4051.81		general particulate
19	700	ws04	.3	5500	4363.0	0	61.68	0.00		general particulate
19	700	ws04	.5	5500	212.0	0	13.88	0.00		general particulate
19	700	ws04	1.0	5500	82.0	0	42.94	0.00		general particulate
19	700	ws04	2.5	5500	62.0	0	507.24	0.00		general particulate
19	700	ws04	5.0	5500	21.0	0	1374.45	0.00		general particulate
19	700	ws04	10.0	5500	11.0	4751	5759.60	7759.78		general particulate
19	830	ws04	.3	5630	21000.0	0	296.88	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	830	ws04	.5	5630	4785.0	0	313.18	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	830	ws04	1.0	5630	1206.0	0	631.46	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	830	ws04	2.5	5630	461.0	0	3771.56	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	830	ws04	5.0	5630	86.0	0	5628.70	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	830	ws04	10.0	5630	49.0	27587	25656.40	36298.18	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	.3	5800	14703.0	0	207.86	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	.5	5800	2672.0	0	174.88	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	1.0	5800	1130.0	0	591.67	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	2.5	5800	778.0	0	6365.01	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	5.0	5800	294.0	0	19242.30	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1000	ws04	10.0	5800	147.0	19724	76969.20	103550.92	1 pers + grinding on acrylic partial	methylmethacrylate

19	1130	ws04	.3	5930	8850.0	0	125.11	0.00		methylmethacrylate
19	1130	ws04	.5	5930	507.0	0	33.18	0.00		methylmethacrylate
19	1130	ws04	1.0	5930	230.0	0	120.43	0.00		methylmethacrylate
19	1130	ws04	2.5	5930	171.0	0	1398.99	0.00		methylmethacrylate
19	1130	ws04	5.0	5930	41.0	0	2683.45	0.00		methylmethacrylate
19	1130	ws04	10.0	5930	22.0	9821	11519.20	15880.37		methylmethacrylate
19	1300	ws04	.3	6100	8974.0	0	126.87	0.00		methylmethacrylate
19	1300	ws04	.5	6100	1295.0	0	84.76	0.00		methylmethacrylate
19	1300	ws04	1.0	6100	926.0	0	484.85	0.00		methylmethacrylate
19	1300	ws04	2.5	6100	817.0	0	6684.08	0.00		methylmethacrylate
19	1300	ws04	5.0	6100	219.0	0	14333.55	0.00		methylmethacrylate
19	1300	ws04	10.0	6100	63.0	12294	32986.80	54700.91		methylmethacrylate
19	1430	ws04	.3	6230	58786.0	0	831.07	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1430	ws04	.5	6230	11778.0	0	770.87	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1430	ws04	1.0	6230	2403.0	0	1258.21	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1430	ws04	2.5	6230	906.0	0	7412.21	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1430	ws04	5.0	6230	289.0	0	18915.05	0.00	1 pers + grinding on acrylic partial	methylmethacrylate
19	1430	ws04	10.0	6230	203.0	74365	106290.80	135478.21	1 pers + grinding on acrylic partial	methylmethacrylate
19	1600	ws04	.3	6400	22026.0	0	311.39	0.00		methylmethacrylate
19	1600	ws04	.5	6400	3501.0	0	229.14	0.00		methylmethacrylate
19	1600	ws04	1.0	6400	1373.0	0	718.90	0.00		methylmethacrylate
19	1600	ws04	2.5	6400	962.0	0	7870.36	0.00		methylmethacrylate
19	1600	ws04	5.0	6400	221.0	0	14464.45	0.00		methylmethacrylate
19	1600	ws04	10.0	6400	54.0	28137	28274.40	51868.64		methylmethacrylate
19	1730	ws04	.3	6530	16897.0	0	238.88	0.00		methylmethacrylate
19	1730	ws04	.5	6530	473.0	0	30.96	0.00		methylmethacrylate
19	1730	ws04	1.0	6530	114.0	0	59.69	0.00		methylmethacrylate
19	1730	ws04	2.5	6530	123.0	0	1006.29	0.00		methylmethacrylate
19	1730	ws04	5.0	6530	29.0	0	1898.05	0.00		methylmethacrylate
19	1730	ws04	10.0	6530	9.0	17645	4712.40	7946.27		methylmethacrylate
20	630	ws04	.3	7830	9946.0	0	140.61	0.00		general particulate
20	630	ws04	.5	7830	342.0	0	22.38	0.00		general particulate
20	630	ws04	1.0	7830	19.0	0	9.95	0.00		general particulate
20	630	ws04	2.5	7830	9.0	0	73.63	0.00		general particulate
20	630	ws04	5.0	7830	5.0	0	327.25	0.00		general particulate
20	630	ws04	10.0	7830	5.0	10326	2618.00	3191.82		general particulate
20	700	ws04	.3	7900	8647.0	0	122.24	0.00		general particulate
20	700	ws04	.5	7900	394.0	0	25.79	0.00		general particulate
20	700	ws04	1.0	7900	85.0	0	44.51	0.00		general particulate

20	700	ws04	2.5	7900	56.0	0	458.15	0.00		general particulate
20	700	ws04	5.0	7900	25.0	0	1636.25	0.00		general particulate
20	700	ws04	10.0	7900	16.0	9223	8377.60	10664.54		general particulate
20	830	ws04	.3	8030	9369.0	0	132.45	0.00		methylmethacrylate
20	830	ws04	.5	8030	699.0	0	45.75	0.00		methylmethacrylate
20	830	ws04	1.0	8030	356.0	0	186.40	0.00		methylmethacrylate
20	830	ws04	2.5	8030	288.0	0	2356.20	0.00		methylmethacrylate
20	830	ws04	5.0	8030	72.0	0	4712.40	0.00		methylmethacrylate
20	830	ws04	10.0	8030	34.0	10818	17802.40	25235.60		methylmethacrylate
20	1000	ws04	.3	8200	12618.0	0	178.38	0.00		methylmethacrylate
20	1000	ws04	.5	8200	939.0	0	61.46	0.00		methylmethacrylate
20	1000	ws04	1.0	8200	195.0	0	102.10	0.00		methylmethacrylate
20	1000	ws04	2.5	8200	246.0	0	2012.59	0.00		methylmethacrylate
20	1000	ws04	5.0	8200	171.0	0	11191.95	0.00		methylmethacrylate
20	1000	ws04	10.0	8200	146.0	14315	76445.60	89992.08		methylmethacrylate
20	1130	ws04	.3	8330	12641.0	0	178.71	0.00		methylmethacrylate
20	1130	ws04	.5	8330	3697.0	0	241.97	0.00		methylmethacrylate
20	1130	ws04	1.0	8330	1384.0	0	724.66	0.00		methylmethacrylate
20	1130	ws04	2.5	8330	450.0	0	3681.56	0.00		methylmethacrylate
20	1130	ws04	5.0	8330	61.0	0	3992.45	0.00		methylmethacrylate
20	1130	ws04	10.0	8330	43.0	18276	22514.80	31334.15		methylmethacrylate
20	1300	ws04	.3	8500	14131.0	0	199.77	0.00		methylmethacrylate
20	1300	ws04	.5	8500	1402.0	0	91.76	0.00		methylmethacrylate
20	1300	ws04	1.0	8500	65.0	0	34.03	0.00		methylmethacrylate
20	1300	ws04	2.5	8500	19.0	0	155.44	0.00		methylmethacrylate
20	1300	ws04	5.0	8500	1.0	0	65.45	0.00		methylmethacrylate
20	1300	ws04	10.0	8500	2.0	15620	1047.20	1593.66		methylmethacrylate
20	1430	ws04	.3	8630	11208.0	0	158.45	0.00		methylmethacrylate
20	1430	ws04	.5	8630	1280.0	0	83.78	0.00		methylmethacrylate
20	1430	ws04	1.0	8630	76.0	0	39.79	0.00		methylmethacrylate
20	1430	ws04	2.5	8630	54.0	0	441.79	0.00		methylmethacrylate
20	1430	ws04	5.0	8630	11.0	0	719.95	0.00		methylmethacrylate
20	1430	ws04	10.0	8630	20.0	12649	10472.00	11915.76		methylmethacrylate
20	1600	ws04	.3	8800	12998.0	0	183.76	0.00		methylmethacrylate
20	1600	ws04	.5	8800	1308.0	0	85.61	0.00		methylmethacrylate
20	1600	ws04	1.0	8800	101.0	0	52.88	0.00		methylmethacrylate
20	1600	ws04	2.5	8800	53.0	0	433.61	0.00		methylmethacrylate
20	1600	ws04	5.0	8800	29.0	0	1898.05	0.00		methylmethacrylate
20	1600	ws04	10.0	8800	19.0	14508	9948.40	12602.30		methylmethacrylate
20	1730	ws04	.3	8930	12984.0	0	183.56	0.00		methylmethacrylate
20	1730	ws04	.5	8930	1258.0	0	82.34	0.00		methylmethacrylate

20	1730	ws04	1.0	8930	221.0	0	115.72	0.00		methylmethacrylate
20	1730	ws04	2.5	8930	191.0	0	1562.62	0.00		methylmethacrylate
20	1730	ws04	5.0	8930	64.0	0	4188.80	0.00		methylmethacrylate
20	1730	ws04	10.0	8930	40.0	14758	20944.00	27077.03		methylmethacrylate
21	630	ws04	.3	10230	7636.0	0	107.95	0.00		general particulate
21	630	ws04	.5	10230	266.0	0	17.41	0.00		general particulate
21	630	ws04	1.0	10230	43.0	0	22.51	0.00		general particulate
21	630	ws04	2.5	10230	44.0	0	359.98	0.00		general particulate
21	630	ws04	5.0	10230	10.0	0	654.50	0.00		general particulate
21	630	ws04	10.0	10230	10.0	8009	5236.00	6398.35		general particulate
21	700	ws04	.3	10300	6873.0	0	97.16	0.00		general particulate
21	700	ws04	.5	10300	354.0	0	23.17	0.00		general particulate
21	700	ws04	1.0	10300	156.0	0	81.68	0.00		general particulate
21	700	ws04	2.5	10300	184.0	0	1505.35	0.00		general particulate
21	700	ws04	5.0	10300	83.0	0	5432.35	0.00		general particulate
21	700	ws04	10.0	10300	65.0	7715	34034.00	41173.72		general particulate
21	830	ws04	.3	10430	9422.0	0	133.20	0.00		methylmethacrylate
21	830	ws04	.5	10430	668.0	0	43.72	0.00		methylmethacrylate
21	830	ws04	1.0	10430	238.0	0	124.62	0.00		methylmethacrylate
21	830	ws04	2.5	10430	166.0	0	1358.09	0.00		methylmethacrylate
21	830	ws04	5.0	10430	86.0	0	5628.70	0.00		methylmethacrylate
21	830	ws04	10.0	10430	25.0	10605	13090.00	20378.33		methylmethacrylate
21	1000	ws04	.3	10600	11870.0	0	167.81	0.00		methylmethacrylate
21	1000	ws04	.5	10600	1663.0	0	108.84	0.00		methylmethacrylate
21	1000	ws04	1.0	10600	580.0	0	303.69	0.00		methylmethacrylate
21	1000	ws04	2.5	10600	590.0	0	4826.94	0.00		methylmethacrylate
21	1000	ws04	5.0	10600	290.0	0	18980.50	0.00		methylmethacrylate
21	1000	ws04	10.0	10600	127.0	15120	66497.20	90884.98		methylmethacrylate
21	1130	ws04	.3	10730	17623.0	0	249.14	0.00		methylmethacrylate
21	1130	ws04	.5	10730	1152.0	0	75.40	0.00		methylmethacrylate
21	1130	ws04	1.0	10730	97.0	0	50.79	0.00		methylmethacrylate
21	1130	ws04	2.5	10730	31.0	0	253.62	0.00		methylmethacrylate
21	1130	ws04	5.0	10730	8.0	0	523.60	0.00		methylmethacrylate
21	1130	ws04	10.0	10730	3.0	18914	1570.80	2723.35		methylmethacrylate
21	1300	ws04	.3	10900	14501.0	0	205.00	0.00		methylmethacrylate
21	1300	ws04	.5	10900	917.0	0	60.02	0.00		methylmethacrylate
21	1300	ws04	1.0	10900	202.0	0	105.77	0.00		methylmethacrylate
21	1300	ws04	2.5	10900	156.0	0	1276.28	0.00		methylmethacrylate
21	1300	ws04	5.0	10900	51.0	0	3337.95	0.00		methylmethacrylate
21	1300	ws04	10.0	10900	16.0	15843	8377.60	13362.61		methylmethacrylate
21	1430	ws04	.3	11030	67108.0	0	948.72	0.00		methylmethacrylate

21	1430	ws04	.5	11030	14473.0	0	947.26	0.00		methylmethacrylate
21	1430	ws04	1.0	11030	3100.0	0	1623.16	0.00		methylmethacrylate
21	1430	ws04	2.5	11030	958.0	0	7837.64	0.00		methylmethacrylate
21	1430	ws04	5.0	11030	222.0	0	14529.90	0.00		methylmethacrylate
21	1430	ws04	10.0	11030	95.0	85956	49742.00	75628.67		methylmethacrylate
21	1600	ws04	.3	11200	18310.0	0	258.85	0.00		methylmethacrylate
21	1600	ws04	.5	11200	3154.0	0	206.43	0.00		methylmethacrylate
21	1600	ws04	1.0	11200	956.0	0	500.56	0.00		methylmethacrylate
21	1600	ws04	2.5	11200	504.0	0	4123.35	0.00		methylmethacrylate
21	1600	ws04	5.0	11200	136.0	0	8901.20	0.00		methylmethacrylate
21	1600	ws04	10.0	11200	64.0	23124	33510.40	47500.79		methylmethacrylate
21	1730	ws04	.3	11330	12214.0	0	172.67	0.00		methylmethacrylate
21	1730	ws04	.5	11330	775.0	0	50.72	0.00		methylmethacrylate
21	1730	ws04	1.0	11330	136.0	0	71.21	0.00		methylmethacrylate
21	1730	ws04	2.5	11330	78.0	0	638.14	0.00		methylmethacrylate
21	1730	ws04	5.0	11330	19.0	0	1243.55	0.00		methylmethacrylate
21	1730	ws04	10.0	11330	7.0	13229	3665.20	5841.49		methylmethacrylate
17	630	ws05	.3	630	17751.0	0	250.95	0.00		general particulate
17	630	ws05	.5	630	475.0	0	31.09	0.00		general particulate
17	630	ws05	1.0	630	19.0	0	9.95	0.00		general particulate
17	630	ws05	2.5	630	10.0	0	81.81	0.00		general particulate
17	630	ws05	5.0	630	2.0	0	130.90	0.00		general particulate
17	630	ws05	10.0	630	2.0	18259	1047.20	1551.90		general particulate
17	700	ws05	.3	700	16770.0	0	237.08	0.00		general particulate
17	700	ws05	.5	700	526.0	0	34.43	0.00		general particulate
17	700	ws05	1.0	700	71.0	0	37.18	0.00		general particulate
17	700	ws05	2.5	700	39.0	0	319.07	0.00		general particulate
17	700	ws05	5.0	700	23.0	0	1505.35	0.00		general particulate
17	700	ws05	10.0	700	12.0	17441	6283.20	8416.30		general particulate
17	830	ws05	.3	830	20597.0	0	291.18	0.00		methylmethacrylate
17	830	ws05	.5	830	2270.0	0	148.57	0.00		methylmethacrylate
17	830	ws05	1.0	830	340.0	0	178.02	0.00		methylmethacrylate
17	830	ws05	2.5	830	76.0	0	621.78	0.00		methylmethacrylate
17	830	ws05	5.0	830	8.0	0	523.60	0.00		methylmethacrylate
17	830	ws05	10.0	830	4.0	23295	2094.40	3857.55		methylmethacrylate
17	1000	ws05	.3	1000	14848.0	0	209.91	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1000	ws05	.5	1000	1636.0	0	107.08	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1000	ws05	1.0	1000	531.0	0	278.03	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1000	ws05	2.5	1000	319.0	0	2609.82	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1000	ws05	5.0	1000	82.0	0	5366.90	0.00	1 pers - grinding on a nightguard	methylmethacrylate

17	1000	ws05	10.0	1000	19.0	17435	9948.40	18520.14	1 pers - grinding on a nightguard	methylmethacrylate
17	1130	ws05	.3	1130	15952.0	0	225.52	0.00		methylmethacrylate
17	1130	ws05	.5	1130	697.0	0	45.62	0.00		methylmethacrylate
17	1130	ws05	1.0	1130	72.0	0	37.70	0.00		methylmethacrylate
17	1130	ws05	2.5	1130	61.0	0	499.06	0.00		methylmethacrylate
17	1130	ws05	5.0	1130	6.0	0	392.70	0.00		methylmethacrylate
17	1130	ws05	10.0	1130	4.0	16792	2094.40	3294.99		methylmethacrylate
17	1300	ws05	.3	1300	26033.0	0	368.03	0.00		methylmethacrylate
17	1300	ws05	.5	1300	1828.0	0	119.64	0.00		methylmethacrylate
17	1300	ws05	1.0	1300	1042.0	0	545.59	0.00		methylmethacrylate
17	1300	ws05	2.5	1300	783.0	0	6405.92	0.00		methylmethacrylate
17	1300	ws05	5.0	1300	199.0	0	13024.55	0.00		methylmethacrylate
17	1300	ws05	10.0	1300	47.0	29932	24609.20	45072.94		methylmethacrylate
17	1430	ws05	.3	1430	30614.0	0	432.80	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1430	ws05	.5	1430	3224.0	0	211.01	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1430	ws05	1.0	1430	1700.0	0	890.12	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1430	ws05	2.5	1430	1374.0	0	11241.04	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1430	ws05	5.0	1430	387.0	0	25329.15	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1430	ws05	10.0	1430	128.0	37427	67020.80	105124.91	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	.3	1600	39685.0	0	561.03	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	.5	1600	2448.0	0	160.22	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	1.0	1600	405.0	0	212.06	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	2.5	1600	234.0	0	1914.41	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	5.0	1600	73.0	0	4777.85	0.00	1 pers - grinding on a nightguard	methylmethacrylate
17	1600	ws05	10.0	1600	26.0	42871	13613.60	21239.18	1 pers - grinding on a nightguard	methylmethacrylate
17	1730	ws05	.3	1730	35809.0	0	506.24	0.00		methylmethacrylate
17	1730	ws05	.5	1730	1159.0	0	75.86	0.00		methylmethacrylate
17	1730	ws05	1.0	1730	71.0	0	37.18	0.00		methylmethacrylate
17	1730	ws05	2.5	1730	40.0	0	327.25	0.00		methylmethacrylate
17	1730	ws05	5.0	1730	26.0	0	1701.70	0.00		methylmethacrylate
17	1730	ws05	10.0	1730	7.0	37112	3665.20	6313.42		methylmethacrylate
18	630	ws05	.3	3030	121800.0	0	1721.91	0.00		general particulate
18	630	ws05	.5	3030	307.0	0	20.09	0.00		general particulate
18	630	ws05	1.0	3030	27.0	0	14.14	0.00		general particulate
18	630	ws05	2.5	3030	10.0	0	81.81	0.00		general particulate
18	630	ws05	5.0	3030	2.0	0	130.90	0.00		general particulate
18	630	ws05	10.0	3030	2.0	122148	1047.20	3016.05		general particulate

18	700	ws05	.3	3100	14945.0	0	211.28	0.00		general particulate
18	700	ws05	.5	3100	533.0	0	34.88	0.00		general particulate
18	700	ws05	1.0	3100	104.0	0	54.45	0.00		general particulate
18	700	ws05	2.5	3100	87.0	0	711.77	0.00		general particulate
18	700	ws05	5.0	3100	22.0	0	1439.90	0.00		general particulate
18	700	ws05	10.0	3100	15.0	15706	7854.00	10306.29		general particulate
18	830	ws05	.3	3230	25800.0	0	364.74	0.00		gypsum
18	830	ws05	.5	3230	1754.0	0	114.80	0.00		gypsum
18	830	ws05	1.0	3230	940.0	0	492.18	0.00		gypsum
18	830	ws05	2.5	3230	744.0	0	6086.85	0.00		gypsum
18	830	ws05	5.0	3230	156.0	0	10210.20	0.00		gypsum
18	830	ws05	10.0	3230	30.0	29424	15708.00	32976.77		gypsum
18	1000	ws05	.3	3400	27982.0	0	395.59	0.00		gypsum
18	1000	ws05	.5	3400	1531.0	0	100.20	0.00		gypsum
18	1000	ws05	1.0	3400	549.0	0	287.46	0.00		gypsum
18	1000	ws05	2.5	3400	380.0	0	3108.88	0.00		gypsum
18	1000	ws05	5.0	3400	94.0	0	6152.30	0.00		gypsum
18	1000	ws05	10.0	3400	28.0	30564	14660.80	24705.22		gypsum
18	1130	ws05	.3	3530	23911.0	0	338.03	0.00		gypsum
18	1130	ws05	.5	3530	1008.0	0	65.97	0.00		gypsum
18	1130	ws05	1.0	3530	513.0	0	268.61	0.00		gypsum
18	1130	ws05	2.5	3530	373.0	0	3051.61	0.00		gypsum
18	1130	ws05	5.0	3530	93.0	0	6086.85	0.00		gypsum
18	1130	ws05	10.0	3530	28.0	25926	14660.80	24471.87		gypsum
18	1300	ws05	.3	3700	30300.0	0	428.36	0.00		gypsum
18	1300	ws05	.5	3700	1789.0	0	117.09	0.00		gypsum
18	1300	ws05	1.0	3700	731.0	0	382.75	0.00		gypsum
18	1300	ws05	2.5	3700	671.0	0	5489.62	0.00		gypsum
18	1300	ws05	5.0	3700	217.0	0	14202.65	0.00		gypsum
18	1300	ws05	10.0	3700	78.0	33786	40840.80	61461.27		gypsum
18	1430	ws05	.3	3830	86437.0	0	1221.98	0.00		gypsum
18	1430	ws05	.5	3830	17836.0	0	1167.37	0.00		gypsum
18	1430	ws05	1.0	3830	4314.0	0	2258.81	0.00		gypsum
18	1430	ws05	2.5	3830	1637.0	0	13392.71	0.00		gypsum
18	1430	ws05	5.0	3830	313.0	0	20485.85	0.00		gypsum
18	1430	ws05	10.0	3830	57.0	110594	29845.20	68371.91		gypsum
18	1600	ws05	.3	4000	35286.0	0	498.85	0.00	1 pers - grinding a nightguard	gypsum
18	1600	ws05	.5	4000	4054.0	0	265.33	0.00	1 pers - grinding a nightguard	gypsum
18	1600	ws05	1.0	4000	1238.0	0	648.22	0.00	1 pers - grinding a nightguard	gypsum
18	1600	ws05	2.5	4000	723.0	0	5915.04	0.00	1 pers - grinding a nightguard	gypsum
18	1600	ws05	5.0	4000	185.0	0	12108.25	0.00	1 pers - grinding a nightguard	gypsum

18	1600	ws05	10.0	4000	65.0	41551	34034.00	53469.69	1 pers - grinding a nightguard	gypsum
18	1730	ws05	.3	4130	22321.0	0	315.56	0.00		gypsum
18	1730	ws05	.5	4130	972.0	0	63.62	0.00		gypsum
18	1730	ws05	1.0	4130	107.0	0	56.03	0.00		gypsum
18	1730	ws05	2.5	4130	57.0	0	466.33	0.00		gypsum
18	1730	ws05	5.0	4130	26.0	0	1701.70	0.00		gypsum
18	1730	ws05	10.0	4130	11.0	23494	5759.60	8362.83		gypsum
19	630	ws05	.3	5430	5356.0	0	75.72	0.00		general particulate
19	630	ws05	.5	5430	171.0	0	11.19	0.00		general particulate
19	630	ws05	1.0	5430	15.0	0	7.85	0.00		general particulate
19	630	ws05	2.5	5430	7.0	0	57.27	0.00		general particulate
19	630	ws05	5.0	5430	8.0	0	523.60	0.00		general particulate
19	630	ws05	10.0	5430	0.0	5557	0.00	675.63		general particulate
19	700	ws05	.3	5500	4539.0	0	64.17	0.00		general particulate
19	700	ws05	.5	5500	204.0	0	13.35	0.00		general particulate
19	700	ws05	1.0	5500	59.0	0	30.89	0.00		general particulate
19	700	ws05	2.5	5500	45.0	0	368.16	0.00		general particulate
19	700	ws05	5.0	5500	12.0	0	785.40	0.00		general particulate
19	700	ws05	10.0	5500	7.0	4866	3665.20	4927.17		general particulate
19	830	ws05	.3	5630	19574.0	0	276.72	0.00		methylmethacrylate
19	830	ws05	.5	5630	4205.0	0	275.22	0.00		methylmethacrylate
19	830	ws05	1.0	5630	1048.0	0	548.73	0.00		methylmethacrylate
19	830	ws05	2.5	5630	407.0	0	3329.77	0.00		methylmethacrylate
19	830	ws05	5.0	5630	127.0	0	8312.15	0.00		methylmethacrylate
19	830	ws05	10.0	5630	46.0	25407	24085.60	36828.19		methylmethacrylate
19	1000	ws05	.3	5800	12673.0	0	179.16	0.00		methylmethacrylate
19	1000	ws05	.5	5800	1816.0	0	118.86	0.00		methylmethacrylate
19	1000	ws05	1.0	5800	615.0	0	322.01	0.00		methylmethacrylate
19	1000	ws05	2.5	5800	419.0	0	3427.94	0.00		methylmethacrylate
19	1000	ws05	5.0	5800	163.0	0	10668.35	0.00		methylmethacrylate
19	1000	ws05	10.0	5800	52.0	15738	27227.20	41943.53		methylmethacrylate
19	1130	ws05	.3	5930	9045.0	0	127.87	0.00		methylmethacrylate
19	1130	ws05	.5	5930	435.0	0	28.47	0.00		methylmethacrylate
19	1130	ws05	1.0	5930	154.0	0	80.63	0.00		methylmethacrylate
19	1130	ws05	2.5	5930	134.0	0	1096.29	0.00		methylmethacrylate
19	1130	ws05	5.0	5930	23.0	0	1505.35	0.00		methylmethacrylate
19	1130	ws05	10.0	5930	7.0	9798	3665.20	6503.81		methylmethacrylate
19	1300	ws05	.3	6100	9116.0	0	128.87	0.00		methylmethacrylate
19	1300	ws05	.5	6100	1016.0	0	66.50	0.00		methylmethacrylate
19	1300	ws05	1.0	6100	697.0	0	364.95	0.00		methylmethacrylate
19	1300	ws05	2.5	6100	607.0	0	4966.02	0.00		methylmethacrylate

19	1300	ws05	5.0	6100	157.0	0	10275.65	0.00		methylmethacrylate
19	1300	ws05	10.0	6100	34.0	11627	17802.40	33604.39		methylmethacrylate
19	1430	ws05	.3	6230	42287.0	0	597.82	0.00		methylmethacrylate
19	1430	ws05	.5	6230	7574.0	0	495.72	0.00		methylmethacrylate
19	1430	ws05	1.0	6230	1493.0	0	781.73	0.00		methylmethacrylate
19	1430	ws05	2.5	6230	611.0	0	4998.74	0.00		methylmethacrylate
19	1430	ws05	5.0	6230	196.0	0	12828.20	0.00		methylmethacrylate
19	1430	ws05	10.0	6230	98.0	52259	51312.80	71015.02		methylmethacrylate
19	1600	ws05	.3	6400	21522.0	0	304.26	0.00		methylmethacrylate
19	1600	ws05	.5	6400	3172.0	0	207.61	0.00		methylmethacrylate
19	1600	ws05	1.0	6400	1078.0	0	564.44	0.00		methylmethacrylate
19	1600	ws05	2.5	6400	693.0	0	5669.61	0.00		methylmethacrylate
19	1600	ws05	5.0	6400	131.0	0	8573.95	0.00		methylmethacrylate
19	1600	ws05	10.0	6400	33.0	26629	17278.80	32598.67		methylmethacrylate
19	1730	ws05	.3	6530	17588.0	0	248.65	0.00		methylmethacrylate
19	1730	ws05	.5	6530	583.0	0	38.16	0.00		methylmethacrylate
19	1730	ws05	1.0	6530	104.0	0	54.45	0.00		methylmethacrylate
19	1730	ws05	2.5	6530	79.0	0	646.32	0.00		methylmethacrylate
19	1730	ws05	5.0	6530	28.0	0	1832.60	0.00		methylmethacrylate
19	1730	ws05	10.0	6530	12.0	18394	6283.20	9103.38		methylmethacrylate
20	630	ws05	.3	7830	10007.0	0	141.47	0.00		general particulate
20	630	ws05	.5	7830	447.0	0	29.26	0.00		general particulate
20	630	ws05	1.0	7830	14.0	0	7.33	0.00		general particulate
20	630	ws05	2.5	7830	10.0	0	81.81	0.00		general particulate
20	630	ws05	5.0	7830	1.0	0	65.45	0.00		general particulate
20	630	ws05	10.0	7830	0.0	10479	0.00	325.32		general particulate
20	700	ws05	.3	7900	8698.0	0	122.97	0.00		general particulate
20	700	ws05	.5	7900	586.0	0	38.35	0.00		general particulate
20	700	ws05	1.0	7900	162.0	0	84.82	0.00		general particulate
20	700	ws05	2.5	7900	163.0	0	1333.54	0.00		general particulate
20	700	ws05	5.0	7900	64.0	0	4188.80	0.00		general particulate
20	700	ws05	10.0	7900	23.0	9696	12042.80	17811.29		general particulate
20	830	ws05	.3	8030	9651.0	0	136.44	0.00		methylmethacrylate
20	830	ws05	.5	8030	687.0	0	44.96	0.00		methylmethacrylate
20	830	ws05	1.0	8030	192.0	0	100.53	0.00		methylmethacrylate
20	830	ws05	2.5	8030	135.0	0	1104.47	0.00		methylmethacrylate
20	830	ws05	5.0	8030	30.0	0	1963.50	0.00		methylmethacrylate
20	830	ws05	10.0	8030	10.0	10705	5236.00	8585.90		methylmethacrylate
20	1000	ws05	.3	8200	120604.0	0	1705.00	0.00		methylmethacrylate
20	1000	ws05	.5	8200	1005.0	0	65.78	0.00		methylmethacrylate
20	1000	ws05	1.0	8200	233.0	0	122.00	0.00		methylmethacrylate

20	1000	ws05	2.5	8200	143.0	0	1169.92	0.00		methylmethacrylate
20	1000	ws05	5.0	8200	30.0	0	1963.50	0.00		methylmethacrylate
20	1000	ws05	10.0	8200	11.0	122026	5759.60	10785.80		methylmethacrylate
20	1130	ws05	.3	8330	15848.0	0	224.05	0.00		methylmethacrylate
20	1130	ws05	.5	8330	8196.0	0	536.43	0.00		methylmethacrylate
20	1130	ws05	1.0	8330	3471.0	0	1817.42	0.00		methylmethacrylate
20	1130	ws05	2.5	8330	1015.0	0	8303.97	0.00		methylmethacrylate
20	1130	ws05	5.0	8330	92.0	0	6021.40	0.00		methylmethacrylate
20	1130	ws05	10.0	8330	35.0	28657	18326.00	35229.26		methylmethacrylate
20	1300	ws05	.3	8500	14313.0	0	202.35	0.00		methylmethacrylate
20	1300	ws05	.5	8500	1461.0	0	95.62	0.00		methylmethacrylate
20	1300	ws05	1.0	8500	66.0	0	34.56	0.00		methylmethacrylate
20	1300	ws05	2.5	8500	28.0	0	229.08	0.00		methylmethacrylate
20	1300	ws05	5.0	8500	11.0	0	719.95	0.00		methylmethacrylate
20	1300	ws05	10.0	8500	11.0	15890	5759.60	7041.15		methylmethacrylate
20	1430	ws05	.3	8630	12162.0	0	171.94	0.00		methylmethacrylate
20	1430	ws05	.5	8630	1382.0	0	90.45	0.00		methylmethacrylate
20	1430	ws05	1.0	8630	71.0	0	37.18	0.00		methylmethacrylate
20	1430	ws05	2.5	8630	59.0	0	482.69	0.00		methylmethacrylate
20	1430	ws05	5.0	8630	19.0	0	1243.55	0.00		methylmethacrylate
20	1430	ws05	10.0	8630	10.0	13703	5236.00	7261.81		methylmethacrylate
20	1600	ws05	.3	8800	13633.0	0	192.73	0.00		methylmethacrylate
20	1600	ws05	.5	8800	1381.0	0	90.39	0.00		methylmethacrylate
20	1600	ws05	1.0	8800	103.0	0	53.93	0.00		methylmethacrylate
20	1600	ws05	2.5	8800	46.0	0	376.34	0.00		methylmethacrylate
20	1600	ws05	5.0	8800	12.0	0	785.40	0.00		methylmethacrylate
20	1600	ws05	10.0	8800	4.0	15179	2094.40	3593.19		methylmethacrylate
20	1730	ws05	.3	8930	13123.0	0	185.52	0.00		methylmethacrylate
20	1730	ws05	.5	8930	1115.0	0	72.98	0.00		methylmethacrylate
20	1730	ws05	1.0	8930	155.0	0	81.16	0.00		methylmethacrylate
20	1730	ws05	2.5	8930	110.0	0	899.94	0.00		methylmethacrylate
20	1730	ws05	5.0	8930	27.0	0	1767.15	0.00		methylmethacrylate
20	1730	ws05	10.0	8930	12.0	14542	6283.20	9289.94		methylmethacrylate
21	630	ws05	.3	10230	7603.0	0	107.49	0.00		general particulate
21	630	ws05	.5	10230	341.0	0	22.32	0.00		general particulate
21	630	ws05	1.0	10230	46.0	0	24.09	0.00		general particulate
21	630	ws05	2.5	10230	40.0	0	327.25	0.00		general particulate
21	630	ws05	5.0	10230	13.0	0	850.85	0.00		general particulate
21	630	ws05	10.0	10230	15.0	8058	7854.00	9185.99		general particulate
21	700	ws05	.3	10300	7188.0	0	101.62	0.00		general particulate
21	700	ws05	.5	10300	328.0	0	21.47	0.00		general particulate

21	700	ws05	1.0	10300	66.0	0	34.56	0.00		general particulate
21	700	ws05	2.5	10300	85.0	0	695.41	0.00		general particulate
21	700	ws05	5.0	10300	24.0	0	1570.80	0.00		general particulate
21	700	ws05	10.0	10300	17.0	7708	8901.20	11325.05		general particulate
21	830	ws05	.3	10430	18592.0	0	262.84	0.00		methylmethacrylate
21	830	ws05	.5	10430	1604.0	0	104.98	0.00		methylmethacrylate
21	830	ws05	1.0	10430	297.0	0	155.51	0.00		methylmethacrylate
21	830	ws05	2.5	10430	198.0	0	1619.89	0.00		methylmethacrylate
21	830	ws05	5.0	10430	96.0	0	6283.20	0.00		methylmethacrylate
21	830	ws05	10.0	10430	47.0	20834	24609.20	33035.62		methylmethacrylate
21	1000	ws05	.3	10600	11460.0	0	162.01	0.00		methylmethacrylate
21	1000	ws05	.5	10600	1217.0	0	79.65	0.00		methylmethacrylate
21	1000	ws05	1.0	10600	243.0	0	127.23	0.00		methylmethacrylate
21	1000	ws05	2.5	10600	180.0	0	1472.63	0.00		methylmethacrylate
21	1000	ws05	5.0	10600	58.0	0	3796.10	0.00		methylmethacrylate
21	1000	ws05	10.0	10600	38.0	13196	19896.80	25534.42		methylmethacrylate
21	1130	ws05	.3	10730	18156.0	0	256.68	0.00		methylmethacrylate
21	1130	ws05	.5	10730	1229.0	0	80.44	0.00		methylmethacrylate
21	1130	ws05	1.0	10730	83.0	0	43.46	0.00		methylmethacrylate
21	1130	ws05	2.5	10730	38.0	0	310.89	0.00		methylmethacrylate
21	1130	ws05	5.0	10730	8.0	0	523.60	0.00		methylmethacrylate
21	1130	ws05	10.0	10730	4.0	19518	2094.40	3309.46		methylmethacrylate
21	1300	ws05	.3	10900	15153.0	0	214.22	0.00		methylmethacrylate
21	1300	ws05	.5	10900	790.0	0	51.71	0.00		methylmethacrylate
21	1300	ws05	1.0	10900	141.0	0	73.83	0.00		methylmethacrylate
21	1300	ws05	2.5	10900	70.0	0	572.69	0.00		methylmethacrylate
21	1300	ws05	5.0	10900	26.0	0	1701.70	0.00		methylmethacrylate
21	1300	ws05	10.0	10900	9.0	16189	4712.40	7326.54		methylmethacrylate
21	1430	ws05	.3	11030	100984.0	0	1427.63	0.00	1 pers - sawing cast without suction	gypsum
21	1430	ws05	.5	11030	28351.0	0	1855.57	0.00	1 pers - sawing cast without suction	gypsum
21	1430	ws05	1.0	11030	6860.0	0	3591.90	0.00	1 pers - sawing cast without suction	gypsum
21	1430	ws05	2.5	11030	2603.0	0	21295.79	0.00	1 pers - sawing cast without suction	gypsum
21	1430	ws05	5.0	11030	981.0	0	64206.45	0.00	1 pers - sawing cast without suction	gypsum
21	1430	ws05	10.0	11030	534.0	140313	279602.40	371979.74	1 pers - sawing cast without suction	gypsum
21	1600	ws05	.3	11200	18498.0	0	261.51	0.00	1 pers - sawing cast without suction	gypsum
21	1600	ws05	.5	11200	5616.0	0	367.57	0.00	1 pers - sawing cast without suction	gypsum
21	1600	ws05	1.0	11200	4004.0	0	2096.49	0.00	1 pers - sawing cast without suction	gypsum
21	1600	ws05	2.5	11200	3927.0	0	32127.77	0.00	1 pers - sawing cast without suction	gypsum

21	1600	ws05	5.0	11200	2094.0	0	137052.30	0.00	1 pers - sawing cast without suction	gypsum
21	1600	ws05	10.0	11200	1084.0	35223	567582.40	739488.04	1 pers - sawing cast without suction	gypsum
21	1730	ws05	.3	11330	12165.0	0	171.98	0.00		gypsum
21	1730	ws05	.5	11330	629.0	0	41.17	0.00		gypsum
21	1730	ws05	1.0	11330	127.0	0	66.50	0.00		gypsum
21	1730	ws05	2.5	11330	71.0	0	580.87	0.00		gypsum
21	1730	ws05	5.0	11330	12.0	0	785.40	0.00		gypsum
21	1730	ws05	10.0	11330	9.0	13013	4712.40	6358.31		gypsum
17	630	ws06	.3	630	16061.0	0	227.06	0.00		general particulate
17	630	ws06	.5	630	409.0	0	26.77	0.00		general particulate
17	630	ws06	1.0	630	18.0	0	9.42	0.00		general particulate
17	630	ws06	2.5	630	7.0	0	57.27	0.00		general particulate
17	630	ws06	5.0	630	2.0	0	130.90	0.00		general particulate
17	630	ws06	10.0	630	0.0	16497	0.00	451.42		general particulate
17	700	ws06	.3	700	16252.0	0	229.76	0.00		general particulate
17	700	ws06	.5	700	484.0	0	31.68	0.00		general particulate
17	700	ws06	1.0	700	35.0	0	18.33	0.00		general particulate
17	700	ws06	2.5	700	27.0	0	220.89	0.00		general particulate
17	700	ws06	5.0	700	5.0	0	327.25	0.00		general particulate
17	700	ws06	10.0	700	7.0	16810	3665.20	4493.11		general particulate
17	830	ws06	.3	830	17060.0	0	241.18	0.00		gypsum
17	830	ws06	.5	830	1537.0	0	100.60	0.00		gypsum
17	830	ws06	1.0	830	194.0	0	101.58	0.00		gypsum
17	830	ws06	2.5	830	54.0	0	441.79	0.00		gypsum
17	830	ws06	5.0	830	7.0	0	458.15	0.00		gypsum
17	830	ws06	10.0	830	5.0	18857	2618.00	3961.29		gypsum
17	1000	ws06	.3	1000	12510.0	0	176.86	0.00		gypsum
17	1000	ws06	.5	1000	1166.0	0	76.31	0.00		gypsum
17	1000	ws06	1.0	1000	357.0	0	186.93	0.00		gypsum
17	1000	ws06	2.5	1000	248.0	0	2028.95	0.00		gypsum
17	1000	ws06	5.0	1000	57.0	0	3730.65	0.00		gypsum
17	1000	ws06	10.0	1000	8.0	14346	4188.80	10388.50		gypsum
17	1130	ws06	.3	1130	15843.0	0	223.98	0.00		gypsum
17	1130	ws06	.5	1130	1332.0	0	87.18	0.00		gypsum
17	1130	ws06	1.0	1130	663.0	0	347.15	0.00		gypsum
17	1130	ws06	2.5	1130	608.0	0	4974.20	0.00		gypsum
17	1130	ws06	5.0	1130	216.0	0	14137.20	0.00		gypsum
17	1130	ws06	10.0	1130	175.0	18837	91630.00	111399.70		gypsum
17	1300	ws06	.3	1300	31883.0	0	450.74	0.00	1 pers - just started dispensing stone	gypsum
17	1300	ws06	.5	1300	18007.0	0	1178.56	0.00	1 pers - just started dispensing stone	gypsum

17	1300	ws06	1.0	1300	25487.0	0	13344.99	0.00	1 pers - just started dispensing stone	gypsum
17	1300	ws06	2.5	1300	24977.0	0	204343.08	0.00	1 pers - just started dispensing stone	gypsum
17	1300	ws06	5.0	1300	6926.0	0	453306.70	0.00	1 pers - just started dispensing stone	gypsum
17	1300	ws06	10.0	1300	15468.0	122748	8099044.80	8771668.87	1 pers - just started dispensing stone	gypsum
17	1430	ws06	.3	1430	143591.0	0	2029.97	0.00	1 pers - just left prior to sample	gypsum
17	1430	ws06	.5	1430	31698.0	0	2074.63	0.00	1 pers - just left prior to sample	gypsum
17	1430	ws06	1.0	1430	5612.0	0	2938.44	0.00	1 pers - just left prior to sample	gypsum
17	1430	ws06	2.5	1430	1223.0	0	10005.67	0.00	1 pers - just left prior to sample	gypsum
17	1430	ws06	5.0	1430	141.0	0	9228.45	0.00	1 pers - just left prior to sample	gypsum
17	1430	ws06	10.0	1430	55.0	182320	28798.00	55075.17	1 pers - just left prior to sample	gypsum
17	1600	ws06	.3	1600	36831.0	0	520.69	0.00		gypsum
17	1600	ws06	.5	1600	1415.0	0	92.61	0.00		gypsum
17	1600	ws06	1.0	1600	232.0	0	121.48	0.00		gypsum
17	1600	ws06	2.5	1600	197.0	0	1611.71	0.00		gypsum
17	1600	ws06	5.0	1600	72.0	0	4712.40	0.00		gypsum
17	1600	ws06	10.0	1600	24.0	38771	12566.40	19625.28		gypsum
17	1730	ws06	.3	1730	35052.0	0	495.54	0.00		gypsum
17	1730	ws06	.5	1730	1116.0	0	73.04	0.00		gypsum
17	1730	ws06	1.0	1730	70.0	0	36.65	0.00		gypsum
17	1730	ws06	2.5	1730	51.0	0	417.24	0.00		gypsum
17	1730	ws06	5.0	1730	14.0	0	916.30	0.00		gypsum
17	1730	ws06	10.0	1730	9.0	36312	4712.40	6651.18		gypsum
18	630	ws06	.3	3030	11279.0	0	159.45	0.00		general particulate
18	630	ws06	.5	3030	254.0	0	16.62	0.00		general particulate
18	630	ws06	1.0	3030	40.0	0	20.94	0.00		general particulate
18	630	ws06	2.5	3030	25.0	0	204.53	0.00		general particulate
18	630	ws06	5.0	3030	5.0	0	327.25	0.00		general particulate
18	630	ws06	10.0	3030	5.0	11608	2618.00	3346.80		general particulate
18	700	ws06	.3	3100	14912.0	0	210.81	0.00		general particulate
18	700	ws06	.5	3100	488.0	0	31.94	0.00		general particulate
18	700	ws06	1.0	3100	136.0	0	71.21	0.00		general particulate
18	700	ws06	2.5	3100	124.0	0	1014.48	0.00		general particulate
18	700	ws06	5.0	3100	48.0	0	3141.60	0.00		general particulate
18	700	ws06	10.0	3100	38.0	15746	19896.80	24366.84		general particulate
18	830	ws06	.3	3230	48543.0	0	686.26	0.00	1 pers-operating buffstone dispenser	gypsum
18	830	ws06	.5	3230	46476.0	0	3041.85	0.00	1 pers-operating buffstone dispenser	gypsum
18	830	ws06	1.0	3230	65385.0	0	34235.59	0.00	1 pers-operating buffstone dispenser	gypsum
18	830	ws06	2.5	3230	79302.0	0	648789.49	0.00	1 pers-operating buffstone dispenser	gypsum

18	830	ws06	5.0	3230	24974.0	0	1634548.30	0.00	1 pers-operating buffstone dispenser	gypsum
18	830	ws06	10.0	3230	49812.0	314492	26081563.20	28402864.69	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	.3	3400	34172.0	0	483.10	0.00	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	.5	3400	54391.0	0	3559.89	0.00	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	1.0	3400	81510.0	0	42678.64	0.00	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	2.5	3400	85882.0	0	702622.11	0.00	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	5.0	3400	26540.0	0	1737043.00	0.00	1 pers-operating buffstone dispenser	gypsum
18	1000	ws06	10.0	3400	61235.0	343730	32062646.00	34549032.74	1 pers-operating buffstone dispenser	gypsum
18	1130	ws06	.3	3530	21508.0	0	304.06	0.00		gypsum
18	1130	ws06	.5	3530	796.0	0	52.10	0.00		gypsum
18	1130	ws06	1.0	3530	303.0	0	158.65	0.00		gypsum
18	1130	ws06	2.5	3530	287.0	0	2348.02	0.00		gypsum
18	1130	ws06	5.0	3530	68.0	0	4450.60	0.00		gypsum
18	1130	ws06	10.0	3530	15.0	22977	7854.00	15167.43		gypsum
18	1300	ws06	.3	3700	27703.0	0	391.64	0.00	1 pers - pouring impression	gypsum
18	1300	ws06	.5	3700	1416.0	0	92.68	0.00	1 pers - pouring impression	gypsum
18	1300	ws06	1.0	3700	796.0	0	416.79	0.00	1 pers - pouring impression	gypsum
18	1300	ws06	2.5	3700	672.0	0	5497.80	0.00	1 pers - pouring impression	gypsum
18	1300	ws06	5.0	3700	193.0	0	12631.85	0.00	1 pers - pouring impression	gypsum
18	1300	ws06	10.0	3700	41.0	30821	21467.60	40498.36	1 pers - pouring impression	gypsum
18	1430	ws06	.3	3830	163744.0	0	2314.88	0.00	0 pers - several models just poured	gypsum
18	1430	ws06	.5	3830	39485.0	0	2584.29	0.00	0 pers - several models just poured	gypsum
18	1430	ws06	1.0	3830	8489.0	0	4444.84	0.00	0 pers - several models just poured	gypsum
18	1430	ws06	2.5	3830	2129.0	0	17417.88	0.00	0 pers - several models just poured	gypsum
18	1430	ws06	5.0	3830	278.0	0	18195.10	0.00	0 pers - several models just poured	gypsum
18	1430	ws06	10.0	3830	46.0	214171	24085.60	69042.60	0 pers - several models just poured	gypsum
18	1600	ws06	.3	4000	32014.0	0	452.59	0.00		gypsum
18	1600	ws06	.5	4000	3130.0	0	204.86	0.00		gypsum
18	1600	ws06	1.0	4000	924.0	0	483.81	0.00		gypsum
18	1600	ws06	2.5	4000	536.0	0	4385.15	0.00		gypsum
18	1600	ws06	5.0	4000	95.0	0	6217.75	0.00		gypsum
18	1600	ws06	10.0	4000	28.0	36727	14660.80	26404.95		gypsum
18	1730	ws06	.3	4130	21819.0	0	308.46	0.00		gypsum
18	1730	ws06	.5	4130	1043.0	0	68.26	0.00		gypsum
18	1730	ws06	1.0	4130	91.0	0	47.65	0.00		gypsum
18	1730	ws06	2.5	4130	40.0	0	327.25	0.00		gypsum

18	1730	ws06	5.0	4130	10.0	0	654.50	0.00		gypsum
18	1730	ws06	10.0	4130	4.0	23007	2094.40	3500.52		gypsum
19	630	ws06	.3	5430	4954.0	0	70.04	0.00		general particulate
19	630	ws06	.5	5430	148.0	0	9.69	0.00		general particulate
19	630	ws06	1.0	5430	30.0	0	15.71	0.00		general particulate
19	630	ws06	2.5	5430	8.0	0	65.45	0.00		general particulate
19	630	ws06	5.0	5430	2.0	0	130.90	0.00		general particulate
19	630	ws06	10.0	5430	2.0	5144	1047.20	1338.98		general particulate
19	700	ws06	.3	5500	4764.0	0	67.35	0.00		general particulate
19	700	ws06	.5	5500	324.0	0	21.21	0.00		general particulate
19	700	ws06	1.0	5500	196.0	0	102.63	0.00		general particulate
19	700	ws06	2.5	5500	172.0	0	1407.18	0.00		general particulate
19	700	ws06	5.0	5500	54.0	0	3534.30	0.00		general particulate
19	700	ws06	10.0	5500	15.0	5525	7854.00	12986.66		general particulate
19	830	ws06	.3	5630	11812.0	0	166.99	0.00		gypsum
19	830	ws06	.5	5630	2190.0	0	143.34	0.00		gypsum
19	830	ws06	1.0	5630	617.0	0	323.06	0.00		gypsum
19	830	ws06	2.5	5630	423.0	0	3460.67	0.00		gypsum
19	830	ws06	5.0	5630	198.0	0	12959.10	0.00		gypsum
19	830	ws06	10.0	5630	162.0	15402	84823.20	101876.35		gypsum
19	1000	ws06	.3	5800	9934.0	0	140.44	0.00	1 pers - pouring impression	gypsum
19	1000	ws06	.5	5800	1122.0	0	73.43	0.00	1 pers - pouring impression	gypsum
19	1000	ws06	1.0	5800	363.0	0	190.07	0.00	1 pers - pouring impression	gypsum
19	1000	ws06	2.5	5800	235.0	0	1922.59	0.00	1 pers - pouring impression	gypsum
19	1000	ws06	5.0	5800	63.0	0	4123.35	0.00	1 pers - pouring impression	gypsum
19	1000	ws06	10.0	5800	25.0	11742	13090.00	19539.88	1 pers - pouring impression	gypsum
19	1130	ws06	.3	5930	8081.0	0	114.24	0.00		gypsum
19	1130	ws06	.5	5930	382.0	0	25.00	0.00		gypsum
19	1130	ws06	1.0	5930	112.0	0	58.64	0.00		gypsum
19	1130	ws06	2.5	5930	88.0	0	719.95	0.00		gypsum
19	1130	ws06	5.0	5930	23.0	0	1505.35	0.00		gypsum
19	1130	ws06	10.0	5930	5.0	8691	2618.00	5041.19		gypsum
19	1300	ws06	.3	6100	953.0	0	13.47	0.00	1 pers - pouring impression	gypsum
19	1300	ws06	.5	6100	1009.0	0	66.04	0.00	1 pers - pouring impression	gypsum
19	1300	ws06	1.0	6100	592.0	0	309.97	0.00	1 pers - pouring impression	gypsum
19	1300	ws06	2.5	6100	415.0	0	3395.22	0.00	1 pers - pouring impression	gypsum
19	1300	ws06	5.0	6100	125.0	0	8181.25	0.00	1 pers - pouring impression	gypsum
19	1300	ws06	10.0	6100	33.0	3127	17278.80	29244.75	1 pers - pouring impression	gypsum
19	1430	ws06	.3	6230	12287.0	0	173.70	0.00		gypsum
19	1430	ws06	.5	6230	959.0	0	62.77	0.00		gypsum
19	1430	ws06	1.0	6230	346.0	0	181.17	0.00		gypsum

19	1430	ws06	2.5	6230	325.0	0	2658.91	0.00		gypsum
19	1430	ws06	5.0	6230	172.0	0	11257.40	0.00		gypsum
19	1430	ws06	10.0	6230	103.0	14192	53930.80	68264.74		gypsum
19	1600	ws06	.3	6400	19906.0	0	281.42	0.00	1 pers - pouring impression	gypsum
19	1600	ws06	.5	6400	4487.0	0	293.67	0.00	1 pers - pouring impression	gypsum
19	1600	ws06	1.0	6400	3629.0	0	1900.14	0.00	1 pers - pouring impression	gypsum
19	1600	ws06	2.5	6400	3058.0	0	25018.26	0.00	1 pers - pouring impression	gypsum
19	1600	ws06	5.0	6400	625.0	0	40906.25	0.00	1 pers - pouring impression	gypsum
19	1600	ws06	10.0	6400	97.0	31802	50789.20	119188.95	1 pers - pouring impression	gypsum
19	1730	ws06	.3	6530	16535.0	0	233.76	0.00		gypsum
19	1730	ws06	.5	6530	570.0	0	37.31	0.00		gypsum
19	1730	ws06	1.0	6530	92.0	0	48.17	0.00		gypsum
19	1730	ws06	2.5	6530	107.0	0	875.39	0.00		gypsum
19	1730	ws06	5.0	6530	29.0	0	1898.05	0.00		gypsum
19	1730	ws06	10.0	6530	2.0	17335	1047.20	4139.88		gypsum
20	630	ws06	.3	7830	9618.0	0	135.97	0.00		general particulate
20	630	ws06	.5	7830	340.0	0	22.25	0.00		general particulate
20	630	ws06	1.0	7830	18.0	0	9.42	0.00		general particulate
20	630	ws06	2.5	7830	7.0	0	57.27	0.00		general particulate
20	630	ws06	5.0	7830	1.0	0	65.45	0.00		general particulate
20	630	ws06	10.0	7830	3.0	9987	1570.80	1861.17		general particulate
20	700	ws06	.3	7900	8784.0	0	124.18	0.00		general particulate
20	700	ws06	.5	7900	579.0	0	37.90	0.00		general particulate
20	700	ws06	1.0	7900	137.0	0	71.73	0.00		general particulate
20	700	ws06	2.5	7900	82.0	0	670.86	0.00		general particulate
20	700	ws06	5.0	7900	23.0	0	1505.35	0.00		general particulate
20	700	ws06	10.0	7900	17.0	9622	8901.20	11311.22		general particulate
20	830	ws06	.3	8030	9873.0	0	139.58	0.00	1 pers - just finished mixing	gypsum
20	830	ws06	.5	8030	708.0	0	46.34	0.00	1 pers - just finished mixing	gypsum
20	830	ws06	1.0	8030	195.0	0	102.10	0.00	1 pers - just finished mixing	gypsum
20	830	ws06	2.5	8030	148.0	0	1210.83	0.00	1 pers - just finished mixing	gypsum
20	830	ws06	5.0	8030	62.0	0	4057.90	0.00	1 pers - just finished mixing	gypsum
20	830	ws06	10.0	8030	28.0	11014	14660.80	20217.54	1 pers - just finished mixing	gypsum
20	1000	ws06	.3	8200	12201.0	0	172.49	0.00		gypsum
20	1000	ws06	.5	8200	918.0	0	60.08	0.00		gypsum
20	1000	ws06	1.0	8200	105.0	0	54.98	0.00		gypsum
20	1000	ws06	2.5	8200	106.0	0	867.21	0.00		gypsum
20	1000	ws06	5.0	8200	15.0	0	981.75	0.00		gypsum
20	1000	ws06	10.0	8200	12.0	13357	6283.20	8419.71		gypsum
20	1130	ws06	.3	8330	10901.0	0	154.11	0.00		gypsum
20	1130	ws06	.5	8330	1674.0	0	109.56	0.00		gypsum

20	1130	ws06	1.0	8330	490.0	0	256.56	0.00		gypsum
20	1130	ws06	2.5	8330	144.0	0	1178.10	0.00		gypsum
20	1130	ws06	5.0	8330	16.0	0	1047.20	0.00		gypsum
20	1130	ws06	10.0	8330	10.0	13235	5236.00	7981.54		gypsum
20	1300	ws06	.3	8500	14014.0	0	198.12	0.00		gypsum
20	1300	ws06	.5	8500	1420.0	0	92.94	0.00		gypsum
20	1300	ws06	1.0	8500	74.0	0	38.75	0.00		gypsum
20	1300	ws06	2.5	8500	21.0	0	171.81	0.00		gypsum
20	1300	ws06	5.0	8500	4.0	0	261.80	0.00		gypsum
20	1300	ws06	10.0	8500	7.0	15540	3665.20	4428.61		gypsum
20	1430	ws06	.3	8630	11840.0	0	167.38	0.00		gypsum
20	1430	ws06	.5	8630	1375.0	0	89.99	0.00		gypsum
20	1430	ws06	1.0	8630	53.0	0	27.75	0.00		gypsum
20	1430	ws06	2.5	8630	34.0	0	278.16	0.00		gypsum
20	1430	ws06	5.0	8630	7.0	0	458.15	0.00		gypsum
20	1430	ws06	10.0	8630	5.0	13314	2618.00	3639.44		gypsum
20	1600	ws06	.3	8800	12122.0	0	171.37	0.00		gypsum
20	1600	ws06	.5	8800	1283.0	0	83.97	0.00		gypsum
20	1600	ws06	1.0	8800	90.0	0	47.12	0.00		gypsum
20	1600	ws06	2.5	8800	39.0	0	319.07	0.00		gypsum
20	1600	ws06	5.0	8800	15.0	0	981.75	0.00		gypsum
20	1600	ws06	10.0	8800	3.0	13552	1570.80	3174.09		gypsum
20	1730	ws06	.3	8930	10916.0	0	154.32	0.00		gypsum
20	1730	ws06	.5	8930	773.0	0	50.59	0.00		gypsum
20	1730	ws06	1.0	8930	124.0	0	64.93	0.00		gypsum
20	1730	ws06	2.5	8930	91.0	0	744.49	0.00		gypsum
20	1730	ws06	5.0	8930	30.0	0	1963.50	0.00		gypsum
20	1730	ws06	10.0	8930	20.0	11954	10472.00	13449.83		gypsum
21	630	ws06	.3	10230	7611.0	0	107.60	0.00		general particulate
21	630	ws06	.5	10230	294.0	0	19.24	0.00		general particulate
21	630	ws06	1.0	10230	15.0	0	7.85	0.00		general particulate
21	630	ws06	2.5	10230	9.0	0	73.63	0.00		general particulate
21	630	ws06	5.0	10230	4.0	0	261.80	0.00		general particulate
21	630	ws06	10.0	10230	2.0	7935	1047.20	1517.33		general particulate
21	700	ws06	.3	10300	7865.0	0	111.19	0.00		general particulate
21	700	ws06	.5	10300	378.0	0	24.74	0.00		general particulate
21	700	ws06	1.0	10300	40.0	0	20.94	0.00		general particulate
21	700	ws06	2.5	10300	52.0	0	425.43	0.00		general particulate
21	700	ws06	5.0	10300	15.0	0	981.75	0.00		general particulate
21	700	ws06	10.0	10300	6.0	8356	3141.60	4705.65		general particulate
21	830	ws06	.3	10430	9028.0	0	127.63	0.00		gypsum

21	830	ws06	.5	10430	504.0	0	32.99	0.00		gypsum
21	830	ws06	1.0	10430	147.0	0	76.97	0.00		gypsum
21	830	ws06	2.5	10430	102.0	0	834.49	0.00		gypsum
21	830	ws06	5.0	10430	52.0	0	3403.40	0.00		gypsum
21	830	ws06	10.0	10430	18.0	9851	9424.80	13900.27		gypsum
21	1000	ws06	.3	10600	11787.0	0	166.64	0.00	1 pers - pouring impression	gypsum
21	1000	ws06	.5	10600	1131.0	0	74.02	0.00	1 pers - pouring impression	gypsum
21	1000	ws06	1.0	10600	169.0	0	88.49	0.00	1 pers - pouring impression	gypsum
21	1000	ws06	2.5	10600	103.0	0	842.67	0.00	1 pers - pouring impression	gypsum
21	1000	ws06	5.0	10600	35.0	0	2290.75	0.00	1 pers - pouring impression	gypsum
21	1000	ws06	10.0	10600	12.0	13237	6283.20	9745.77	1 pers - pouring impression	gypsum
21	1130	ws06	.3	10730	17719.0	0	250.50	0.00		gypsum
21	1130	ws06	.5	10730	1171.0	0	76.64	0.00		gypsum
21	1130	ws06	1.0	10730	55.0	0	28.80	0.00		gypsum
21	1130	ws06	2.5	10730	23.0	0	188.17	0.00		gypsum
21	1130	ws06	5.0	10730	7.0	0	458.15	0.00		gypsum
21	1130	ws06	10.0	10730	8.0	18983	4188.80	5191.06		gypsum
21	1300	ws06	.3	10900	19619.0	0	277.36	0.00		gypsum
21	1300	ws06	.5	10900	3937.0	0	257.68	0.00		gypsum
21	1300	ws06	1.0	10900	1121.0	0	586.96	0.00		gypsum
21	1300	ws06	2.5	10900	314.0	0	2568.91	0.00		gypsum
21	1300	ws06	5.0	10900	80.0	0	5236.00	0.00		gypsum
21	1300	ws06	10.0	10900	16.0	25087	8377.60	17304.50		gypsum
21	1430	ws06	.3	11030	39455.0	0	557.78	0.00		gypsum
21	1430	ws06	.5	11030	9599.0	0	628.25	0.00		gypsum
21	1430	ws06	1.0	11030	2630.0	0	1377.07	0.00		gypsum
21	1430	ws06	2.5	11030	1270.0	0	10390.19	0.00		gypsum
21	1430	ws06	5.0	11030	450.0	0	29452.50	0.00		gypsum
21	1430	ws06	10.0	11030	165.0	53569	86394.00	128799.79		gypsum
21	1600	ws06	.3	11200	24144.0	0	341.33	0.00		gypsum
21	1600	ws06	.5	11200	3874.0	0	253.55	0.00		gypsum
21	1600	ws06	1.0	11200	1594.0	0	834.62	0.00		gypsum
21	1600	ws06	2.5	11200	938.0	0	7674.01	0.00		gypsum
21	1600	ws06	5.0	11200	205.0	0	13417.25	0.00		gypsum
21	1600	ws06	10.0	11200	45.0	30800	23562.00	46082.76		gypsum
21	1730	ws06	.3	11330	11108.0	0	157.04	0.00		gypsum
21	1730	ws06	.5	11330	507.0	0	33.18	0.00		gypsum
21	1730	ws06	1.0	11330	94.0	0	49.22	0.00		gypsum
21	1730	ws06	2.5	11330	57.0	0	466.33	0.00		gypsum
21	1730	ws06	5.0	11330	23.0	0	1505.35	0.00		gypsum
21	1730	ws06	10.0	11330	5.0	11794	2618.00	4829.12		gypsum

17	630	ws07	.3	630	17146.0	0	242.40	0.00		general particulate
17	630	ws07	.5	630	447.0	0	29.26	0.00		general particulate
17	630	ws07	1.0	630	13.0	0	6.81	0.00		general particulate
17	630	ws07	2.5	630	8.0	0	65.45	0.00		general particulate
17	630	ws07	5.0	630	0.0	0	0.00	0.00		general particulate
17	630	ws07	10.0	630	3.0	17617	1570.80	1914.71		general particulate
17	700	ws07	.3	700	16841.0	0	238.08	0.00		general particulate
17	700	ws07	.5	700	494.0	0	32.33	0.00		general particulate
17	700	ws07	1.0	700	37.0	0	19.37	0.00		general particulate
17	700	ws07	2.5	700	39.0	0	319.07	0.00		general particulate
17	700	ws07	5.0	700	13.0	0	850.85	0.00		general particulate
17	700	ws07	10.0	700	8.0	17432	4188.80	5648.51		general particulate
17	830	ws07	.3	830	24144.0	0	341.33	0.00		silica
17	830	ws07	.5	830	2830.0	0	185.22	0.00		silica
17	830	ws07	1.0	830	361.0	0	189.02	0.00		silica
17	830	ws07	2.5	830	53.0	0	433.61	0.00		silica
17	830	ws07	5.0	830	6.0	0	392.70	0.00		silica
17	830	ws07	10.0	830	2.0	27396	1047.20	2589.08		silica
17	1000	ws07	.3	1000	13679.0	0	193.38	0.00		silica
17	1000	ws07	.5	1000	1251.0	0	81.88	0.00		silica
17	1000	ws07	1.0	1000	430.0	0	225.15	0.00		silica
17	1000	ws07	2.5	1000	242.0	0	1979.86	0.00		silica
17	1000	ws07	5.0	1000	40.0	0	2618.00	0.00		silica
17	1000	ws07	10.0	1000	11.0	15653	5759.60	10857.87		silica
17	1130	ws07	.3	1130	15792.0	0	223.25	0.00		silica
17	1130	ws07	.5	1130	660.0	0	43.20	0.00		silica
17	1130	ws07	1.0	1130	115.0	0	60.21	0.00		silica
17	1130	ws07	2.5	1130	54.0	0	441.79	0.00		silica
17	1130	ws07	5.0	1130	10.0	0	654.50	0.00		silica
17	1130	ws07	10.0	1130	2.0	16633	1047.20	2470.15		silica
17	1300	ws07	.3	1300	25975.0	0	367.21	0.00		silica
17	1300	ws07	.5	1300	1798.0	0	117.68	0.00		silica
17	1300	ws07	1.0	1300	879.0	0	460.24	0.00		silica
17	1300	ws07	2.5	1300	752.0	0	6152.30	0.00		silica
17	1300	ws07	5.0	1300	165.0	0	10799.25	0.00		silica
17	1300	ws07	10.0	1300	60.0	29629	31416.00	49312.69		silica
17	1430	ws07	.3	1430	29626.0	0	418.83	0.00	1 pers -trimming e.max crowns-no suction	silica
17	1430	ws07	.5	1430	3479.0	0	227.70	0.00	1 pers -trimming e.max crowns-no suction	silica
17	1430	ws07	1.0	1430	2165.0	0	1133.59	0.00	1 pers -trimming e.max crowns-no suction	silica
17	1430	ws07	2.5	1430	1885.0	0	15421.66	0.00	1 pers -trimming e.max crowns-no suction	silica

17	1430	ws07	5.0	1430	554.0	0	36259.30	0.00	1 pers -trimming e.max crowns-no suction	silica
17	1430	ws07	10.0	1430	223.0	37932	116762.80	170223.88	1 pers -trimming e.max crowns-no suction	silica
17	1600	ws07	.3	1600	37819.0	0	534.65	0.00	1 pers - trimming veneers Emax - no suction	silica
17	1600	ws07	.5	1600	2037.0	0	133.32	0.00	1 pers - trimming veneers Emax - no suction	silica
17	1600	ws07	1.0	1600	395.0	0	206.82	0.00	1 pers - trimming veneers Emax - no suction	silica
17	1600	ws07	2.5	1600	197.0	0	1611.71	0.00	1 pers - trimming veneers Emax - no suction	silica
17	1600	ws07	5.0	1600	60.0	0	3927.00	0.00	1 pers - trimming veneers Emax - no suction	silica
17	1600	ws07	10.0	1600	21.0	40529	10995.60	17409.10	1 pers - trimming venners Emax - no suction	silica
17	1730	ws07	.3	1730	34322.0	0	485.22	0.00		silica
17	1730	ws07	.5	1730	976.0	0	63.88	0.00		silica
17	1730	ws07	1.0	1730	50.0	0	26.18	0.00		silica
17	1730	ws07	2.5	1730	49.0	0	400.88	0.00		silica
17	1730	ws07	5.0	1730	21.0	0	1374.45	0.00		silica
17	1730	ws07	10.0	1730	7.0	35425	3665.20	6015.81		silica
18	630	ws07	.3	3030	12206.0	0	172.56	0.00		general particulate
18	630	ws07	.5	3030	292.0	0	19.11	0.00		general particulate
18	630	ws07	1.0	3030	23.0	0	12.04	0.00		general particulate
18	630	ws07	2.5	3030	11.0	0	89.99	0.00		general particulate
18	630	ws07	5.0	3030	2.0	0	130.90	0.00		general particulate
18	630	ws07	10.0	3030	2.0	12536	1047.20	1471.81		general particulate
18	700	ws07	.3	3100	14449.0	0	204.27	0.00		general particulate
18	700	ws07	.5	3100	477.0	0	31.22	0.00		general particulate
18	700	ws07	1.0	3100	117.0	0	61.26	0.00		general particulate
18	700	ws07	2.5	3100	70.0	0	572.69	0.00		general particulate
18	700	ws07	5.0	3100	25.0	0	1636.25	0.00		general particulate
18	700	ws07	10.0	3100	9.0	15147	4712.40	7218.09		general particulate
18	830	ws07	.3	3230	26279.0	0	371.51	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws07	.5	3230	1519.0	0	99.42	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws07	1.0	3230	671.0	0	351.34	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws07	2.5	3230	542.0	0	4434.24	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws07	5.0	3230	93.0	0	6086.85	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws07	10.0	3230	27.0	29131	14137.20	25480.55	1 pers- adjusting e.max crowns	silica
18	1000	ws07	.3	3400	26207.0	0	370.49	0.00		silica
18	1000	ws07	.5	3400	2023.0	0	132.41	0.00		silica
18	1000	ws07	1.0	3400	957.0	0	501.09	0.00		silica
18	1000	ws07	2.5	3400	706.0	0	5775.96	0.00		silica
18	1000	ws07	5.0	3400	191.0	0	12500.95	0.00		silica
18	1000	ws07	10.0	3400	50.0	30134	26180.00	45460.90		silica

18	1130	ws07	.3	3530	23825.0	0	336.82	0.00		silica
18	1130	ws07	.5	3530	993.0	0	64.99	0.00		silica
18	1130	ws07	1.0	3530	335.0	0	175.41	0.00		silica
18	1130	ws07	2.5	3530	248.0	0	2028.95	0.00		silica
18	1130	ws07	5.0	3530	67.0	0	4385.15	0.00		silica
18	1130	ws07	10.0	3530	29.0	25497	15184.40	22175.72		silica
18	1300	ws07	.3	3700	29461.0	0	416.50	0.00		silica
18	1300	ws07	.5	3700	1624.0	0	106.29	0.00		silica
18	1300	ws07	1.0	3700	533.0	0	279.08	0.00		silica
18	1300	ws07	2.5	3700	389.0	0	3182.51	0.00		silica
18	1300	ws07	5.0	3700	143.0	0	9359.35	0.00		silica
18	1300	ws07	10.0	3700	46.0	32196	24085.60	37429.32		silica
18	1430	ws07	.3	3830	72558.0	0	1025.77	0.00		silica
18	1430	ws07	.5	3830	13120.0	0	858.70	0.00		silica
18	1430	ws07	1.0	3830	2915.0	0	1526.29	0.00		silica
18	1430	ws07	2.5	3830	855.0	0	6994.97	0.00		silica
18	1430	ws07	5.0	3830	155.0	0	10144.75	0.00		silica
18	1430	ws07	10.0	3830	43.0	89646	22514.80	43065.28		silica
18	1600	ws07	.3	4000	30749.0	0	434.70	0.00	1 pers- polishing e.max crowns	silica
18	1600	ws07	.5	4000	4843.0	0	316.97	0.00	1 pers- polishing e.max crowns	silica
18	1600	ws07	1.0	4000	2696.0	0	1411.63	0.00	1 pers- polishing e.max crowns	silica
18	1600	ws07	2.5	4000	2513.0	0	20559.48	0.00	1 pers- polishing e.max crowns	silica
18	1600	ws07	5.0	4000	929.0	0	60803.05	0.00	1 pers- polishing e.max crowns	silica
18	1600	ws07	10.0	4000	316.0	42046	165457.60	248983.44	1 pers- polishing e.max crowns	silica
18	1730	ws07	.3	4130	22803.0	0	322.37	0.00		silica
18	1730	ws07	.5	4130	960.0	0	62.83	0.00		silica
18	1730	ws07	1.0	4130	101.0	0	52.88	0.00		silica
18	1730	ws07	2.5	4130	51.0	0	417.24	0.00		silica
18	1730	ws07	5.0	4130	21.0	0	1374.45	0.00		silica
18	1730	ws07	10.0	4130	10.0	23946	5236.00	7465.78		silica
19	630	ws07	.3	5430	5181.0	0	73.24	0.00		general particulate
19	630	ws07	.5	5430	173.0	0	11.32	0.00		general particulate
19	630	ws07	1.0	5430	30.0	0	15.71	0.00		general particulate
19	630	ws07	2.5	5430	5.0	0	40.91	0.00		general particulate
19	630	ws07	5.0	5430	2.0	0	130.90	0.00		general particulate
19	630	ws07	10.0	5430	2.0	5393	1047.20	1319.28		general particulate
19	700	ws07	.3	5500	4490.0	0	63.48	0.00		general particulate
19	700	ws07	.5	5500	186.0	0	12.17	0.00		general particulate
19	700	ws07	1.0	5500	51.0	0	26.70	0.00		general particulate
19	700	ws07	2.5	5500	33.0	0	269.98	0.00		general particulate
19	700	ws07	5.0	5500	11.0	0	719.95	0.00		general particulate

19	700	ws07	10.0	5500	12.0	4783	6283.20	7375.48		general particulate
19	830	ws07	.3	5630	15933.0	0	225.25	0.00	1 pers - grinding on a zirconica bridge	silica
19	830	ws07	.5	5630	3122.0	0	204.33	0.00	1 pers - grinding on a zirconica bridge	silica
19	830	ws07	1.0	5630	822.0	0	430.40	0.00	1 pers - grinding on a zirconica bridge	silica
19	830	ws07	2.5	5630	392.0	0	3207.05	0.00	1 pers - grinding on a zirconica bridge	silica
19	830	ws07	5.0	5630	172.0	0	11257.40	0.00	1 pers - grinding on a zirconica bridge	silica
19	830	ws07	10.0	5630	159.0	20600	83252.40	98576.83	1 pers - grinding on a zirconica bridge	silica
19	1000	ws07	.3	5800	10943.0	0	154.70	0.00		silica
19	1000	ws07	.5	5800	1383.0	0	90.52	0.00		silica
19	1000	ws07	1.0	5800	535.0	0	280.13	0.00		silica
19	1000	ws07	2.5	5800	408.0	0	3337.95	0.00		silica
19	1000	ws07	5.0	5800	155.0	0	10144.75	0.00		silica
19	1000	ws07	10.0	5800	54.0	13478	28274.40	42282.45		silica
19	1130	ws07	.3	5930	8592.0	0	121.47	0.00		silica
19	1130	ws07	.5	5930	358.0	0	23.43	0.00		silica
19	1130	ws07	1.0	5930	99.0	0	51.84	0.00		silica
19	1130	ws07	2.5	5930	52.0	0	425.43	0.00		silica
19	1130	ws07	5.0	5930	23.0	0	1505.35	0.00		silica
19	1130	ws07	10.0	5930	3.0	9127	1570.80	3698.31		silica
19	1300	ws07	.3	6100	8306.0	0	117.42	0.00		silica
19	1300	ws07	.5	6100	553.0	0	36.19	0.00		silica
19	1300	ws07	1.0	6100	205.0	0	107.34	0.00		silica
19	1300	ws07	2.5	6100	178.0	0	1456.26	0.00		silica
19	1300	ws07	5.0	6100	43.0	0	2814.35	0.00		silica
19	1300	ws07	10.0	6100	20.0	9305	10472.00	15003.57		silica
19	1430	ws07	.3	6230	38321.0	0	541.75	0.00	1 pers- polishing e.max crowns	silica
19	1430	ws07	.5	6230	6454.0	0	422.41	0.00	1 pers- polishing e.max crowns	silica
19	1430	ws07	1.0	6230	1358.0	0	711.05	0.00	1 pers- polishing e.max crowns	silica
19	1430	ws07	2.5	6230	586.0	0	4794.21	0.00	1 pers- polishing e.max crowns	silica
19	1430	ws07	5.0	6230	137.0	0	8966.65	0.00	1 pers- polishing e.max crowns	silica
19	1430	ws07	10.0	6230	53.0	46909	27750.80	43186.88	1 pers- polishing e.max crowns	silica
19	1600	ws07	.3	6400	17650.0	0	249.52	0.00		silica
19	1600	ws07	.5	6400	1898.0	0	124.22	0.00		silica
19	1600	ws07	1.0	6400	664.0	0	347.67	0.00		silica
19	1600	ws07	2.5	6400	434.0	0	3550.66	0.00		silica
19	1600	ws07	5.0	6400	105.0	0	6872.25	0.00		silica
19	1600	ws07	10.0	6400	24.0	20775	12566.40	23710.73		silica
19	1730	ws07	.3	6530	17281.0	0	244.30	0.00		silica
19	1730	ws07	.5	6530	552.0	0	36.13	0.00		silica

19	1730	ws07	1.0	6530	93.0	0	48.69	0.00		silica
19	1730	ws07	2.5	6530	89.0	0	728.13	0.00		silica
19	1730	ws07	5.0	6530	33.0	0	2159.85	0.00		silica
19	1730	ws07	10.0	6530	19.0	18067	9948.40	13165.51		silica
20	630	ws07	.3	7830	10151.0	0	143.51	0.00		general particulate
20	630	ws07	.5	7830	395.0	0	25.85	0.00		general particulate
20	630	ws07	1.0	7830	9.0	0	4.71	0.00		general particulate
20	630	ws07	2.5	7830	4.0	0	32.73	0.00		general particulate
20	630	ws07	5.0	7830	1.0	0	65.45	0.00		general particulate
20	630	ws07	10.0	7830	1.0	10561	523.60	795.85		general particulate
20	700	ws07	.3	7900	35315.0	0	499.26	0.00	1 pers - trimming gold	gold
20	700	ws07	.5	7900	39135.0	0	2561.39	0.00	1 pers - trimming gold	gold
20	700	ws07	1.0	7900	28034.0	0	14678.60	0.00	1 pers - trimming gold	gold
20	700	ws07	2.5	7900	17427.0	0	142574.64	0.00	1 pers - trimming gold	gold
20	700	ws07	5.0	7900	5721.0	0	374439.45	0.00	1 pers - trimming gold	gold
20	700	ws07	10.0	7900	2529.0	128161	1324184.40	1858937.74	1 pers - trimming gold	gold
20	830	ws07	.3	8030	10095.0	0	142.72	0.00		silica
20	830	ws07	.5	8030	768.0	0	50.27	0.00		silica
20	830	ws07	1.0	8030	181.0	0	94.77	0.00		silica
20	830	ws07	2.5	8030	73.0	0	597.23	0.00		silica
20	830	ws07	5.0	8030	21.0	0	1374.45	0.00		silica
20	830	ws07	10.0	8030	9.0	11147	4712.40	6971.83		silica
20	1000	ws07	.3	8200	12477.0	0	176.39	0.00		silica
20	1000	ws07	.5	8200	1038.0	0	67.94	0.00		silica
20	1000	ws07	1.0	8200	203.0	0	106.29	0.00		silica
20	1000	ws07	2.5	8200	129.0	0	1055.38	0.00		silica
20	1000	ws07	5.0	8200	30.0	0	1963.50	0.00		silica
20	1000	ws07	10.0	8200	13.0	13890	6806.80	10176.30		silica
20	1130	ws07	.3	8330	13056.0	0	184.58	0.00		silica
20	1130	ws07	.5	8330	4889.0	0	319.99	0.00		silica
20	1130	ws07	1.0	8330	1735.0	0	908.45	0.00		silica
20	1130	ws07	2.5	8330	396.0	0	3239.78	0.00		silica
20	1130	ws07	5.0	8330	44.0	0	2879.80	0.00		silica
20	1130	ws07	10.0	8330	16.0	20136	8377.60	15910.18		silica
20	1300	ws07	.3	8500	14151.0	0	200.06	0.00		silica
20	1300	ws07	.5	8500	1493.0	0	97.72	0.00		silica
20	1300	ws07	1.0	8500	82.0	0	42.94	0.00		silica
20	1300	ws07	2.5	8500	22.0	0	179.99	0.00		silica
20	1300	ws07	5.0	8500	8.0	0	523.60	0.00		silica
20	1300	ws07	10.0	8500	8.0	15764	4188.80	5233.10		silica
20	1430	ws07	.3	8630	11659.0	0	164.83	0.00		silica

20	1430	ws07	.5	8630	1405.0	0	91.96	0.00		silica
20	1430	ws07	1.0	8630	47.0	0	24.61	0.00		silica
20	1430	ws07	2.5	8630	30.0	0	245.44	0.00		silica
20	1430	ws07	5.0	8630	11.0	0	719.95	0.00		silica
20	1430	ws07	10.0	8630	6.0	13158	3141.60	4388.38		silica
20	1600	ws07	.3	8800	13232.0	0	187.06	0.00		silica
20	1600	ws07	.5	8800	1364.0	0	89.27	0.00		silica
20	1600	ws07	1.0	8800	101.0	0	52.88	0.00		silica
20	1600	ws07	2.5	8800	42.0	0	343.61	0.00		silica
20	1600	ws07	5.0	8800	13.0	0	850.85	0.00		silica
20	1600	ws07	10.0	8800	4.0	14756	2094.40	3618.08		silica
20	1730	ws07	.3	8930	12037.0	0	170.17	0.00		silica
20	1730	ws07	.5	8930	1263.0	0	82.66	0.00		silica
20	1730	ws07	1.0	8930	356.0	0	186.40	0.00		silica
20	1730	ws07	2.5	8930	197.0	0	1611.71	0.00		silica
20	1730	ws07	5.0	8930	84.0	0	5497.80	0.00		silica
20	1730	ws07	10.0	8930	23.0	13960	12042.80	19591.54		silica
21	630	ws07	.3	10230	7252.0	0	102.52	0.00		general particulate
21	630	ws07	.5	10230	282.0	0	18.46	0.00		general particulate
21	630	ws07	1.0	10230	14.0	0	7.33	0.00		general particulate
21	630	ws07	2.5	10230	12.0	0	98.18	0.00		general particulate
21	630	ws07	5.0	10230	8.0	0	523.60	0.00		general particulate
21	630	ws07	10.0	10230	1.0	7569	523.60	1273.69		general particulate
21	700	ws07	.3	10300	7109.0	0	100.50	0.00		general particulate
21	700	ws07	.5	10300	335.0	0	21.93	0.00		general particulate
21	700	ws07	1.0	10300	68.0	0	35.60	0.00		general particulate
21	700	ws07	2.5	10300	68.0	0	556.33	0.00		general particulate
21	700	ws07	5.0	10300	21.0	0	1374.45	0.00		general particulate
21	700	ws07	10.0	10300	12.0	7613	6283.20	8372.01		general particulate
21	830	ws07	.3	10430	12402.0	0	175.33	0.00	1 pers - trimming dies	gypsum
21	830	ws07	.5	10430	1330.0	0	87.05	0.00	1 pers - trimming dies	gypsum
21	830	ws07	1.0	10430	349.0	0	182.74	0.00	1 pers - trimming dies	gypsum
21	830	ws07	2.5	10430	254.0	0	2078.04	0.00	1 pers - trimming dies	gypsum
21	830	ws07	5.0	10430	57.0	0	3730.65	0.00	1 pers - trimming dies	gypsum
21	830	ws07	10.0	10430	30.0	14422	15708.00	21961.80	1 pers - trimming dies	gypsum
21	1000	ws07	.3	10600	13683.0	0	193.44	0.00		silica
21	1000	ws07	.5	10600	1389.0	0	90.91	0.00		silica
21	1000	ws07	1.0	10600	174.0	0	91.11	0.00		silica
21	1000	ws07	2.5	10600	100.0	0	818.13	0.00		silica
21	1000	ws07	5.0	10600	37.0	0	2421.65	0.00		silica
21	1000	ws07	10.0	10600	14.0	15397	7330.40	10945.63		silica

21	1130	ws07	.3	10730	18350.0	0	259.42	0.00		silica
21	1130	ws07	.5	10730	1318.0	0	86.26	0.00		silica
21	1130	ws07	1.0	10730	81.0	0	42.41	0.00		silica
21	1130	ws07	2.5	10730	42.0	0	343.61	0.00		silica
21	1130	ws07	5.0	10730	15.0	0	981.75	0.00		silica
21	1130	ws07	10.0	10730	14.0	19820	7330.40	9043.85		silica
21	1300	ws07	.3	10900	23301.0	0	329.41	0.00		silica
21	1300	ws07	.5	10900	5158.0	0	337.59	0.00		silica
21	1300	ws07	1.0	10900	1491.0	0	780.69	0.00		silica
21	1300	ws07	2.5	10900	355.0	0	2904.34	0.00		silica
21	1300	ws07	5.0	10900	59.0	0	3861.55	0.00		silica
21	1300	ws07	10.0	10900	15.0	30379	7854.00	16067.58		silica
21	1430	ws07	.3	11030	117144.0	0	1656.09	0.00		silica
21	1430	ws07	.5	11030	32596.0	0	2133.41	0.00		silica
21	1430	ws07	1.0	11030	5835.0	0	3055.21	0.00		silica
21	1430	ws07	2.5	11030	1292.0	0	10570.18	0.00		silica
21	1430	ws07	5.0	11030	304.0	0	19896.80	0.00		silica
21	1430	ws07	10.0	11030	124.0	157295	64926.40	102238.08		silica
21	1600	ws07	.3	11200	16212.0	0	229.19	0.00		silica
21	1600	ws07	.5	11200	2949.0	0	193.01	0.00		silica
21	1600	ws07	1.0	11200	1195.0	0	625.70	0.00		silica
21	1600	ws07	2.5	11200	701.0	0	5735.06	0.00		silica
21	1600	ws07	5.0	11200	214.0	0	14006.30	0.00		silica
21	1600	ws07	10.0	11200	92.0	21363	48171.20	68960.46		silica
21	1730	ws07	.3	11330	11465.0	0	162.08	0.00		silica
21	1730	ws07	.5	11330	522.0	0	34.16	0.00		silica
21	1730	ws07	1.0	11330	87.0	0	45.55	0.00		silica
21	1730	ws07	2.5	11330	62.0	0	507.24	0.00		silica
21	1730	ws07	5.0	11330	19.0	0	1243.55	0.00		silica
21	1730	ws07	10.0	11330	16.0	12171	8377.60	10370.19		silica
17	630	ws08	.3	630	17169.0	0	242.72	0.00		general particulate
17	630	ws08	.5	630	448.0	0	29.32	0.00		general particulate
17	630	ws08	1.0	630	17.0	0	8.90	0.00		general particulate
17	630	ws08	2.5	630	6.0	0	49.09	0.00		general particulate
17	630	ws08	5.0	630	3.0	0	196.35	0.00		general particulate
17	630	ws08	10.0	630	1.0	17644	523.60	1049.98		general particulate
17	700	ws08	.3	700	17449.0	0	246.68	0.00		general particulate
17	700	ws08	.5	700	504.0	0	32.99	0.00		general particulate
17	700	ws08	1.0	700	43.0	0	22.51	0.00		general particulate
17	700	ws08	2.5	700	39.0	0	319.07	0.00		general particulate
17	700	ws08	5.0	700	10.0	0	654.50	0.00		general particulate

17	700	ws08	10.0	700	1.0	18046	523.60	1799.35		general particulate
17	830	ws08	.3	830	29803.0	0	421.33	0.00		silica
17	830	ws08	.5	830	3916.0	0	256.30	0.00		silica
17	830	ws08	1.0	830	392.0	0	205.25	0.00		silica
17	830	ws08	2.5	830	54.0	0	441.79	0.00		silica
17	830	ws08	5.0	830	4.0	0	261.80	0.00		silica
17	830	ws08	10.0	830	3.0	34172	1570.80	3157.27		silica
17	1000	ws08	.3	1000	16166.0	0	228.54	0.00	1 pers -trimming e.max crowns	silica
17	1000	ws08	.5	1000	1611.0	0	105.44	0.00	1 pers -trimming e.max crowns	silica
17	1000	ws08	1.0	1000	459.0	0	240.33	0.00	1 pers -trimming e.max crowns	silica
17	1000	ws08	2.5	1000	239.0	0	1955.32	0.00	1 pers -trimming e.max crowns	silica
17	1000	ws08	5.0	1000	56.0	0	3665.20	0.00	1 pers -trimming e.max crowns	silica
17	1000	ws08	10.0	1000	12.0	18543	6283.20	12478.03	1 pers -trimming e.max crowns	silica
17	1130	ws08	.3	1130	15995.0	0	226.12	0.00		silica
17	1130	ws08	.5	1130	700.0	0	45.82	0.00		silica
17	1130	ws08	1.0	1130	116.0	0	60.74	0.00		silica
17	1130	ws08	2.5	1130	52.0	0	425.43	0.00		silica
17	1130	ws08	5.0	1130	11.0	0	719.95	0.00		silica
17	1130	ws08	10.0	1130	3.0	16877	1570.80	3048.85		silica
17	1300	ws08	.3	1300	29004.0	0	410.04	0.00	1 pers -trimming e.max crowns	silica
17	1300	ws08	.5	1300	3066.0	0	200.67	0.00	1 pers -trimming e.max crowns	silica
17	1300	ws08	1.0	1300	1324.0	0	693.25	0.00	1 pers -trimming e.max crowns	silica
17	1300	ws08	2.5	1300	982.0	0	8033.99	0.00	1 pers -trimming e.max crowns	silica
17	1300	ws08	5.0	1300	240.0	0	15708.00	0.00	1 pers -trimming e.max crowns	silica
17	1300	ws08	10.0	1300	89.0	34705	46600.40	71646.34	1 pers -trimming e.max crowns	silica
17	1430	ws08	.3	1430	32547.0	0	460.12	0.00	1 pers -trimming e.max crowns	silica
17	1430	ws08	.5	1430	18449.0	0	1207.49	0.00	1 pers -trimming e.max crowns	silica
17	1430	ws08	1.0	1430	21890.0	0	11461.60	0.00	1 pers -trimming e.max crowns	silica
17	1430	ws08	2.5	1430	22446.0	0	183636.34	0.00	1 pers -trimming e.max crowns	silica
17	1430	ws08	5.0	1430	8534.0	0	558550.30	0.00	1 pers -trimming e.max crowns	silica
17	1430	ws08	10.0	1430	15936.0	119802	8344089.60	9099405.45	1 pers -trimming e.max crowns	silica
17	1600	ws08	.3	1600	36945.0	0	522.30	0.00	1 pers - trimming dies	silica
17	1600	ws08	.5	1600	1731.0	0	113.29	0.00	1 pers - trimming dies	silica
17	1600	ws08	1.0	1600	363.0	0	190.07	0.00	1 pers - trimming dies	silica
17	1600	ws08	2.5	1600	243.0	0	1988.04	0.00	1 pers - trimming dies	silica
17	1600	ws08	5.0	1600	71.0	0	4646.95	0.00	1 pers - trimming dies	silica
17	1600	ws08	10.0	1600	17.0	39370	8901.20	16361.85	1 pers - trimming dies	silica
17	1730	ws08	.3	1730	35808.0	0	506.22	0.00		silica
17	1730	ws08	.5	1730	1143.0	0	74.81	0.00		silica
17	1730	ws08	1.0	1730	69.0	0	36.13	0.00		silica
17	1730	ws08	2.5	1730	51.0	0	417.24	0.00		silica

17	1730	ws08	5.0	1730	18.0	0	1178.10	0.00		silica
17	1730	ws08	10.0	1730	11.0	37100	5759.60	7972.11		silica
18	630	ws08	.3	3030	13442.0	0	190.03	0.00		general particulate
18	630	ws08	.5	3030	369.0	0	24.15	0.00		general particulate
18	630	ws08	1.0	3030	40.0	0	20.94	0.00		general particulate
18	630	ws08	2.5	3030	12.0	0	98.18	0.00		general particulate
18	630	ws08	5.0	3030	6.0	0	392.70	0.00		general particulate
18	630	ws08	10.0	3030	3.0	13872	1570.80	2296.80		general particulate
18	700	ws08	.3	3100	16649.0	0	235.37	0.00		general particulate
18	700	ws08	.5	3100	565.0	0	36.98	0.00		general particulate
18	700	ws08	1.0	3100	110.0	0	57.60	0.00		general particulate
18	700	ws08	2.5	3100	90.0	0	736.31	0.00		general particulate
18	700	ws08	5.0	3100	34.0	0	2225.30	0.00		general particulate
18	700	ws08	10.0	3100	19.0	17467	9948.40	13239.96		general particulate
18	830	ws08	.3	3230	26584.0	0	375.82	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws08	.5	3230	1278.0	0	83.65	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws08	1.0	3230	552.0	0	289.03	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws08	2.5	3230	384.0	0	3141.60	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws08	5.0	3230	101.0	0	6610.45	0.00	1 pers- adjusting e.max crowns	silica
18	830	ws08	10.0	3230	27.0	28926	14137.20	24637.75	1 pers- adjusting e.max crowns	silica
18	1000	ws08	.3	3400	26636.0	0	376.56	0.00		silica
18	1000	ws08	.5	3400	1655.0	0	108.32	0.00		silica
18	1000	ws08	1.0	3400	727.0	0	380.66	0.00		silica
18	1000	ws08	2.5	3400	581.0	0	4753.31	0.00		silica
18	1000	ws08	5.0	3400	139.0	0	9097.55	0.00		silica
18	1000	ws08	10.0	3400	32.0	29770	16755.20	31471.59		silica
18	1130	ws08	.3	3530	23699.0	0	335.04	0.00		silica
18	1130	ws08	.5	3530	1111.0	0	72.71	0.00		silica
18	1130	ws08	1.0	3530	551.0	0	288.50	0.00		silica
18	1130	ws08	2.5	3530	467.0	0	3820.64	0.00		silica
18	1130	ws08	5.0	3530	108.0	0	7068.60	0.00		silica
18	1130	ws08	10.0	3530	20.0	25956	10472.00	22057.50		silica
18	1300	ws08	.3	3700	28743.0	0	406.35	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1300	ws08	.5	3700	1369.0	0	89.60	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1300	ws08	1.0	3700	371.0	0	194.26	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1300	ws08	2.5	3700	335.0	0	2740.72	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1300	ws08	5.0	3700	102.0	0	6675.90	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1300	ws08	10.0	3700	29.0	30949	15184.40	25291.22	1 pers- adjusting e.max crowns + fan	silica
18	1430	ws08	.3	3830	77232.0	0	1091.84	0.00	1 pers- adjusting e.max crowns + fan	silica

18	1430	ws08	.5	3830	13635.0	0	892.41	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1430	ws08	1.0	3830	2767.0	0	1448.80	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1430	ws08	2.5	3830	825.0	0	6749.53	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1430	ws08	5.0	3830	128.0	0	8377.60	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1430	ws08	10.0	3830	27.0	94614	14137.20	32697.39	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	.3	4000	29306.0	0	414.30	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	.5	4000	4280.0	0	280.13	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	1.0	4000	2712.0	0	1420.00	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	2.5	4000	2495.0	0	20412.22	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	5.0	4000	896.0	0	58643.20	0.00	1 pers- adjusting e.max crowns + fan	silica
18	1600	ws08	10.0	4000	299.0	39988	156556.40	237726.25	1 pers- adjusting e.max crowns + fan	silica
18	1730	ws08	.3	4130	22478.0	0	317.78	0.00		silica
18	1730	ws08	.5	4130	1016.0	0	66.50	0.00		silica
18	1730	ws08	1.0	4130	92.0	0	48.17	0.00		silica
18	1730	ws08	2.5	4130	56.0	0	458.15	0.00		silica
18	1730	ws08	5.0	4130	10.0	0	654.50	0.00		silica
18	1730	ws08	10.0	4130	15.0	23667	7854.00	9399.09		silica
19	630	ws08	.3	5430	5310.0	0	75.07	0.00		general particulate
19	630	ws08	.5	5430	135.0	0	8.84	0.00		general particulate
19	630	ws08	1.0	5430	24.0	0	12.57	0.00		general particulate
19	630	ws08	2.5	5430	8.0	0	65.45	0.00		general particulate
19	630	ws08	5.0	5430	2.0	0	130.90	0.00		general particulate
19	630	ws08	10.0	5430	1.0	5480	523.60	816.42		general particulate
19	700	ws08	.3	5500	4532.0	0	64.07	0.00		general particulate
19	700	ws08	.5	5500	195.0	0	12.76	0.00		general particulate
19	700	ws08	1.0	5500	51.0	0	26.70	0.00		general particulate
19	700	ws08	2.5	5500	40.0	0	327.25	0.00		general particulate
19	700	ws08	5.0	5500	15.0	0	981.75	0.00		general particulate
19	700	ws08	10.0	5500	7.0	4840	3665.20	5077.74		general particulate
19	830	ws08	.3	5630	13809.0	0	195.22	0.00		silica
19	830	ws08	.5	5630	2528.0	0	165.46	0.00		silica
19	830	ws08	1.0	5630	611.0	0	319.92	0.00		silica
19	830	ws08	2.5	5630	275.0	0	2249.84	0.00		silica
19	830	ws08	5.0	5630	86.0	0	5628.70	0.00		silica
19	830	ws08	10.0	5630	32.0	17341	16755.20	25314.34		silica
19	1000	ws08	.3	5800	9850.0	0	139.25	0.00		silica
19	1000	ws08	.5	5800	1517.0	0	99.29	0.00		silica

19	1000	ws08	1.0	5800	765.0	0	400.55	0.00		silica
19	1000	ws08	2.5	5800	717.0	0	5865.96	0.00		silica
19	1000	ws08	5.0	5800	289.0	0	18915.05	0.00		silica
19	1000	ws08	10.0	5800	152.0	13290	79587.20	105007.30		silica
19	1130	ws08	.3	5930	8688.0	0	122.82	0.00		silica
19	1130	ws08	.5	5930	358.0	0	23.43	0.00		silica
19	1130	ws08	1.0	5930	98.0	0	51.31	0.00		silica
19	1130	ws08	2.5	5930	71.0	0	580.87	0.00		silica
19	1130	ws08	5.0	5930	13.0	0	850.85	0.00		silica
19	1130	ws08	10.0	5930	14.0	9242	7330.40	8959.69		silica
19	1300	ws08	.3	6100	8291.0	0	117.21	0.00	1 pers- fitting venners	silica
19	1300	ws08	.5	6100	481.0	0	31.48	0.00	1 pers- fitting venners	silica
19	1300	ws08	1.0	6100	153.0	0	80.11	0.00	1 pers- fitting venners	silica
19	1300	ws08	2.5	6100	133.0	0	1088.11	0.00	1 pers- fitting venners	silica
19	1300	ws08	5.0	6100	28.0	0	1832.60	0.00	1 pers- fitting venners	silica
19	1300	ws08	10.0	6100	19.0	9105	9948.40	13097.91	1 pers- fitting venners	silica
19	1430	ws08	.3	6230	36624.0	0	517.76	0.00		silica
19	1430	ws08	.5	6230	6044.0	0	395.58	0.00		silica
19	1430	ws08	1.0	6230	1152.0	0	603.19	0.00		silica
19	1430	ws08	2.5	6230	430.0	0	3517.94	0.00		silica
19	1430	ws08	5.0	6230	134.0	0	8770.30	0.00		silica
19	1430	ws08	10.0	6230	42.0	44426	21991.20	35795.97		silica
19	1600	ws08	.3	6400	18591.0	0	262.82	0.00		silica
19	1600	ws08	.5	6400	2122.0	0	138.88	0.00		silica
19	1600	ws08	1.0	6400	780.0	0	408.41	0.00		silica
19	1600	ws08	2.5	6400	523.0	0	4278.79	0.00		silica
19	1600	ws08	5.0	6400	140.0	0	9163.00	0.00		silica
19	1600	ws08	10.0	6400	32.0	22188	16755.20	31007.11		silica
19	1730	ws08	.3	6530	17538.0	0	247.94	0.00		silica
19	1730	ws08	.5	6530	569.0	0	37.24	0.00		silica
19	1730	ws08	1.0	6530	94.0	0	49.22	0.00		silica
19	1730	ws08	2.5	6530	78.0	0	638.14	0.00		silica
19	1730	ws08	5.0	6530	27.0	0	1767.15	0.00		silica
19	1730	ws08	10.0	6530	11.0	18317	5759.60	8499.29		silica
20	630	ws08	.3	7830	10189.0	0	144.04	0.00		general particulate
20	630	ws08	.5	7830	418.0	0	27.36	0.00		general particulate
20	630	ws08	1.0	7830	14.0	0	7.33	0.00		general particulate
20	630	ws08	2.5	7830	5.0	0	40.91	0.00		general particulate
20	630	ws08	5.0	7830	4.0	0	261.80	0.00		general particulate
20	630	ws08	10.0	7830	1.0	10631	523.60	1005.04		general particulate
20	700	ws08	.3	7900	8474.0	0	119.80	0.00		general particulate

20	700	ws08	.5	7900	564.0	0	36.91	0.00		general particulate
20	700	ws08	1.0	7900	169.0	0	88.49	0.00		general particulate
20	700	ws08	2.5	7900	137.0	0	1120.83	0.00		general particulate
20	700	ws08	5.0	7900	45.0	0	2945.25	0.00		general particulate
20	700	ws08	10.0	7900	36.0	9425	18849.60	23160.88		general particulate
20	830	ws08	.3	8030	9668.0	0	136.68	0.00		silica
20	830	ws08	.5	8030	674.0	0	44.11	0.00		silica
20	830	ws08	1.0	8030	108.0	0	56.55	0.00		silica
20	830	ws08	2.5	8030	49.0	0	400.88	0.00		silica
20	830	ws08	5.0	8030	15.0	0	981.75	0.00		silica
20	830	ws08	10.0	8030	13.0	10527	6806.80	8426.77		silica
20	1000	ws08	.3	8200	12477.0	0	176.39	0.00		silica
20	1000	ws08	.5	8200	969.0	0	63.42	0.00		silica
20	1000	ws08	1.0	8200	168.0	0	87.96	0.00		silica
20	1000	ws08	2.5	8200	93.0	0	760.86	0.00		silica
20	1000	ws08	5.0	8200	23.0	0	1505.35	0.00		silica
20	1000	ws08	10.0	8200	10.0	13740	5236.00	7829.98		silica
20	1130	ws08	.3	8330	11991.0	0	169.52	0.00		silica
20	1130	ws08	.5	8330	2986.0	0	195.43	0.00		silica
20	1130	ws08	1.0	8330	1125.0	0	589.05	0.00		silica
20	1130	ws08	2.5	8330	373.0	0	3051.61	0.00		silica
20	1130	ws08	5.0	8330	30.0	0	1963.50	0.00		silica
20	1130	ws08	10.0	8330	13.0	16518	6806.80	12775.91		silica
20	1300	ws08	.3	8500	14177.0	0	200.42	0.00		silica
20	1300	ws08	.5	8500	1510.0	0	98.83	0.00		silica
20	1300	ws08	1.0	8500	78.0	0	40.84	0.00		silica
20	1300	ws08	2.5	8500	25.0	0	204.53	0.00		silica
20	1300	ws08	5.0	8500	4.0	0	261.80	0.00		silica
20	1300	ws08	10.0	8500	7.0	15801	3665.20	4471.62		silica
20	1430	ws08	.3	8630	11899.0	0	168.22	0.00		silica
20	1430	ws08	.5	8630	1350.0	0	88.36	0.00		silica
20	1430	ws08	1.0	8630	48.0	0	25.13	0.00		silica
20	1430	ws08	2.5	8630	26.0	0	212.71	0.00		silica
20	1430	ws08	5.0	8630	15.0	0	981.75	0.00		silica
20	1430	ws08	10.0	8630	11.0	13349	5759.60	7235.77		silica
20	1600	ws08	.3	8800	13253.0	0	187.36	0.00		silica
20	1600	ws08	.5	8800	1408.0	0	92.15	0.00		silica
20	1600	ws08	1.0	8800	108.0	0	56.55	0.00		silica
20	1600	ws08	2.5	8800	51.0	0	417.24	0.00		silica
20	1600	ws08	5.0	8800	17.0	0	1112.65	0.00		silica
20	1600	ws08	10.0	8800	14.0	14851	7330.40	9196.36		silica

20	1730	ws08	.3	8930	13345.0	0	188.66	0.00		silica
20	1730	ws08	.5	8930	1035.0	0	67.74	0.00		silica
20	1730	ws08	1.0	8930	176.0	0	92.15	0.00		silica
20	1730	ws08	2.5	8930	79.0	0	646.32	0.00		silica
20	1730	ws08	5.0	8930	20.0	0	1309.00	0.00		silica
20	1730	ws08	10.0	8930	7.0	14662	3665.20	5969.07		silica
21	630	ws08	.3	10230	7881.0	0	111.42	0.00		general particulate
21	630	ws08	.5	10230	330.0	0	21.60	0.00		general particulate
21	630	ws08	1.0	10230	19.0	0	9.95	0.00		general particulate
21	630	ws08	2.5	10230	18.0	0	147.26	0.00		general particulate
21	630	ws08	5.0	10230	4.0	0	261.80	0.00		general particulate
21	630	ws08	10.0	10230	3.0	8255	1570.80	2122.82		general particulate
21	700	ws08	.3	10300	7092.0	0	100.26	0.00		general particulate
21	700	ws08	.5	10300	322.0	0	21.07	0.00		general particulate
21	700	ws08	1.0	10300	53.0	0	27.75	0.00		general particulate
21	700	ws08	2.5	10300	53.0	0	433.61	0.00		general particulate
21	700	ws08	5.0	10300	22.0	0	1439.90	0.00		general particulate
21	700	ws08	10.0	10300	15.0	7557	7854.00	9876.59		general particulate
21	830	ws08	.3	10430	11912.0	0	168.40	0.00	1 pers - trimming e.max crowns	silica
21	830	ws08	.5	10430	4045.0	0	264.75	0.00	1 pers - trimming e.max crowns	silica
21	830	ws08	1.0	10430	3545.0	0	1856.16	0.00	1 pers - trimming e.max crowns	silica
21	830	ws08	2.5	10430	2066.0	0	16902.46	0.00	1 pers - trimming e.max crowns	silica
21	830	ws08	5.0	10430	295.0	0	19307.75	0.00	1 pers - trimming e.max crowns	silica
21	830	ws08	10.0	10430	36.0	21899	18849.60	57349.12	1 pers - trimming e.max crowns	silica
21	1000	ws08	.3	10600	14049.0	0	198.61	0.00		silica
21	1000	ws08	.5	10600	1392.0	0	91.11	0.00		silica
21	1000	ws08	1.0	10600	147.0	0	76.97	0.00		silica
21	1000	ws08	2.5	10600	77.0	0	629.96	0.00		silica
21	1000	ws08	5.0	10600	18.0	0	1178.10	0.00		silica
21	1000	ws08	10.0	10600	6.0	15689	3141.60	5316.35		silica
21	1130	ws08	.3	10730	18415.0	0	260.34	0.00		silica
21	1130	ws08	.5	10730	1266.0	0	82.86	0.00		silica
21	1130	ws08	1.0	10730	93.0	0	48.69	0.00		silica
21	1130	ws08	2.5	10730	59.0	0	482.69	0.00		silica
21	1130	ws08	5.0	10730	10.0	0	654.50	0.00		silica
21	1130	ws08	10.0	10730	7.0	19850	3665.20	5194.28		silica
21	1300	ws08	.3	10900	18895.0	0	267.12	0.00		silica
21	1300	ws08	.5	10900	3497.0	0	228.88	0.00		silica
21	1300	ws08	1.0	10900	950.0	0	497.42	0.00		silica
21	1300	ws08	2.5	10900	218.0	0	1783.51	0.00		silica
21	1300	ws08	5.0	10900	35.0	0	2290.75	0.00		silica

21	1300	ws08	10.0	10900	5.0	23600	2618.00	7685.68		silica
21	1430	ws08	.3	11030	74384.0	0	1051.58	0.00		silica
21	1430	ws08	.5	11030	19425.0	0	1271.37	0.00		silica
21	1430	ws08	1.0	11030	3607.0	0	1888.63	0.00		silica
21	1430	ws08	2.5	11030	745.0	0	6095.03	0.00		silica
21	1430	ws08	5.0	11030	199.0	0	13024.55	0.00		silica
21	1430	ws08	10.0	11030	46.0	98406	24085.60	47416.75		silica
21	1600	ws08	.3	11200	17521.0	0	247.70	0.00		silica
21	1600	ws08	.5	11200	3412.0	0	223.32	0.00		silica
21	1600	ws08	1.0	11200	1880.0	0	984.37	0.00		silica
21	1600	ws08	2.5	11200	1269.0	0	10382.01	0.00		silica
21	1600	ws08	5.0	11200	311.0	0	20354.95	0.00		silica
21	1600	ws08	10.0	11200	109.0	24502	57072.40	89264.74		silica
21	1730	ws08	.3	11330	11685.0	0	165.19	0.00		silica
21	1730	ws08	.5	11330	463.0	0	30.30	0.00		silica
21	1730	ws08	1.0	11330	70.0	0	36.65	0.00		silica
21	1730	ws08	2.5	11330	35.0	0	286.34	0.00		silica
21	1730	ws08	5.0	11330	11.0	0	719.95	0.00		silica
21	1730	ws08	10.0	11330	6.0	12270	3141.60	4380.04		silica
17	630	ws09	.3	630	18358.0	0	259.53	0.00		general particulate
17	630	ws09	.5	630	487.0	0	31.87	0.00		general particulate
17	630	ws09	1.0	630	17.0	0	8.90	0.00		general particulate
17	630	ws09	2.5	630	8.0	0	65.45	0.00		general particulate
17	630	ws09	5.0	630	7.0	0	458.15	0.00		general particulate
17	630	ws09	10.0	630	5.0	18882	2618.00	3441.91		general particulate
17	700	ws09	.3	700	17770.0	0	251.22	0.00		general particulate
17	700	ws09	.5	700	548.0	0	35.87	0.00		general particulate
17	700	ws09	1.0	700	38.0	0	19.90	0.00		general particulate
17	700	ws09	2.5	700	33.0	0	269.98	0.00		general particulate
17	700	ws09	5.0	700	10.0	0	654.50	0.00		general particulate
17	700	ws09	10.0	700	16.0	18415	8377.60	9609.06		general particulate
17	830	ws09	.3	830	26190.0	0	370.25	0.00		gypsum
17	830	ws09	.5	830	2997.0	0	196.15	0.00		gypsum
17	830	ws09	1.0	830	299.0	0	156.56	0.00		gypsum
17	830	ws09	2.5	830	52.0	0	425.43	0.00		gypsum
17	830	ws09	5.0	830	11.0	0	719.95	0.00		gypsum
17	830	ws09	10.0	830	5.0	29554	2618.00	4486.34		gypsum
17	1000	ws09	.3	1000	15414.0	0	217.91	0.00		gypsum
17	1000	ws09	.5	1000	1324.0	0	86.66	0.00		gypsum
17	1000	ws09	1.0	1000	361.0	0	189.02	0.00		gypsum
17	1000	ws09	2.5	1000	188.0	0	1538.08	0.00		gypsum

17	1000	ws09	5.0	1000	35.0	0	2290.75	0.00		gypsum
17	1000	ws09	10.0	1000	23.0	17345	12042.80	16365.21		gypsum
17	1130	ws09	.3	1130	16128.0	0	228.00	0.00		gypsum
17	1130	ws09	.5	1130	656.0	0	42.94	0.00		gypsum
17	1130	ws09	1.0	1130	96.0	0	50.27	0.00		gypsum
17	1130	ws09	2.5	1130	57.0	0	466.33	0.00		gypsum
17	1130	ws09	5.0	1130	9.0	0	589.05	0.00		gypsum
17	1130	ws09	10.0	1130	4.0	16950	2094.40	3470.99		gypsum
17	1300	ws09	.3	1300	29071.0	0	410.98	0.00		gypsum
17	1300	ws09	.5	1300	2234.0	0	146.22	0.00		gypsum
17	1300	ws09	1.0	1300	871.0	0	456.06	0.00		gypsum
17	1300	ws09	2.5	1300	650.0	0	5317.81	0.00		gypsum
17	1300	ws09	5.0	1300	138.0	0	9032.10	0.00		gypsum
17	1300	ws09	10.0	1300	58.0	33022	30368.80	45731.97		gypsum
17	1430	ws09	.3	1430	28325.0	0	400.44	0.00		gypsum
17	1430	ws09	.5	1430	1393.0	0	91.17	0.00		gypsum
17	1430	ws09	1.0	1430	353.0	0	184.83	0.00		gypsum
17	1430	ws09	2.5	1430	272.0	0	2225.30	0.00		gypsum
17	1430	ws09	5.0	1430	100.0	0	6545.00	0.00		gypsum
17	1430	ws09	10.0	1430	21.0	30464	10995.60	20442.34		gypsum
17	1600	ws09	.3	1600	36170.0	0	511.34	0.00	1 pers - just left approx 2 mins prior to sample	gypsum
17	1600	ws09	.5	1600	1559.0	0	102.04	0.00	1 pers - just left approx 2 mins prior to sample	gypsum
17	1600	ws09	1.0	1600	568.0	0	297.40	0.00	1 pers - just left approx 2 mins prior to sample	gypsum
17	1600	ws09	2.5	1600	859.0	0	7027.69	0.00	1 pers - just left approx 2 mins prior to sample	gypsum
17	1600	ws09	5.0	1600	625.0	0	40906.25	0.00	1 pers - just left approx 2 mins prior to sample	gypsum
17	1600	ws09	10.0	1600	348.0	40129	182212.80	231057.53	1 pers - just left approx 2 mins prior to sample	gypsum
17	1730	ws09	.3	1730	36267.0	0	512.71	0.00		gypsum
17	1730	ws09	.5	1730	1138.0	0	74.48	0.00		gypsum
17	1730	ws09	1.0	1730	54.0	0	28.27	0.00		gypsum
17	1730	ws09	2.5	1730	39.0	0	319.07	0.00		gypsum
17	1730	ws09	5.0	1730	11.0	0	719.95	0.00		gypsum
17	1730	ws09	10.0	1730	3.0	37512	1570.80	3225.29		general particulate
18	630	ws09	.3	3030	13969.0	0	197.48	0.00		general particulate
18	630	ws09	.5	3030	380.0	0	24.87	0.00		general particulate
18	630	ws09	1.0	3030	44.0	0	23.04	0.00		general particulate
18	630	ws09	2.5	3030	12.0	0	98.18	0.00		general particulate
18	630	ws09	5.0	3030	1.0	0	65.45	0.00		general particulate
18	630	ws09	10.0	3030	4.0	14410	2094.40	2503.42		general particulate
18	700	ws09	.3	3100	15860.0	0	224.22	0.00		general particulate

18	700	ws09	.5	3100	513.0	0	33.58	0.00		general particulate
18	700	ws09	1.0	3100	104.0	0	54.45	0.00		general particulate
18	700	ws09	2.5	3100	70.0	0	572.69	0.00		general particulate
18	700	ws09	5.0	3100	16.0	0	1047.20	0.00		general particulate
18	700	ws09	10.0	3100	9.0	16572	4712.40	6644.53		general particulate
18	830	ws09	.3	3230	26388.0	0	373.05	0.00		gypsum
18	830	ws09	.5	3230	1049.0	0	68.66	0.00		gypsum
18	830	ws09	1.0	3230	326.0	0	170.69	0.00		gypsum
18	830	ws09	2.5	3230	242.0	0	1979.86	0.00		gypsum
18	830	ws09	5.0	3230	50.0	0	3272.50	0.00		gypsum
18	830	ws09	10.0	3230	14.0	28069	7330.40	13195.17		gypsum
18	1000	ws09	.3	3400	28147.0	0	397.92	0.00		gypsum
18	1000	ws09	.5	3400	1521.0	0	99.55	0.00		gypsum
18	1000	ws09	1.0	3400	581.0	0	304.21	0.00		gypsum
18	1000	ws09	2.5	3400	453.0	0	3706.11	0.00		gypsum
18	1000	ws09	5.0	3400	111.0	0	7264.95	0.00		gypsum
18	1000	ws09	10.0	3400	29.0	30842	15184.40	26957.14		gypsum
18	1130	ws09	.3	3530	24104.0	0	340.76	0.00		gypsum
18	1130	ws09	.5	3530	1209.0	0	79.13	0.00		gypsum
18	1130	ws09	1.0	3530	653.0	0	341.91	0.00		gypsum
18	1130	ws09	2.5	3530	544.0	0	4450.60	0.00		gypsum
18	1130	ws09	5.0	3530	127.0	0	8312.15	0.00		gypsum
18	1130	ws09	10.0	3530	25.0	26662	13090.00	26614.55		gypsum
18	1300	ws09	.3	3700	29449.0	0	416.33	0.00		gypsum
18	1300	ws09	.5	3700	1652.0	0	108.12	0.00		gypsum
18	1300	ws09	1.0	3700	445.0	0	233.00	0.00		gypsum
18	1300	ws09	2.5	3700	260.0	0	2127.13	0.00		gypsum
18	1300	ws09	5.0	3700	70.0	0	4581.50	0.00		gypsum
18	1300	ws09	10.0	3700	13.0	31889	6806.80	14272.88		gypsum
18	1430	ws09	.3	3830	96440.0	0	1363.39	0.00		gypsum
18	1430	ws09	.5	3830	17998.0	0	1177.97	0.00		gypsum
18	1430	ws09	1.0	3830	3525.0	0	1845.69	0.00		gypsum
18	1430	ws09	2.5	3830	886.0	0	7248.59	0.00		gypsum
18	1430	ws09	5.0	3830	116.0	0	7592.20	0.00		gypsum
18	1430	ws09	10.0	3830	22.0	118987	11519.20	30747.04		gypsum
18	1600	ws09	.3	4000	30007.0	0	424.21	0.00		gypsum
18	1600	ws09	.5	4000	4301.0	0	281.50	0.00		gypsum
18	1600	ws09	1.0	4000	2864.0	0	1499.59	0.00		gypsum
18	1600	ws09	2.5	4000	2570.0	0	21025.81	0.00		gypsum
18	1600	ws09	5.0	4000	833.0	0	54519.85	0.00		gypsum
18	1600	ws09	10.0	4000	267.0	40842	139801.20	217552.17		gypsum

18	1730	ws09	.3	4130	23668.0	0	334.60	0.00		gypsum
18	1730	ws09	.5	4130	1075.0	0	70.36	0.00		gypsum
18	1730	ws09	1.0	4130	91.0	0	47.65	0.00		gypsum
18	1730	ws09	2.5	4130	38.0	0	310.89	0.00		gypsum
18	1730	ws09	5.0	4130	3.0	0	196.35	0.00		gypsum
18	1730	ws09	10.0	4130	6.0	24881	3141.60	4101.44		gypsum
19	630	ws09	.3	5430	5280.0	0	74.64	0.00		general particulate
19	630	ws09	.5	5430	149.0	0	9.75	0.00		general particulate
19	630	ws09	1.0	5430	27.0	0	14.14	0.00		general particulate
19	630	ws09	2.5	5430	5.0	0	40.91	0.00		general particulate
19	630	ws09	5.0	5430	2.0	0	130.90	0.00		general particulate
19	630	ws09	10.0	5430	0.0	5463	0.00	270.34		general particulate
19	700	ws09	.3	5500	4838.0	0	68.40	0.00		general particulate
19	700	ws09	.5	5500	198.0	0	12.96	0.00		general particulate
19	700	ws09	1.0	5500	57.0	0	29.85	0.00		general particulate
19	700	ws09	2.5	5500	36.0	0	294.53	0.00		general particulate
19	700	ws09	5.0	5500	14.0	0	916.30	0.00		general particulate
19	700	ws09	10.0	5500	7.0	5150	3665.20	4987.23		general particulate
19	830	ws09	.3	5630	13295.0	0	187.95	0.00		gypsum
19	830	ws09	.5	5630	2203.0	0	144.19	0.00		gypsum
19	830	ws09	1.0	5630	558.0	0	292.17	0.00		gypsum
19	830	ws09	2.5	5630	198.0	0	1619.89	0.00		gypsum
19	830	ws09	5.0	5630	43.0	0	2814.35	0.00		gypsum
19	830	ws09	10.0	5630	11.0	16308	5759.60	10818.15		gypsum
19	1000	ws09	.3	5800	9997.0	0	141.33	0.00		gypsum
19	1000	ws09	.5	5800	1608.0	0	105.24	0.00		gypsum
19	1000	ws09	1.0	5800	773.0	0	404.74	0.00		gypsum
19	1000	ws09	2.5	5800	650.0	0	5317.81	0.00		gypsum
19	1000	ws09	5.0	5800	251.0	0	16427.95	0.00		gypsum
19	1000	ws09	10.0	5800	110.0	13389	57596.00	79993.08		gypsum
19	1130	ws09	.3	5930	8655.0	0	122.36	0.00		gypsum
19	1130	ws09	.5	5930	332.0	0	21.73	0.00		gypsum
19	1130	ws09	1.0	5930	99.0	0	51.84	0.00		gypsum
19	1130	ws09	2.5	5930	52.0	0	425.43	0.00		gypsum
19	1130	ws09	5.0	5930	8.0	0	523.60	0.00		gypsum
19	1130	ws09	10.0	5930	5.0	9151	2618.00	3762.95		gypsum
19	1300	ws09	.3	6100	8797.0	0	124.36	0.00		gypsum
19	1300	ws09	.5	6100	509.0	0	33.31	0.00		gypsum
19	1300	ws09	1.0	6100	177.0	0	92.68	0.00		gypsum
19	1300	ws09	2.5	6100	146.0	0	1194.46	0.00		gypsum
19	1300	ws09	5.0	6100	47.0	0	3076.15	0.00		gypsum

19	1300	ws09	10.0	6100	15.0	9691	7854.00	12374.97		gypsum
19	1430	ws09	.3	6230	35226.0	0	498.00	0.00		gypsum
19	1430	ws09	.5	6230	5774.0	0	377.91	0.00		gypsum
19	1430	ws09	1.0	6230	1116.0	0	584.34	0.00		gypsum
19	1430	ws09	2.5	6230	410.0	0	3354.31	0.00		gypsum
19	1430	ws09	5.0	6230	121.0	0	7919.45	0.00		gypsum
19	1430	ws09	10.0	6230	26.0	42673	13613.60	26347.61		gypsum
19	1600	ws09	.3	6400	18103.0	0	255.93	0.00		gypsum
19	1600	ws09	.5	6400	1579.0	0	103.35	0.00		gypsum
19	1600	ws09	1.0	6400	568.0	0	297.40	0.00		gypsum
19	1600	ws09	2.5	6400	367.0	0	3002.52	0.00		gypsum
19	1600	ws09	5.0	6400	74.0	0	4843.30	0.00		gypsum
19	1600	ws09	10.0	6400	18.0	20709	9424.80	17927.29		gypsum
19	1730	ws09	.3	6530	17904.0	0	253.11	0.00		gypsum
19	1730	ws09	.5	6530	538.0	0	35.21	0.00		gypsum
19	1730	ws09	1.0	6530	112.0	0	58.64	0.00		gypsum
19	1730	ws09	2.5	6530	82.0	0	670.86	0.00		gypsum
19	1730	ws09	5.0	6530	26.0	0	1701.70	0.00		gypsum
19	1730	ws09	10.0	6530	15.0	18677	7854.00	10573.53		gypsum
20	630	ws09	.3	7830	10170.0	0	143.78	0.00		general particulate
20	630	ws09	.5	7830	436.0	0	28.54	0.00		general particulate
20	630	ws09	1.0	7830	27.0	0	14.14	0.00		general particulate
20	630	ws09	2.5	7830	4.0	0	32.73	0.00		general particulate
20	630	ws09	5.0	7830	2.0	0	130.90	0.00		general particulate
20	630	ws09	10.0	7830	1.0	10640	523.60	873.67		general particulate
20	700	ws09	.3	7900	8326.0	0	117.71	0.00		general particulate
20	700	ws09	.5	7900	477.0	0	31.22	0.00		general particulate
20	700	ws09	1.0	7900	142.0	0	74.35	0.00		general particulate
20	700	ws09	2.5	7900	103.0	0	842.67	0.00		general particulate
20	700	ws09	5.0	7900	29.0	0	1898.05	0.00		general particulate
20	700	ws09	10.0	7900	24.0	9101	12566.40	15530.40		general particulate
20	830	ws09	.3	8030	9497.0	0	134.26	0.00		gypsum
20	830	ws09	.5	8030	645.0	0	42.22	0.00		gypsum
20	830	ws09	1.0	8030	121.0	0	63.36	0.00		gypsum
20	830	ws09	2.5	8030	66.0	0	539.96	0.00		gypsum
20	830	ws09	5.0	8030	9.0	0	589.05	0.00		gypsum
20	830	ws09	10.0	8030	13.0	10351	6806.80	8175.64		gypsum
20	1000	ws09	.3	8200	13174.0	0	186.24	0.00		gypsum
20	1000	ws09	.5	8200	1054.0	0	68.98	0.00		gypsum
20	1000	ws09	1.0	8200	224.0	0	117.29	0.00		gypsum
20	1000	ws09	2.5	8200	122.0	0	998.11	0.00		gypsum

20	1000	ws09	5.0	8200	25.0	0	1636.25	0.00		gypsum
20	1000	ws09	10.0	8200	9.0	14608	4712.40	7719.28		gypsum
20	1130	ws09	.3	8330	11845.0	0	167.46	0.00		gypsum
20	1130	ws09	.5	8330	3452.0	0	225.93	0.00		gypsum
20	1130	ws09	1.0	8330	1287.0	0	673.87	0.00		gypsum
20	1130	ws09	2.5	8330	430.0	0	3517.94	0.00		gypsum
20	1130	ws09	5.0	8330	31.0	0	2028.95	0.00		gypsum
20	1130	ws09	10.0	8330	14.0	17059	7330.40	13944.55		gypsum
20	1300	ws09	.3	8500	14119.0	0	199.60	0.00		gypsum
20	1300	ws09	.5	8500	1532.0	0	100.27	0.00		gypsum
20	1300	ws09	1.0	8500	58.0	0	30.37	0.00		gypsum
20	1300	ws09	2.5	8500	15.0	0	122.72	0.00		gypsum
20	1300	ws09	5.0	8500	7.0	0	458.15	0.00		gypsum
20	1300	ws09	10.0	8500	3.0	15734	1570.80	2481.91		gypsum
20	1430	ws09	.3	8630	12339.0	0	174.44	0.00		gypsum
20	1430	ws09	.5	8630	1390.0	0	90.98	0.00		gypsum
20	1430	ws09	1.0	8630	38.0	0	19.90	0.00		gypsum
20	1430	ws09	2.5	8630	10.0	0	81.81	0.00		gypsum
20	1430	ws09	5.0	8630	3.0	0	196.35	0.00		gypsum
20	1430	ws09	10.0	8630	1.0	13781	523.60	1087.07		gypsum
20	1600	ws09	.3	8800	13404.0	0	189.50	0.00		gypsum
20	1600	ws09	.5	8800	1419.0	0	92.87	0.00		gypsum
20	1600	ws09	1.0	8800	99.0	0	51.84	0.00		gypsum
20	1600	ws09	2.5	8800	33.0	0	269.98	0.00		gypsum
20	1600	ws09	5.0	8800	12.0	0	785.40	0.00		gypsum
20	1600	ws09	10.0	8800	4.0	14971	2094.40	3483.99		gypsum
20	1730	ws09	.3	8930	13946.0	0	197.16	0.00		gypsum
20	1730	ws09	.5	8930	1035.0	0	67.74	0.00		gypsum
20	1730	ws09	1.0	8930	176.0	0	92.15	0.00		gypsum
20	1730	ws09	2.5	8930	79.0	0	646.32	0.00		gypsum
20	1730	ws09	5.0	8930	20.0	0	1309.00	0.00		gypsum
20	1730	ws09	10.0	8930	7.0	15263	3665.20	5977.57		gypsum
21	630	ws09	.3	10230	7794.0	0	110.19	0.00		general particulate
21	630	ws09	.5	10230	273.0	0	17.87	0.00		general particulate
21	630	ws09	1.0	10230	17.0	0	8.90	0.00		general particulate
21	630	ws09	2.5	10230	4.0	0	32.73	0.00		general particulate
21	630	ws09	5.0	10230	4.0	0	261.80	0.00		general particulate
21	630	ws09	10.0	10230	4.0	8096	2094.40	2525.88		general particulate
21	700	ws09	.3	10300	7149.0	0	101.07	0.00		general particulate
21	700	ws09	.5	10300	265.0	0	17.34	0.00		general particulate
21	700	ws09	1.0	10300	53.0	0	27.75	0.00		general particulate

21	700	ws09	2.5	10300	34.0	0	278.16	0.00		general particulate
21	700	ws09	5.0	10300	24.0	0	1570.80	0.00		general particulate
21	700	ws09	10.0	10300	11.0	7536	5759.60	7754.72		general particulate
21	830	ws09	.3	10430	10509.0	0	148.57	0.00		gypsum
21	830	ws09	.5	10430	850.0	0	55.63	0.00		gypsum
21	830	ws09	1.0	10430	230.0	0	120.43	0.00		gypsum
21	830	ws09	2.5	10430	138.0	0	1129.01	0.00		gypsum
21	830	ws09	5.0	10430	29.0	0	1898.05	0.00		gypsum
21	830	ws09	10.0	10430	11.0	11767	5759.60	9111.29		gypsum
21	1000	ws09	.3	10600	13873.0	0	196.13	0.00		gypsum
21	1000	ws09	.5	10600	1405.0	0	91.96	0.00		gypsum
21	1000	ws09	1.0	10600	131.0	0	68.59	0.00		gypsum
21	1000	ws09	2.5	10600	54.0	0	441.79	0.00		gypsum
21	1000	ws09	5.0	10600	24.0	0	1570.80	0.00		gypsum
21	1000	ws09	10.0	10600	9.0	15496	4712.40	7081.66		gypsum
21	1130	ws09	.3	10730	18226.0	0	257.66	0.00		gypsum
21	1130	ws09	.5	10730	1270.0	0	83.12	0.00		gypsum
21	1130	ws09	1.0	10730	71.0	0	37.18	0.00		gypsum
21	1130	ws09	2.5	10730	28.0	0	229.08	0.00		gypsum
21	1130	ws09	5.0	10730	5.0	0	327.25	0.00		gypsum
21	1130	ws09	10.0	10730	5.0	19605	2618.00	3552.29		gypsum
21	1300	ws09	.3	10900	24840.0	0	351.17	0.00		gypsum
21	1300	ws09	.5	10900	5051.0	0	330.59	0.00		gypsum
21	1300	ws09	1.0	10900	1783.0	0	933.58	0.00		gypsum
21	1300	ws09	2.5	10900	810.0	0	6626.81	0.00		gypsum
21	1300	ws09	5.0	10900	290.0	0	18980.50	0.00		gypsum
21	1300	ws09	10.0	10900	154.0	32928	80634.40	107857.05		gypsum
21	1430	ws09	.3	11030	43829.0	0	619.62	0.00		gypsum
21	1430	ws09	.5	11030	10275.0	0	672.50	0.00		gypsum
21	1430	ws09	1.0	11030	1877.0	0	982.80	0.00		gypsum
21	1430	ws09	2.5	11030	403.0	0	3297.04	0.00		gypsum
21	1430	ws09	5.0	11030	121.0	0	7919.45	0.00		gypsum
21	1430	ws09	10.0	11030	24.0	56529	12566.40	26057.81		gypsum
21	1600	ws09	.3	11200	18377.0	0	259.80	0.00		gypsum
21	1600	ws09	.5	11200	3779.0	0	247.34	0.00		gypsum
21	1600	ws09	1.0	11200	2080.0	0	1089.09	0.00		gypsum
21	1600	ws09	2.5	11200	1446.0	0	11830.09	0.00		gypsum
21	1600	ws09	5.0	11200	320.0	0	20944.00	0.00		gypsum
21	1600	ws09	10.0	11200	86.0	26088	45029.60	79399.91		gypsum
21	1730	ws09	.3	11330	11154.0	0	157.69	0.00		gypsum
21	1730	ws09	.5	11330	445.0	0	29.13	0.00		gypsum

21	1730	ws09	1.0	11330	65.0	0	34.03	0.00		gypsum
21	1730	ws09	2.5	11330	34.0	0	278.16	0.00		gypsum
21	1730	ws09	5.0	11330	17.0	0	1112.65	0.00		gypsum
21	1730	ws09	10.0	11330	4.0	11719	2094.40	3706.06		gypsum
17	630	ws10	.3	630	16254.0	0	229.79	0.00		general particulate
17	630	ws10	.5	630	426.0	0	27.88	0.00		general particulate
17	630	ws10	1.0	630	23.0	0	12.04	0.00		general particulate
17	630	ws10	2.5	630	4.0	0	32.73	0.00		general particulate
17	630	ws10	5.0	630	0.0	0	0.00	0.00		general particulate
17	630	ws10	10.0	630	1.0	16708	523.60	826.04		general particulate
17	700	ws10	.3	700	16092.0	0	227.50	0.00		general particulate
17	700	ws10	.5	700	479.0	0	31.35	0.00		general particulate
17	700	ws10	1.0	700	50.0	0	26.18	0.00		general particulate
17	700	ws10	2.5	700	28.0	0	229.08	0.00		general particulate
17	700	ws10	5.0	700	5.0	0	327.25	0.00		general particulate
17	700	ws10	10.0	700	6.0	16660	3141.60	3982.95		general particulate
17	830	ws10	.3	830	14993.0	0	211.96	0.00	1 pers - adjusting wax up	paraffin wax
17	830	ws10	.5	830	809.0	0	52.95	0.00	1 pers - adjusting wax up	paraffin wax
17	830	ws10	1.0	830	74.0	0	38.75	0.00	1 pers - adjusting wax up	paraffin wax
17	830	ws10	2.5	830	27.0	0	220.89	0.00	1 pers - adjusting wax up	paraffin wax
17	830	ws10	5.0	830	2.0	0	130.90	0.00	1 pers - adjusting wax up	paraffin wax
17	830	ws10	10.0	830	4.0	15909	2094.40	2749.85	1 pers - adjusting wax up	paraffin wax
17	1000	ws10	.3	1000	12524.0	0	177.05	0.00		paraffin wax
17	1000	ws10	.5	1000	803.0	0	52.56	0.00		paraffin wax
17	1000	ws10	1.0	1000	173.0	0	90.58	0.00		paraffin wax
17	1000	ws10	2.5	1000	105.0	0	859.03	0.00		paraffin wax
17	1000	ws10	5.0	1000	25.0	0	1636.25	0.00		paraffin wax
17	1000	ws10	10.0	1000	5.0	13635	2618.00	5433.47		paraffin wax
17	1130	ws10	.3	1130	15198.0	0	214.86	0.00		paraffin wax
17	1130	ws10	.5	1130	647.0	0	42.35	0.00		paraffin wax
17	1130	ws10	1.0	1130	86.0	0	45.03	0.00		paraffin wax
17	1130	ws10	2.5	1130	48.0	0	392.70	0.00		paraffin wax
17	1130	ws10	5.0	1130	6.0	0	392.70	0.00		paraffin wax
17	1130	ws10	10.0	1130	2.0	15987	1047.20	2134.83		paraffin wax
17	1300	ws10	.3	1300	26730.0	0	377.89	0.00		paraffin wax
17	1300	ws10	.5	1300	1243.0	0	81.35	0.00		paraffin wax
17	1300	ws10	1.0	1300	150.0	0	78.54	0.00		paraffin wax
17	1300	ws10	2.5	1300	55.0	0	449.97	0.00		paraffin wax
17	1300	ws10	5.0	1300	6.0	0	392.70	0.00		paraffin wax
17	1300	ws10	10.0	1300	4.0	28188	2094.40	3474.85		paraffin wax
17	1430	ws10	.3	1430	36209.0	0	511.89	0.00		paraffin wax

17	1430	ws10	.5	1430	1614.0	0	105.64	0.00		paraffin wax
17	1430	ws10	1.0	1430	141.0	0	73.83	0.00		paraffin wax
17	1430	ws10	2.5	1430	32.0	0	261.80	0.00		paraffin wax
17	1430	ws10	5.0	1430	7.0	0	458.15	0.00		paraffin wax
17	1430	ws10	10.0	1430	1.0	38004	523.60	1934.91		paraffin wax
17	1600	ws10	.3	1600	43352.0	0	612.88	0.00		paraffin wax
17	1600	ws10	.5	1600	1480.0	0	96.87	0.00		paraffin wax
17	1600	ws10	1.0	1600	98.0	0	51.31	0.00		paraffin wax
17	1600	ws10	2.5	1600	39.0	0	319.07	0.00		paraffin wax
17	1600	ws10	5.0	1600	2.0	0	130.90	0.00		paraffin wax
17	1600	ws10	10.0	1600	0.0	44971	0.00	1211.02		paraffin wax
17	1730	ws10	.3	1730	32480.0	0	459.18	0.00		paraffin wax
17	1730	ws10	.5	1730	937.0	0	61.33	0.00		paraffin wax
17	1730	ws10	1.0	1730	60.0	0	31.42	0.00		paraffin wax
17	1730	ws10	2.5	1730	31.0	0	253.62	0.00		paraffin wax
17	1730	ws10	5.0	1730	13.0	0	850.85	0.00		paraffin wax
17	1730	ws10	10.0	1730	4.0	33525	2094.40	3750.79		paraffin wax
18	630	ws10	.3	3030	12742.0	0	180.14	0.00		general particulate
18	630	ws10	.5	3030	353.0	0	23.10	0.00		general particulate
18	630	ws10	1.0	3030	32.0	0	16.76	0.00		general particulate
18	630	ws10	2.5	3030	10.0	0	81.81	0.00		general particulate
18	630	ws10	5.0	3030	2.0	0	130.90	0.00		general particulate
18	630	ws10	10.0	3030	0.0	13139	0.00	432.71		general particulate
18	700	ws10	.3	3100	14780.0	0	208.95	0.00		general particulate
18	700	ws10	.5	3100	388.0	0	25.39	0.00		general particulate
18	700	ws10	1.0	3100	45.0	0	23.56	0.00		general particulate
18	700	ws10	2.5	3100	16.0	0	130.90	0.00		general particulate
18	700	ws10	5.0	3100	1.0	0	65.45	0.00		general particulate
18	700	ws10	10.0	3100	1.0	15231	523.60	977.85		general particulate
18	830	ws10	.3	3230	24374.0	0	344.58	0.00		paraffin wax
18	830	ws10	.5	3230	709.0	0	46.40	0.00		paraffin wax
18	830	ws10	1.0	3230	93.0	0	48.69	0.00		paraffin wax
18	830	ws10	2.5	3230	23.0	0	188.17	0.00		paraffin wax
18	830	ws10	5.0	3230	9.0	0	589.05	0.00		paraffin wax
18	830	ws10	10.0	3230	0.0	25208	0.00	1216.90		paraffin wax
18	1000	ws10	.3	3400	85678.0	0	1211.25	0.00	1 pers - waxing a full arch	paraffin wax
18	1000	ws10	.5	3400	6921.0	0	452.98	0.00	1 pers - waxing a full arch	paraffin wax
18	1000	ws10	1.0	3400	660.0	0	345.58	0.00	1 pers - waxing a full arch	paraffin wax
18	1000	ws10	2.5	3400	77.0	0	629.96	0.00	1 pers - waxing a full arch	paraffin wax
18	1000	ws10	5.0	3400	8.0	0	523.60	0.00	1 pers - waxing a full arch	paraffin wax
18	1000	ws10	10.0	3400	3.0	93347	1570.80	4734.16	1 pers - waxing a full arch	paraffin wax

18	1130	ws10	.3	3530	116347.0	0	1644.82	0.00	1 pers - waxing a full arch	paraffin wax
18	1130	ws10	.5	3530	10485.0	0	686.24	0.00	1 pers - waxing a full arch	paraffin wax
18	1130	ws10	1.0	3530	926.0	0	484.85	0.00	1 pers - waxing a full arch	paraffin wax
18	1130	ws10	2.5	3530	109.0	0	891.76	0.00	1 pers - waxing a full arch	paraffin wax
18	1130	ws10	5.0	3530	3.0	0	196.35	0.00	1 pers - waxing a full arch	paraffin wax
18	1130	ws10	10.0	3530	5.0	127875	2618.00	6522.02	1 pers - waxing a full arch	paraffin wax
18	1300	ws10	.3	3700	29014.0	0	410.18	0.00		paraffin wax
18	1300	ws10	.5	3700	930.0	0	60.87	0.00		paraffin wax
18	1300	ws10	1.0	3700	93.0	0	48.69	0.00		paraffin wax
18	1300	ws10	2.5	3700	37.0	0	302.71	0.00		paraffin wax
18	1300	ws10	5.0	3700	7.0	0	458.15	0.00		paraffin wax
18	1300	ws10	10.0	3700	2.0	30083	1047.20	2327.80		paraffin wax
18	1430	ws10	.3	3830	49514.0	0	699.99	0.00	1 pers - waxing a full arch	paraffin wax
18	1430	ws10	.5	3830	3409.0	0	223.12	0.00	1 pers - waxing a full arch	paraffin wax
18	1430	ws10	1.0	3830	406.0	0	212.58	0.00	1 pers - waxing a full arch	paraffin wax
18	1430	ws10	2.5	3830	62.0	0	507.24	0.00	1 pers - waxing a full arch	paraffin wax
18	1430	ws10	5.0	3830	4.0	0	261.80	0.00	1 pers - waxing a full arch	paraffin wax
18	1430	ws10	10.0	3830	4.0	53399	2094.40	3999.13	1 pers - waxing a full arch	paraffin wax
18	1600	ws10	.3	4000	25380.0	0	358.80	0.00		paraffin wax
18	1600	ws10	.5	4000	1168.0	0	76.45	0.00		paraffin wax
18	1600	ws10	1.0	4000	184.0	0	96.34	0.00		paraffin wax
18	1600	ws10	2.5	4000	78.0	0	638.14	0.00		paraffin wax
18	1600	ws10	5.0	4000	10.0	0	654.50	0.00		paraffin wax
18	1600	ws10	10.0	4000	3.0	26823	1570.80	3395.03		paraffin wax
18	1730	ws10	.3	4130	21944.0	0	310.23	0.00		paraffin wax
18	1730	ws10	.5	4130	1043.0	0	68.26	0.00		paraffin wax
18	1730	ws10	1.0	4130	92.0	0	48.17	0.00		paraffin wax
18	1730	ws10	2.5	4130	18.0	0	147.26	0.00		paraffin wax
18	1730	ws10	5.0	4130	7.0	0	458.15	0.00		paraffin wax
18	1730	ws10	10.0	4130	2.0	23106	1047.20	2079.27		paraffin wax
19	630	ws10	.3	5430	4973.0	0	70.30	0.00		general particulate
19	630	ws10	.5	5430	144.0	0	9.42	0.00		general particulate
19	630	ws10	1.0	5430	11.0	0	5.76	0.00		general particulate
19	630	ws10	2.5	5430	4.0	0	32.73	0.00		general particulate
19	630	ws10	5.0	5430	0.0	0	0.00	0.00		general particulate
19	630	ws10	10.0	5430	1.0	5133	523.60	641.81		general particulate
19	700	ws10	.3	5500	4586.0	0	64.83	0.00		general particulate
19	700	ws10	.5	5500	181.0	0	11.85	0.00		general particulate
19	700	ws10	1.0	5500	39.0	0	20.42	0.00		general particulate
19	700	ws10	2.5	5500	19.0	0	155.44	0.00		general particulate
19	700	ws10	5.0	5500	6.0	0	392.70	0.00		general particulate

19	700	ws10	10.0	5500	3.0	4834	1570.80	2216.04		general particulate
19	830	ws10	.3	5630	6279.0	0	88.77	0.00		paraffin wax
19	830	ws10	.5	5630	406.0	0	26.57	0.00		paraffin wax
19	830	ws10	1.0	5630	68.0	0	35.60	0.00		paraffin wax
19	830	ws10	2.5	5630	21.0	0	171.81	0.00		paraffin wax
19	830	ws10	5.0	5630	3.0	0	196.35	0.00		paraffin wax
19	830	ws10	10.0	5630	3.0	6780	1570.80	2089.90		paraffin wax
19	1000	ws10	.3	5800	7596.0	0	107.39	0.00	1 pers - waxing a full arch	paraffin wax
19	1000	ws10	.5	5800	355.0	0	23.23	0.00	1 pers - waxing a full arch	paraffin wax
19	1000	ws10	1.0	5800	73.0	0	38.22	0.00	1 pers - waxing a full arch	paraffin wax
19	1000	ws10	2.5	5800	33.0	0	269.98	0.00	1 pers - waxing a full arch	paraffin wax
19	1000	ws10	5.0	5800	8.0	0	523.60	0.00	1 pers - waxing a full arch	paraffin wax
19	1000	ws10	10.0	5800	3.0	8068	1570.80	2533.22	1 pers - waxing a full arch	paraffin wax
19	1130	ws10	.3	5930	7445.0	0	105.25	0.00		paraffin wax
19	1130	ws10	.5	5930	288.0	0	18.85	0.00		paraffin wax
19	1130	ws10	1.0	5930	45.0	0	23.56	0.00		paraffin wax
19	1130	ws10	2.5	5930	15.0	0	122.72	0.00		paraffin wax
19	1130	ws10	5.0	5930	5.0	0	327.25	0.00		paraffin wax
19	1130	ws10	10.0	5930	8.0	7806	4188.80	4786.43		paraffin wax
19	1300	ws10	.3	6100	20440.0	0	288.96	0.00		paraffin wax
19	1300	ws10	.5	6100	4760.0	0	311.54	0.00		paraffin wax
19	1300	ws10	1.0	6100	71.0	0	37.18	0.00		paraffin wax
19	1300	ws10	2.5	6100	15.0	0	122.72	0.00		paraffin wax
19	1300	ws10	5.0	6100	6.0	0	392.70	0.00		paraffin wax
19	1300	ws10	10.0	6100	2.0	25294	1047.20	2200.30		paraffin wax
19	1430	ws10	.3	6230	17972.0	0	254.07	0.00	1 pers - waxing a full arch	paraffin wax
19	1430	ws10	.5	6230	1167.0	0	76.38	0.00	1 pers - waxing a full arch	paraffin wax
19	1430	ws10	1.0	6230	122.0	0	63.88	0.00	1 pers - waxing a full arch	paraffin wax
19	1430	ws10	2.5	6230	41.0	0	335.43	0.00	1 pers - waxing a full arch	paraffin wax
19	1430	ws10	5.0	6230	9.0	0	589.05	0.00	1 pers - waxing a full arch	paraffin wax
19	1430	ws10	10.0	6230	2.0	19313	1047.20	2366.01	1 pers - waxing a full arch	paraffin wax
19	1600	ws10	.3	6400	14666.0	0	207.34	0.00		paraffin wax
19	1600	ws10	.5	6400	736.0	0	48.17	0.00		paraffin wax
19	1600	ws10	1.0	6400	96.0	0	50.27	0.00		paraffin wax
19	1600	ws10	2.5	6400	33.0	0	269.98	0.00		paraffin wax
19	1600	ws10	5.0	6400	8.0	0	523.60	0.00		paraffin wax
19	1600	ws10	10.0	6400	8.0	15547	4188.80	5288.15		paraffin wax
19	1730	ws10	.3	6530	16144.0	0	228.23	0.00		paraffin wax
19	1730	ws10	.5	6530	462.0	0	30.24	0.00		paraffin wax
19	1730	ws10	1.0	6530	65.0	0	34.03	0.00		paraffin wax
19	1730	ws10	2.5	6530	45.0	0	368.16	0.00		paraffin wax

19	1730	ws10	5.0	6530	10.0	0	654.50	0.00		paraffin wax
19	1730	ws10	10.0	6530	2.0	16728	1047.20	2362.36		paraffin wax
20	630	ws10	.3	7830	9723.0	0	137.46	0.00		general particulate
20	630	ws10	.5	7830	375.0	0	24.54	0.00		general particulate
20	630	ws10	1.0	7830	16.0	0	8.38	0.00		general particulate
20	630	ws10	2.5	7830	1.0	0	8.18	0.00		general particulate
20	630	ws10	5.0	7830	0.0	0	0.00	0.00		general particulate
20	630	ws10	10.0	7830	0.0	10115	0.00	178.56		general particulate
20	700	ws10	.3	7900	8490.0	0	120.02	0.00		general particulate
20	700	ws10	.5	7900	468.0	0	30.63	0.00		general particulate
20	700	ws10	1.0	7900	53.0	0	27.75	0.00		general particulate
20	700	ws10	2.5	7900	38.0	0	310.89	0.00		general particulate
20	700	ws10	5.0	7900	15.0	0	981.75	0.00		general particulate
20	700	ws10	10.0	7900	8.0	9072	4188.80	5659.84		general particulate
20	830	ws10	.3	8030	12139.0	0	171.61	0.00	1 pers - stacking porcelain	silica
20	830	ws10	.5	8030	1254.0	0	82.07	0.00	1 pers - stacking porcelain	silica
20	830	ws10	1.0	8030	326.0	0	170.69	0.00	1 pers - stacking porcelain	silica
20	830	ws10	2.5	8030	122.0	0	998.11	0.00	1 pers - stacking porcelain	silica
20	830	ws10	5.0	8030	17.0	0	1112.65	0.00	1 pers - stacking porcelain	silica
20	830	ws10	10.0	8030	16.0	13874	8377.60	10912.74	1 pers - stacking porcelain	silica
20	1000	ws10	.3	8200	16789.0	0	237.35	0.00		paraffin wax
20	1000	ws10	.5	8200	1316.0	0	86.13	0.00		paraffin wax
20	1000	ws10	1.0	8200	144.0	0	75.40	0.00		paraffin wax
20	1000	ws10	2.5	8200	31.0	0	253.62	0.00		paraffin wax
20	1000	ws10	5.0	8200	5.0	0	327.25	0.00		paraffin wax
20	1000	ws10	10.0	8200	2.0	18287	1047.20	2026.95		paraffin wax
20	1130	ws10	.3	8330	11178.0	0	158.03	0.00		paraffin wax
20	1130	ws10	.5	8330	1051.0	0	68.79	0.00		paraffin wax
20	1130	ws10	1.0	8330	120.0	0	62.83	0.00		paraffin wax
20	1130	ws10	2.5	8330	47.0	0	384.52	0.00		paraffin wax
20	1130	ws10	5.0	8330	14.0	0	916.30	0.00		paraffin wax
20	1130	ws10	10.0	8330	7.0	12417	3665.20	5255.66		paraffin wax
20	1300	ws10	.3	8500	13492.0	0	190.74	0.00		paraffin wax
20	1300	ws10	.5	8500	1435.0	0	93.92	0.00		paraffin wax
20	1300	ws10	1.0	8500	76.0	0	39.79	0.00		paraffin wax
20	1300	ws10	2.5	8500	22.0	0	179.99	0.00		paraffin wax
20	1300	ws10	5.0	8500	6.0	0	392.70	0.00		paraffin wax
20	1300	ws10	10.0	8500	2.0	15033	1047.20	1944.34		paraffin wax
20	1430	ws10	.3	8630	11717.0	0	165.65	0.00		paraffin wax
20	1430	ws10	.5	8630	1261.0	0	82.53	0.00		paraffin wax
20	1430	ws10	1.0	8630	45.0	0	23.56	0.00		paraffin wax

20	1430	ws10	2.5	8630	22.0	0	179.99	0.00		paraffin wax
20	1430	ws10	5.0	8630	10.0	0	654.50	0.00		paraffin wax
20	1430	ws10	10.0	8630	7.0	13062	3665.20	4771.43		paraffin wax
20	1600	ws10	.3	8800	12507.0	0	176.81	0.00		paraffin wax
20	1600	ws10	.5	8800	1221.0	0	79.91	0.00		paraffin wax
20	1600	ws10	1.0	8800	50.0	0	26.18	0.00		paraffin wax
20	1600	ws10	2.5	8800	9.0	0	73.63	0.00		paraffin wax
20	1600	ws10	5.0	8800	3.0	0	196.35	0.00		paraffin wax
20	1600	ws10	10.0	8800	2.0	13792	1047.20	1600.09		paraffin wax
20	1730	ws10	.3	8930	11130.0	0	157.35	0.00		paraffin wax
20	1730	ws10	.5	8930	676.0	0	44.24	0.00		paraffin wax
20	1730	ws10	1.0	8930	43.0	0	22.51	0.00		paraffin wax
20	1730	ws10	2.5	8930	8.0	0	65.45	0.00		paraffin wax
20	1730	ws10	5.0	8930	3.0	0	196.35	0.00		paraffin wax
20	1730	ws10	10.0	8930	0.0	11860	0.00	485.91		paraffin wax
21	630	ws10	.3	10230	7927.0	0	112.07	0.00		general particulate
21	630	ws10	.5	10230	298.0	0	19.50	0.00		general particulate
21	630	ws10	1.0	10230	14.0	0	7.33	0.00		general particulate
21	630	ws10	2.5	10230	1.0	0	8.18	0.00		general particulate
21	630	ws10	5.0	10230	8.0	0	523.60	0.00		general particulate
21	630	ws10	10.0	10230	9.0	8257	4712.40	5383.08		general particulate
21	700	ws10	.3	10300	7740.0	0	109.42	0.00		general particulate
21	700	ws10	.5	10300	374.0	0	24.48	0.00		general particulate
21	700	ws10	1.0	10300	58.0	0	30.37	0.00		general particulate
21	700	ws10	2.5	10300	50.0	0	409.06	0.00		general particulate
21	700	ws10	5.0	10300	23.0	0	1505.35	0.00		general particulate
21	700	ws10	10.0	10300	23.0	8268	12042.80	14121.48		general particulate
21	830	ws10	.3	10430	10043.0	0	141.98	0.00		paraffin wax
21	830	ws10	.5	10430	547.0	0	35.80	0.00		paraffin wax
21	830	ws10	1.0	10430	36.0	0	18.85	0.00		paraffin wax
21	830	ws10	2.5	10430	7.0	0	57.27	0.00		paraffin wax
21	830	ws10	5.0	10430	4.0	0	261.80	0.00		paraffin wax
21	830	ws10	10.0	10430	0.0	10637	0.00	515.70		paraffin wax
21	1000	ws10	.3	10600	22589.0	0	319.35	0.00	1 pers - sitting	paraffin wax
21	1000	ws10	.5	10600	2493.0	0	163.17	0.00	1 pers - sitting	paraffin wax
21	1000	ws10	1.0	10600	304.0	0	159.17	0.00	1 pers - sitting	paraffin wax
21	1000	ws10	2.5	10600	106.0	0	867.21	0.00	1 pers - sitting	paraffin wax
21	1000	ws10	5.0	10600	18.0	0	1178.10	0.00	1 pers - sitting	paraffin wax
21	1000	ws10	10.0	10600	4.0	25514	2094.40	4781.40	1 pers - sitting	paraffin wax
21	1130	ws10	.3	10730	21102.0	0	298.32	0.00		paraffin wax
21	1130	ws10	.5	10730	1371.0	0	89.73	0.00		paraffin wax

21	1130	ws10	1.0	10730	57.0	0	29.85	0.00		paraffin wax
21	1130	ws10	2.5	10730	36.0	0	294.53	0.00		paraffin wax
21	1130	ws10	5.0	10730	9.0	0	589.05	0.00		paraffin wax
21	1130	ws10	10.0	10730	11.0	22586	5759.60	7061.08		paraffin wax
21	1300	ws10	.3	10900	82137.0	0	1161.19	0.00	1 pers - Just mixed porcelain for stacking	silica
21	1300	ws10	.5	10900	9761.0	0	638.86	0.00	1 pers - Just mixed porcelain for stacking	silica
21	1300	ws10	1.0	10900	921.0	0	482.24	0.00	1 pers - Just mixed porcelain for stacking	silica
21	1300	ws10	2.5	10900	176.0	0	1439.90	0.00	1 pers - Just mixed porcelain for stacking	silica
21	1300	ws10	5.0	10900	17.0	0	1112.65	0.00	1 pers - Just mixed porcelain for stacking	silica
21	1300	ws10	10.0	10900	4.0	93016	2094.40	6929.23	1 pers - Just mixed porcelain for stacking	silica
21	1430	ws10	.3	11030	16300.0	0	230.44	0.00		paraffin wax
21	1430	ws10	.5	11030	1952.0	0	127.76	0.00		paraffin wax
21	1430	ws10	1.0	11030	220.0	0	115.19	0.00		paraffin wax
21	1430	ws10	2.5	11030	63.0	0	515.42	0.00		paraffin wax
21	1430	ws10	5.0	11030	24.0	0	1570.80	0.00		paraffin wax
21	1430	ws10	10.0	11030	14.0	18573	7330.40	9890.01		paraffin wax
21	1600	ws10	.3	11200	23094.0	0	326.48	0.00		paraffin wax
21	1600	ws10	.5	11200	2367.0	0	154.92	0.00		paraffin wax
21	1600	ws10	1.0	11200	456.0	0	238.76	0.00		paraffin wax
21	1600	ws10	2.5	11200	178.0	0	1456.26	0.00		paraffin wax
21	1600	ws10	5.0	11200	29.0	0	1898.05	0.00		paraffin wax
21	1600	ws10	10.0	11200	8.0	26132	4188.80	8263.28		paraffin wax
21	1730	ws10	.3	11330	9484.0	0	134.08	0.00		paraffin wax
21	1730	ws10	.5	11330	292.0	0	19.11	0.00		paraffin wax
21	1730	ws10	1.0	11330	27.0	0	14.14	0.00		paraffin wax
21	1730	ws10	2.5	11330	20.0	0	163.63	0.00		paraffin wax
21	1730	ws10	5.0	11330	3.0	0	196.35	0.00		paraffin wax
21	1730	ws10	10.0	11330	3.0	9829	1570.80	2098.10		paraffin wax
17	630	ws11	.3	630	17070.0	0	241.32	0.00		general particulate
17	630	ws11	.5	630	464.0	0	30.37	0.00		general particulate
17	630	ws11	1.0	630	27.0	0	14.14	0.00		general particulate
17	630	ws11	2.5	630	9.0	0	73.63	0.00		general particulate
17	630	ws11	5.0	630	2.0	0	130.90	0.00		general particulate
17	630	ws11	10.0	630	0.0	17572	0.00	490.36		general particulate
17	700	ws11	.3	700	16380.0	0	231.57	0.00		general particulate
17	700	ws11	.5	700	480.0	0	31.42	0.00		general particulate
17	700	ws11	1.0	700	56.0	0	29.32	0.00		general particulate
17	700	ws11	2.5	700	19.0	0	155.44	0.00		general particulate
17	700	ws11	5.0	700	5.0	0	327.25	0.00		general particulate

17	700	ws11	10.0	700	6.0	16946	3141.60	3916.60		general particulate
17	830	ws11	.3	830	14718.0	0	208.07	0.00		silica
17	830	ws11	.5	830	780.0	0	51.05	0.00		silica
17	830	ws11	1.0	830	55.0	0	28.80	0.00		silica
17	830	ws11	2.5	830	14.0	0	114.54	0.00		silica
17	830	ws11	5.0	830	3.0	0	196.35	0.00		silica
17	830	ws11	10.0	830	3.0	15573	1570.80	2169.61		silica
17	1000	ws11	.3	1000	12513.0	0	176.90	0.00		silica
17	1000	ws11	.5	1000	687.0	0	44.96	0.00		silica
17	1000	ws11	1.0	1000	154.0	0	80.63	0.00		silica
17	1000	ws11	2.5	1000	58.0	0	474.51	0.00		silica
17	1000	ws11	5.0	1000	8.0	0	523.60	0.00		silica
17	1000	ws11	10.0	1000	5.0	13425	2618.00	3918.61		silica
17	1130	ws11	.3	1130	15171.0	0	214.48	0.00		silica
17	1130	ws11	.5	1130	616.0	0	40.32	0.00		silica
17	1130	ws11	1.0	1130	100.0	0	52.36	0.00		silica
17	1130	ws11	2.5	1130	52.0	0	425.43	0.00		silica
17	1130	ws11	5.0	1130	14.0	0	916.30	0.00		silica
17	1130	ws11	10.0	1130	11.0	15964	5759.60	7408.48		silica
17	1300	ws11	.3	1300	26777.0	0	378.55	0.00		silica
17	1300	ws11	.5	1300	1281.0	0	83.84	0.00		silica
17	1300	ws11	1.0	1300	151.0	0	79.06	0.00		silica
17	1300	ws11	2.5	1300	48.0	0	392.70	0.00		silica
17	1300	ws11	5.0	1300	10.0	0	654.50	0.00		silica
17	1300	ws11	10.0	1300	0.0	28267	0.00	1588.66		silica
17	1430	ws11	.3	1430	37140.0	0	525.06	0.00		silica
17	1430	ws11	.5	1430	1818.0	0	118.99	0.00		silica
17	1430	ws11	1.0	1430	147.0	0	76.97	0.00		silica
17	1430	ws11	2.5	1430	32.0	0	261.80	0.00		silica
17	1430	ws11	5.0	1430	5.0	0	327.25	0.00		silica
17	1430	ws11	10.0	1430	1.0	39143	523.60	1833.66		silica
17	1600	ws11	.3	1600	43237.0	0	611.25	0.00		silica
17	1600	ws11	.5	1600	1564.0	0	102.36	0.00		silica
17	1600	ws11	1.0	1600	100.0	0	52.36	0.00		silica
17	1600	ws11	2.5	1600	40.0	0	327.25	0.00		silica
17	1600	ws11	5.0	1600	4.0	0	261.80	0.00		silica
17	1600	ws11	10.0	1600	1.0	44946	523.60	1878.62		silica
17	1730	ws11	.3	1730	32555.0	0	460.24	0.00		silica
17	1730	ws11	.5	1730	1019.0	0	66.69	0.00		silica
17	1730	ws11	1.0	1730	40.0	0	20.94	0.00		silica
17	1730	ws11	2.5	1730	14.0	0	114.54	0.00		silica

17	1730	ws11	5.0	1730	3.0	0	196.35	0.00		silica
17	1730	ws11	10.0	1730	3.0	33634	1570.80	2429.56		silica
18	630	ws11	.3	3030	12179.0	0	172.18	0.00		general particulate
18	630	ws11	.5	3030	325.0	0	21.27	0.00		general particulate
18	630	ws11	1.0	3030	77.0	0	40.32	0.00		general particulate
18	630	ws11	2.5	3030	30.0	0	245.44	0.00		general particulate
18	630	ws11	5.0	3030	6.0	0	392.70	0.00		general particulate
18	630	ws11	10.0	3030	3.0	12620	1570.80	2442.70		general particulate
18	700	ws11	.3	3100	14184.0	0	200.52	0.00		general particulate
18	700	ws11	.5	3100	416.0	0	27.23	0.00		general particulate
18	700	ws11	1.0	3100	68.0	0	35.60	0.00		general particulate
18	700	ws11	2.5	3100	20.0	0	163.63	0.00		general particulate
18	700	ws11	5.0	3100	8.0	0	523.60	0.00		general particulate
18	700	ws11	10.0	3100	1.0	14697	523.60	1474.18		general particulate
18	830	ws11	.3	3230	24528.0	0	346.76	0.00		silica
18	830	ws11	.5	3230	743.0	0	48.63	0.00		silica
18	830	ws11	1.0	3230	105.0	0	54.98	0.00		silica
18	830	ws11	2.5	3230	54.0	0	441.79	0.00		silica
18	830	ws11	5.0	3230	13.0	0	850.85	0.00		silica
18	830	ws11	10.0	3230	3.0	25446	1570.80	3313.80		silica
18	1000	ws11	.3	3400	39631.0	0	560.27	0.00		silica
18	1000	ws11	.5	3400	1853.0	0	121.28	0.00		silica
18	1000	ws11	1.0	3400	185.0	0	96.87	0.00		silica
18	1000	ws11	2.5	3400	38.0	0	310.89	0.00		silica
18	1000	ws11	5.0	3400	7.0	0	458.15	0.00		silica
18	1000	ws11	10.0	3400	6.0	41720	3141.60	4689.05		silica
18	1130	ws11	.3	3530	31215.0	0	441.29	0.00		silica
18	1130	ws11	.5	3530	1063.0	0	69.57	0.00		silica
18	1130	ws11	1.0	3530	94.0	0	49.22	0.00		silica
18	1130	ws11	2.5	3530	41.0	0	335.43	0.00		silica
18	1130	ws11	5.0	3530	5.0	0	327.25	0.00		silica
18	1130	ws11	10.0	3530	2.0	32420	1047.20	2269.97		silica
18	1300	ws11	.3	3700	28989.0	0	409.82	0.00		silica
18	1300	ws11	.5	3700	956.0	0	62.57	0.00		silica
18	1300	ws11	1.0	3700	92.0	0	48.17	0.00		silica
18	1300	ws11	2.5	3700	28.0	0	229.08	0.00		silica
18	1300	ws11	5.0	3700	7.0	0	458.15	0.00		silica
18	1300	ws11	10.0	3700	2.0	30074	1047.20	2254.99		silica
18	1430	ws11	.3	3830	44181.0	0	624.60	0.00		silica
18	1430	ws11	.5	3830	3350.0	0	219.26	0.00		silica
18	1430	ws11	1.0	3830	398.0	0	208.39	0.00		silica

18	1430	ws11	2.5	3830	76.0	0	621.78	0.00		silica
18	1430	ws11	5.0	3830	8.0	0	523.60	0.00		silica
18	1430	ws11	10.0	3830	1.0	48014	523.60	2721.22		silica
18	1600	ws11	.3	4000	25718.0	0	363.58	0.00		silica
18	1600	ws11	.5	4000	1157.0	0	75.73	0.00		silica
18	1600	ws11	1.0	4000	182.0	0	95.30	0.00		silica
18	1600	ws11	2.5	4000	84.0	0	687.23	0.00		silica
18	1600	ws11	5.0	4000	10.0	0	654.50	0.00		silica
18	1600	ws11	10.0	4000	6.0	27157	3141.60	5017.93		silica
18	1730	ws11	.3	4130	22277.0	0	314.93	0.00		silica
18	1730	ws11	.5	4130	1054.0	0	68.98	0.00		silica
18	1730	ws11	1.0	4130	69.0	0	36.13	0.00		silica
18	1730	ws11	2.5	4130	20.0	0	163.63	0.00		silica
18	1730	ws11	5.0	4130	4.0	0	261.80	0.00		silica
18	1730	ws11	10.0	4130	1.0	23425	523.60	1369.07		silica
19	630	ws11	.3	5430	4988.0	0	70.52	0.00		general particulate
19	630	ws11	.5	5430	151.0	0	9.88	0.00		general particulate
19	630	ws11	1.0	5430	22.0	0	11.52	0.00		general particulate
19	630	ws11	2.5	5430	6.0	0	49.09	0.00		general particulate
19	630	ws11	5.0	5430	2.0	0	130.90	0.00		general particulate
19	630	ws11	10.0	5430	1.0	5170	523.60	795.51		general particulate
19	700	ws11	.3	5500	4583.0	0	64.79	0.00		general particulate
19	700	ws11	.5	5500	205.0	0	13.42	0.00		general particulate
19	700	ws11	1.0	5500	49.0	0	25.66	0.00		general particulate
19	700	ws11	2.5	5500	15.0	0	122.72	0.00		general particulate
19	700	ws11	5.0	5500	3.0	0	196.35	0.00		general particulate
19	700	ws11	10.0	5500	0.0	4855	0.00	422.93		general particulate
19	830	ws11	.3	5630	6328.0	0	89.46	0.00		silica
19	830	ws11	.5	5630	454.0	0	29.71	0.00		silica
19	830	ws11	1.0	5630	111.0	0	58.12	0.00		silica
19	830	ws11	2.5	5630	29.0	0	237.26	0.00		silica
19	830	ws11	5.0	5630	5.0	0	327.25	0.00		silica
19	830	ws11	10.0	5630	4.0	6931	2094.40	2836.20		silica
19	1000	ws11	.3	5800	6970.0	0	98.54	0.00		silica
19	1000	ws11	.5	5800	351.0	0	22.97	0.00		silica
19	1000	ws11	1.0	5800	85.0	0	44.51	0.00		silica
19	1000	ws11	2.5	5800	32.0	0	261.80	0.00		silica
19	1000	ws11	5.0	5800	7.0	0	458.15	0.00		silica
19	1000	ws11	10.0	5800	1.0	7446	523.60	1409.57		silica
19	1130	ws11	.3	5930	7350.0	0	103.91	0.00		silica
19	1130	ws11	.5	5930	281.0	0	18.39	0.00		silica

19	1130	ws11	1.0	5930	41.0	0	21.47	0.00		silica
19	1130	ws11	2.5	5930	13.0	0	106.36	0.00		silica
19	1130	ws11	5.0	5930	6.0	0	392.70	0.00		silica
19	1130	ws11	10.0	5930	3.0	7694	1570.80	2213.62		silica
19	1300	ws11	.3	6100	9770.0	0	138.12	0.00	1 pers- getting ready to stack porcelain	silica
19	1300	ws11	.5	6100	460.0	0	30.11	0.00	1 pers- getting ready to stack porcelain	silica
19	1300	ws11	1.0	6100	54.0	0	28.27	0.00	1 pers- getting ready to stack porcelain	silica
19	1300	ws11	2.5	6100	26.0	0	212.71	0.00	1 pers- getting ready to stack porcelain	silica
19	1300	ws11	5.0	6100	5.0	0	327.25	0.00	1 pers- getting ready to stack porcelain	silica
19	1300	ws11	10.0	6100	1.0	10316	523.60	1260.06	1 pers- getting ready to stack porcelain	silica
19	1430	ws11	.3	6230	17504.0	0	247.46	0.00		silica
19	1430	ws11	.5	6230	1116.0	0	73.04	0.00		silica
19	1430	ws11	1.0	6230	111.0	0	58.12	0.00		silica
19	1430	ws11	2.5	6230	37.0	0	302.71	0.00		silica
19	1430	ws11	5.0	6230	9.0	0	589.05	0.00		silica
19	1430	ws11	10.0	6230	0.0	18777	0.00	1270.38		silica
19	1600	ws11	.3	6400	14869.0	0	210.21	0.00		silica
19	1600	ws11	.5	6400	748.0	0	48.96	0.00		silica
19	1600	ws11	1.0	6400	97.0	0	50.79	0.00		silica
19	1600	ws11	2.5	6400	42.0	0	343.61	0.00		silica
19	1600	ws11	5.0	6400	9.0	0	589.05	0.00		silica
19	1600	ws11	10.0	6400	0.0	15765	0.00	1242.61		silica
19	1730	ws11	.3	6530	16041.0	0	226.77	0.00		silica
19	1730	ws11	.5	6530	485.0	0	31.74	0.00		silica
19	1730	ws11	1.0	6530	68.0	0	35.60	0.00		silica
19	1730	ws11	2.5	6530	35.0	0	286.34	0.00		silica
19	1730	ws11	5.0	6530	7.0	0	458.15	0.00		silica
19	1730	ws11	10.0	6530	6.0	16642	3141.60	4180.22		silica
20	630	ws11	.3	7830	9919.0	0	140.23	0.00		general particulate
20	630	ws11	.5	7830	376.0	0	24.61	0.00		general particulate
20	630	ws11	1.0	7830	18.0	0	9.42	0.00		general particulate
20	630	ws11	2.5	7830	10.0	0	81.81	0.00		general particulate
20	630	ws11	5.0	7830	0.0	0	0.00	0.00		general particulate
20	630	ws11	10.0	7830	0.0	10323	0.00	256.07		general particulate
20	700	ws11	.3	7900	8489.0	0	120.01	0.00		general particulate
20	700	ws11	.5	7900	459.0	0	30.04	0.00		general particulate
20	700	ws11	1.0	7900	79.0	0	41.36	0.00		general particulate
20	700	ws11	2.5	7900	53.0	0	433.61	0.00		general particulate
20	700	ws11	5.0	7900	27.0	0	1767.15	0.00		general particulate

20	700	ws11	10.0	7900	12.0	9119	6283.20	8675.37		general particulate
20	830	ws11	.3	8030	14696.0	0	207.76	0.00	1 pers - stacking porcelain	silica
20	830	ws11	.5	8030	3510.0	0	229.73	0.00	1 pers - stacking porcelain	silica
20	830	ws11	1.0	8030	1222.0	0	639.84	0.00	1 pers - stacking porcelain	silica
20	830	ws11	2.5	8030	358.0	0	2928.89	0.00	1 pers - stacking porcelain	silica
20	830	ws11	5.0	8030	24.0	0	1570.80	0.00	1 pers - stacking porcelain	silica
20	830	ws11	10.0	8030	10.0	19820	5236.00	10813.02	1 pers - stacking porcelain	silica
20	1000	ws11	.3	8200	16506.0	0	233.35	0.00	1 pers - stacking porcelain	silica
20	1000	ws11	.5	8200	1193.0	0	78.08	0.00	1 pers - stacking porcelain	silica
20	1000	ws11	1.0	8200	114.0	0	59.69	0.00	1 pers - stacking porcelain	silica
20	1000	ws11	2.5	8200	51.0	0	417.24	0.00	1 pers - stacking porcelain	silica
20	1000	ws11	5.0	8200	6.0	0	392.70	0.00	1 pers - stacking porcelain	silica
20	1000	ws11	10.0	8200	4.0	17874	2094.40	3275.46	1 pers - stacking porcelain	silica
20	1130	ws11	.3	8330	20020.0	0	283.03	0.00		silica
20	1130	ws11	.5	8330	1048.0	0	68.59	0.00		silica
20	1130	ws11	1.0	8330	90.0	0	47.12	0.00		silica
20	1130	ws11	2.5	8330	29.0	0	237.26	0.00		silica
20	1130	ws11	5.0	8330	12.0	0	785.40	0.00		silica
20	1130	ws11	10.0	8330	4.0	21203	2094.40	3515.80		silica
20	1300	ws11	.3	8500	13522.0	0	191.16	0.00		silica
20	1300	ws11	.5	8500	1482.0	0	97.00	0.00		silica
20	1300	ws11	1.0	8500	59.0	0	30.89	0.00		silica
20	1300	ws11	2.5	8500	18.0	0	147.26	0.00		silica
20	1300	ws11	5.0	8500	4.0	0	261.80	0.00		silica
20	1300	ws11	10.0	8500	2.0	15087	1047.20	1775.32		silica
20	1430	ws11	.3	8630	11429.0	0	161.57	0.00		silica
20	1430	ws11	.5	8630	1310.0	0	85.74	0.00		silica
20	1430	ws11	1.0	8630	40.0	0	20.94	0.00		silica
20	1430	ws11	2.5	8630	16.0	0	130.90	0.00		silica
20	1430	ws11	5.0	8630	8.0	0	523.60	0.00		silica
20	1430	ws11	10.0	8630	4.0	12807	2094.40	3017.16		silica
20	1600	ws11	.3	8800	12572.0	0	177.73	0.00		silica
20	1600	ws11	.5	8800	1232.0	0	80.63	0.00		silica
20	1600	ws11	1.0	8800	49.0	0	25.66	0.00		silica
20	1600	ws11	2.5	8800	16.0	0	130.90	0.00		silica
20	1600	ws11	5.0	8800	4.0	0	261.80	0.00		silica
20	1600	ws11	10.0	8800	1.0	13874	523.60	1200.32		silica
20	1730	ws11	.3	8930	11709.0	0	165.53	0.00		silica
20	1730	ws11	.5	8930	628.0	0	41.10	0.00		silica
20	1730	ws11	1.0	8930	45.0	0	23.56	0.00		silica
20	1730	ws11	2.5	8930	14.0	0	114.54	0.00		silica

20	1730	ws11	5.0	8930	2.0	0	130.90	0.00		silica
20	1730	ws11	10.0	8930	1.0	12399	523.60	999.23		silica
21	630	ws11	.3	10230	7964.0	0	112.59	0.00		general particulate
21	630	ws11	.5	10230	314.0	0	20.55	0.00		general particulate
21	630	ws11	1.0	10230	12.0	0	6.28	0.00		general particulate
21	630	ws11	2.5	10230	7.0	0	57.27	0.00		general particulate
21	630	ws11	5.0	10230	2.0	0	130.90	0.00		general particulate
21	630	ws11	10.0	10230	0.0	8299	0.00	327.59		general particulate
21	700	ws11	.3	10300	8084.0	0	114.29	0.00		general particulate
21	700	ws11	.5	10300	391.0	0	25.59	0.00		general particulate
21	700	ws11	1.0	10300	41.0	0	21.47	0.00		general particulate
21	700	ws11	2.5	10300	30.0	0	245.44	0.00		general particulate
21	700	ws11	5.0	10300	11.0	0	719.95	0.00		general particulate
21	700	ws11	10.0	10300	4.0	8561	2094.40	3221.13		general particulate
21	830	ws11	.3	10430	10344.0	0	146.24	0.00		silica
21	830	ws11	.5	10430	588.0	0	38.48	0.00		silica
21	830	ws11	1.0	10430	48.0	0	25.13	0.00		silica
21	830	ws11	2.5	10430	10.0	0	81.81	0.00		silica
21	830	ws11	5.0	10430	0.0	0	0.00	0.00		silica
21	830	ws11	10.0	10430	2.0	10992	1047.20	1338.87		silica
21	1000	ws11	.3	10600	19818.0	0	280.17	0.00		silica
21	1000	ws11	.5	10600	2558.0	0	167.42	0.00		silica
21	1000	ws11	1.0	10600	339.0	0	177.50	0.00		silica
21	1000	ws11	2.5	10600	78.0	0	638.14	0.00		silica
21	1000	ws11	5.0	10600	19.0	0	1243.55	0.00		silica
21	1000	ws11	10.0	10600	1.0	22813	523.60	3030.38		silica
21	1130	ws11	.3	10730	20862.0	0	294.93	0.00		silica
21	1130	ws11	.5	10730	1384.0	0	90.58	0.00		silica
21	1130	ws11	1.0	10730	94.0	0	49.22	0.00		silica
21	1130	ws11	2.5	10730	59.0	0	482.69	0.00		silica
21	1130	ws11	5.0	10730	12.0	0	785.40	0.00		silica
21	1130	ws11	10.0	10730	8.0	22419	4188.80	5891.63		silica
21	1300	ws11	.3	10900	44582.0	0	630.26	0.00		silica
21	1300	ws11	.5	10900	5131.0	0	335.82	0.00		silica
21	1300	ws11	1.0	10900	693.0	0	362.85	0.00		silica
21	1300	ws11	2.5	10900	119.0	0	973.57	0.00		silica
21	1300	ws11	5.0	10900	15.0	0	981.75	0.00		silica
21	1300	ws11	10.0	10900	6.0	50546	3141.60	6425.86		silica
21	1430	ws11	.3	11030	14822.0	0	209.54	0.00		silica
21	1430	ws11	.5	11030	1743.0	0	114.08	0.00		silica
21	1430	ws11	1.0	11030	222.0	0	116.24	0.00		silica

21	1430	ws11	2.5	11030	68.0	0	556.33	0.00		silica
21	1430	ws11	5.0	11030	23.0	0	1505.35	0.00		silica
21	1430	ws11	10.0	11030	12.0	16890	6283.20	8784.74		silica
21	1600	ws11	.3	11200	25183.0	0	356.02	0.00		silica
21	1600	ws11	.5	11200	2254.0	0	147.52	0.00		silica
21	1600	ws11	1.0	11200	385.0	0	201.59	0.00		silica
21	1600	ws11	2.5	11200	121.0	0	989.93	0.00		silica
21	1600	ws11	5.0	11200	23.0	0	1505.35	0.00		silica
21	1600	ws11	10.0	11200	4.0	27970	2094.40	5294.81		silica
21	1730	ws11	.3	11330	9346.0	0	132.13	0.00		silica
21	1730	ws11	.5	11330	281.0	0	18.39	0.00		silica
21	1730	ws11	1.0	11330	30.0	0	15.71	0.00		silica
21	1730	ws11	2.5	11330	15.0	0	122.72	0.00		silica
21	1730	ws11	5.0	11330	2.0	0	130.90	0.00		silica
21	1730	ws11	10.0	11330	0.0	9674	0.00	419.84		silica
17	630	ws12	.3	630	16845.0	0	238.14	0.00		general particulate
17	630	ws12	.5	630	441.0	0	28.86	0.00		general particulate
17	630	ws12	1.0	630	20.0	0	10.47	0.00		general particulate
17	630	ws12	2.5	630	12.0	0	98.18	0.00		general particulate
17	630	ws12	5.0	630	2.0	0	130.90	0.00		general particulate
17	630	ws12	10.0	630	1.0	17321	523.60	1030.15		general particulate
17	700	ws12	.3	700	16417.0	0	232.09	0.00		general particulate
17	700	ws12	.5	700	479.0	0	31.35	0.00		general particulate
17	700	ws12	1.0	700	24.0	0	12.57	0.00		general particulate
17	700	ws12	2.5	700	25.0	0	204.53	0.00		general particulate
17	700	ws12	5.0	700	2.0	0	130.90	0.00		general particulate
17	700	ws12	10.0	700	3.0	16950	1570.80	2182.24		general particulate
17	830	ws12	.3	830	20062.0	0	283.62	0.00		general particulate
17	830	ws12	.5	830	1864.0	0	122.00	0.00		general particulate
17	830	ws12	1.0	830	229.0	0	119.90	0.00		general particulate
17	830	ws12	2.5	830	71.0	0	580.87	0.00		general particulate
17	830	ws12	5.0	830	14.0	0	916.30	0.00		general particulate
17	830	ws12	10.0	830	7.0	22247	3665.20	5687.89		general particulate
17	1000	ws12	.3	1000	13541.0	0	191.43	0.00		general particulate
17	1000	ws12	.5	1000	1780.0	0	116.50	0.00		general particulate
17	1000	ws12	1.0	1000	1045.0	0	547.16	0.00		general particulate
17	1000	ws12	2.5	1000	790.0	0	6463.19	0.00		general particulate
17	1000	ws12	5.0	1000	175.0	0	11453.75	0.00		general particulate
17	1000	ws12	10.0	1000	40.0	17371	20944.00	39716.03		general particulate
17	1130	ws12	.3	1130	15494.0	0	219.04	0.00		general particulate
17	1130	ws12	.5	1130	631.0	0	41.30	0.00		general particulate

17	1130	ws12	1.0	1130	121.0	0	63.36	0.00		general particulate
17	1130	ws12	2.5	1130	62.0	0	507.24	0.00		general particulate
17	1130	ws12	5.0	1130	13.0	0	850.85	0.00		general particulate
17	1130	ws12	10.0	1130	5.0	16326	2618.00	4299.78		general particulate
17	1300	ws12	.3	1300	50238.0	0	710.22	0.00		general particulate
17	1300	ws12	.5	1300	6699.0	0	438.45	0.00		general particulate
17	1300	ws12	1.0	1300	1617.0	0	846.66	0.00		general particulate
17	1300	ws12	2.5	1300	921.0	0	7534.93	0.00		general particulate
17	1300	ws12	5.0	1300	221.0	0	14464.45	0.00		general particulate
17	1300	ws12	10.0	1300	63.0	59759	32986.80	56981.52		general particulate
17	1430	ws12	.3	1430	95636.0	0	1352.03	0.00		general particulate
17	1430	ws12	.5	1430	18108.0	0	1185.17	0.00		general particulate
17	1430	ws12	1.0	1430	3182.0	0	1666.10	0.00		general particulate
17	1430	ws12	2.5	1430	641.0	0	5244.18	0.00		general particulate
17	1430	ws12	5.0	1430	102.0	0	6675.90	0.00		general particulate
17	1430	ws12	10.0	1430	20.0	117689	10472.00	26595.37		general particulate
17	1600	ws12	.3	1600	35682.0	0	504.44	0.00		general particulate
17	1600	ws12	.5	1600	1277.0	0	83.58	0.00		general particulate
17	1600	ws12	1.0	1600	160.0	0	83.78	0.00		general particulate
17	1600	ws12	2.5	1600	122.0	0	998.11	0.00		general particulate
17	1600	ws12	5.0	1600	40.0	0	2618.00	0.00		general particulate
17	1600	ws12	10.0	1600	17.0	37298	8901.20	13189.11		general particulate
17	1730	ws12	.3	1730	39383.0	0	556.77	0.00		general particulate
17	1730	ws12	.5	1730	1218.0	0	79.72	0.00		general particulate
17	1730	ws12	1.0	1730	38.0	0	19.90	0.00		general particulate
17	1730	ws12	2.5	1730	27.0	0	220.89	0.00		general particulate
17	1730	ws12	5.0	1730	10.0	0	654.50	0.00		general particulate
17	1730	ws12	10.0	1730	2.0	40678	1047.20	2578.97		general particulate
18	630	ws12	.3	3030	13892.0	0	196.39	0.00		general particulate
18	630	ws12	.5	3030	428.0	0	28.01	0.00		general particulate
18	630	ws12	1.0	3030	85.0	0	44.51	0.00		general particulate
18	630	ws12	2.5	3030	82.0	0	670.86	0.00		general particulate
18	630	ws12	5.0	3030	25.0	0	1636.25	0.00		general particulate
18	630	ws12	10.0	3030	12.0	14524	6283.20	8859.23		general particulate
18	700	ws12	.3	3100	17538.0	0	247.94	0.00		general particulate
18	700	ws12	.5	3100	642.0	0	42.02	0.00		general particulate
18	700	ws12	1.0	3100	155.0	0	81.16	0.00		general particulate
18	700	ws12	2.5	3100	78.0	0	638.14	0.00		general particulate
18	700	ws12	5.0	3100	25.0	0	1636.25	0.00		general particulate
18	700	ws12	10.0	3100	15.0	18453	7854.00	10499.50		general particulate
18	830	ws12	.3	3230	28231.0	0	399.11	0.00		general particulate

18	830	ws12	.5	3230	1856.0	0	121.48	0.00		general particulate
18	830	ws12	1.0	3230	1137.0	0	595.33	0.00		general particulate
18	830	ws12	2.5	3230	858.0	0	7019.51	0.00		general particulate
18	830	ws12	5.0	3230	166.0	0	10864.70	0.00		general particulate
18	830	ws12	10.0	3230	36.0	32284	18849.60	37849.73		general particulate
18	1000	ws12	.3	3400	27940.0	0	394.99	0.00		general particulate
18	1000	ws12	.5	3400	2423.0	0	158.59	0.00		general particulate
18	1000	ws12	1.0	3400	1621.0	0	848.76	0.00		general particulate
18	1000	ws12	2.5	3400	1345.0	0	11003.78	0.00		general particulate
18	1000	ws12	5.0	3400	286.0	0	18718.70	0.00		general particulate
18	1000	ws12	10.0	3400	67.0	33682	35081.20	66206.02		general particulate
18	1130	ws12	.3	3530	23009.0	0	325.28	0.00		general particulate
18	1130	ws12	.5	3530	834.0	0	54.59	0.00		general particulate
18	1130	ws12	1.0	3530	321.0	0	168.08	0.00		general particulate
18	1130	ws12	2.5	3530	295.0	0	2413.47	0.00		general particulate
18	1130	ws12	5.0	3530	61.0	0	3992.45	0.00		general particulate
18	1130	ws12	10.0	3530	18.0	24538	9424.80	16378.66		general particulate
18	1300	ws12	.3	3700	34595.0	0	489.08	0.00		general particulate
18	1300	ws12	.5	3700	2894.0	0	189.41	0.00		general particulate
18	1300	ws12	1.0	3700	641.0	0	335.63	0.00		general particulate
18	1300	ws12	2.5	3700	244.0	0	1996.23	0.00		general particulate
18	1300	ws12	5.0	3700	41.0	0	2683.45	0.00		general particulate
18	1300	ws12	10.0	3700	9.0	38424	4712.40	10406.19		general particulate
18	1430	ws12	.3	3830	103600.0	0	1464.61	0.00		general particulate
18	1430	ws12	.5	3830	21117.0	0	1382.11	0.00		general particulate
18	1430	ws12	1.0	3830	4716.0	0	2469.30	0.00		general particulate
18	1430	ws12	2.5	3830	1539.0	0	12590.94	0.00		general particulate
18	1430	ws12	5.0	3830	253.0	0	16558.85	0.00		general particulate
18	1430	ws12	10.0	3830	62.0	131287	32463.20	66929.01		general particulate
18	1600	ws12	.3	4000	31760.0	0	449.00	0.00		general particulate
18	1600	ws12	.5	4000	5269.0	0	344.86	0.00		general particulate
18	1600	ws12	1.0	4000	3538.0	0	1852.50	0.00		general particulate
18	1600	ws12	2.5	4000	3196.0	0	26147.28	0.00		general particulate
18	1600	ws12	5.0	4000	1026.0	0	67151.70	0.00		general particulate
18	1600	ws12	10.0	4000	249.0	45038	130376.40	226321.73		general particulate
18	1730	ws12	.3	4130	22676.0	0	320.58	0.00		general particulate
18	1730	ws12	.5	4130	1005.0	0	65.78	0.00		general particulate
18	1730	ws12	1.0	4130	108.0	0	56.55	0.00		general particulate
18	1730	ws12	2.5	4130	33.0	0	269.98	0.00		general particulate
18	1730	ws12	5.0	4130	5.0	0	327.25	0.00		general particulate
18	1730	ws12	10.0	4130	1.0	23828	523.60	1563.73		general particulate

19	630	ws12	.3	5430	4741.0	0	67.02	0.00		general particulate
19	630	ws12	.5	5430	151.0	0	9.88	0.00		general particulate
19	630	ws12	1.0	5430	26.0	0	13.61	0.00		general particulate
19	630	ws12	2.5	5430	8.0	0	65.45	0.00		general particulate
19	630	ws12	5.0	5430	0.0	0	0.00	0.00		general particulate
19	630	ws12	10.0	5430	0.0	4926	0.00	155.97		general particulate
19	700	ws12	.3	5500	4392.0	0	62.09	0.00		general particulate
19	700	ws12	.5	5500	249.0	0	16.30	0.00		general particulate
19	700	ws12	1.0	5500	147.0	0	76.97	0.00		general particulate
19	700	ws12	2.5	5500	94.0	0	769.04	0.00		general particulate
19	700	ws12	5.0	5500	24.0	0	1570.80	0.00		general particulate
19	700	ws12	10.0	5500	4.0	4910	2094.40	4589.59		general particulate
19	830	ws12	.3	5630	11945.0	0	168.87	0.00		general particulate
19	830	ws12	.5	5630	2125.0	0	139.08	0.00		general particulate
19	830	ws12	1.0	5630	516.0	0	270.18	0.00		general particulate
19	830	ws12	2.5	5630	188.0	0	1538.08	0.00		general particulate
19	830	ws12	5.0	5630	47.0	0	3076.15	0.00		general particulate
19	830	ws12	10.0	5630	18.0	14839	9424.80	14617.15		general particulate
19	1000	ws12	.3	5800	8154.0	0	115.27	0.00		general particulate
19	1000	ws12	.5	5800	833.0	0	54.52	0.00		general particulate
19	1000	ws12	1.0	5800	356.0	0	186.40	0.00		general particulate
19	1000	ws12	2.5	5800	289.0	0	2364.38	0.00		general particulate
19	1000	ws12	5.0	5800	113.0	0	7395.85	0.00		general particulate
19	1000	ws12	10.0	5800	49.0	9794	25656.40	35772.83		general particulate
19	1130	ws12	.3	5930	8227.0	0	116.31	0.00		general particulate
19	1130	ws12	.5	5930	364.0	0	23.82	0.00		general particulate
19	1130	ws12	1.0	5930	111.0	0	58.12	0.00		general particulate
19	1130	ws12	2.5	5930	83.0	0	679.04	0.00		general particulate
19	1130	ws12	5.0	5930	32.0	0	2094.40	0.00		general particulate
19	1130	ws12	10.0	5930	15.0	8832	7854.00	10825.69		general particulate
19	1300	ws12	.3	6100	9004.0	0	127.29	0.00		general particulate
19	1300	ws12	.5	6100	793.0	0	51.90	0.00		general particulate
19	1300	ws12	1.0	6100	410.0	0	214.68	0.00		general particulate
19	1300	ws12	2.5	6100	360.0	0	2945.25	0.00		general particulate
19	1300	ws12	5.0	6100	89.0	0	5825.05	0.00		general particulate
19	1300	ws12	10.0	6100	39.0	10695	20420.40	29584.57		general particulate
19	1430	ws12	.3	6230	60441.0	0	854.47	0.00		general particulate
19	1430	ws12	.5	6230	11811.0	0	773.03	0.00		general particulate
19	1430	ws12	1.0	6230	2284.0	0	1195.90	0.00		general particulate
19	1430	ws12	2.5	6230	866.0	0	7084.96	0.00		general particulate
19	1430	ws12	5.0	6230	240.0	0	15708.00	0.00		general particulate

19	1430	ws12	10.0	6230	115.0	75757	60214.00	85830.36		general particulate
19	1600	ws12	.3	6400	21959.0	0	310.44	0.00		general particulate
19	1600	ws12	.5	6400	2740.0	0	179.33	0.00		general particulate
19	1600	ws12	1.0	6400	696.0	0	364.43	0.00		general particulate
19	1600	ws12	2.5	6400	345.0	0	2822.53	0.00		general particulate
19	1600	ws12	5.0	6400	73.0	0	4777.85	0.00		general particulate
19	1600	ws12	10.0	6400	24.0	25837	12566.40	21020.98		general particulate
19	1730	ws12	.3	6530	17430.0	0	246.41	0.00		general particulate
19	1730	ws12	.5	6530	525.0	0	34.36	0.00		general particulate
19	1730	ws12	1.0	6530	82.0	0	42.94	0.00		general particulate
19	1730	ws12	2.5	6530	80.0	0	654.50	0.00		general particulate
19	1730	ws12	5.0	6530	9.0	0	589.05	0.00		general particulate
19	1730	ws12	10.0	6530	4.0	18130	2094.40	3661.66		general particulate
20	630	ws12	.3	7830	9480.0	0	134.02	0.00		general particulate
20	630	ws12	.5	7830	371.0	0	24.28	0.00		general particulate
20	630	ws12	1.0	7830	10.0	0	5.24	0.00		general particulate
20	630	ws12	2.5	7830	5.0	0	40.91	0.00		general particulate
20	630	ws12	5.0	7830	1.0	0	65.45	0.00		general particulate
20	630	ws12	10.0	7830	1.0	9868	523.60	793.49		general particulate
20	700	ws12	.3	7900	8601.0	0	121.59	0.00		general particulate
20	700	ws12	.5	7900	706.0	0	46.21	0.00		general particulate
20	700	ws12	1.0	7900	218.0	0	114.14	0.00		general particulate
20	700	ws12	2.5	7900	151.0	0	1235.37	0.00		general particulate
20	700	ws12	5.0	7900	45.0	0	2945.25	0.00		general particulate
20	700	ws12	10.0	7900	34.0	9755	17802.40	22264.97		general particulate
20	830	ws12	.3	8030	9445.0	0	133.53	0.00		general particulate
20	830	ws12	.5	8030	674.0	0	44.11	0.00		general particulate
20	830	ws12	1.0	8030	189.0	0	98.96	0.00		general particulate
20	830	ws12	2.5	8030	153.0	0	1251.73	0.00		general particulate
20	830	ws12	5.0	8030	47.0	0	3076.15	0.00		general particulate
20	830	ws12	10.0	8030	23.0	10531	12042.80	16647.28		general particulate
20	1000	ws12	.3	8200	12935.0	0	182.86	0.00		general particulate
20	1000	ws12	.5	8200	1017.0	0	66.56	0.00		general particulate
20	1000	ws12	1.0	8200	150.0	0	78.54	0.00		general particulate
20	1000	ws12	2.5	8200	91.0	0	744.49	0.00		general particulate
20	1000	ws12	5.0	8200	18.0	0	1178.10	0.00		general particulate
20	1000	ws12	10.0	8200	16.0	14227	8377.60	10628.16		general particulate
20	1130	ws12	.3	8330	12265.0	0	173.39	0.00		general particulate
20	1130	ws12	.5	8330	3002.0	0	196.48	0.00		general particulate
20	1130	ws12	1.0	8330	1068.0	0	559.20	0.00		general particulate
20	1130	ws12	2.5	8330	371.0	0	3035.24	0.00		general particulate

20	1130	ws12	5.0	8330	18.0	0	1178.10	0.00		general particulate
20	1130	ws12	10.0	8330	12.0	16736	6283.20	11425.62		general particulate
20	1300	ws12	.3	8500	14152.0	0	200.07	0.00		general particulate
20	1300	ws12	.5	8500	1494.0	0	97.78	0.00		general particulate
20	1300	ws12	1.0	8500	78.0	0	40.84	0.00		general particulate
20	1300	ws12	2.5	8500	26.0	0	212.71	0.00		general particulate
20	1300	ws12	5.0	8500	7.0	0	458.15	0.00		general particulate
20	1300	ws12	10.0	8500	4.0	15761	2094.40	3103.96		general particulate
20	1430	ws12	.3	8630	11916.0	0	168.46	0.00		general particulate
20	1430	ws12	.5	8630	1418.0	0	92.81	0.00		general particulate
20	1430	ws12	1.0	8630	150.0	0	78.54	0.00		general particulate
20	1430	ws12	2.5	8630	137.0	0	1120.83	0.00		general particulate
20	1430	ws12	5.0	8630	44.0	0	2879.80	0.00		general particulate
20	1430	ws12	10.0	8630	31.0	13696	16231.60	20572.04		general particulate
20	1600	ws12	.3	8800	12456.0	0	176.09	0.00		general particulate
20	1600	ws12	.5	8800	1302.0	0	85.22	0.00		general particulate
20	1600	ws12	1.0	8800	92.0	0	48.17	0.00		general particulate
20	1600	ws12	2.5	8800	44.0	0	359.98	0.00		general particulate
20	1600	ws12	5.0	8800	14.0	0	916.30	0.00		general particulate
20	1600	ws12	10.0	8800	10.0	13918	5236.00	6821.76		general particulate
20	1730	ws12	.3	8930	12869.0	0	181.93	0.00		general particulate
20	1730	ws12	.5	8930	835.0	0	54.65	0.00		general particulate
20	1730	ws12	1.0	8930	92.0	0	48.17	0.00		general particulate
20	1730	ws12	2.5	8930	55.0	0	449.97	0.00		general particulate
20	1730	ws12	5.0	8930	24.0	0	1570.80	0.00		general particulate
20	1730	ws12	10.0	8930	4.0	13879	2094.40	4399.92		general particulate
21	630	ws12	.3	10230	7912.0	0	111.85	0.00		general particulate
21	630	ws12	.5	10230	391.0	0	25.59	0.00		general particulate
21	630	ws12	1.0	10230	87.0	0	45.55	0.00		general particulate
21	630	ws12	2.5	10230	49.0	0	400.88	0.00		general particulate
21	630	ws12	5.0	10230	81.0	0	5301.45	0.00		general particulate
21	630	ws12	10.0	10230	9.0	8529	4712.40	10597.73		general particulate
21	700	ws12	.3	10300	6839.0	0	96.68	0.00		general particulate
21	700	ws12	.5	10300	293.0	0	19.18	0.00		general particulate
21	700	ws12	1.0	10300	45.0	0	23.56	0.00		general particulate
21	700	ws12	2.5	10300	44.0	0	359.98	0.00		general particulate
21	700	ws12	5.0	10300	9.0	0	589.05	0.00		general particulate
21	700	ws12	10.0	10300	10.0	7240	5236.00	6324.45		general particulate
21	830	ws12	.3	10430	35054.0	0	495.57	0.00		general particulate
21	830	ws12	.5	10430	5175.0	0	338.70	0.00		general particulate
21	830	ws12	1.0	10430	820.0	0	429.35	0.00		general particulate

21	830	ws12	2.5	10430	382.0	0	3125.24	0.00		general particulate
21	830	ws12	5.0	10430	140.0	0	9163.00	0.00		general particulate
21	830	ws12	10.0	10430	43.0	41614	22514.80	36066.66		general particulate
21	1000	ws12	.3	10600	12572.0	0	177.73	0.00		general particulate
21	1000	ws12	.5	10600	1275.0	0	83.45	0.00		general particulate
21	1000	ws12	1.0	10600	176.0	0	92.15	0.00		general particulate
21	1000	ws12	2.5	10600	84.0	0	687.23	0.00		general particulate
21	1000	ws12	5.0	10600	37.0	0	2421.65	0.00		general particulate
21	1000	ws12	10.0	10600	20.0	14164	10472.00	13934.21		general particulate
21	1130	ws12	.3	10730	17917.0	0	253.30	0.00		general particulate
21	1130	ws12	.5	10730	1188.0	0	77.75	0.00		general particulate
21	1130	ws12	1.0	10730	70.0	0	36.65	0.00		general particulate
21	1130	ws12	2.5	10730	40.0	0	327.25	0.00		general particulate
21	1130	ws12	5.0	10730	6.0	0	392.70	0.00		general particulate
21	1130	ws12	10.0	10730	10.0	19231	5236.00	6323.65		general particulate
21	1300	ws12	.3	10900	83027.0	0	1173.77	0.00		general particulate
21	1300	ws12	.5	10900	37777.0	0	2472.50	0.00		general particulate
21	1300	ws12	1.0	10900	18070.0	0	9461.45	0.00		general particulate
21	1300	ws12	2.5	10900	9501.0	0	77730.06	0.00		general particulate
21	1300	ws12	5.0	10900	2485.0	0	162643.25	0.00		general particulate
21	1300	ws12	10.0	10900	633.0	151493	331438.80	584919.83		general particulate
21	1430	ws12	.3	11030	31763.0	0	449.04	0.00		general particulate
21	1430	ws12	.5	11030	6722.0	0	439.95	0.00		general particulate
21	1430	ws12	1.0	11030	1216.0	0	636.70	0.00		general particulate
21	1430	ws12	2.5	11030	329.0	0	2691.63	0.00		general particulate
21	1430	ws12	5.0	11030	98.0	0	6414.10	0.00		general particulate
21	1430	ws12	10.0	11030	26.0	40154	13613.60	24245.02		general particulate
21	1600	ws12	.3	11200	20223.0	0	285.90	0.00		general particulate
21	1600	ws12	.5	11200	3952.0	0	258.66	0.00		general particulate
21	1600	ws12	1.0	11200	1639.0	0	858.18	0.00		general particulate
21	1600	ws12	2.5	11200	1098.0	0	8983.01	0.00		general particulate
21	1600	ws12	5.0	11200	248.0	0	16231.60	0.00		general particulate
21	1600	ws12	10.0	11200	66.0	27226	34557.60	61174.95		general particulate
21	1730	ws12	.3	11330	10480.0	0	148.16	0.00		general particulate
21	1730	ws12	.5	11330	403.0	0	26.38	0.00		general particulate
21	1730	ws12	1.0	11330	70.0	0	36.65	0.00		general particulate
21	1730	ws12	2.5	11330	29.0	0	237.26	0.00		general particulate
21	1730	ws12	5.0	11330	10.0	0	654.50	0.00		general particulate
21	1730	ws12	10.0	11330	5.0	10997	2618.00	3720.94		general particulate
17	630	ws13	.3	630	17430.0	0	246.41	0.00		general particulate
17	630	ws13	.5	630	473.0	0	30.96	0.00		general particulate

17	630	ws13	1.0	630	21.0	0	11.00	0.00		general particulate
17	630	ws13	2.5	630	10.0	0	81.81	0.00		general particulate
17	630	ws13	5.0	630	4.0	0	261.80	0.00		general particulate
17	630	ws13	10.0	630	1.0	17939	523.60	1155.58		general particulate
17	700	ws13	.3	700	16888.0	0	238.75	0.00		general particulate
17	700	ws13	.5	700	490.0	0	32.07	0.00		general particulate
17	700	ws13	1.0	700	47.0	0	24.61	0.00		general particulate
17	700	ws13	2.5	700	30.0	0	245.44	0.00		general particulate
17	700	ws13	5.0	700	16.0	0	1047.20	0.00		general particulate
17	700	ws13	10.0	700	5.0	17476	2618.00	4206.07		general particulate
17	830	ws13	.3	830	24105.0	0	340.78	0.00		gypsum
17	830	ws13	.5	830	2639.0	0	172.72	0.00		gypsum
17	830	ws13	1.0	830	265.0	0	138.75	0.00		gypsum
17	830	ws13	2.5	830	49.0	0	400.88	0.00		gypsum
17	830	ws13	5.0	830	10.0	0	654.50	0.00		gypsum
17	830	ws13	10.0	830	6.0	27074	3141.60	4849.24		gypsum
17	1000	ws13	.3	1000	14631.0	0	206.84	0.00	1 pers- preparing to pindex + fan	gypsum
17	1000	ws13	.5	1000	1403.0	0	91.83	0.00	1 pers- preparing to pindex + fan	gypsum
17	1000	ws13	1.0	1000	451.0	0	236.14	0.00	1 pers- preparing to pindex + fan	gypsum
17	1000	ws13	2.5	1000	659.0	0	5391.44	0.00	1 pers- preparing to pindex + fan	gypsum
17	1000	ws13	5.0	1000	104.0	0	6806.80	0.00	1 pers- preparing to pindex + fan	gypsum
17	1000	ws13	10.0	1000	41.0	17289	21467.60	34200.66	1 pers- preparing to pindex + fan	gypsum
17	1130	ws13	.3	1130	16197.0	0	228.98	0.00		gypsum
17	1130	ws13	.5	1130	702.0	0	45.95	0.00		gypsum
17	1130	ws13	1.0	1130	95.0	0	49.74	0.00		gypsum
17	1130	ws13	2.5	1130	47.0	0	384.52	0.00		gypsum
17	1130	ws13	5.0	1130	8.0	0	523.60	0.00		gypsum
17	1130	ws13	10.0	1130	4.0	17053	2094.40	3327.19		gypsum
17	1300	ws13	.3	1300	34629.0	0	489.56	0.00		gypsum
17	1300	ws13	.5	1300	3474.0	0	227.37	0.00		gypsum
17	1300	ws13	1.0	1300	1103.0	0	577.53	0.00		gypsum
17	1300	ws13	2.5	1300	703.0	0	5751.42	0.00		gypsum
17	1300	ws13	5.0	1300	161.0	0	10537.45	0.00		gypsum
17	1300	ws13	10.0	1300	53.0	40123	27750.80	45334.13		gypsum
17	1430	ws13	.3	1430	31434.0	0	444.39	0.00	1 pers - filling resin rock	gypsum
17	1430	ws13	.5	1430	5731.0	0	375.09	0.00	1 pers - filling resin rock	gypsum
17	1430	ws13	1.0	1430	4517.0	0	2365.10	0.00	1 pers - filling resin rock	gypsum
17	1430	ws13	2.5	1430	3988.0	0	32626.83	0.00	1 pers - filling resin rock	gypsum
17	1430	ws13	5.0	1430	1639.0	0	107272.55	0.00	1 pers - filling resin rock	gypsum

17	1430	ws13	10.0	1430	2387.0	49696	1249833.20	1392917.16	1 pers - filling resin rock	gypsum
17	1600	ws13	.3	1600	38304.0	0	541.51	0.00		gypsum
17	1600	ws13	.5	1600	1506.0	0	98.57	0.00		gypsum
17	1600	ws13	1.0	1600	182.0	0	95.30	0.00		gypsum
17	1600	ws13	2.5	1600	130.0	0	1063.56	0.00		gypsum
17	1600	ws13	5.0	1600	83.0	0	5432.35	0.00		gypsum
17	1600	ws13	10.0	1600	38.0	40243	19896.80	27128.09		gypsum
17	1730	ws13	.3	1730	34188.0	0	483.32	0.00		gypsum
17	1730	ws13	.5	1730	1069.0	0	69.97	0.00		gypsum
17	1730	ws13	1.0	1730	56.0	0	29.32	0.00		gypsum
17	1730	ws13	2.5	1730	30.0	0	245.44	0.00		gypsum
17	1730	ws13	5.0	1730	11.0	0	719.95	0.00		gypsum
17	1730	ws13	10.0	1730	1.0	35355	523.60	2071.60		gypsum
18	630	ws13	.3	3030	12929.0	0	182.78	0.00		general particulate
18	630	ws13	.5	3030	332.0	0	21.73	0.00		general particulate
18	630	ws13	1.0	3030	32.0	0	16.76	0.00		general particulate
18	630	ws13	2.5	3030	9.0	0	73.63	0.00		general particulate
18	630	ws13	5.0	3030	4.0	0	261.80	0.00		general particulate
18	630	ws13	10.0	3030	2.0	13308	1047.20	1603.90		general particulate
18	700	ws13	.3	3100	14729.0	0	208.23	0.00		general particulate
18	700	ws13	.5	3100	512.0	0	33.51	0.00		general particulate
18	700	ws13	1.0	3100	77.0	0	40.32	0.00		general particulate
18	700	ws13	2.5	3100	71.0	0	580.87	0.00		general particulate
18	700	ws13	5.0	3100	18.0	0	1178.10	0.00		general particulate
18	700	ws13	10.0	3100	6.0	15413	3141.60	5182.62		general particulate
18	830	ws13	.3	3230	25769.0	0	364.30	0.00		gypsum
18	830	ws13	.5	3230	1231.0	0	80.57	0.00		gypsum
18	830	ws13	1.0	3230	462.0	0	241.90	0.00		gypsum
18	830	ws13	2.5	3230	345.0	0	2822.53	0.00		gypsum
18	830	ws13	5.0	3230	73.0	0	4777.85	0.00		gypsum
18	830	ws13	10.0	3230	21.0	27901	10995.60	19282.75		gypsum
18	1000	ws13	.3	3400	29256.0	0	413.60	0.00		gypsum
18	1000	ws13	.5	3400	1266.0	0	82.86	0.00		gypsum
18	1000	ws13	1.0	3400	337.0	0	176.45	0.00		gypsum
18	1000	ws13	2.5	3400	293.0	0	2397.11	0.00		gypsum
18	1000	ws13	5.0	3400	124.0	0	8115.80	0.00		gypsum
18	1000	ws13	10.0	3400	62.0	31338	32463.20	43649.02		gypsum
18	1130	ws13	.3	3530	24303.0	0	343.58	0.00		gypsum
18	1130	ws13	.5	3530	910.0	0	59.56	0.00		gypsum
18	1130	ws13	1.0	3530	276.0	0	144.51	0.00		gypsum
18	1130	ws13	2.5	3530	192.0	0	1570.80	0.00		gypsum

18	1130	ws13	5.0	3530	60.0	0	3927.00	0.00		gypsum
18	1130	ws13	10.0	3530	4.0	25745	2094.40	8139.85		gypsum
18	1300	ws13	.3	3700	30786.0	0	435.23	0.00	Fan blowing on area from workstation #8	gypsum
18	1300	ws13	.5	3700	1944.0	0	127.23	0.00	Fan blowing on area from workstation #8	gypsum
18	1300	ws13	1.0	3700	492.0	0	257.61	0.00	Fan blowing on area from workstation #8	gypsum
18	1300	ws13	2.5	3700	238.0	0	1947.14	0.00	Fan blowing on area from workstation #8	gypsum
18	1300	ws13	5.0	3700	57.0	0	3730.65	0.00	Fan blowing on area from workstation #8	gypsum
18	1300	ws13	10.0	3700	22.0	33539	11519.20	18017.06	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	.3	3830	96978.0	0	1371.00	0.00	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	.5	3830	18179.0	0	1189.82	0.00	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	1.0	3830	3436.0	0	1799.09	0.00	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	2.5	3830	916.0	0	7494.03	0.00	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	5.0	3830	120.0	0	7854.00	0.00	Fan blowing on area from workstation #8	gypsum
18	1430	ws13	10.0	3830	26.0	119655	13613.60	33321.53	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	.3	4000	29800.0	0	421.29	0.00	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	.5	4000	4010.0	0	262.45	0.00	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	1.0	4000	2518.0	0	1318.42	0.00	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	2.5	4000	2180.0	0	17835.13	0.00	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	5.0	4000	665.0	0	43524.25	0.00	Fan blowing on area from workstation #8	gypsum
18	1600	ws13	10.0	4000	165.0	39338	86394.00	149755.54	Fan blowing on area from workstation #8	gypsum
18	1730	ws13	.3	4130	23956.0	0	338.67	0.00		gypsum
18	1730	ws13	.5	4130	1091.0	0	71.41	0.00		gypsum
18	1730	ws13	1.0	4130	117.0	0	61.26	0.00		gypsum
18	1730	ws13	2.5	4130	41.0	0	335.43	0.00		gypsum
18	1730	ws13	5.0	4130	8.0	0	523.60	0.00		gypsum
18	1730	ws13	10.0	4130	1.0	25214	523.60	1853.97		gypsum
19	630	ws13	.3	5430	5149.0	0	72.79	0.00		general particulate
19	630	ws13	.5	5430	149.0	0	9.75	0.00		general particulate
19	630	ws13	1.0	5430	23.0	0	12.04	0.00		general particulate
19	630	ws13	2.5	5430	10.0	0	81.81	0.00		general particulate
19	630	ws13	5.0	5430	4.0	0	261.80	0.00		general particulate
19	630	ws13	10.0	5430	5.0	5340	2618.00	3056.20		general particulate
19	700	ws13	.3	5500	4706.0	0	66.53	0.00		general particulate
19	700	ws13	.5	5500	241.0	0	15.77	0.00		general particulate
19	700	ws13	1.0	5500	100.0	0	52.36	0.00		general particulate

19	700	ws13	2.5	5500	89.0	0	728.13	0.00		general particulate
19	700	ws13	5.0	5500	17.0	0	1112.65	0.00		general particulate
19	700	ws13	10.0	5500	10.0	5163	5236.00	7211.44		general particulate
19	830	ws13	.3	5630	13183.0	0	186.37	0.00		gypsum
19	830	ws13	.5	5630	2190.0	0	143.34	0.00		gypsum
19	830	ws13	1.0	5630	580.0	0	303.69	0.00		gypsum
19	830	ws13	2.5	5630	262.0	0	2143.49	0.00		gypsum
19	830	ws13	5.0	5630	101.0	0	6610.45	0.00		gypsum
19	830	ws13	10.0	5630	55.0	16371	28798.00	38185.33		gypsum
19	1000	ws13	.3	5800	9070.0	0	128.22	0.00		gypsum
19	1000	ws13	.5	5800	1252.0	0	81.94	0.00		gypsum
19	1000	ws13	1.0	5800	621.0	0	325.16	0.00		gypsum
19	1000	ws13	2.5	5800	474.0	0	3877.91	0.00		gypsum
19	1000	ws13	5.0	5800	194.0	0	12697.30	0.00		gypsum
19	1000	ws13	10.0	5800	54.0	11665	28274.40	45384.94		gypsum
19	1130	ws13	.3	5930	8255.0	0	116.70	0.00		gypsum
19	1130	ws13	.5	5930	344.0	0	22.51	0.00		gypsum
19	1130	ws13	1.0	5930	79.0	0	41.36	0.00		gypsum
19	1130	ws13	2.5	5930	38.0	0	310.89	0.00		gypsum
19	1130	ws13	5.0	5930	12.0	0	785.40	0.00		gypsum
19	1130	ws13	10.0	5930	12.0	8740	6283.20	7560.07		gypsum
19	1300	ws13	.3	6100	8616.0	0	121.81	0.00		gypsum
19	1300	ws13	.5	6100	355.0	0	23.23	0.00		gypsum
19	1300	ws13	1.0	6100	270.0	0	141.37	0.00		gypsum
19	1300	ws13	2.5	6100	195.0	0	1595.34	0.00		gypsum
19	1300	ws13	5.0	6100	53.0	0	3468.85	0.00		gypsum
19	1300	ws13	10.0	6100	24.0	9513	12566.40	17917.01		gypsum
19	1430	ws13	.3	6230	35649.0	0	503.98	0.00		gypsum
19	1430	ws13	.5	6230	5732.0	0	375.16	0.00		gypsum
19	1430	ws13	1.0	6230	1161.0	0	607.90	0.00		gypsum
19	1430	ws13	2.5	6230	410.0	0	3354.31	0.00		gypsum
19	1430	ws13	5.0	6230	134.0	0	8770.30	0.00		gypsum
19	1430	ws13	10.0	6230	44.0	43130	23038.40	36650.05		gypsum
19	1600	ws13	.3	6400	17706.0	0	250.31	0.00		gypsum
19	1600	ws13	.5	6400	1579.0	0	103.35	0.00		gypsum
19	1600	ws13	1.0	6400	408.0	0	213.63	0.00		gypsum
19	1600	ws13	2.5	6400	265.0	0	2168.03	0.00		gypsum
19	1600	ws13	5.0	6400	54.0	0	3534.30	0.00		gypsum
19	1600	ws13	10.0	6400	10.0	20022	5236.00	11505.62		gypsum
19	1730	ws13	.3	6530	18258.0	0	258.12	0.00		gypsum
19	1730	ws13	.5	6530	598.0	0	39.14	0.00		gypsum

19	1730	ws13	1.0	6530	78.0	0	40.84	0.00		gypsum
19	1730	ws13	2.5	6530	66.0	0	539.96	0.00		gypsum
19	1730	ws13	5.0	6530	19.0	0	1243.55	0.00		gypsum
19	1730	ws13	10.0	6530	3.0	19022	1570.80	3692.41		gypsum
20	630	ws13	.3	7830	9985.0	0	141.16	0.00		general particulate
20	630	ws13	.5	7830	425.0	0	27.82	0.00		general particulate
20	630	ws13	1.0	7830	18.0	0	9.42	0.00		general particulate
20	630	ws13	2.5	7830	1.0	0	8.18	0.00		general particulate
20	630	ws13	5.0	7830	0.0	0	0.00	0.00		general particulate
20	630	ws13	10.0	7830	1.0	10430	523.60	710.18		general particulate
20	700	ws13	.3	7900	10390.0	0	146.89	0.00	near pers trimming gold	gold
20	700	ws13	.5	7900	3327.0	0	217.75	0.00	near pers trimming gold	gold
20	700	ws13	1.0	7900	1979.0	0	1036.20	0.00	near pers trimming gold	gold
20	700	ws13	2.5	7900	1326.0	0	10848.34	0.00	near pers trimming gold	gold
20	700	ws13	5.0	7900	347.0	0	22711.15	0.00	near pers trimming gold	gold
20	700	ws13	10.0	7900	86.0	17455	45029.60	79989.93	near pers trimming gold	gold
20	830	ws13	.3	8030	10037.0	0	141.90	0.00		gypsum
20	830	ws13	.5	8030	656.0	0	42.94	0.00		gypsum
20	830	ws13	1.0	8030	131.0	0	68.59	0.00		gypsum
20	830	ws13	2.5	8030	77.0	0	629.96	0.00		gypsum
20	830	ws13	5.0	8030	19.0	0	1243.55	0.00		gypsum
20	830	ws13	10.0	8030	11.0	10931	5759.60	7886.53		gypsum
20	1000	ws13	.3	8200	13343.0	0	188.63	0.00	1 pers - preparing to pindex	gypsum
20	1000	ws13	.5	8200	1108.0	0	72.52	0.00	1 pers - preparing to pindex	gypsum
20	1000	ws13	1.0	8200	219.0	0	114.67	0.00	1 pers - preparing to pindex	gypsum
20	1000	ws13	2.5	8200	111.0	0	908.12	0.00	1 pers - preparing to pindex	gypsum
20	1000	ws13	5.0	8200	31.0	0	2028.95	0.00	1 pers - preparing to pindex	gypsum
20	1000	ws13	10.0	8200	17.0	14829	8901.20	12214.09	1 pers - preparing to pindex	gypsum
20	1130	ws13	.3	8330	11800.0	0	166.82	0.00		gypsum
20	1130	ws13	.5	8330	2849.0	0	186.47	0.00		gypsum
20	1130	ws13	1.0	8330	996.0	0	521.51	0.00		gypsum
20	1130	ws13	2.5	8330	280.0	0	2290.75	0.00		gypsum
20	1130	ws13	5.0	8330	24.0	0	1570.80	0.00		gypsum
20	1130	ws13	10.0	8330	19.0	15968	9948.40	14684.74		gypsum
20	1300	ws13	.3	8500	14185.0	0	200.54	0.00		gypsum
20	1300	ws13	.5	8500	1527.0	0	99.94	0.00		gypsum
20	1300	ws13	1.0	8500	62.0	0	32.46	0.00		gypsum
20	1300	ws13	2.5	8500	15.0	0	122.72	0.00		gypsum
20	1300	ws13	5.0	8500	2.0	0	130.90	0.00		gypsum
20	1300	ws13	10.0	8500	1.0	15792	523.60	1110.16		gypsum
20	1430	ws13	.3	8630	11773.0	0	166.44	0.00		gypsum

20	1430	ws13	.5	8630	1304.0	0	85.35	0.00		gypsum
20	1430	ws13	1.0	8630	53.0	0	27.75	0.00		gypsum
20	1430	ws13	2.5	8630	27.0	0	220.89	0.00		gypsum
20	1430	ws13	5.0	8630	11.0	0	719.95	0.00		gypsum
20	1430	ws13	10.0	8630	6.0	13174	3141.60	4361.98		gypsum
20	1600	ws13	.3	8800	13640.0	0	192.83	0.00		gypsum
20	1600	ws13	.5	8800	1415.0	0	92.61	0.00		gypsum
20	1600	ws13	1.0	8800	69.0	0	36.13	0.00		gypsum
20	1600	ws13	2.5	8800	30.0	0	245.44	0.00		gypsum
20	1600	ws13	5.0	8800	12.0	0	785.40	0.00		gypsum
20	1600	ws13	10.0	8800	0.0	15166	0.00	1352.41		gypsum
20	1730	ws13	.3	8930	11831.0	0	167.26	0.00		gypsum
20	1730	ws13	.5	8930	740.0	0	48.43	0.00		gypsum
20	1730	ws13	1.0	8930	100.0	0	52.36	0.00		gypsum
20	1730	ws13	2.5	8930	58.0	0	474.51	0.00		gypsum
20	1730	ws13	5.0	8930	20.0	0	1309.00	0.00		gypsum
20	1730	ws13	10.0	8930	3.0	12752	1570.80	3622.36		gypsum
21	630	ws13	.3	10230	7905.0	0	111.75	0.00		general particulate
21	630	ws13	.5	10230	312.0	0	20.42	0.00		general particulate
21	630	ws13	1.0	10230	15.0	0	7.85	0.00		general particulate
21	630	ws13	2.5	10230	6.0	0	49.09	0.00		general particulate
21	630	ws13	5.0	10230	1.0	0	65.45	0.00		general particulate
21	630	ws13	10.0	10230	0.0	8239	0.00	254.57		general particulate
21	700	ws13	.3	10300	7223.0	0	102.11	0.00		general particulate
21	700	ws13	.5	10300	423.0	0	27.69	0.00		general particulate
21	700	ws13	1.0	10300	110.0	0	57.60	0.00		general particulate
21	700	ws13	2.5	10300	94.0	0	769.04	0.00		general particulate
21	700	ws13	5.0	10300	26.0	0	1701.70	0.00		general particulate
21	700	ws13	10.0	10300	16.0	7892	8377.60	11035.73		general particulate
21	830	ws13	.3	10430	11792.0	0	166.71	0.00		gypsum
21	830	ws13	.5	10430	866.0	0	56.68	0.00		gypsum
21	830	ws13	1.0	10430	164.0	0	85.87	0.00		gypsum
21	830	ws13	2.5	10430	82.0	0	670.86	0.00		gypsum
21	830	ws13	5.0	10430	30.0	0	1963.50	0.00		gypsum
21	830	ws13	10.0	10430	17.0	12951	8901.20	11844.82		gypsum
21	1000	ws13	.3	10600	13376.0	0	189.10	0.00		gypsum
21	1000	ws13	.5	10600	1377.0	0	90.12	0.00		gypsum
21	1000	ws13	1.0	10600	188.0	0	98.44	0.00		gypsum
21	1000	ws13	2.5	10600	95.0	0	777.22	0.00		gypsum
21	1000	ws13	5.0	10600	30.0	0	1963.50	0.00		gypsum
21	1000	ws13	10.0	10600	16.0	15082	8377.60	11495.98		gypsum

21	1130	ws13	.3	10730	19310.0	0	272.99	0.00		gypsum
21	1130	ws13	.5	10730	1315.0	0	86.07	0.00		gypsum
21	1130	ws13	1.0	10730	85.0	0	44.51	0.00		gypsum
21	1130	ws13	2.5	10730	33.0	0	269.98	0.00		gypsum
21	1130	ws13	5.0	10730	4.0	0	261.80	0.00		gypsum
21	1130	ws13	10.0	10730	2.0	20749	1047.20	1982.54		gypsum
21	1300	ws13	.3	10900	23885.0	0	337.67	0.00		gypsum
21	1300	ws13	.5	10900	4875.0	0	319.07	0.00		gypsum
21	1300	ws13	1.0	10900	1671.0	0	874.94	0.00		gypsum
21	1300	ws13	2.5	10900	782.0	0	6397.74	0.00		gypsum
21	1300	ws13	5.0	10900	267.0	0	17475.15	0.00		gypsum
21	1300	ws13	10.0	10900	115.0	31595	60214.00	85618.56		gypsum
21	1430	ws13	.3	11030	30834.0	0	435.91	0.00		gypsum
21	1430	ws13	.5	11030	6517.0	0	426.54	0.00		gypsum
21	1430	ws13	1.0	11030	1157.0	0	605.81	0.00		gypsum
21	1430	ws13	2.5	11030	256.0	0	2094.40	0.00		gypsum
21	1430	ws13	5.0	11030	62.0	0	4057.90	0.00		gypsum
21	1430	ws13	10.0	11030	16.0	38842	8377.60	15998.15		gypsum
21	1600	ws13	.3	11200	20898.0	0	295.44	0.00		gypsum
21	1600	ws13	.5	11200	4722.0	0	309.05	0.00		gypsum
21	1600	ws13	1.0	11200	2168.0	0	1135.16	0.00		gypsum
21	1600	ws13	2.5	11200	1400.0	0	11453.75	0.00		gypsum
21	1600	ws13	5.0	11200	262.0	0	17147.90	0.00		gypsum
21	1600	ws13	10.0	11200	79.0	29529	41364.40	71705.71		gypsum
21	1730	ws13	.3	11330	10889.0	0	153.94	0.00		gypsum
21	1730	ws13	.5	11330	461.0	0	30.17	0.00		gypsum
21	1730	ws13	1.0	11330	60.0	0	31.42	0.00		gypsum
21	1730	ws13	2.5	11330	33.0	0	269.98	0.00		gypsum
21	1730	ws13	5.0	11330	8.0	0	523.60	0.00		gypsum
21	1730	ws13	10.0	11330	5.0	11456	2618.00	3627.11		gypsum
17	630	Hall	.3	630	13259	0	187.44	0.00		General Particulate
17	630	Hall	.5	630	310	0	20.29	0.00		General Particulate
17	630	Hall	1.0	630	24	0	12.57	0.00		General Particulate
17	630	Hall	2.5	630	16	0	130.90	0.00		General Particulate
17	630	Hall	5.0	630	9	0	589.05	0.00		General Particulate
17	630	Hall	10.0	630	4	13622	2094.40	3034.64		General Particulate
17	700	Hall	.3	700	13222	0	186.92	0.00		General Particulate
17	700	Hall	.5	700	383	0	25.07	0.00		General Particulate
17	700	Hall	1.0	700	54	0	28.27	0.00		General Particulate
17	700	Hall	2.5	700	81	0	662.68	0.00		General Particulate
17	700	Hall	5.0	700	38	0	2487.09	0.00		General Particulate

17	700	Hall	10.0	700	16	13794	8377.58	11767.62		General Particulate
17	830	Hall	.3	830	14362	0	203.04	0.00		General Particulate
17	830	Hall	.5	830	1414	0	92.55	0.00		General Particulate
17	830	Hall	1.0	830	176	0	92.15	0.00		General Particulate
17	830	Hall	2.5	830	66	0	539.96	0.00		General Particulate
17	830	Hall	5.0	830	19	0	1243.55	0.00		General Particulate
17	830	Hall	10.0	830	12	16049	6283.19	8454.43		General Particulate
17	1000	Hall	.3	1000	12553	0	177.46	0.00		General Particulate
17	1000	Hall	.5	1000	1660	0	108.65	0.00		General Particulate
17	1000	Hall	1.0	1000	746	0	390.60	0.00		General Particulate
17	1000	Hall	2.5	1000	537	0	4393.32	0.00		General Particulate
17	1000	Hall	5.0	1000	131	0	8573.93	0.00		General Particulate
17	1000	Hall	10.0	1000	54	15681	28274.33	41918.30		General Particulate
17	1130	Hall	.3	1130	127828	0	1807.13	0.00		General Particulate
17	1130	Hall	.5	1130	630	0	41.23	0.00		General Particulate
17	1130	Hall	1.0	1130	114	0	59.69	0.00		General Particulate
17	1130	Hall	2.5	1130	68	0	556.32	0.00		General Particulate
17	1130	Hall	5.0	1130	20	0	1309.00	0.00		General Particulate
17	1130	Hall	10.0	1130	15	128675	7853.98	11627.35		General Particulate
17	1300	Hall	.3	1300	19554	0	276.44	0.00		General Particulate
17	1300	Hall	.5	1300	1211	0	79.26	0.00		General Particulate
17	1300	Hall	1.0	1300	335	0	175.41	0.00		General Particulate
17	1300	Hall	2.5	1300	305	0	2495.28	0.00		General Particulate
17	1300	Hall	5.0	1300	112	0	7330.38	0.00		General Particulate
17	1300	Hall	10.0	1300	36	21553	18849.56	29206.32		General Particulate
17	1430	Hall	.3	1430	21005	0	296.95	0.00		General Particulate
17	1430	Hall	.5	1430	832	0	54.45	0.00		General Particulate
17	1430	Hall	1.0	1430	167	0	87.44	0.00		General Particulate
17	1430	Hall	2.5	1430	201	0	1644.43	0.00		General Particulate
17	1430	Hall	5.0	1430	98	0	6414.09	0.00		General Particulate
17	1430	Hall	10.0	1430	34	22337	17802.36	26299.72		General Particulate
17	1600	Hall	.3	1600	29796	0	421.23	0.00		General Particulate
17	1600	Hall	.5	1600	974	0	63.75	0.00		General Particulate
17	1600	Hall	1.0	1600	86	0	45.03	0.00		General Particulate
17	1600	Hall	2.5	1600	77	0	629.95	0.00		General Particulate
17	1600	Hall	5.0	1600	22	0	1439.90	0.00		General Particulate
17	1600	Hall	10.0	1600	10	30965	5235.99	7835.85		General Particulate
17	1730	Hall	.3	1730	25816	0	364.97	0.00		General Particulate
17	1730	Hall	.5	1730	821	0	53.73	0.00		General Particulate
17	1730	Hall	1.0	1730	66	0	34.56	0.00		General Particulate
17	1730	Hall	2.5	1730	55	0	449.97	0.00		General Particulate

17	1730	Hall	5.0	1730	15	0	981.75	0.00		General Particulate
17	1730	Hall	10.0	1730	13	26786	6806.78	8691.76		General Particulate
18	630	Hall	.3	3030	8450	0	119.46	0.00		General Particulate
18	630	Hall	.5	3030	187	0	12.24	0.00		General Particulate
18	630	Hall	1.0	3030	19	0	9.95	0.00		General Particulate
18	630	Hall	2.5	3030	4	0	32.72	0.00		General Particulate
18	630	Hall	5.0	3030	2	0	130.90	0.00		General Particulate
18	630	Hall	10.0	3030	3	8665	1570.80	1876.07		General Particulate
18	700	Hall	.3	3100	11211	0	158.49	0.00		General Particulate
18	700	Hall	.5	3100	398	0	26.05	0.00		General Particulate
18	700	Hall	1.0	3100	138	0	72.26	0.00		General Particulate
18	700	Hall	2.5	3100	82	0	670.86	0.00		General Particulate
18	700	Hall	5.0	3100	35	0	2290.74	0.00		General Particulate
18	700	Hall	10.0	3100	12	11876	6283.19	9501.59		General Particulate
18	830	Hall	.3	3230	16634	0	235.16	0.00		General Particulate
18	830	Hall	.5	3230	489	0	32.00	0.00		General Particulate
18	830	Hall	1.0	3230	122	0	63.88	0.00		General Particulate
18	830	Hall	2.5	3230	111	0	908.12	0.00		General Particulate
18	830	Hall	5.0	3230	47	0	3076.14	0.00		General Particulate
18	830	Hall	10.0	3230	11	17414	5759.59	10074.89		General Particulate
18	1000	Hall	.3	3400	19779	0	279.62	0.00		General Particulate
18	1000	Hall	.5	3400	703	0	46.01	0.00		General Particulate
18	1000	Hall	1.0	3400	136	0	71.21	0.00		General Particulate
18	1000	Hall	2.5	3400	122	0	998.11	0.00		General Particulate
18	1000	Hall	5.0	3400	28	0	1832.60	0.00		General Particulate
18	1000	Hall	10.0	3400	12	20780	6283.19	9510.73		General Particulate
18	1130	Hall	.3	3530	17270	0	244.15	0.00		General Particulate
18	1130	Hall	.5	3530	518	0	33.90	0.00		General Particulate
18	1130	Hall	1.0	3530	77	0	40.32	0.00		General Particulate
18	1130	Hall	2.5	3530	84	0	687.22	0.00		General Particulate
18	1130	Hall	5.0	3530	15	0	981.75	0.00		General Particulate
18	1130	Hall	10.0	3530	13	17977	6806.78	8794.12		General Particulate
18	1300	Hall	.3	3700	20048	0	283.42	0.00		General Particulate
18	1300	Hall	.5	3700	681	0	44.57	0.00		General Particulate
18	1300	Hall	1.0	3700	1180	0	617.85	0.00		General Particulate
18	1300	Hall	2.5	3700	170	0	1390.81	0.00		General Particulate
18	1300	Hall	5.0	3700	75	0	4908.74	0.00		General Particulate
18	1300	Hall	10.0	3700	46	22200	24085.54	31330.93		General Particulate
18	1430	Hall	.3	3830	22112	0	312.60	0.00		General Particulate
18	1430	Hall	.5	3830	822	0	53.80	0.00		General Particulate
18	1430	Hall	1.0	3830	124	0	64.93	0.00		General Particulate

18	1430	Hall	2.5	3830	130	0	1063.56	0.00		General Particulate
18	1430	Hall	5.0	3830	34	0	2225.29	0.00		General Particulate
18	1430	Hall	10.0	3830	11	23233	5759.59	9479.77		General Particulate
18	1600	Hall	.3	4000	22288	0	315.09	0.00		General Particulate
18	1600	Hall	.5	4000	2386	0	156.16	0.00		General Particulate
18	1600	Hall	1.0	4000	1191	0	623.61	0.00		General Particulate
18	1600	Hall	2.5	4000	1078	0	8819.37	0.00		General Particulate
18	1600	Hall	5.0	4000	339	0	22187.50	0.00		General Particulate
18	1600	Hall	10.0	4000	98	27380	51312.68	83414.40		General Particulate
18	1730	Hall	.3	4130	18247	0	257.96	0.00		General Particulate
18	1730	Hall	.5	4130	812	0	53.15	0.00		General Particulate
18	1730	Hall	1.0	4130	227	0	118.86	0.00		General Particulate
18	1730	Hall	2.5	4130	322	0	2634.36	0.00		General Particulate
18	1730	Hall	5.0	4130	116	0	7592.18	0.00		General Particulate
18	1730	Hall	10.0	4130	45	19769	23561.94	34218.45		General Particulate
19	630	Hall	.3	5430	4448	0	62.88	0.00		General Particulate
19	630	Hall	.5	5430	119	0	7.79	0.00		General Particulate
19	630	Hall	1.0	5430	28	0	14.66	0.00		General Particulate
19	630	Hall	2.5	5430	19	0	155.44	0.00		General Particulate
19	630	Hall	5.0	5430	2	0	130.90	0.00		General Particulate
19	630	Hall	10.0	5430	3	4619	1570.80	1942.47		General Particulate
19	700	Hall	.3	5500	3280	0	46.37	0.00		General Particulate
19	700	Hall	.5	5500	162	0	10.60	0.00		General Particulate
19	700	Hall	1.0	5500	76	0	39.79	0.00		General Particulate
19	700	Hall	2.5	5500	34	0	278.16	0.00		General Particulate
19	700	Hall	5.0	5500	14	0	916.30	0.00		General Particulate
19	700	Hall	10.0	5500	5	3571	2617.99	3909.22		General Particulate
19	830	Hall	.3	5630	5271	0	74.52	0.00		General Particulate
19	830	Hall	.5	5630	8534	0	558.55	0.00		General Particulate
19	830	Hall	1.0	5630	199	0	104.20	0.00		General Particulate
19	830	Hall	2.5	5630	151	0	1235.37	0.00		General Particulate
19	830	Hall	5.0	5630	34	0	2225.29	0.00		General Particulate
19	830	Hall	10.0	5630	10	14199	5235.99	9433.91		General Particulate
19	1000	Hall	.3	5800	7633	0	107.91	0.00		General Particulate
19	1000	Hall	.5	5800	594	0	38.88	0.00		General Particulate
19	1000	Hall	1.0	5800	114	0	59.69	0.00		General Particulate
19	1000	Hall	2.5	5800	114	0	932.66	0.00		General Particulate
19	1000	Hall	5.0	5800	38	0	2487.09	0.00		General Particulate
19	1000	Hall	10.0	5800	15	8508	7853.98	11480.21		General Particulate
19	1130	Hall	.3	5930	7400	0	104.62	0.00		General Particulate
19	1130	Hall	.5	5930	471	0	30.83	0.00		General Particulate

19	1130	Hall	1.0	5930	252	0	131.95	0.00		General Particulate
19	1130	Hall	2.5	5930	229	0	1873.50	0.00		General Particulate
19	1130	Hall	5.0	5930	76	0	4974.19	0.00		General Particulate
19	1130	Hall	10.0	5930	28	8456	14660.77	21775.84		General Particulate
19	1300	Hall	.3	6100	6202	0	87.68	0.00		General Particulate
19	1300	Hall	.5	6100	443	0	28.99	0.00		General Particulate
19	1300	Hall	1.0	6100	216	0	113.10	0.00		General Particulate
19	1300	Hall	2.5	6100	277	0	2266.20	0.00		General Particulate
19	1300	Hall	5.0	6100	102	0	6675.88	0.00		General Particulate
19	1300	Hall	10.0	6100	34	7274	17802.36	26974.21		General Particulate
19	1430	Hall	.3	6230	9150	0	129.36	0.00		General Particulate
19	1430	Hall	.5	6230	569	0	37.24	0.00		General Particulate
19	1430	Hall	1.0	6230	232	0	121.47	0.00		General Particulate
19	1430	Hall	2.5	6230	161	0	1317.18	0.00		General Particulate
19	1430	Hall	5.0	6230	45	0	2945.24	0.00		General Particulate
19	1430	Hall	10.0	6230	19	10176	9948.38	14498.87		General Particulate
19	1600	Hall	.3	6400	11628	0	164.39	0.00		General Particulate
19	1600	Hall	.5	6400	876	0	57.33	0.00		General Particulate
19	1600	Hall	1.0	6400	275	0	143.99	0.00		General Particulate
19	1600	Hall	2.5	6400	206	0	1685.33	0.00		General Particulate
19	1600	Hall	5.0	6400	55	0	3599.74	0.00		General Particulate
19	1600	Hall	10.0	6400	15	13055	7853.98	13504.77		General Particulate
19	1730	Hall	.3	6530	10852	0	153.42	0.00		General Particulate
19	1730	Hall	.5	6530	884	0	57.86	0.00		General Particulate
19	1730	Hall	1.0	6530	1034	0	541.40	0.00		General Particulate
19	1730	Hall	2.5	6530	1582	0	12942.71	0.00		General Particulate
19	1730	Hall	5.0	6530	604	0	39531.71	0.00		General Particulate
19	1730	Hall	10.0	6530	144	15100	75398.22	128625.31		General Particulate
20	630	Hall	.3	7830	8176	0	115.59	0.00		General Particulate
20	630	Hall	.5	7830	299	0	19.57	0.00		General Particulate
20	630	Hall	1.0	7830	16	0	8.38	0.00		General Particulate
20	630	Hall	2.5	7830	17	0	139.08	0.00		General Particulate
20	630	Hall	5.0	7830	8	0	523.60	0.00		General Particulate
20	630	Hall	10.0	7830	0	8516	0.00	806.21		General Particulate
20	700	Hall	.3	7900	5876	0	83.07	0.00		General Particulate
20	700	Hall	.5	7900	233	0	15.25	0.00		General Particulate
20	700	Hall	1.0	7900	21	0	11.00	0.00		General Particulate
20	700	Hall	2.5	7900	16	0	130.90	0.00		General Particulate
20	700	Hall	5.0	7900	4	0	261.80	0.00		General Particulate
20	700	Hall	10.0	7900	3	6153	1570.80	2072.81		General Particulate
20	830	Hall	.3	8030	7911	0	111.84	0.00		General Particulate

20	830	Hall	.5	8030	461	0	30.17	0.00		General Particulate
20	830	Hall	1.0	8030	83	0	43.46	0.00		General Particulate
20	830	Hall	2.5	8030	54	0	441.79	0.00		General Particulate
20	830	Hall	5.0	8030	22	0	1439.90	0.00		General Particulate
20	830	Hall	10.0	8030	11	8542	5759.59	7826.74		General Particulate
20	1000	Hall	.3	8200	10097	0	142.74	0.00		General Particulate
20	1000	Hall	.5	8200	649	0	42.48	0.00		General Particulate
20	1000	Hall	1.0	8200	93	0	48.69	0.00		General Particulate
20	1000	Hall	2.5	8200	70	0	572.69	0.00		General Particulate
20	1000	Hall	5.0	8200	24	0	1570.80	0.00		General Particulate
20	1000	Hall	10.0	8200	21	10954	10995.57	13372.97		General Particulate
20	1130	Hall	.3	8330	8939	0	126.37	0.00		General Particulate
20	1130	Hall	.5	8330	756	0	49.48	0.00		General Particulate
20	1130	Hall	1.0	8330	116	0	60.74	0.00		General Particulate
20	1130	Hall	2.5	8330	92	0	752.67	0.00		General Particulate
20	1130	Hall	5.0	8330	26	0	1701.70	0.00		General Particulate
20	1130	Hall	10.0	8330	20	9949	10471.98	13162.93		General Particulate
20	1300	Hall	.3	8500	10082	0	142.53	0.00		General Particulate
20	1300	Hall	.5	8500	943	0	61.72	0.00		General Particulate
20	1300	Hall	1.0	8500	80	0	41.89	0.00		General Particulate
20	1300	Hall	2.5	8500	41	0	335.43	0.00		General Particulate
20	1300	Hall	5.0	8500	8	0	523.60	0.00		General Particulate
20	1300	Hall	10.0	8500	18	11172	9424.78	10529.95		General Particulate
20	1430	Hall	.3	8630	8341	0	117.92	0.00		General Particulate
20	1430	Hall	.5	8630	806	0	52.75	0.00		General Particulate
20	1430	Hall	1.0	8630	45	0	23.56	0.00		General Particulate
20	1430	Hall	2.5	8630	20	0	163.62	0.00		General Particulate
20	1430	Hall	5.0	8630	10	0	654.50	0.00		General Particulate
20	1430	Hall	10.0	8630	12	9234	6283.19	7295.54		General Particulate
20	1600	Hall	.3	8800	10108	0	142.90	0.00		General Particulate
20	1600	Hall	.5	8800	985	0	64.47	0.00		General Particulate
20	1600	Hall	1.0	8800	63	0	32.99	0.00		General Particulate
20	1600	Hall	2.5	8800	39	0	319.07	0.00		General Particulate
20	1600	Hall	5.0	8800	17	0	1112.65	0.00		General Particulate
20	1600	Hall	10.0	8800	11	11223	5759.59	7431.66		General Particulate
20	1730	Hall	.3	8930	8465	0	119.67	0.00		General Particulate
20	1730	Hall	.5	8930	574	0	37.57	0.00		General Particulate
20	1730	Hall	1.0	8930	93	0	48.69	0.00		General Particulate
20	1730	Hall	2.5	8930	141	0	1153.55	0.00		General Particulate
20	1730	Hall	5.0	8930	61	0	3992.44	0.00		General Particulate
20	1730	Hall	10.0	8930	13	9347	6806.78	12158.71		General Particulate

21	630	Hall	.3	10230	5440	0	76.91	0.00		General Particulate
21	630	Hall	.5	10230	164	0	10.73	0.00		General Particulate
21	630	Hall	1.0	10230	18	0	9.42	0.00		General Particulate
21	630	Hall	2.5	10230	14	0	114.54	0.00		General Particulate
21	630	Hall	5.0	10230	10	0	654.50	0.00		General Particulate
21	630	Hall	10.0	10230	8	5654	4188.79	5054.89		General Particulate
21	700	Hall	.3	10300	5210	0	73.65	0.00		General Particulate
21	700	Hall	.5	10300	170	0	11.13	0.00		General Particulate
21	700	Hall	1.0	10300	46	0	24.09	0.00		General Particulate
21	700	Hall	2.5	10300	38	0	310.89	0.00		General Particulate
21	700	Hall	5.0	10300	24	0	1570.80	0.00		General Particulate
21	700	Hall	10.0	10300	10	5498	5235.99	7226.54		General Particulate
21	830	Hall	.3	10430	7665	0	108.36	0.00		General Particulate
21	830	Hall	.5	10430	323	0	21.14	0.00		General Particulate
21	830	Hall	1.0	10430	42	0	21.99	0.00		General Particulate
21	830	Hall	2.5	10430	37	0	302.71	0.00		General Particulate
21	830	Hall	5.0	10430	8	0	523.60	0.00		General Particulate
21	830	Hall	10.0	10430	3	8078	1570.80	2548.59		General Particulate
21	1000	Hall	.3	10600	8926	0	126.19	0.00		General Particulate
21	1000	Hall	.5	10600	719	0	47.06	0.00		General Particulate
21	1000	Hall	1.0	10600	82	0	42.94	0.00		General Particulate
21	1000	Hall	2.5	10600	54	0	441.79	0.00		General Particulate
21	1000	Hall	5.0	10600	6	0	392.70	0.00		General Particulate
21	1000	Hall	10.0	10600	8	9795	4188.79	5239.46		General Particulate
21	1130	Hall	.3	10730	15753	0	222.70	0.00		General Particulate
21	1130	Hall	.5	10730	962	0	62.96	0.00		General Particulate
21	1130	Hall	1.0	10730	85	0	44.51	0.00		General Particulate
21	1130	Hall	2.5	10730	53	0	433.61	0.00		General Particulate
21	1130	Hall	5.0	10730	18	0	1178.10	0.00		General Particulate
21	1130	Hall	10.0	10730	8	16879	4188.79	6130.66		General Particulate
21	1300	Hall	.3	10900	10495	0	148.37	0.00		General Particulate
21	1300	Hall	.5	10900	562	0	36.78	0.00		General Particulate
21	1300	Hall	1.0	10900	123	0	64.40	0.00		General Particulate
21	1300	Hall	2.5	10900	79	0	646.32	0.00		General Particulate
21	1300	Hall	5.0	10900	24	0	1570.80	0.00		General Particulate
21	1300	Hall	10.0	10900	16	11299	8377.58	10844.25		General Particulate
21	1430	Hall	.3	11030	6372	0	90.08	0.00		General Particulate
21	1430	Hall	.5	11030	443	0	28.99	0.00		General Particulate
21	1430	Hall	1.0	11030	128	0	67.02	0.00		General Particulate
21	1430	Hall	2.5	11030	92	0	752.67	0.00		General Particulate
21	1430	Hall	5.0	11030	30	0	1963.50	0.00		General Particulate

21	1430	Hall	10.0	11030	13	7078	6806.78	9709.05		General Particulate
21	1600	Hall	.3	11200	12907	0	182.47	0.00		General Particulate
21	1600	Hall	.5	11200	1720	0	112.57	0.00		General Particulate
21	1600	Hall	1.0	11200	580	0	303.69	0.00		General Particulate
21	1600	Hall	2.5	11200	336	0	2748.89	0.00		General Particulate
21	1600	Hall	5.0	11200	122	0	7984.88	0.00		General Particulate
21	1600	Hall	10.0	11200	57	15722	29845.13	41177.63		General Particulate
21	1730	Hall	.3	11330	8695	0	122.92	0.00		General Particulate
21	1730	Hall	.5	11330	346	0	22.65	0.00		General Particulate
21	1730	Hall	1.0	11330	79	0	41.36	0.00		General Particulate
21	1730	Hall	2.5	11330	87	0	711.77	0.00		General Particulate
21	1730	Hall	5.0	11330	36	0	2356.19	0.00		General Particulate
21	1730	Hall	10.0	11330	12	9255	6283.19	9538.08		General Particulate
17	630	Out	.3	630	132935	0	1879.32	0.00		General Particulate
17	630	Out	.5	630	5727.0	0	374.83	0.00		General Particulate
17	630	Out	1.0	630	450.0	0	235.62	0.00		General Particulate
17	630	Out	2.5	630	281.0	0	2298.93	0.00		General Particulate
17	630	Out	5.0	630	95.0	0	6217.74	0.00		General Particulate
17	630	Out	10.0	630	23.0	139511	12042.77	23049.21		General Particulate
17	700	Out	.3	700	126826.0	0	1792.96	0.00		General Particulate
17	700	Out	.5	700	5837.0	0	382.03	0.00		General Particulate
17	700	Out	1.0	700	665.0	0	348.19	0.00		General Particulate
17	700	Out	2.5	700	540.0	0	4417.86	0.00		General Particulate
17	700	Out	5.0	700	247.0	0	16166.11	0.00		General Particulate
17	700	Out	10.0	700	71.0	134186	37175.51	60282.67		General Particulate
17	830	Out	.3	830	83766.0	0	1184.21	0.00		General Particulate
17	830	Out	.5	830	3770.0	0	246.75	0.00		General Particulate
17	830	Out	1.0	830	434.0	0	227.24	0.00		General Particulate
17	830	Out	2.5	830	223.0	0	1824.41	0.00		General Particulate
17	830	Out	5.0	830	43.0	0	2814.34	0.00		General Particulate
17	830	Out	10.0	830	10.0	88246	5235.99	11532.95		General Particulate
17	1000	Out	.3	1000	63931.0	0	903.80	0.00		General Particulate
17	1000	Out	.5	1000	3357.0	0	219.72	0.00		General Particulate
17	1000	Out	1.0	1000	788.0	0	412.60	0.00		General Particulate
17	1000	Out	2.5	1000	467.0	0	3820.63	0.00		General Particulate
17	1000	Out	5.0	1000	126.0	0	8246.68	0.00		General Particulate
17	1000	Out	10.0	1000	24.0	68693	12566.37	26169.80		General Particulate
17	1130	Out	.3	1130	12546.0	0	177.36	0.00		General Particulate
17	1130	Out	.5	1130	3777.0	0	247.20	0.00		General Particulate
17	1130	Out	1.0	1130	482.0	0	252.37	0.00		General Particulate
17	1130	Out	2.5	1130	364.0	0	2977.97	0.00		General Particulate

17	1130	Out	5.0	1130	105.0	0	6872.23	0.00		General Particulate
17	1130	Out	10.0	1130	10.0	17284	5235.99	15763.13		General Particulate
17	1300	Out	.3	1300	111831.0	0	1580.97	0.00		General Particulate
17	1300	Out	.5	1300	4377.0	0	286.47	0.00		General Particulate
17	1300	Out	1.0	1300	415.0	0	217.29	0.00		General Particulate
17	1300	Out	2.5	1300	287.0	0	2348.01	0.00		General Particulate
17	1300	Out	5.0	1300	72.0	0	4712.39	0.00		General Particulate
17	1300	Out	10.0	1300	19.0	117001	9948.38	19093.52		General Particulate
17	1430	Out	.3	1430	120829.0	0	1708.18	0.00		General Particulate
17	1430	Out	.5	1430	4793.0	0	313.70	0.00		General Particulate
17	1430	Out	1.0	1430	400.0	0	209.44	0.00		General Particulate
17	1430	Out	2.5	1430	277.0	0	2266.20	0.00		General Particulate
17	1430	Out	5.0	1430	55.0	0	3599.74	0.00		General Particulate
17	1430	Out	10.0	1430	20.0	126374	10471.98	18569.24		General Particulate
17	1600	Out	.3	1600	126501.0	0	1788.37	0.00		General Particulate
17	1600	Out	.5	1600	4903.0	0	320.90	0.00		General Particulate
17	1600	Out	1.0	1600	305.0	0	159.70	0.00		General Particulate
17	1600	Out	2.5	1600	212.0	0	1734.42	0.00		General Particulate
17	1600	Out	5.0	1600	72.0	0	4712.39	0.00		General Particulate
17	1600	Out	10.0	1600	15.0	132008	7853.98	16569.76		General Particulate
17	1730	Out	.3	1730	129608.0	0	1832.29	0.00		General Particulate
17	1730	Out	.5	1730	4712.0	0	308.40	0.00		General Particulate
17	1730	Out	1.0	1730	257.0	0	134.56	0.00		General Particulate
17	1730	Out	2.5	1730	108.0	0	883.57	0.00		General Particulate
17	1730	Out	5.0	1730	10.0	0	654.50	0.00		General Particulate
17	1730	Out	10.0	1730	4.0	134699	2094.40	5907.72		General Particulate
18	630	Out	.3	3030	85895.0	0	1214.31	0.00		General Particulate
18	630	Out	.5	3030	3759.0	0	246.03	0.00		General Particulate
18	630	Out	1.0	3030	507.0	0	265.46	0.00		General Particulate
18	630	Out	2.5	3030	227.0	0	1857.14	0.00		General Particulate
18	630	Out	5.0	3030	24.0	0	1570.80	0.00		General Particulate
18	630	Out	10.0	3030	3.0	90415	1570.80	6724.53		General Particulate
18	700	Out	.3	3100	98598.0	0	1393.90	0.00		General Particulate
18	700	Out	.5	3100	4474.0	0	292.82	0.00		General Particulate
18	700	Out	1.0	3100	559.0	0	292.69	0.00		General Particulate
18	700	Out	2.5	3100	305.0	0	2495.28	0.00		General Particulate
18	700	Out	5.0	3100	49.0	0	3207.04	0.00		General Particulate
18	700	Out	10.0	3100	11.0	103996	5759.59	13441.32		General Particulate
18	830	Out	.3	3230	110832.0	0	1566.85	0.00		General Particulate
18	830	Out	.5	3230	4529.0	0	296.42	0.00		General Particulate
18	830	Out	1.0	3230	447.0	0	234.05	0.00		General Particulate

18	830	Out	2.5	3230	213.0	0	1742.60	0.00		General Particulate
18	830	Out	5.0	3230	30.0	0	1963.50	0.00		General Particulate
18	830	Out	10.0	3230	23.0	116074	12042.77	17846.19		General Particulate
18	1000	Out	.3	3400	96330.0	0	1361.83	0.00		General Particulate
18	1000	Out	.5	3400	3533.0	0	231.23	0.00		General Particulate
18	1000	Out	1.0	3400	524.0	0	274.37	0.00		General Particulate
18	1000	Out	2.5	3400	337.0	0	2757.07	0.00		General Particulate
18	1000	Out	5.0	3400	47.0	0	3076.14	0.00		General Particulate
18	1000	Out	10.0	3400	11.0	100782	5759.59	13460.24		General Particulate
18	1130	Out	.3	3530	90554.0	0	1280.18	0.00		General Particulate
18	1130	Out	.5	3530	2921.0	0	191.18	0.00		General Particulate
18	1130	Out	1.0	3530	709.0	0	371.23	0.00		General Particulate
18	1130	Out	2.5	3530	541.0	0	4426.05	0.00		General Particulate
18	1130	Out	5.0	3530	169.0	0	11061.02	0.00		General Particulate
18	1130	Out	10.0	3530	54.0	94948	28274.33	45603.99		General Particulate
18	1300	Out	.3	3700	104033.0	0	1470.73	0.00		General Particulate
18	1300	Out	.5	3700	2895.0	0	189.48	0.00		General Particulate
18	1300	Out	1.0	3700	651.0	0	340.86	0.00		General Particulate
18	1300	Out	2.5	3700	455.0	0	3722.46	0.00		General Particulate
18	1300	Out	5.0	3700	132.0	0	8639.38	0.00		General Particulate
18	1300	Out	10.0	3700	41.0	108207	21467.55	35830.46		General Particulate
18	1430	Out	.3	3830	11285.0	0	159.54	0.00		General Particulate
18	1430	Out	.5	3830	3109.0	0	203.48	0.00		General Particulate
18	1430	Out	1.0	3830	405.0	0	212.06	0.00		General Particulate
18	1430	Out	2.5	3830	202.0	0	1652.61	0.00		General Particulate
18	1430	Out	5.0	3830	29.0	0	1898.05	0.00		General Particulate
18	1430	Out	10.0	3830	2.0	15032	1047.20	5172.93		General Particulate
18	1600	Out	.3	4000	94587.0	0	1337.19	0.00		General Particulate
18	1600	Out	.5	4000	2774.0	0	181.56	0.00		General Particulate
18	1600	Out	1.0	4000	434.0	0	227.24	0.00		General Particulate
18	1600	Out	2.5	4000	248.0	0	2028.95	0.00		General Particulate
18	1600	Out	5.0	4000	65.0	0	4254.24	0.00		General Particulate
18	1600	Out	10.0	4000	15.0	98123	7853.98	15883.16		General Particulate
18	1730	Out	.3	4130	81733.0	0	1155.47	0.00		General Particulate
18	1730	Out	.5	4130	2844.0	0	186.14	0.00		General Particulate
18	1730	Out	1.0	4130	393.0	0	205.77	0.00		General Particulate
18	1730	Out	2.5	4130	190.0	0	1554.43	0.00		General Particulate
18	1730	Out	5.0	4130	31.0	0	2028.95	0.00		General Particulate
18	1730	Out	10.0	4130	10.0	85201	5235.99	10366.75		General Particulate
19	630	Out	.3	5430	36258.0	0	512.59	0.00		General Particulate
19	630	Out	.5	5430	2217.0	0	145.10	0.00		General Particulate

19	630	Out	1.0	5430	919.0	0	481.19	0.00		General Particulate
19	630	Out	2.5	5430	495.0	0	4049.71	0.00		General Particulate
19	630	Out	5.0	5430	76.0	0	4974.19	0.00		General Particulate
19	630	Out	10.0	5430	18.0	39983	9424.78	19587.55		General Particulate
19	700	Out	.3	5500	43634.0	0	616.86	0.00		General Particulate
19	700	Out	.5	5500	2639.0	0	172.72	0.00		General Particulate
19	700	Out	1.0	5500	1076.0	0	563.39	0.00		General Particulate
19	700	Out	2.5	5500	638.0	0	5219.63	0.00		General Particulate
19	700	Out	5.0	5500	78.0	0	5105.09	0.00		General Particulate
19	700	Out	10.0	5500	22.0	48087	11519.17	23196.86		General Particulate
19	830	Out	.3	5630	51739.0	0	731.44	0.00		General Particulate
19	830	Out	.5	5630	3030.0	0	198.31	0.00		General Particulate
19	830	Out	1.0	5630	1251.0	0	655.02	0.00		General Particulate
19	830	Out	2.5	5630	697.0	0	5702.32	0.00		General Particulate
19	830	Out	5.0	5630	102.0	0	6675.88	0.00		General Particulate
19	830	Out	10.0	5630	15.0	56834	7853.98	21816.96		General Particulate
19	1000	Out	.3	5800	32461.0	0	458.91	0.00		General Particulate
19	1000	Out	.5	5800	1723.0	0	112.77	0.00		General Particulate
19	1000	Out	1.0	5800	721.0	0	377.51	0.00		General Particulate
19	1000	Out	2.5	5800	270.0	0	2208.93	0.00		General Particulate
19	1000	Out	5.0	5800	30.0	0	1963.50	0.00		General Particulate
19	1000	Out	10.0	5800	5.0	35210	2617.99	7739.61		General Particulate
19	1130	Out	.3	5930	43766.0	0	618.73	0.00		General Particulate
19	1130	Out	.5	5930	2362.0	0	154.59	0.00		General Particulate
19	1130	Out	1.0	5930	1058.0	0	553.97	0.00		General Particulate
19	1130	Out	2.5	5930	778.0	0	6365.00	0.00		General Particulate
19	1130	Out	5.0	5930	350.0	0	22907.45	0.00		General Particulate
19	1130	Out	10.0	5930	183.0	48497	95818.58	126418.31		General Particulate
19	1300	Out	.3	6100	52998.0	0	749.24	0.00		General Particulate
19	1300	Out	.5	6100	2284.0	0	149.49	0.00		General Particulate
19	1300	Out	1.0	6100	563.0	0	294.79	0.00		General Particulate
19	1300	Out	2.5	6100	262.0	0	2143.48	0.00		General Particulate
19	1300	Out	5.0	6100	25.0	0	1636.25	0.00		General Particulate
19	1300	Out	10.0	6100	2.0	56134	1047.20	6020.44		General Particulate
19	1430	Out	.3	6230	67556.0	0	955.05	0.00		General Particulate
19	1430	Out	.5	6230	2776.0	0	181.69	0.00		General Particulate
19	1430	Out	1.0	6230	600.0	0	314.16	0.00		General Particulate
19	1430	Out	2.5	6230	352.0	0	2879.79	0.00		General Particulate
19	1430	Out	5.0	6230	86.0	0	5628.69	0.00		General Particulate
19	1430	Out	10.0	6230	24.0	71394	12566.37	22525.75		General Particulate
19	1600	Out	.3	6400	67828.0	0	958.90	0.00		General Particulate

19	1600	Out	.5	6400	2795.0	0	182.93	0.00		General Particulate
19	1600	Out	1.0	6400	515.0	0	269.65	0.00		General Particulate
19	1600	Out	2.5	6400	295.0	0	2413.46	0.00		General Particulate
19	1600	Out	5.0	6400	38.0	0	2487.09	0.00		General Particulate
19	1600	Out	10.0	6400	12.0	71483	6283.19	12595.22		General Particulate
19	1730	Out	.3	6530	103941.0	0	1469.43	0.00		General Particulate
19	1730	Out	.5	6530	4097.0	0	268.15	0.00		General Particulate
19	1730	Out	1.0	6530	588.0	0	307.88	0.00		General Particulate
19	1730	Out	2.5	6530	299.0	0	2446.19	0.00		General Particulate
19	1730	Out	5.0	6530	31.0	0	2028.95	0.00		General Particulate
19	1730	Out	10.0	6530	14.0	108970	7330.38	13850.97		General Particulate
20	630	Out	.3	7830	62486.0	0	883.38	0.00		General Particulate
20	630	Out	.5	7830	4879.0	0	319.33	0.00		General Particulate
20	630	Out	1.0	7830	535.0	0	280.13	0.00		General Particulate
20	630	Out	2.5	7830	269.0	0	2200.75	0.00		General Particulate
20	630	Out	5.0	7830	65.0	0	4254.24	0.00		General Particulate
20	630	Out	10.0	7830	15.0	68249	7853.98	15791.80		General Particulate
20	700	Out	.3	7900	63377.0	0	895.97	0.00		General Particulate
20	700	Out	.5	7900	5416.0	0	354.48	0.00		General Particulate
20	700	Out	1.0	7900	945.0	0	494.80	0.00		General Particulate
20	700	Out	2.5	7900	668.0	0	5465.06	0.00		General Particulate
20	700	Out	5.0	7900	232.0	0	15184.36	0.00		General Particulate
20	700	Out	10.0	7900	85.0	70723	44505.90	66900.57		General Particulate
20	830	Out	.3	8030	68450.0	0	967.69	0.00		General Particulate
20	830	Out	.5	8030	8228.0	0	538.52	0.00		General Particulate
20	830	Out	1.0	8030	1112.0	0	582.24	0.00		General Particulate
20	830	Out	2.5	8030	323.0	0	2642.54	0.00		General Particulate
20	830	Out	5.0	8030	45.0	0	2945.24	0.00		General Particulate
20	830	Out	10.0	8030	7.0	78165	3665.19	11341.42		General Particulate
20	1000	Out	.3	8200	74709.0	0	1056.17	0.00		General Particulate
20	1000	Out	.5	8200	10013.0	0	655.35	0.00		General Particulate
20	1000	Out	1.0	8200	1385.0	0	725.18	0.00		General Particulate
20	1000	Out	2.5	8200	394.0	0	3223.40	0.00		General Particulate
20	1000	Out	5.0	8200	353.0	0	23103.80	0.00		General Particulate
20	1000	Out	10.0	8200	158.0	87012	82728.61	111492.51		General Particulate
20	1130	Out	.3	8330	63387.0	0	896.11	0.00		General Particulate
20	1130	Out	.5	8330	9437.0	0	617.65	0.00		General Particulate
20	1130	Out	1.0	8330	852.0	0	446.11	0.00		General Particulate
20	1130	Out	2.5	8330	320.0	0	2617.99	0.00		General Particulate
20	1130	Out	5.0	8330	63.0	0	4123.34	0.00		General Particulate
20	1130	Out	10.0	8330	7.0	74066	3665.19	12366.39		General Particulate

20	1300	Out	.3	8500	68387.0	0	966.80	0.00		General Particulate
20	1300	Out	.5	8500	11949.0	0	782.06	0.00		General Particulate
20	1300	Out	1.0	8500	1022.0	0	535.12	0.00		General Particulate
20	1300	Out	2.5	8500	454.0	0	3714.28	0.00		General Particulate
20	1300	Out	5.0	8500	46.0	0	3010.69	0.00		General Particulate
20	1300	Out	10.0	8500	5.0	81863	2617.99	11626.94		General Particulate
20	1430	Out	.3	8630	72143.0	0	1019.90	0.00		General Particulate
20	1430	Out	.5	8630	13848.0	0	906.35	0.00		General Particulate
20	1430	Out	1.0	8630	848.0	0	444.01	0.00		General Particulate
20	1430	Out	2.5	8630	428.0	0	3501.57	0.00		General Particulate
20	1430	Out	5.0	8630	84.0	0	5497.79	0.00		General Particulate
20	1430	Out	10.0	8630	25.0	87376	13089.97	24459.58		General Particulate
20	1600	Out	.3	8800	107831.0	0	1524.42	0.00		General Particulate
20	1600	Out	.5	8800	17539.0	0	1147.92	0.00		General Particulate
20	1600	Out	1.0	8800	1408.0	0	737.23	0.00		General Particulate
20	1600	Out	2.5	8800	401.0	0	3280.67	0.00		General Particulate
20	1600	Out	5.0	8800	22.0	0	1439.90	0.00		General Particulate
20	1600	Out	10.0	8800	3.0	127204	1570.80	9700.94		General Particulate
20	1730	Out	.3	8930	98092.0	0	1386.74	0.00		General Particulate
20	1730	Out	.5	8930	9167.0	0	599.98	0.00		General Particulate
20	1730	Out	1.0	8930	648.0	0	339.29	0.00		General Particulate
20	1730	Out	2.5	8930	220.0	0	1799.87	0.00		General Particulate
20	1730	Out	5.0	8930	29.0	0	1898.05	0.00		General Particulate
20	1730	Out	10.0	8930	7.0	108163	3665.19	9689.12		General Particulate
21	630	Out	.3	10230	93571.0	0	1322.83	0.00		General Particulate
21	630	Out	.5	10230	9950.0	0	651.23	0.00		General Particulate
21	630	Out	1.0	10230	328.0	0	171.74	0.00		General Particulate
21	630	Out	2.5	10230	180.0	0	1472.62	0.00		General Particulate
21	630	Out	5.0	10230	31.0	0	2028.95	0.00		General Particulate
21	630	Out	10.0	10230	3.0	104063	1570.80	7218.16		General Particulate
21	700	Out	.3	10300	97914.0	0	1384.23	0.00		General Particulate
21	700	Out	.5	10300	11191.0	0	732.45	0.00		General Particulate
21	700	Out	1.0	10300	303.0	0	158.65	0.00		General Particulate
21	700	Out	2.5	10300	205.0	0	1677.15	0.00		General Particulate
21	700	Out	5.0	10300	33.0	0	2159.84	0.00		General Particulate
21	700	Out	10.0	10300	8.0	109654	4188.79	10301.11		General Particulate
21	830	Out	.3	10430	104066.0	0	1471.20	0.00		General Particulate
21	830	Out	.5	10430	14840.0	0	971.28	0.00		General Particulate
21	830	Out	1.0	10430	516.0	0	270.18	0.00		General Particulate
21	830	Out	2.5	10430	204.0	0	1668.97	0.00		General Particulate
21	830	Out	5.0	10430	32.0	0	2094.40	0.00		General Particulate

21	830	Out	10.0	10430	1.0	119659	523.60	6999.62		General Particulate
21	1000	Out	.3	10600	109839.0	0	1552.81	0.00		General Particulate
21	1000	Out	.5	10600	17179.0	0	1124.36	0.00		General Particulate
21	1000	Out	1.0	10600	1419.0	0	742.99	0.00		General Particulate
21	1000	Out	2.5	10600	318.0	0	2601.63	0.00		General Particulate
21	1000	Out	5.0	10600	33.0	0	2159.84	0.00		General Particulate
21	1000	Out	10.0	10600	15.0	128803	7853.98	16035.62		General Particulate
21	1130	Out	.3	10730	105165.0	0	1486.74	0.00		General Particulate
21	1130	Out	.5	10730	9796.0	0	641.15	0.00		General Particulate
21	1130	Out	1.0	10730	573.0	0	300.02	0.00		General Particulate
21	1130	Out	2.5	10730	228.0	0	1865.32	0.00		General Particulate
21	1130	Out	5.0	10730	14.0	0	916.30	0.00		General Particulate
21	1130	Out	10.0	10730	0.0	115776	0.00	5209.52		General Particulate
21	1300	Out	.3	10900	34320.0	0	485.19	0.00		General Particulate
21	1300	Out	.5	10900	1941.0	0	127.04	0.00		General Particulate
21	1300	Out	1.0	10900	293.0	0	153.41	0.00		General Particulate
21	1300	Out	2.5	10900	88.0	0	719.95	0.00		General Particulate
21	1300	Out	5.0	10900	12.0	0	785.40	0.00		General Particulate
21	1300	Out	10.0	10900	4.0	36658	2094.40	4365.38		General Particulate
21	1430	Out	.3	11030	32480.0	0	459.18	0.00		General Particulate
21	1430	Out	.5	11030	1440.0	0	94.25	0.00		General Particulate
21	1430	Out	1.0	11030	251.0	0	131.42	0.00		General Particulate
21	1430	Out	2.5	11030	70.0	0	572.69	0.00		General Particulate
21	1430	Out	5.0	11030	10.0	0	654.50	0.00		General Particulate
21	1430	Out	10.0	11030	2.0	34253	1047.20	2959.23		General Particulate
21	1600	Out	.3	11200	56688.0	0	801.41	0.00		General Particulate
21	1600	Out	.5	11200	2786.0	0	182.34	0.00		General Particulate
21	1600	Out	1.0	11200	476.0	0	249.23	0.00		General Particulate
21	1600	Out	2.5	11200	225.0	0	1840.78	0.00		General Particulate
21	1600	Out	5.0	11200	37.0	0	2421.64	0.00		General Particulate
21	1600	Out	10.0	11200	18.0	60230	9424.78	14920.18		General Particulate
21	1730	Out	.3	11330	52098.0	0	736.52	0.00		General Particulate
21	1730	Out	.5	11330	2354.0	0	154.07	0.00		General Particulate
21	1730	Out	1.0	11330	382.0	0	200.01	0.00		General Particulate
21	1730	Out	2.5	11330	176.0	0	1439.90	0.00		General Particulate
21	1730	Out	5.0	11330	7.0	0	458.15	0.00		General Particulate
21	1730	Out	10.0	11330	5.0	55022	2617.99	5606.64		General Particulate

APPENDIX B

Calculations of 8hr TWA for Workstation 6 on 18 August assuming all samples collected were at the highest particulate volume collected for that day and all particulate was gypsum, as well as calculations for the same time period using the actual particulate counts obtained at each reading.

Worst Case Scenario at Workstation 6

Time	Sample Volume	Sample Period Cumulative Volume
700	34549032.74	8883938278
830	34549032.74	8883938278
1000	34549032.74	8883938278
1130	34549032.74	8883938278
1300	34549032.74	8883938278
1430	34549032.74	8883938278
1600	34549032.74	8883938278
1730	34549032.74	8883938278

	10.5	hours	
	8	hours	
	0.761904762	8/10.5	

Cumulative Volume	71071506222	micron^3	per 10.5 hrs
Cumulative Volume	54149719026	micron^3	per 8 hrs
Cumulative Volume	0.054149719	cm^3	per 8 hrs
Specific Gravity	2.3	Dimensions	Duration
Mass	124.5443538	mg	per 8 hrs
Cumulative Exposure	91.64411609	mg/m^3	per 8 hrs
8Hr TWA Exposure	11.45551451	mg/m^4	per 8 hrs
Exposure Limit	5	mg/m^3	per 8 hrs

Workstation 6 -18 August 2015

Time	Sample Volume	Sample Period Cumulative Volume
700	24366.84	6265688.756
830	28402864.69	7303512626
1000	34549032.74	8883938278
1130	15167.43	3900153.117
1300	40498.36	10413747.17
1430	69042.60	17753613.28
1600	26404.95	6789769.671
1730	3500.52	900124.1028

	10.5	hours	
	8	hours	
	0.761904762	8/10.5	

Sum Cumulative Volume	16233474000	micron^3	per 10.5 hrs
Sum Cumulative Volume	12368361143	micron^3	per 8 hrs
Sum Cumulative Volume	0.012368361	cm^3	per 8 hrs
Specific Gravity	2.3	Dimensions	Duration
Mass	28.44723063	mg	per 8 hrs
Cumulative Exposure	20.93247287	mg/m^3	per 8 hrs
8Hr TWA Exposure	2.616559109	mg/m^4	per 8 hrs
Exposure Limit	5	mg/m^3	per 8 hrs

Sample Period Cumulative Volume Calculation:
Total Sample Period Time: 1.5hrs = 5400 sec
Time Per Sample: 21 sec
Sample Period Cumulative Volume = $\frac{\text{Sample Volume} \times 5400 \text{ sec}}{21 \text{ sec/sample}}$

Cumulative Exposure = $\frac{\text{Cumulative Mass (mg)}}{\text{Total sample Volume for 8 hrs } (m^3)}$
Where:
Total Sample Time: 8hrs = 28800 sec
Time Per Sample: 21 sec
Volume per Sample: 0.991L = 0.000991m^3
Total Sample Volume = $\frac{28800 \text{ sec}}{21 \text{ sec/sample}} \times 0.000991 \text{ } m^3/\text{sample} = 1.359 \text{ } m^3$

8hr TWA Exposure = $\frac{\text{Cumulative Exposure } (mg/m^3)}{8}$

APPENDIX C

Real time sampling results from ANALYTICS showing calculated 8-hr TWA

Table 1 – Methyl Methacrylate Vapour (MMV) 8hr TWA at Workstation #4 on 18 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
18-Aug-15	150674	MMV	none	8	1	8.00			
18-Aug-15	150675	MMV	none	4.5	1	4.50			
18-Aug-15	150676	MMV	none	5.1	1	5.10			
18-Aug-15	150677	MMV	none	18	1	18.00			
18-Aug-15	150678	MMV	none	7.5	1	7.50			
18-Aug-15	150679	MMV	none	16	1	16.00			
18-Aug-15	150680	MMV	none	3.4	0.83	2.822			
							61.922	7.74025 mg/m^3	7.7403mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		410 mg/m^3

Table 2 – Methyl Methacrylate Particulate (MMP) 8hr TWA at Workstation #4 on 19 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
19-Aug-15	150704	TP	<	0.127	3.5	0.4445			
19-Aug-15	150705	TP	<	0.127	3.5	0.4445			
							0.889	0.111125 mg/m^3	<0.1111 mg/m^3
Note: There is no specific media currently available to test for MMP thus media used to test for total particulate (TP) was used as well as comparing result to total particulate limits.								Acceptable OSHA PEL TWA (8hr.)	5mg/m^3

Table 3 – Gypsum (Calcium Sulfate) 8hr TWA at Workstation #1 on 18 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
18-Aug-15	150708	Gypsum	none	0.0451	5	0.2255			
18-Aug-15	150709	Gypsum	none	0.209	4.83	1.00947			
							1.23497	0.15437125 mg/m^3	0.1544 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m^3

Table 4 – Gypsum (Calcium Sulfate) 8hr TWA Between Workstations #2 and #3 on 19 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
19-Aug-15	150710	Gypsum	none	0.1	3.83	0.383			
19-Aug-15	150711	Gypsum	none	0.108	4.5	0.486			
							0.869	0.108625 mg/m^3	0.1086 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m^3

Table 5 – Total Particulate (TP) 8hr TWA at pumice area near laboratory exit on 18 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
18-Aug-15	150692	TP	<	0.096	3.5	0.336			
18-Aug-15	150693	TP	<	0.098	3.42	0.33516			
18-Aug-15	150694	TP	<	0.13	2.58	0.3354			
							1.00656	0.12582 mg/m^3	<0.1258 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m^3

Table 6 – Total Particulate (TP) 8hr TWA at pumice area near laboratory exit on 19 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
19-Aug-15	150695	TP	<	0.128	3.42	0.43776			
19-Aug-15	150696	TP	<	0.109	4	0.436			
							0.87376	0.10922 mg/m3	<0.1092 mg/m3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m3

Table 7 – Total Particulate (TP) 8hr TWA in the main hallway near laboratory exit on 18 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
18-Aug-15	150697	TP	<	0.133	3.33	0.44289			
18-Aug-15	150698	TP	<	0.13	3.42	0.4446			
18-Aug-15	150699	TP	<	0.14	3.17	0.4438			
							1.33129	0.16641125 mg/m^3	<0.1664 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m^3

Table 8 – Total Particulate (TP) 8hr TWA in the main hallway near laboratory exit on 19 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
19-Aug-15	150700	TP	<	0.132	3.5	0.46			
19-Aug-15	150701	TP	<	0.138	3.33	0.45954			
							0.92154	0.1151925 mg/m^3	<0.1152 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		5 mg/m^3

Table 9 –Paraffin Wax Fumes (PWF) 8hr TWA at workstation #10 on 18 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
18-Aug-15	150700	PWF	<	0.31	5.08	1.5748	1.5748	0.19685 mg/m^3	
									<0.1969 mg/m^3
							Acceptable OSHA PEL TWA (8hr.)		2 mg/m^3

Table 10 –Paraffin Wax Fumes (PWF) 8hr TWA at workstation #10 on 19 August 2015

Date	Sample I.D.	Sample For	Identifier (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.)	Reportable TWA
19-Aug-15	150689	PWF	<	0.47	3.5	1.645	1.645	0.205625 mg/m^3	
									<0.2056 mg/m^3
							Acceptable NIOSH REL TWA (8hr.)		2 mg/m^3

Table 11 –Respirable Particulate (Silica Profile) 8 hr TWA at workstation #8 on 18 August 2015

Date	Sample I.D.	Sample For	Ident (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.) [mg/m^3]	Reportable TWA
18-Aug-15	150714	Respirable Dust	none	0.515	4	2.06	2.06	0.2575	0.2575 mg/m^3
18-Aug-15	150714	Cristabolite	<	0.008	4	0.032	0.032	0.004	0.004 mg/m^3
18-Aug-15	150714	Quartz	<	0.008	4	0.032	0.032	0.004	0.004 mg/m^3
							Acceptable NIOSH TWA (8hr.) for Resp Part		0.05 mg/m^3

Table 12 –Respirable Particulate (Silica Profile) 8 hr TWA at workstation #8 on 19 August 2015

Date	Sample I.D.	Sample For	Ident (from lab)	Conc Value (C) [mg/m^3]	Time Sample (hr) (T)	Conc (C*T) [mg/m^3]	Total Conc (Sum of C*T) [mg/m^3]	Calculated TWA (8-hr.) [mg/m^3]	Reportable TWA
19-Aug-15	150714	Respirable Dust	<	0.065	5.17	0.33605	0.33605	0.04200625	0.042 mg/m^3
19-Aug-15	150714	Cristabolite	<	0.007	5.17	0.03619	0.03619	0.00452375	0.0045 mg/m^3
19-Aug-15	150714	Quartz	<	0.007	5.17	0.03619	0.03619	0.00452375	0.0045 mg/m^3
							Acceptable NIOSH TWA (8hr.) for Resp Part		0.05 mg/m^3

APPENDIX D Calculations of 8hr TWA for various workstations where real time particulate sampling was also completed

Specific gravity:
gypsum = 2.3 g/cm^3 = 2.3 g/ml – assumed this density for total particulate
silica = 2.6 g/cm^3 = 2.6 g/ml
methyl methacrylate = 1.18 g/cm^3 = 1.18g/ml
paraffin wax = 0.9 g/cm^3 = 0.9 g/cm^3

Sample Period Cumulative Volume Calculation:
Total Sample Period Time: 1.5hrs = 5400 sec
Time Per Sample: 21 sec
Sample Period Cumulative Volume = $\frac{\text{Sample Volume} \times 5400 \text{ sec}}{21 \text{ sec/sample}}$

Cumulative Exposure = $\frac{\text{Cumulative Mass (mg)}}{\text{Total sample Volume for 8 hrs (m}^3\text{)}}$
Where:
Total Sample Time: 8hrs = 28800 sec
Time Per Sample: 21 sec
Volume per Sample: 0.991L = 0.000991m^3
Total Sample Volume = $\frac{28800 \text{ sec}}{21 \text{ sec/sample}}$ x 0.000991 m^3/sample = 1.359 m^3
8hr TWA Exposure = $\frac{\text{Cumulative Exposure (mg/m}^3\text{)}}{8}$

Gypsum – Workstation 1- 18 August 2015

Time	Sample Volume	Sample Period Cumulative Volume
700	4713.94	1212143.046
830	10074.42	2590535.159
1000	29808.04	7664839.972
1130	10874.79	2796343.711
1300	78834.75	20271567.65
1430	365970.82	94105737.34
1600	116346.93	29917450.03
1730	2857.87	734873.3807

10.5	hours		
8	hours		
0.761904762	8/10.5		

Cumulative Volume	159293490.3	micron^3	per 10.5 hrs
Cumulative Volume	121366468.8	micron^3	per 8 hrs
Cumulative Volume	0.000121366	cm^3	per 8 hrs
Specific Gravity	2.3	g/cm^3	
Mass	0.279142878	mg	
Cumulative Exposure	0.205403148	mg/m^3	per 8 hrs
8Hr TWA Exposure	0.025675394	mg/m^3	per 8 hrs
Exposure Limit	5	mg/m^3	per 8 hrs

Methyl Methacrylate Particulate – Workstation 4 – 19 August 2015

Time	Sample Volume	Sample Period Cumulative Volume
700	7759.78	1995349.496
830	36298.18	9333713.311
1000	103550.92	26627084.12
1130	15880.37	4083478.116
1300	54700.91	14065791.95
1430	135478.21	34836867.65
1600	51868.64	13337502.53
1730	7946.27	2043303.423

		10.5	hours
		8	hours
		0.761904762	8/10.5

		Dimensions	Duration
Cumulative Volume	106323090.6	micron^3	per 10.5 hrs
Cumulative Volume	81008069.03	micron^3	per 8 hrs
Cumulative Volume	8.10081E-05	cm^3	per 8 hrs
Specific Gravity	1.18	g/cm^3	
Mass	0.095589521	mg	per 8 hrs
Cumulative Exposure	0.070338132	mg/m^3	per 8 hrs
8Hr TWA Exposure	0.008792267	mg/m^3	per 8 hrs
Exposure Limit	410	mg/m^3	per 8 hrs

Total Particulate in the Hall – 18 August 2015

Time	Sample Volume	Sample Period Cumulative Volume
700	9501.61	2443244.137
830	10074.91	2590662.662
1000	9510.75	2445595.06
1130	8794.14	2261326.379
1300	31331.00	8056454.506
1430	9479.79	2437633.346
1600	83414.60	21449229.91
1730	34218.53	8798951.927

		10.5	hours
		8	hours
		0.761904762	8/10.5

		Dimensions	Duration
Cumulative Volume	50483097.93	micron^3	per 10.5 hrs
Cumulative Volume	38463312.71	micron^3	per 8 hrs
Cumulative Volume	3.84633E-05	cm^3	per 8 hrs
Specific Gravity	2.3	g/cm^3	
Mass	0.088465619	mg	per 8 hrs
Cumulative Exposure	0.065096114	mg/m^3	per 8 hrs
8Hr TWA Exposure	0.008137014	mg/m^3	per 8 hrs
Exposure Limit	5	mg/m^3	per 8 hrs

Total Particulate in the Hall – 19 August 2015

Time	Sample Volume	Sample Period Cumulative Volume		
700	3909.23	1005219.149		
830	9433.93	2425841.437		
1000	11480.24	2952028.772		
1130	21775.90	5599453.815		
1300	26974.28	6936165.617		
1430	14498.90	3728247.887		
1600	13504.80	3472624.031		
1730	128625.61	33074790.54	Dimensions	Duration
Cumulative Volume		59194371.24	micron^3	per 10.5 hrs
Cumulative Volume		45100473.33	micron^3	per 8 hrs
Cumulative Volume		4.51005E-05	cm^3	per 8 hrs
Specific Gravity		2.3	g/cm^3	
Mass		0.103731089	mg	per 8 hrs
Cumulative Exposure		0.076328984	mg/m^3	per 8 hrs
8Hr TWA Exposure		0.009541123	mg/m^3	per 8 hrs
Exposure Limit		5	mg/m^3	per 8 hrs

10.5	hours
8	hours
0.761904762	8/10.5

Silica at Workstation #8 – 18 August 2015

Time	Sample Volume	Sample Period Cumulative Volume		
700	13239.96	3404522.798		
830	24637.75	6335349.91		
1000	31471.59	8092605.079		
1130	22057.50	5671865.499		
1300	25291.22	6503384.552		
1430	32697.39	8407806.204		
1600	237726.25	61128928.63		
1730	9399.09	2416883.129	Dimensions	Duration
Cumulative Volume		101961345.8	micron^3	per 10.5 hrs
Cumulative Volume		77684834.9	micron^3	per 8 hrs
Cumulative Volume		7.76848E-05	cm^3	per 8 hrs
Specific Gravity		2.6	g/cm^3	
Mass		0.201980571	mg	per 8 hrs
Cumulative Exposure		0.148624408	mg/m^3	per 8 hrs
8Hr TWA Exposure		0.018578051	mg/m^3	per 8 hrs
Exposure Limit			mg/m^3	per 8 hrs

10.5	hours
8	hours
0.761904762	8/10.5

Silica at Workstation #8 – 19 August 2015

Time	Sample Volume	Sample Period Cumulative Volume		
700	5077.74	1290455.863		
830	25314.34	6433386.76		
1000	105007.30	26686555.05		
1130	8959.69	2277014.764		
1300	13097.91	3328702.854		
1430	35795.97	9097186.625		
1600	31007.11	7880147.275		
1730	8499.29	2160008.331	Dimensions	Duration
Cumulative Volume		59153457.52	micron^3	per 10.5 hrs
Cumulative Volume		45069300.97	micron^3	per 8 hrs
Cumulative Volume		4.50693E-05	cm^3	per 8 hrs
Specific Gravity		2.6	g/cm^3	
Mass		0.117180183	mg	per 8 hrs
Cumulative Exposure		0.0862253	mg/m^3	per 8 hrs
8Hr TWA Exposure		0.010778162	mg/m^3	per 8 hrs
Exposure Limit		5	mg/m^3	per 8 hrs

10.5	hours
8	hours
0.761904762	8/10.5

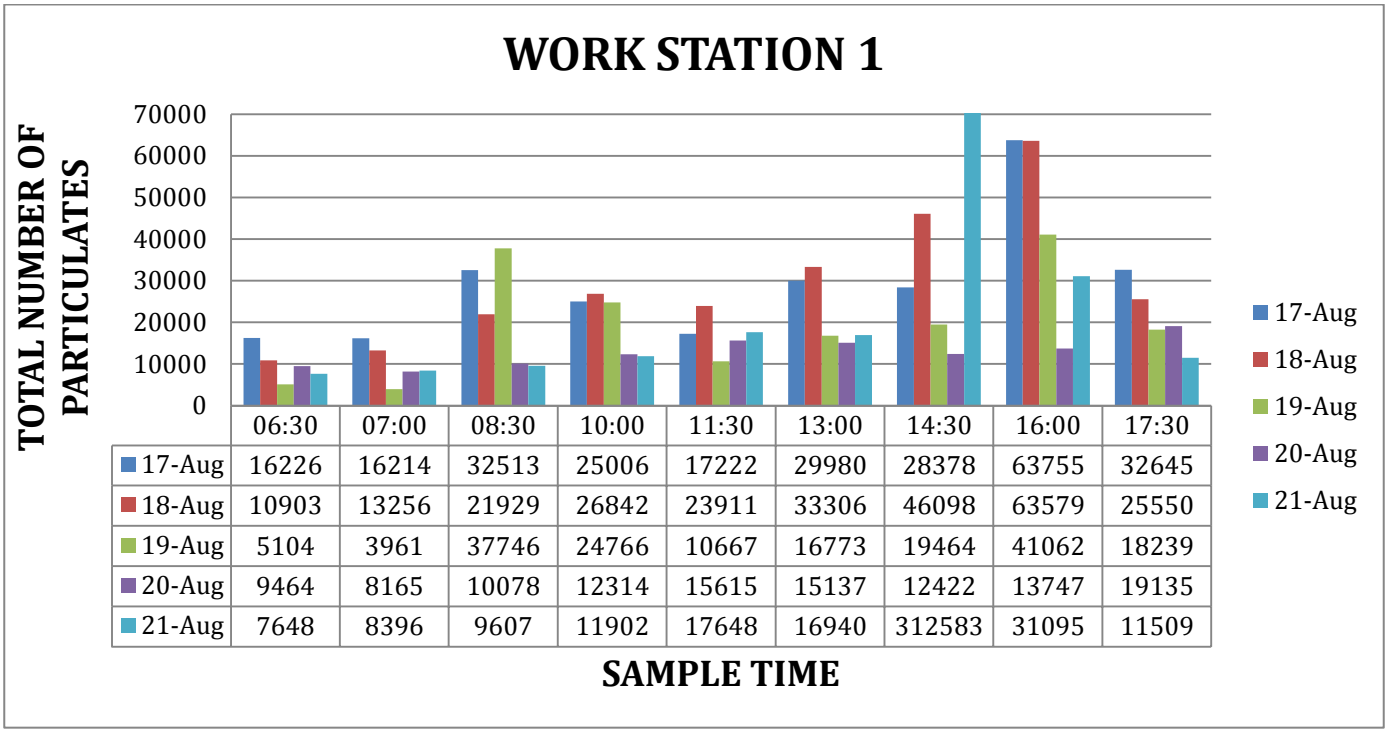
Paraffin Wax at Workstation #10 – 18 August 2015

Time	Sample Volume	Sample Period Cumulative Volume		
700	977.85	251445.4845		
830	1216.90	312913.0779		
1000	4734.16	1217341.574		
1130	6522.02	1677073.228		
1300	2327.80	598569.5331		
1430	3999.13	1028335.638		
1600	3395.03	872997.4063		
1730	2079.27	534664.7135	Dimensions	Duration
Sum Cumulative Volume		6493340.655	micron^3	per 10.5 hrs
Sum Cumulative Volume		4947307.165	micron^3	per 8 hrs
Sum Cumulative Volume		4.94731E-06	cm^3	per 8 hrs
Specific Gravity		0.9	g/cm^3	
Mass		0.004452576	mg	per 8 hrs
Cumulative Exposure		0.003276362	mg/m^3	per 8 hrs
8Hr TWA Exposure		0.000409545	mg/m^3	per 8 hrs
Exposure Limit		5	mg/m^3	per 8 hrs

10.5	hours
8	hours
0.761904762	8/10.5

APPENDIX E

Total particulate count at each workstation of the 5 day work week.



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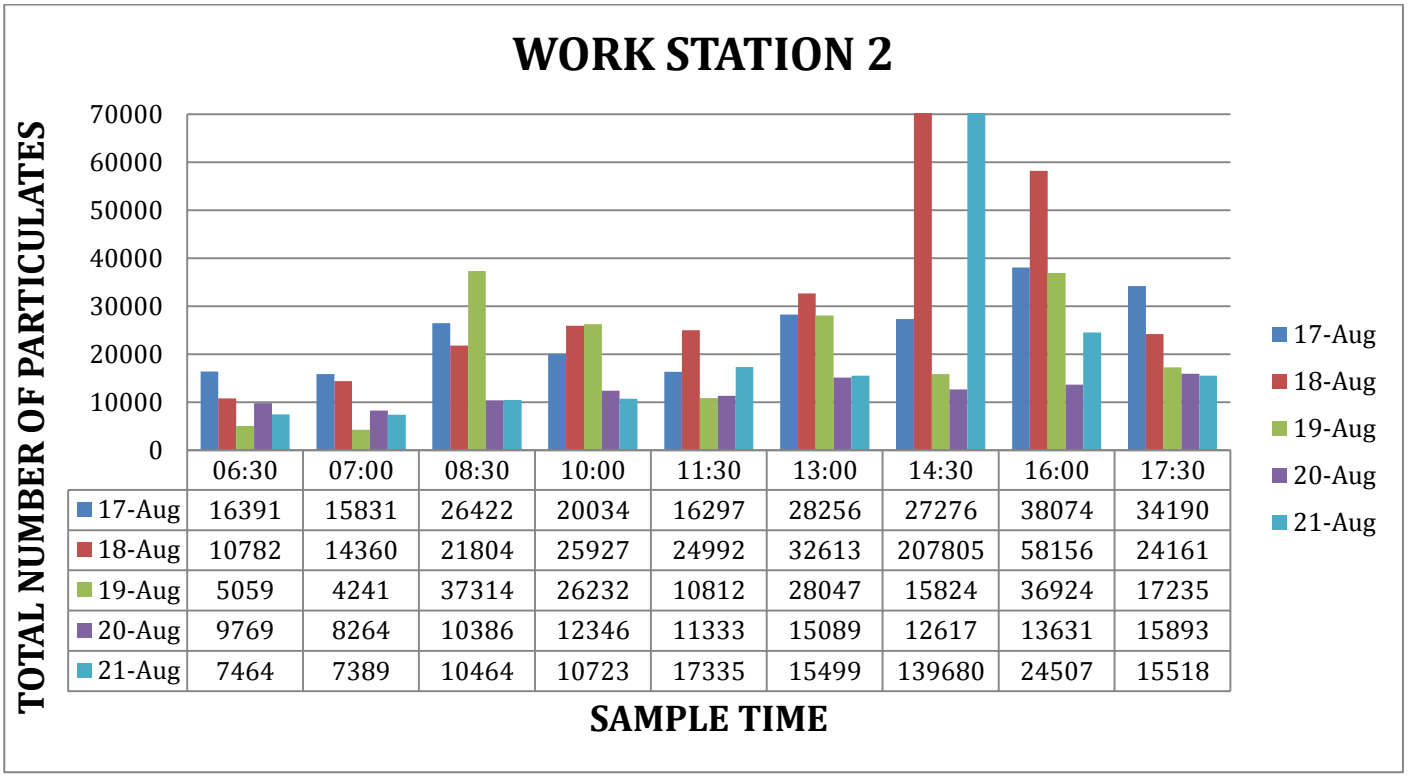
18-Aug	10903	13256	21929	26842	23911	33306	46098	63579	25550
19-Aug	5104	3961	37746	24766	10667	16773	19464	41062	18239
20-Aug	9464	8165	10078	12314	15615	15137	12422	13747	19135
21-Aug	7648	8396	9607	11902	17648	16940	312583	31095	11509



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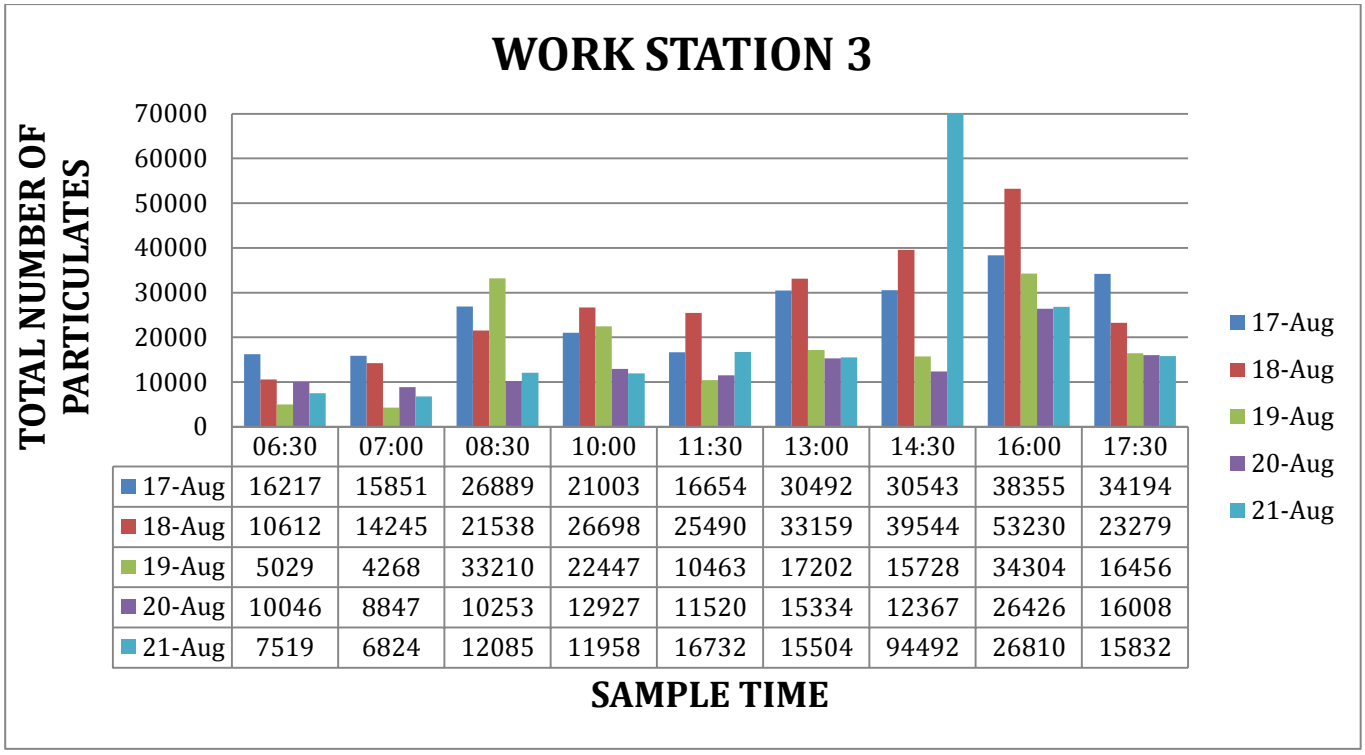
17-Aug	16391	15831	26422	20034	16297	28256	27276	38074	34190
18-Aug	10782	14360	21804	25927	24992	32613	207805	58156	24161
19-Aug	5059	4241	37314	26232	10812	28047	15824	36924	17235
20-Aug	9769	8264	10386	12346	11333	15089	12617	13631	15893
21-Aug	7464	7389	10464	10723	17335	15499	139680	24507	15518



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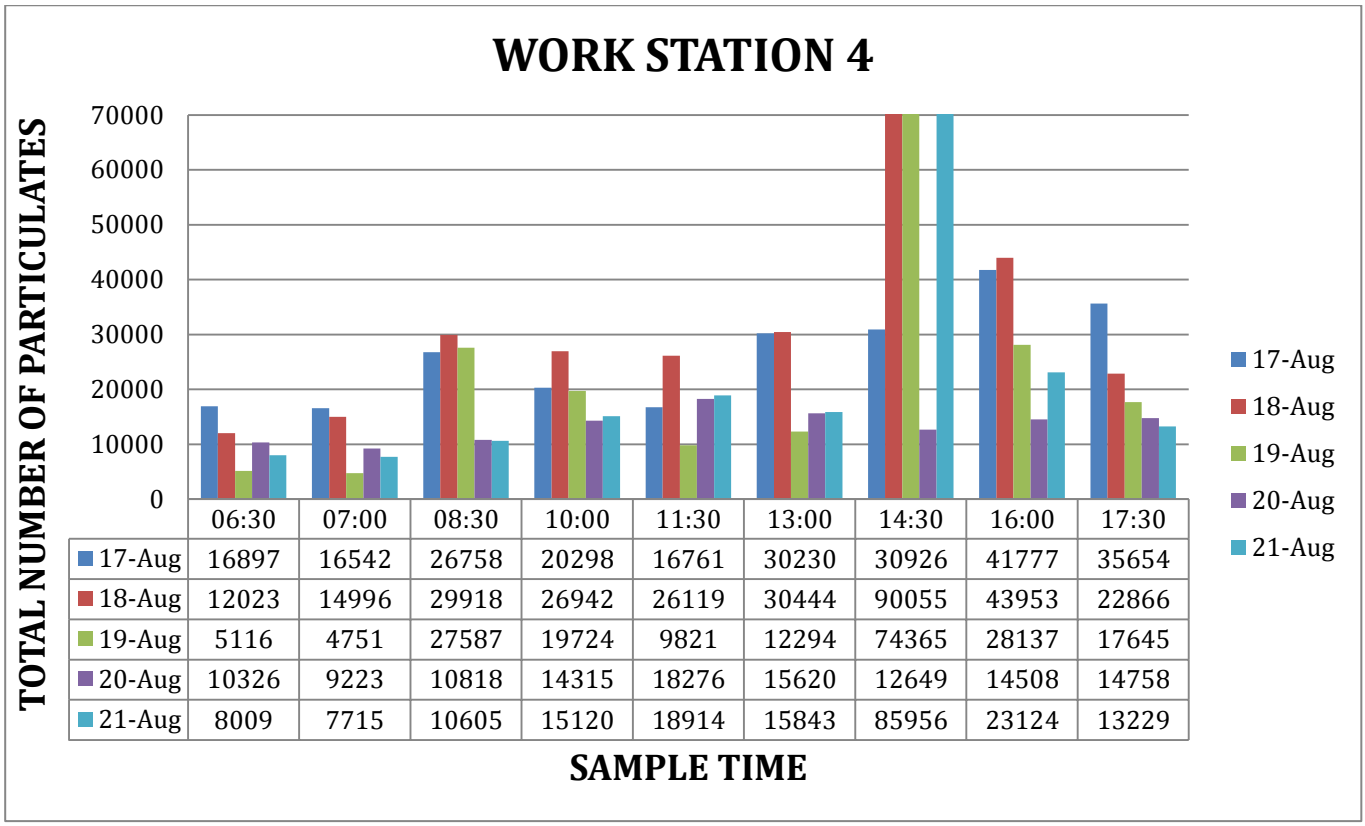
18-Aug	10612	14245	21538	26698	25490	33159	39544	53230	23279
19-Aug	5029	4268	33210	22447	10463	17202	15728	34304	16456
20-Aug	10046	8847	10253	12927	11520	15334	12367	26426	16008
21-Aug	7519	6824	12085	11958	16732	15504	94492	26810	15832



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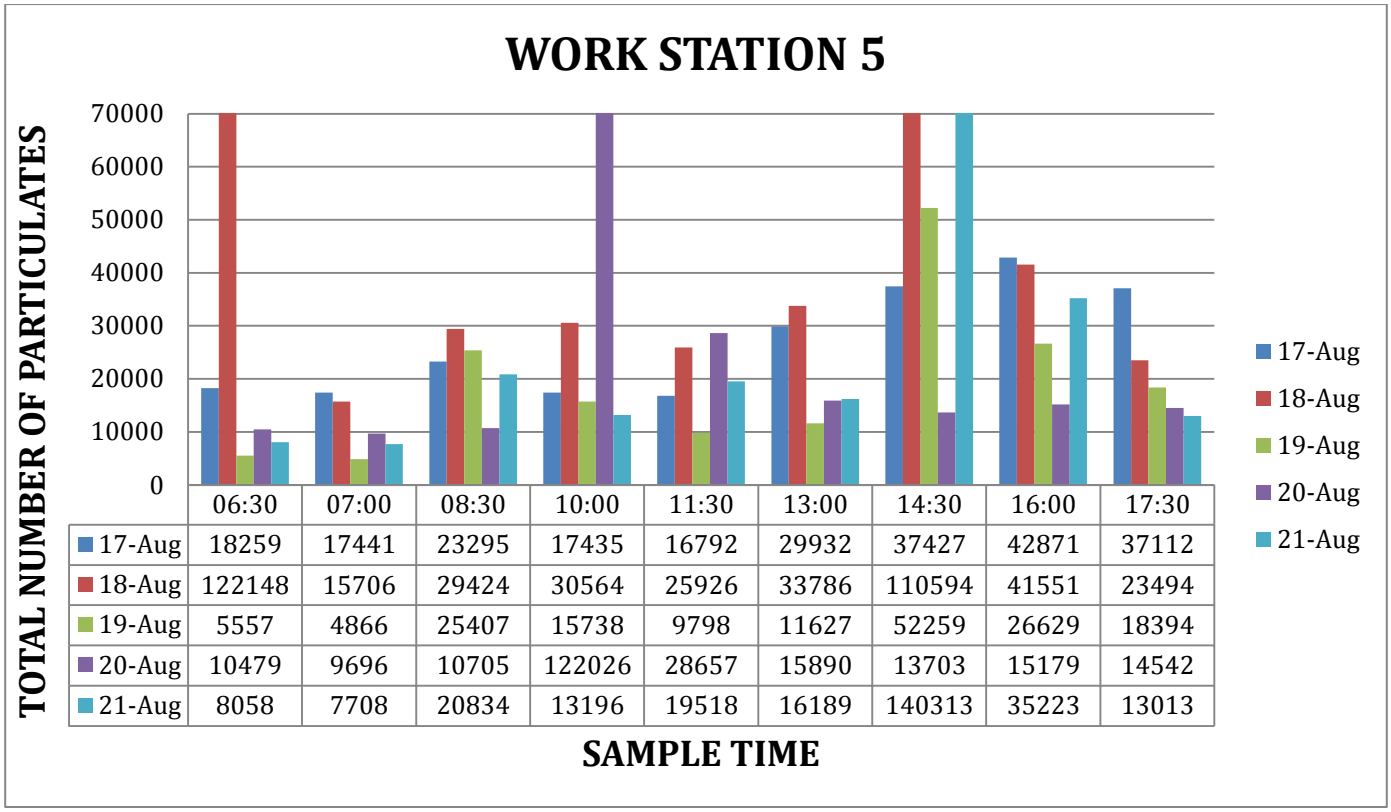
17-Aug	16897	16542	26758	20298	16761	30230	30926	41777	35654
18-Aug	12023	14996	29918	26942	26119	30444	90055	43953	22866
19-Aug	5116	4751	27587	19724	9821	12294	74365	28137	17645
20-Aug	10326	9223	10818	14315	18276	15620	12649	14508	14758
21-Aug	8009	7715	10605	15120	18914	15843	85956	23124	13229



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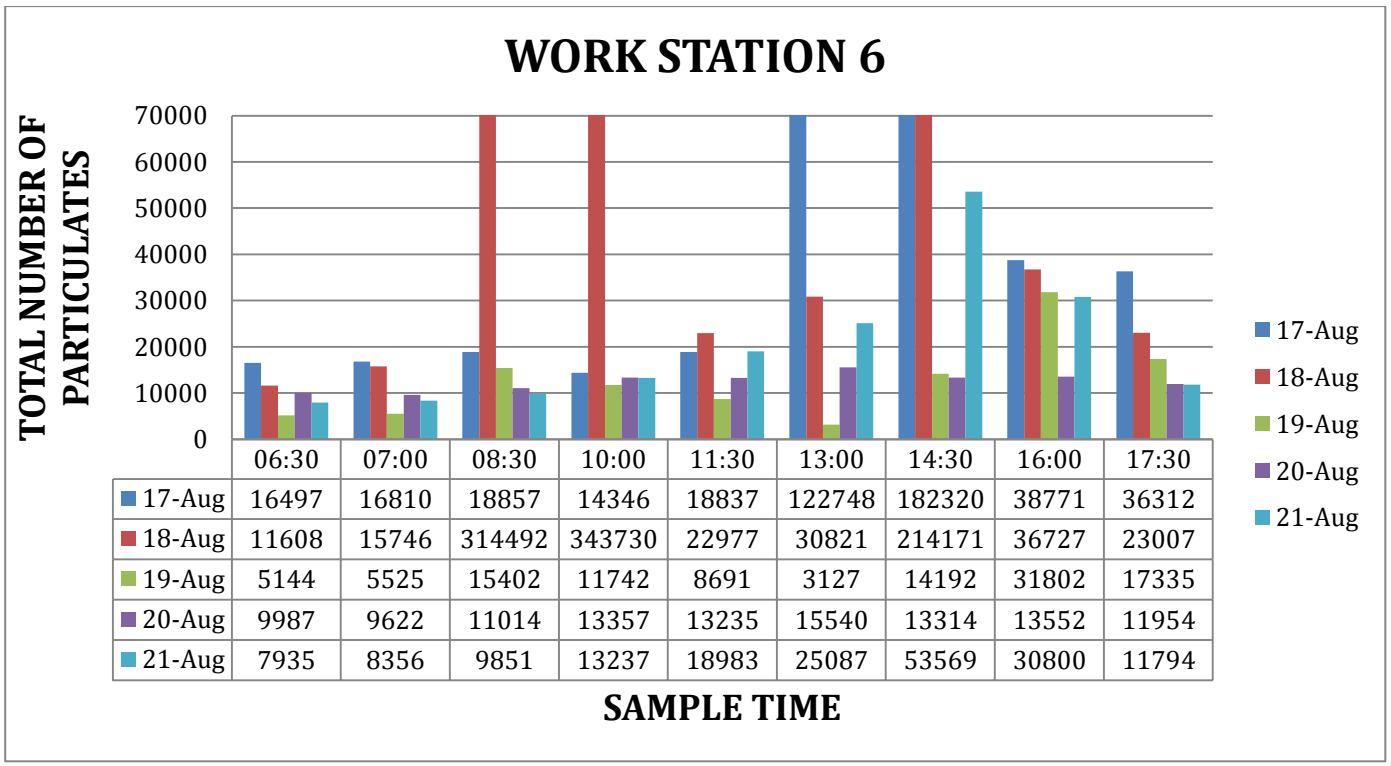
17-Aug	18259	17441	23295	17435	16792	29932	37427	42871	37112
18-Aug	122148	15706	29424	30564	25926	33786	110594	41551	23494
19-Aug	5557	4866	25407	15738	9798	11627	52259	26629	18394
20-Aug	10479	9696	10705	122026	28657	15890	13703	15179	14542
21-Aug	8058	7708	20834	13196	19518	16189	140313	35223	13013



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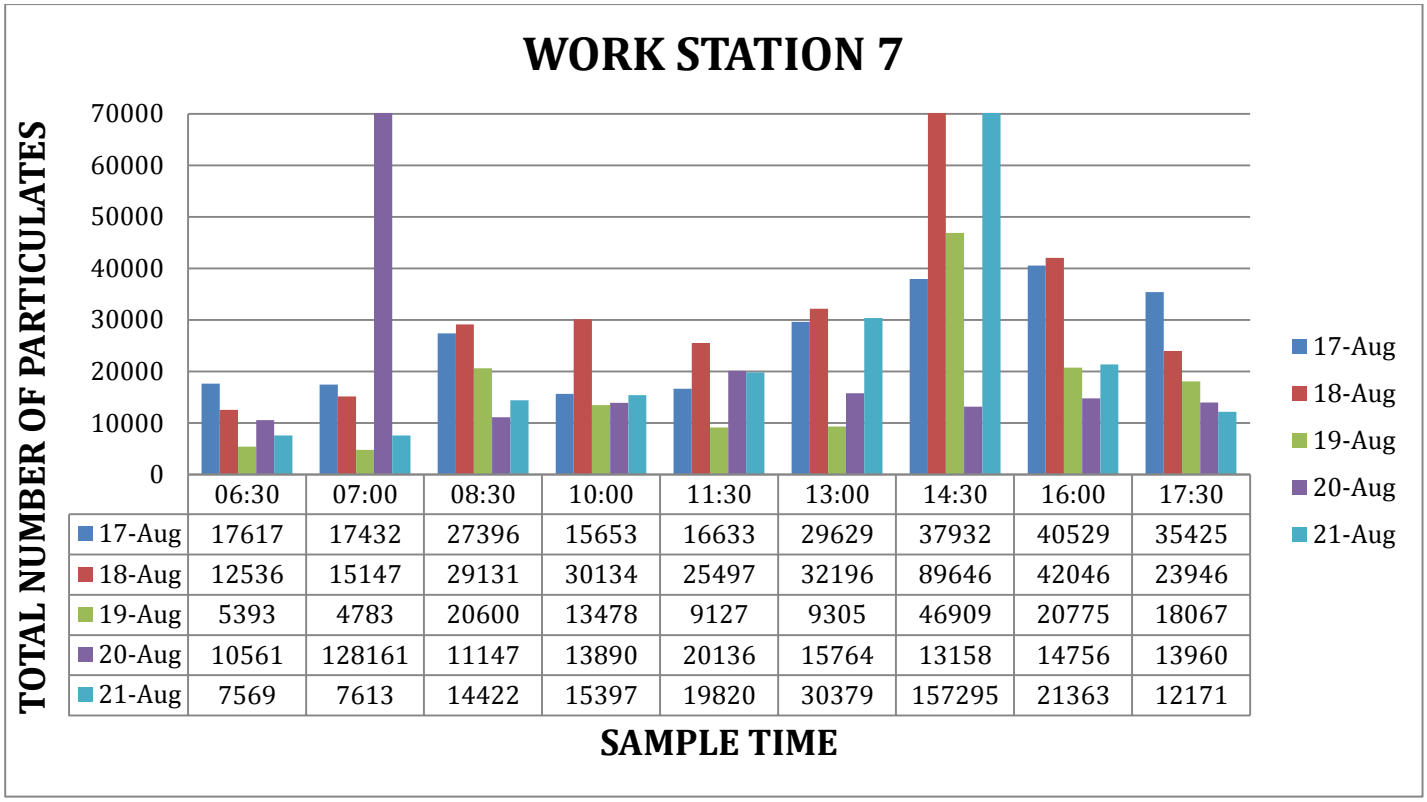
17-Aug	16497	16810	18857	14346	18837	122748	182320	38771	36312
18-Aug	11608	15746	314492	343730	22977	30821	214171	36727	23007
19-Aug	5144	5525	15402	11742	8691	3127	14192	31802	17335
20-Aug	9987	9622	11014	13357	13235	15540	13314	13552	11954
21-Aug	7935	8356	9851	13237	18983	25087	53569	30800	11794



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19-Aug	5393	4783	20600	13478	9127	9305	46909	20775	18067
20-Aug	10561	128161	11147	13890	20136	15764	13158	14756	13960
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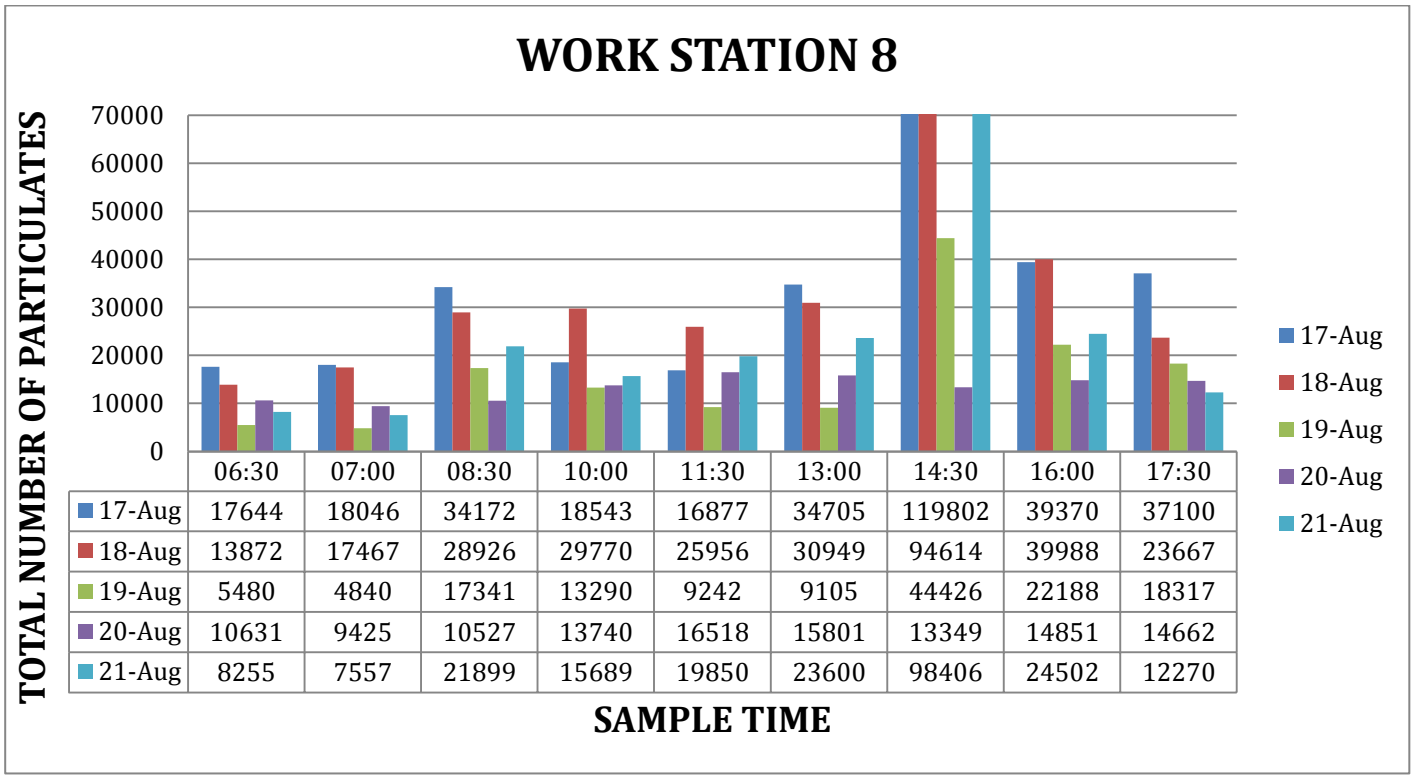

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18-Aug	13872	17467	28926	29770	25956	30949	94614	39988	23667
19-Aug	5480	4840	17341	13290	9242	9105	44426	22188	18317
20-Aug	10631	9425	10527	13740	16518	15801	13349	14851	14662
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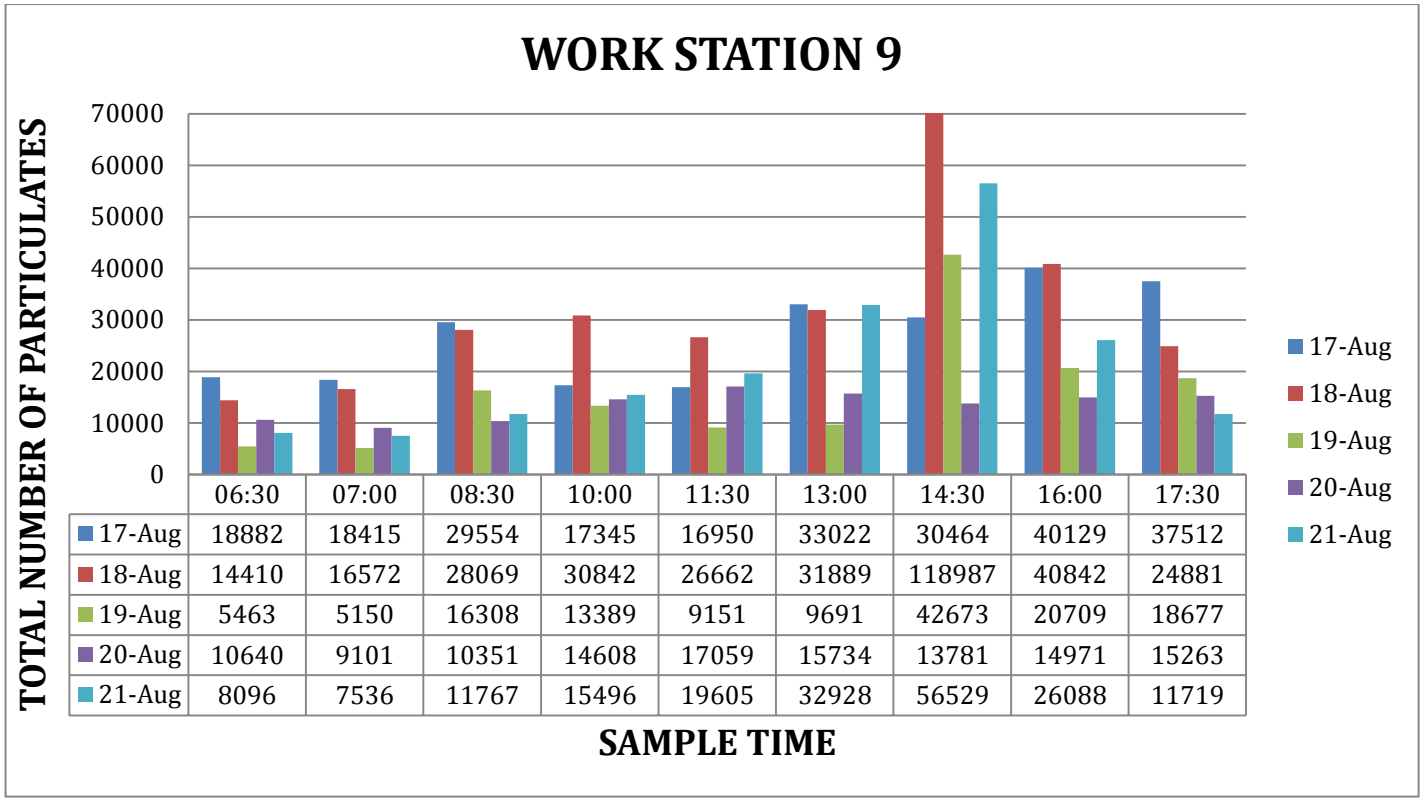

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18-Aug	14410	16572	28069	30842	26662	31889	118987	40842	24881
19-Aug	5463	5150	16308	13389	9151	9691	42673	20709	18677
20-Aug	10640	9101	10351	14608	17059	15734	13781	14971	15263
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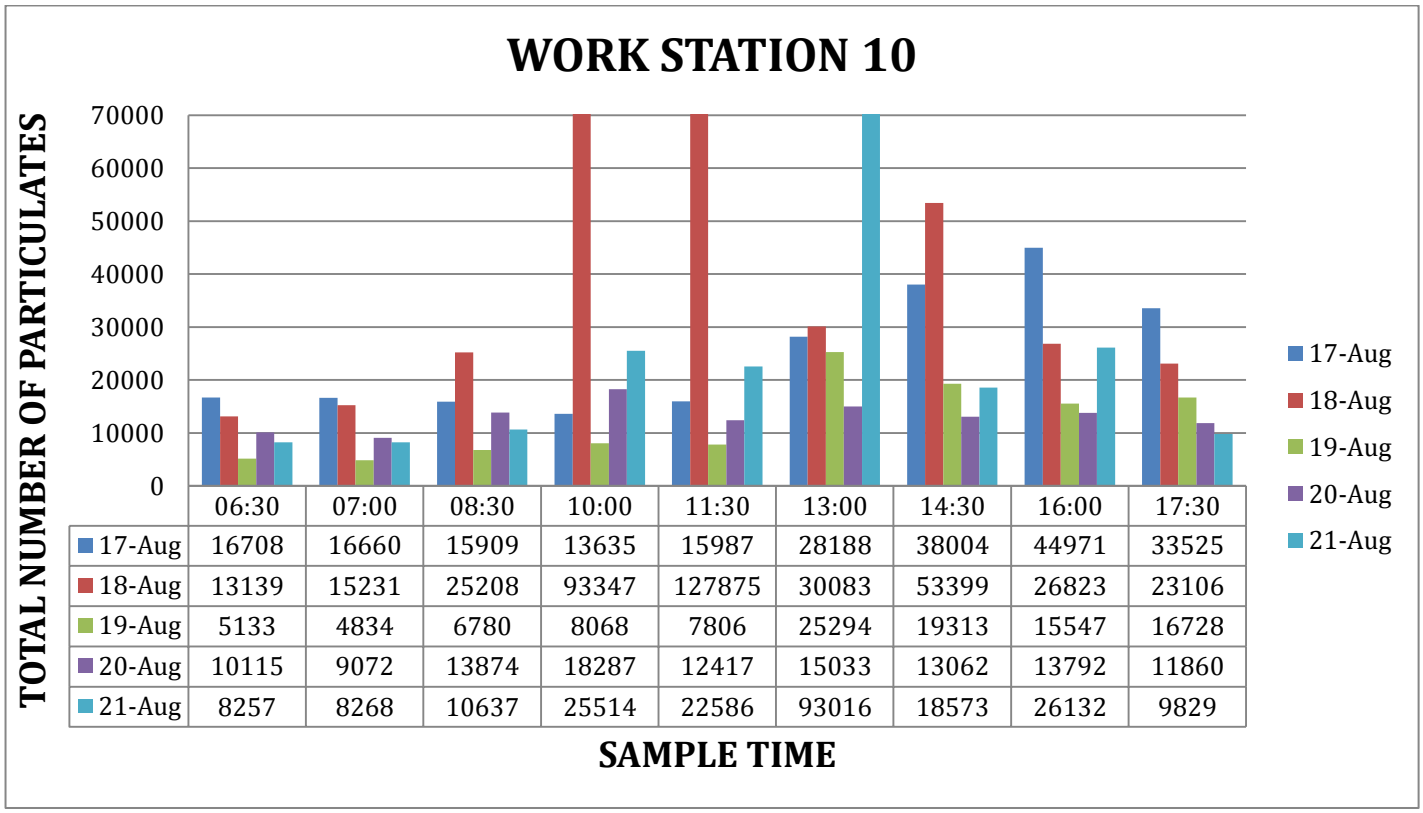

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18-Aug	13139	15231	25208	93347	127875	30083	53399	26823	23106
19-Aug	5133	4834	6780	8068	7806	25294	19313	15547	16728
20-Aug	10115	9072	13874	18287	12417	15033	13062	13792	11860
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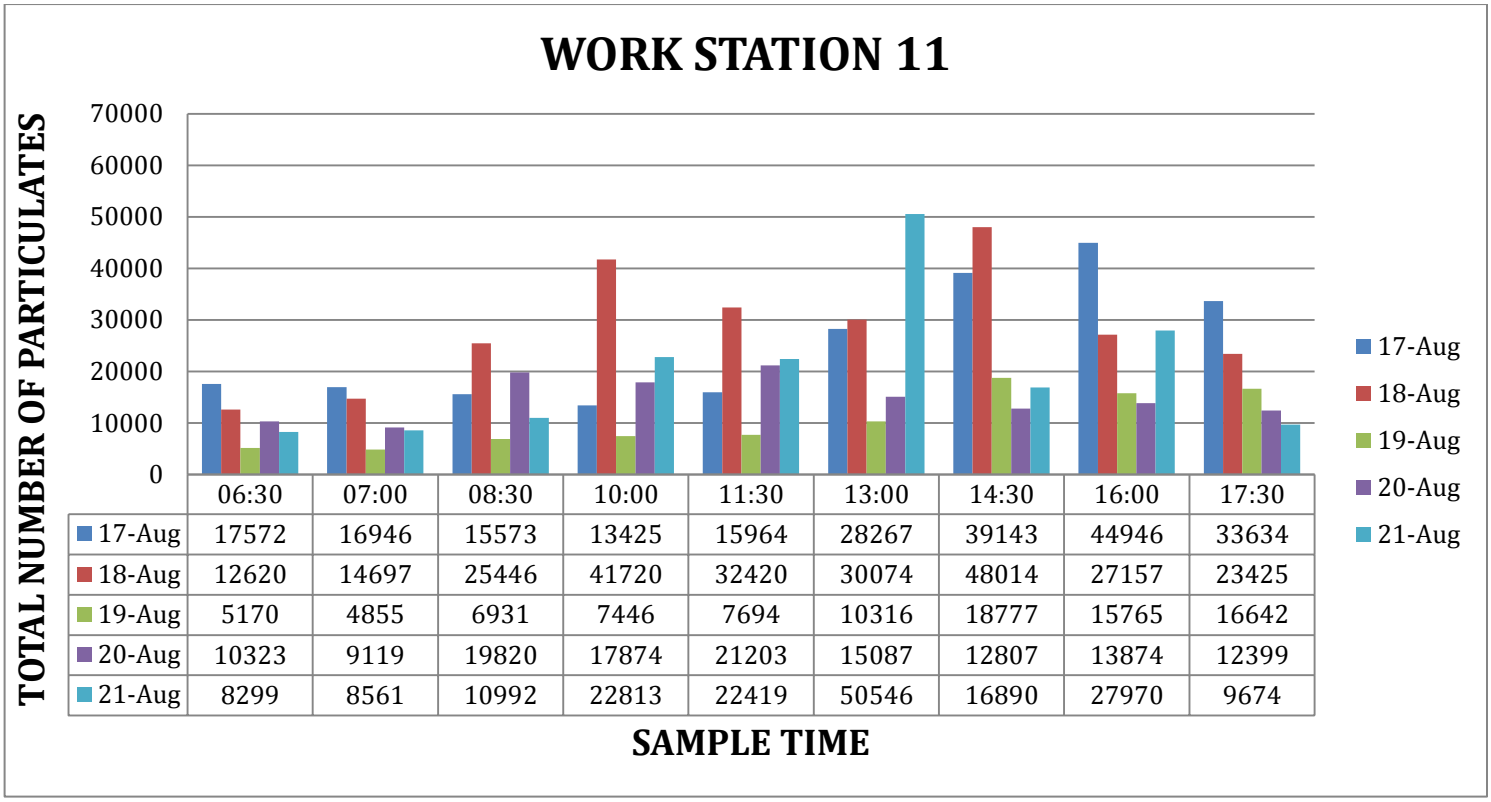

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18-Aug	12620	14697	25446	41720	32420	30074	48014	27157	23425
19-Aug	5170	4855	6931	7446	7694	10316	18777	15765	16642
20-Aug	10323	9119	19820	17874	21203	15087	12807	13874	12399
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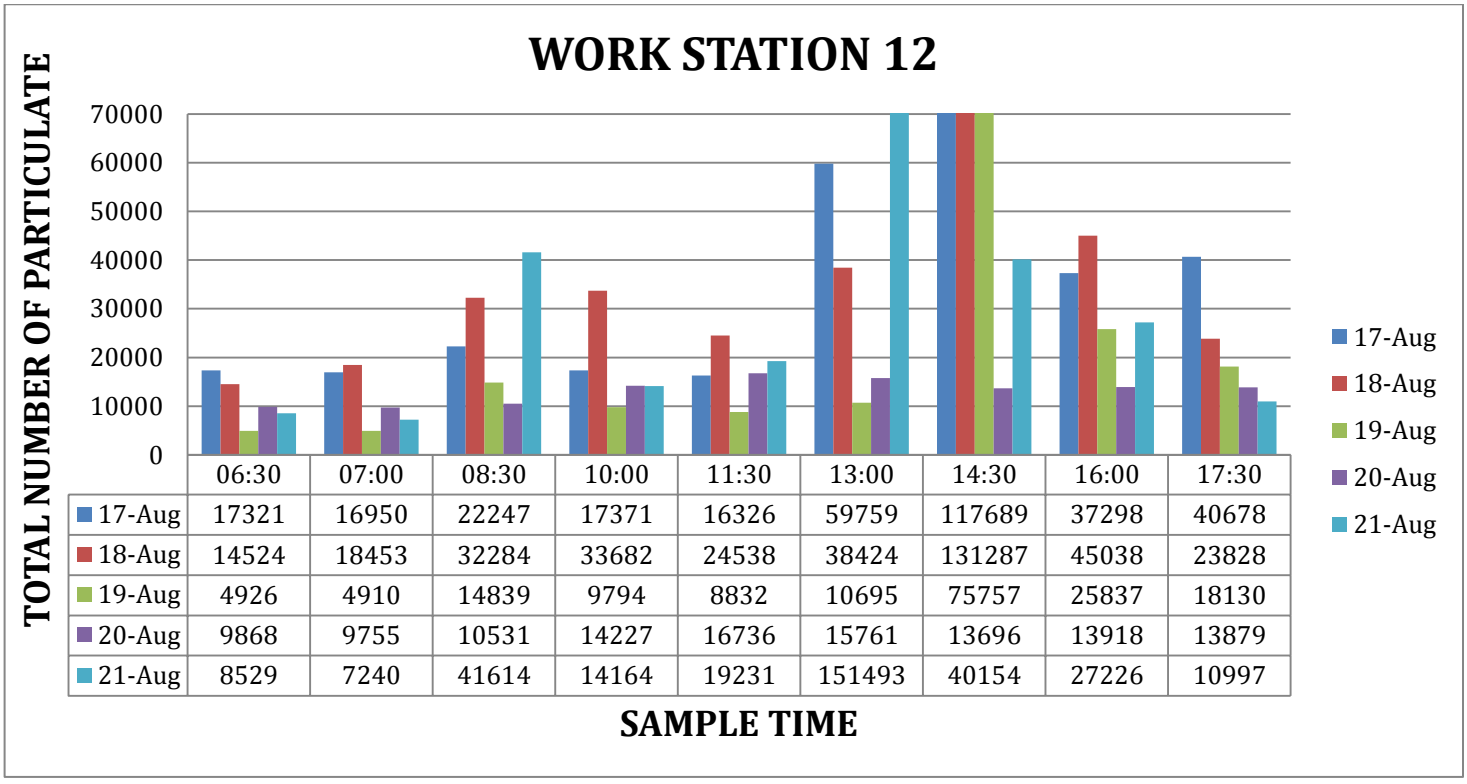

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18-Aug	14524	18453	32284	33682	24538	38424	131287	45038	23828
19-Aug	4926	4910	14839	9794	8832	10695	75757	25837	18130
20-Aug	9868	9755	10531	14227	16736	15761	13696	13918	13879
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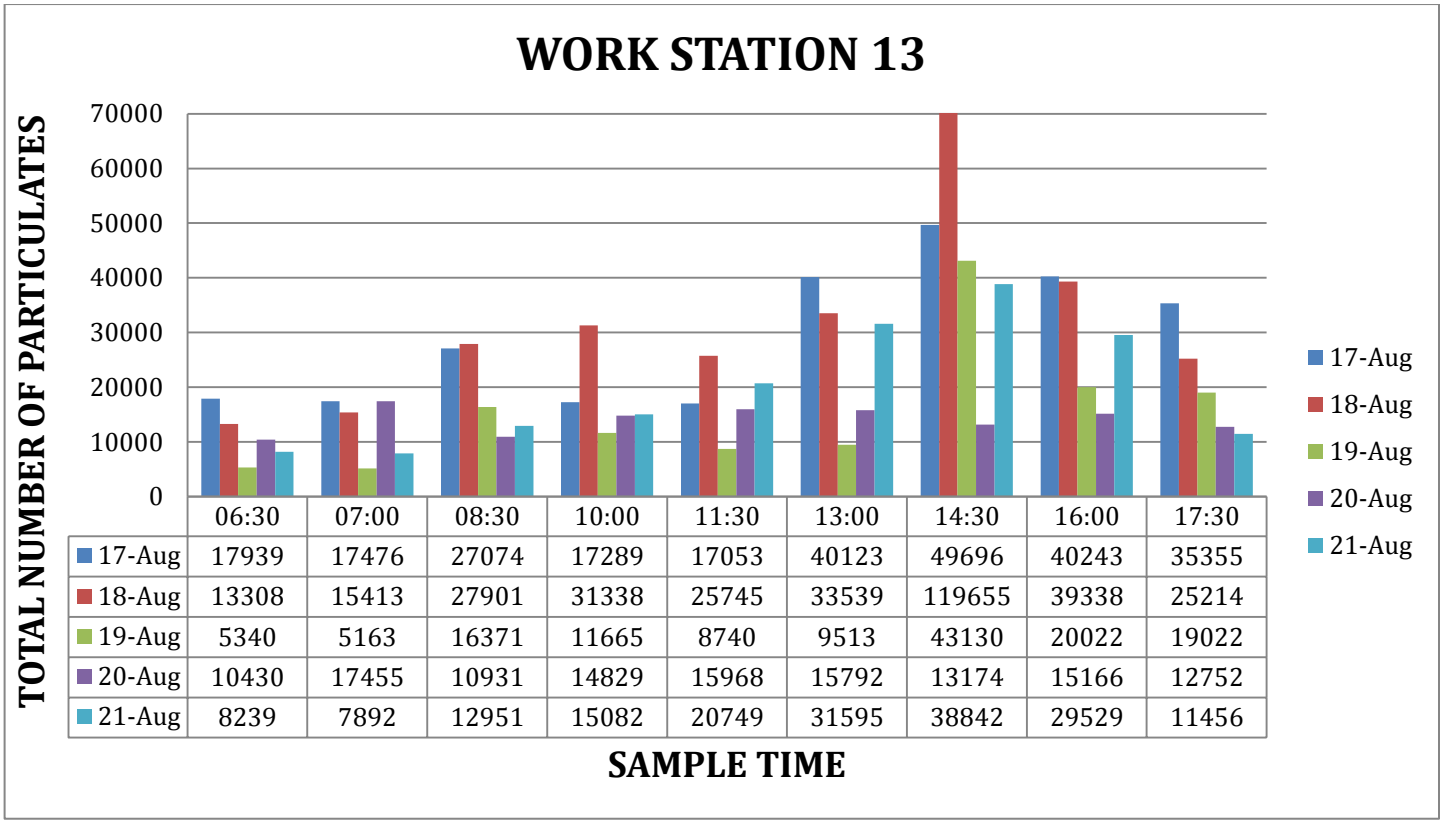

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18-Aug	13308	15413	27901	31338	25745	33539	119655	39338	25214
19-Aug	5340	5163	16371	11665	8740	9513	43130	20022	19022
20-Aug	10430	17455	10931	14829	15968	15792	13174	15166	12752
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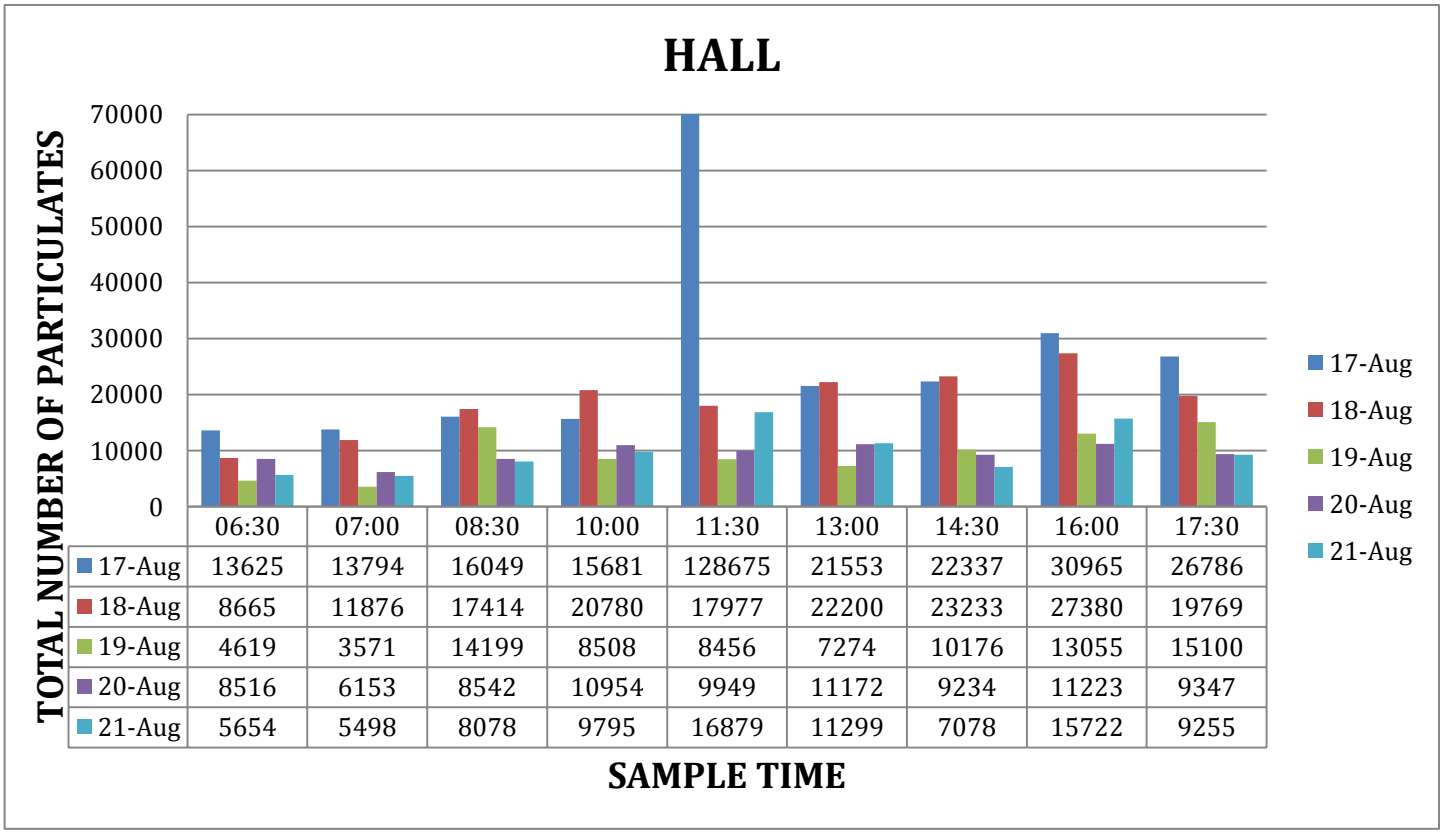

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18-Aug	8665	11876	17414	20780	17977	22200	23233	27380	19769
19-Aug	4619	3571	14199	8508	8456	7274	10176	13055	15100
20-Aug	8516	6153	8542	10954	9949	11172	9234	11223	9347
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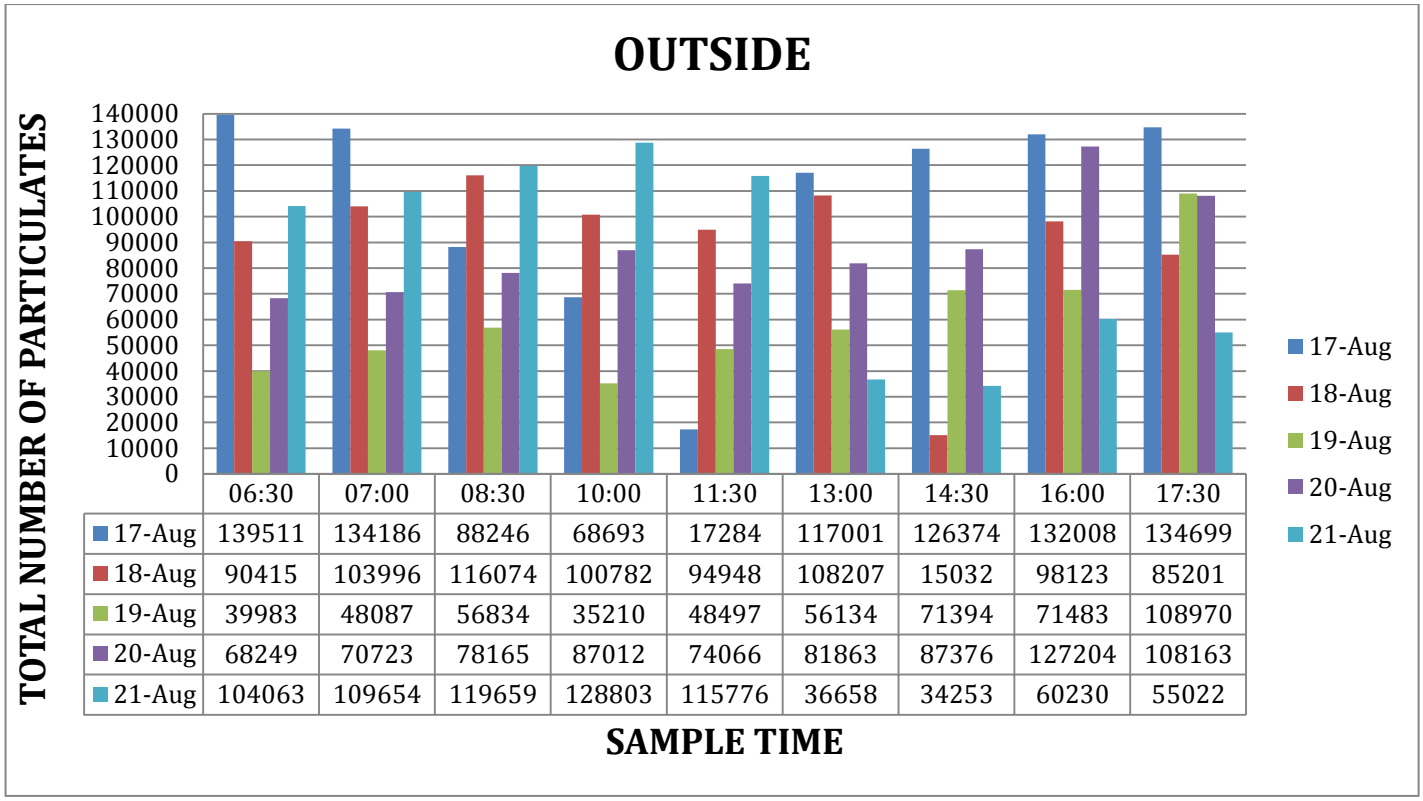

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18-Aug	90415	103996	116074	100782	94948	108207	15032	98123	85201
19-Aug	39983	48087	56834	35210	48497	56134	71394	71483	108970
20-Aug	68249	70723	78165	87012	74066	81863	87376	127204	108163
21-Aug	104063	109654	119659	128803	115776	36658	34253	60230	55022