

# Technical Review and Evaluation of Application for Air Quality Permit Number 44232

## I. INTRODUCTION

A new Class I Air Quality Control Permit is being issued to Mineral Park, Inc. ("MPI") for the operation of an existing copper leaching solvent extraction-electrowinning (SX/EW) process, and the construction and operation of a new 50,000 ton per day (maximum design basis) mining, milling and flotation recovery operation producing copper-silver and molybdenum concentrates. Mining operations will take place over existing quarry areas, with the amount of rock extracted and the depth of the pit area to increase over time.

### Company Information

Source Location: Mineral Park Road, 5 miles east of Hwy 93  
15 miles north of Kingman, Mohave County, AZ

Mailing Address: 8275 Mineral Park Road  
Golden Valley, AZ 86413

### Background

On July 7, 2005, Mineral Park, Inc. ("MPI") was issued a Class II permit renewal (#31989) for a stationary source that produces copper using the leach-solvent extraction-electrowinning (SX/EW) process. This Class I Permit #44232, supersedes the Class II Permit 331989.

### Attainment Classification

The source is located in Mohave County, AZ which is designated as attainment for all criteria pollutants and lead.

## II. FACILITY DESCRIPTION

### A. Process Description

#### Existing operations

MPI currently operates an existing stationary source that produces copper cathodes using the heap leaching, SX/EW process. In this process, an aqueous solution of copper ions is created by application of a weak acid solution to ore piles. The available copper ions are then extracted from the aqueous solution using an organic reagent. The copper-bearing organic phase is then stripped of its copper using a sulfuric acid solution. Finally, electro-winning is used to produce high purity copper cathodes from the electrochemical reduction of copper from copper sulfate solution.

The SX/EW process has a small impact on air quality because the process is completed using aqueous or organic solutions and the liquid streams are easily contained and recycled.

## Proposed operations

Construction of the proposed units and operations will occur in two phases. Phase I will include the construction and operation of a new grinding and material handling circuit and two (2) ball mills. Phase II will include the construction and operation of a second grinding and material handling circuit that is identical to Phase I. The processing capacity of Phase I will be 25,000 tons of ore per day and completion of Phase II will increase the capacity of the proposed facility to a combined total of 50,000 tons of ore per day.

Run-of-mine ore will be transported to one of two (2) new, in-pit, primary crushing plants by up to ten, 100 ton net payload, rear-dump trucks and dumped into a crusher feed hopper (10-HO-100 or 10-HO-200). The feed hoppers discharge ore to apron feeders (10-AF-110 or 10-AF-210) that will transfer run-of-mine ore from the dump hopper to a grizzly screen (10-SN-115 or 10-SN-215). Oversized ore from the screen will be fed to a jaw crusher (10-CR-120 or 10-CR-220) and undersized ore will pass to a primary crusher discharge conveyer (10-CV-130 or 10-CV-230). The crushed ore and grizzly undersize will be transported to a crushed ore stockpile (equipped with a stationary stacker) via a transport conveyer (10-CV-160 or 10-CV-260).

Coarse ore will be reclaimed from the stockpile via sub-grade conveyors through a tunnel below the crushed ore stockpile using four reclaim belt feeders (10-BF-100, 10-BF-105, 10-BF-200, and 10-BF-205). From the four feeders, ore will be transported to two parallel semi-autogenous grinding (SAG) wet grinding mills by belt conveyors (15-CV-110 or 15-CV-210). Water, milk of lime, and various forming reagents will be added to the SAG mills to produce slurry. From this point through the remainder of the metal flotation/recovery process, the process involves wet slurry or suspensions, so there are no dust emissions.

The SAG mills discharge onto a vibrating screen and slurry will be transferred to two parallel fine grinding lines. SAG mill discharge will be pumped to a splitter where it will be split between two ball mill discharge pump boxes. The SAG discharge will be combined with the ball mill discharge and pumped into a cyclone for each ball mill. Cyclone overflow will flow by gravity to bulk copper-molybdenum flotation.

The fine ground ore slurry will be sent to large, mechanically-agitated, rougher flotation cells. Rougher concentrate will be routed to a copper-molybdenum regrind circuit. From the rougher flotation cells, bulk copper-molybdenum material will be fed to several stages of cleaner and re-cleaner flotation cells. Copper-molybdenum bulk concentrate product will be thickened in agitated vessels in which sodium hydrosulfide will be added as a depressant for the copper mineralization. Copper tailings from the flotation cells, with an average moisture content of 8%, will be fed to the copper concentrate thickener and filter. A belt conveyer (50-CV-120) will transfer the copper concentrate filter cake onto a stockpile enclosed in a storage building (50-SB-150). These steps of processing involve agitation of slurries with dilute reagent solutions, and air pollutant emissions are negligible.

Molybdenum-bearing slurry material will be processed through a series of mechanically-agitated rougher, cleaning, and regrind cells, followed by several stages of recleaning cells to produce the finished concentrate grade. Slurry containing the final molybdenum concentrate will be fed through a pressure filter to dewater the slurry. Tailings from the molybdenum flotation cells will be fed to a concentrate thickener and distributed into a tailings stockpile. The wet filter cake (8% moisture) will be conveyed to the dryer feed hopper which will dispense the concentrate to an electrically heated oil circuit dryer (55-HE-175). Molybdenum concentrate, which will be

dried to typical product moisture content (3-5%), will be transported along a screw transfer conveyer (55-CV-120) to a completely-sealed load out system (55-ZM-140) where it will be packaged for distribution. A molybdenum dust scrubber (55-DC-170) will be used to control molybdenum concentrate particulate emissions that are captured from the concentrate dryer, transfer points, and bagging equipment.

Attachment "C" to the permit contains a table of existing and proposed equipment.

## **B. Air Pollution Control Equipment**

Dust emissions within the primary crusher stations are to be controlled using a combination of water suppression sprays, a "dry fog" water aerosol fogging system and wind barriers. The dry fog system produces a very dense fog of 1-10 micron size water droplets by use of specialized nozzles, compressed air and ultrasonic shock waves. These aerosols form a fog blanket which will agglomerate dust particles causing them to become too heavy to rise and become airborne. A dry fog and water spray suppression system will be installed at the crusher feed hopper dump point (FE1/FE2) to alleviate dust from this source. In addition to the fog/spray system, a double-winged wind barrier will be provided at the entrance to the truck dump hopper to help isolate the fog/spray zone from ambient wind. Dust at the transfer point where the crushed ore is transferred from the crushing station conveyor to the stacker conveyor (MH5/MH6) will be controlled by a combination of the dry fog system and water sprays.

Dust emissions from the remaining primary crushing transfer points (MH1, MH2, MH3, MH4, MH7 & MH8), which includes the primary crushers, grizzly discharge, and transfer conveyor, are controlled by a number of fogger assemblies. The fogging systems are designed and located to suppress dust at the transfer points by filling the hopper, chutes, head boxes and skirtboard covers with fog droplets, which will attach to the airborne dust particles and settle them out.

Baghouse dust collection systems will be utilized at the SAG mill feed conveyors, the lime silo and the dry solids lab, as it is one of the most effective ways to reduce particulate matter and dust emissions. A baghouse traps particulate matter by filtering gas streams through cylindrical fabric bags or cartridge filters. Properly sized and operated, and equipped with up-to-date fabric/media, these units can achieve a collection efficiency of more than 99% of fine particles.

## **III. COMPLIANCE HISTORY**

There have been one file review and one report review for the Mineral Park Mine since 2004. No Air Quality cases and/or violations appear to have been developed for this facility as a result of the inspections.

At this time, there are no other cases or alleged violations associated with this facility.

## **IV. LEARNING SITES POLICY**

In accordance with ADEQ's Environmental Permits and Approvals near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within a two-mile radius of the Mineral Park Mine facility.

## V. EMISSIONS

A summary of the controlled potential to emit, including fugitive emissions, of the proposed facility is presented in the Table 1 below. The potential to emit PM<sub>10</sub> is greater than 100 tons per year. Therefore, pursuant to A.A.C. R18-2-302.B.1, the source is required to have a Class I permit. The source does not belong to one of the listed categories in A.A.C. R18-2-101.64.c, therefore fugitive emissions are not considered in the determination of PSD applicability under A.A.C. R18-2-406, and as a result the source is not classified as a major source under PSD.

**Table 1  
Emissions (Controlled PTE)**

Pollutant	Controlled Potential to Emit (tpy)		
	Non-Fugitive	Fugitive	Combined Total
PM	182	82	264
PM <sub>10</sub>	86	19	105
CO	Less than 1	94	94
NO <sub>x</sub>	2.7	24	27
SO <sub>2</sub>	Less than 1	2.8	3
VOC	Less than 1	13.6	13.6
H <sub>2</sub> SO <sub>4</sub>	1.5	none	1.5
HAP	Less than 1	Less than 1	Less than 1

## VI. APPLICABLE REGULATIONS

The applicable regulations were identified by the agency as part of the permit review process. If necessary, the source is required to list any additional regulations that maybe applicable. Table 2, below, lists the requirements that are applicable to each piece of equipment at the facility.

**Table 2  
Applicable Regulations**

Unit or Operation	Control Device	Rule	Verification
LPG Boiler	None	AAC R18-2-724	Pursuant to AAC R18-2-724(A), the boiler is subject to the requirements of the rule because the source has a total rated capacity greater than 0.5 MMBtu/hr and the boiler has a rated capacity less than 250 MMBtu/hr.
Solvent Extraction (SX) and Electro-winning (EW) Operations	None	AAC R18-2-730	Pursuant to AAC R18-2-730(A), these operations are subject to certain requirements of the rule because they are not subject to other standards of performance under Articles 7, 9 or 11.
		AAC R18-2-730(D)	
		AAC R18-2-730(F)	
		AAC R18-2-730(G)	
		AAC R18-2-730(H)	
AAC R18-2-730(K)			
Crushing, Conveying and Material Handling Operations	Dust Fogging System	40 CFR Part 60, Subpart LL	Pursuant to 40 CFR 60.380(a), these operations are subject to the requirements of 40 CFR Part 60, Subpart LL because the respective units are affected facilities at a metallic mineral processing plant.

Post-Milling Material Handling and Drying Operations	Dust Collectors, Wet Scrubber	40 CFR Part 60, Subpart LL	Pursuant to 40 CFR 60.380(a), these operations are subject to the requirements of 40 CFR Part 60, Subpart LL because the respective units are affected facilities at a metallic mineral processing plant.
Drilling and Blasting	Wet Drilling Techniques	Article 6	Blasting and drilling operations are nonpoint sources.
Gasoline Storage and Dispensing	None	AAC R18-2-710(B)	These rules are applicable to petroleum storage tanks, Pursuant to 40 CFR 63.11111(a) these operations are subject to the requirements of 40 CFR Part 63, Subpart CCCCCC because the respective operations are affected facilities at an area source.
		AAC R18-2-710(D)	
Mobile Sources	Dust Suppression	AAC R18-2-801	These rules are applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
		AAC R18-2-802	
		AAC R18-2-804	
Periodic Activities	None	AAC R18-2-726	This rule is applicable to abrasive blasting activities.
		AAC R18-2-727	This rule is applicable to spray painting activities.
Demolition and Renovation	None	AAC R18-2-1101.A.8	This rule is applicable to asbestos-related activities.
Other Non-point Sources Including Open areas, Roadways, Storage Piles, and Mineral Tailings	Dust Suppression Through Water Spraying	AAC R18-2-604	Pursuant to AAC R18-2, Article 6, the source is subject to these rules because it utilizes the operations covered by these rules.
		AAC R18-2-605	
		AAC R18-2-606	
		AAC R18-2-607	
		AAC R18-2-608	
		AAC R18-2-612	

## VII. PREVIOUS PERMIT CONDITIONS

All terms and conditions of previous permits, unless otherwise specified below, issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated or revised by this permit. All previous permits are superseded by this Class I permit.

## VIII. MONITORING REQUIREMENTS

### A. Periodic opacity monitoring for emission units not subject to CAM

1. Within 90 days of initial operation of the process sources identified in Sections III and IV of the permit, the Permittee must conduct certified Method 9 observations to establish a baseline opacity level. Within 30 days of establishing baseline opacity, the Permittee must incorporate the results into the permit through the appropriate permitting revision process.
2. After the baseline opacity is established, a certified Method 9 observer must conduct a bi-weekly (once every two weeks) visual survey of emissions from the process sources when they are in operation.
3. If the observer sees a plume that on an instantaneous basis appears to exceed the baseline opacity level, then the observer must take a six-minute EPA Method 9 observation of the plume.
4. If necessitated by the results of the bi-weekly monitoring, the Permittee may re-establish the baseline opacity level(s). Re-establishment of the baseline(s) must be performed

utilizing the same procedures used in setting up the initial baseline level(s). Within 30 days of re-establishing the baseline opacity, the Permittee must report the results through the appropriate permitting revision process. The report shall also contain a description of the need for re-establishing the baseline(s).

B. Opacity monitoring for fugitive dust sources

1. A certified Method 9 observer is required to conduct a twice per week visual survey of the fugitive dust sources.
2. If the observer sees a visible emission from a fugitive dust source that on instantaneous basis appears to exceed the applicable standard, then the observer must, if practical, take a six-minute Method 9 observation of the plume.

C. Monitoring of operational limits for crushing, conveying and material handling processes subject to Sections III & IV of Attachment "B" of the Permit

1. Monitoring devices must be in place to determine the daily material throughput for the process units subject to Section III.
2. Monitoring devices must be in place to determine both the hourly and daily material throughput for the process units Subject to Section IV.

D. 4.0 MMBtu/hr Boiler

1. A certified Method 9 observer must conduct an annual survey of visible emissions from the stack of the boiler when in operation.
2. If the opacity of the emissions observed appears to exceed the standard, the observer must conduct a Method 9 observation.

E. Compliance Assurance Monitoring (CAM)

The CAM rule applies to "pollutant-specific emission units" (PSEU) at a major Title V source if the unit meets all of the following criteria:

- The unit is subject to an emission limit or standard for the applicable regulated air pollutant;
- The unit uses a control device to achieve compliance with the emission limit or standard; and
- The unit has "potential pre-control device emissions" of the applicable regulated air pollutant equal to or greater than 100% of the amount (tons/year) required for a source to be classified as a major source. "Potential pre-control device emissions" means potential to emit (PTE, as defined in Title V) except emissions reductions achieved by the applicable control device are not taken into account.

The general purpose of monitoring required by the CAM rule is to assure compliance with emission standards by ensuring that control devices meet and maintain the assumed control efficiencies. Compliance is ensured through requiring monitoring of the operation and

maintenance of the control equipment and, if applicable, operating conditions of the pollutant-specific emissions unit.

Based on a review of emission calculations provided by the source, several emission units at the source each will have potential, pre-control PM emissions greater than 100 tons per year, will be subject to 40 CFR Part 60, Subpart LL, and will use pollution controls (dry fogging dust suppression and wet scrubbers) to achieve compliance with the respective PM emission limitations. The post-control potential PM emission for each respective unit is less than 100 tons per year, so they are classified as an “other” unit with respect to CAM and must collect monitoring data at least once in 24-hour period. Table 3 provides a list of the PSEUs at MPI and Tables 4 and 5 summarize the monitoring requirements for those PSEUs.

**Table 3**  
**Units defined as "other" Pollutant Specific Emission Units under 40 CFR Part 64**

Emission Point ID	Equipment	Process IDs	Control Device
FE1, FE2, MH1, MH2, MH3, MH4, MH5, MH6, MH7, MH8	Quarry crushing, conveying and material handling equipment	10-HO-100/10-HO-200, 10-SN-115/10-SN-215, 10-CR-120/10-CR-220, 10-AF-110/10-AF-120, 10-CV-130/10-CV-230, 10-CV-160/10-CV-260,	Fogging system
MH13	Molybdenum Concentrate Dryer	55-DY-130	Wet scrubber

**Table 4**  
**Monitoring requirements for the wet scrubber control on 55-DY-130.**

	Indicator 1	Indicator 2	Indicator 3
Indicator	Scrubber liquid flow rate	Air stream pressure drop	Visible Emissions
Indicator Range	The indicator range for liquid flow rate shall be $\pm 30\%$ from the range obtained during the most recent performance test.	The indicator range for air stream pressure drop shall be $\pm 30\%$ from the range obtained during the most recent performance test.	Any visible emission in excess of the baseline opacity.
Monitoring approach	The flow rate monitor shall be in continuous operation and a flow rate reading shall be recorded at least once per day.	The pressure drop monitor shall be in continuous operation and a pressure drop reading shall be recorded at least once per day.	A weekly visual survey by a certified Method 9 observer to determine any visible emissions. If visible emissions are observed, a six-minute Method 9 observation shall be taken.
QA/QC Practices and Criteria	Operate and maintain the flow monitor in a manner consistent with good air pollution control practices. This includes an inspection of the flow monitor at least once per calendar year. Accuracy of the monitor shall be within $\pm 5\%$ of the scale.	Operate and maintain the pressure drop monitor in a manner consistent with good air pollution control practice. This includes an inspection of the pressure drop monitor at least once per calendar year. Accuracy of the monitor shall be within $\pm 250$ Pascals (1 inch water) of the scale.	Only a certified Method 9 observer shall perform the observations.

Excursion Range	An observed liquid flow rate that differs by more than $\pm 30$ percent from the range obtained during the most recent performance test.	An observed pressure drop that differs by more than $\pm 30$ percent from the range obtained during the most recent performance test.	Opacity as measured by Method 9, in excess of the baseline opacity
Averaging Period	Not Applicable.	Not Applicable.	Not applicable.

**Table 5  
Monitoring requirements for the dry fogging dust suppressions systems**

	Indicator 1	Indicator 2	Indicator 3
Indicator	Water flow rate	Water supply pressure	Visible Emissions
Indicator Range	The indicator range for water flow rate to the fogging nozzle shall be obtained during the most recent performance test.	The indicator range for water supply pressure to the fogging nozzle shall be obtained during the most recent performance test.	Any visible emission in excess of the baseline opacity
Monitoring approach	The flow rate monitor shall be in continuous operation and a flow rate reading shall be recorded at least once per shift.	The pressure monitor shall be in continuous operation and a pressure reading shall be recorded at least once per shift.	A weekly visual survey by a certified Method 9 observer to determine any visible emissions. If visible emissions are observed, a six-minute Method 9 observation shall be taken
QA/QC Practices and Criteria	Operate and maintain the flow rate monitor in a manner consistent with good air pollution control practices. This includes weekly inspections of the dry fogging system and annual inspections of the flow monitor. Operator alarms shall be installed and used to indicate excursions.	Operate and maintain the pressure monitor in a manner consistent with good air pollution control practices. This includes weekly inspections of the dry fogging system and annual inspections of the pressure monitor. Operator alarms shall be installed and used to indicate excursions.	Only a certified Method 9 observer shall perform the observations.
Excursion Range	An observed flow rate that is outside the range obtained during the most recent performance test.	An observed pressure that is outside the range obtained during the most recent performance test.	Opacity as measured by Method 9, in excess of the baseline opacity
Averaging Period	Not Applicable.	Not applicable.	Not applicable.

**IX. TESTING REQUIREMENTS**

The Permittee is required to perform testing on various baghouses as indicated below, to verify compliance with the applicable standards.

**Table 6  
Baghouse Testing Schedule**

Equipment I.D.	Process	Test	Frequency
15-DC-170/15-DC171	SAG mill feed conveyors	EPA Methods 5 and 201A or 202	No later than 180 days after initial start-up, again in the third and fifth years of the permit term
15-DC-270/15-DC-271			
60-DC-100	Lime Bin		

## X. IMPACTS TO AMBIENT AIR QUALITY

### A. Introduction

An air quality impact modeling analysis was conducted to predict whether any criteria pollutant emissions associated with the facility might cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS).

### B. Modeling Analysis Overview

#### 1. Air Quality Model

The dispersion modeling analysis was run using the following EPA approved modeling programs: SCREEN3 for the boiler emissions, OBODM for gaseous emissions from blasting and AERMOD for all other sources. Emissions from combustion of LPG at the boiler were modeled for continuous operation. Gaseous emissions from blasting were modeled at a frequency of blasting that is four times the frequency permitted. All other sources were modeled at the throughput rate and operating hours as is limited by permit conditions.

#### 2. Modeled Emissions

The modeling results showed no pollutants are expected to exceed the referenced standards.

**Table 7**  
**Modeling Analysis NAAQS Summary**

Pollutant	Background ( $\mu\text{g}/\text{m}^3$ )	Total ( $\mu\text{g}/\text{m}^3$ )	NAAQS ( $\mu\text{g}/\text{m}^3$ )	% of NAAQS
NO <sub>2</sub> - Annual	4	6.7	100	6.7 %
CO - 1-hour	582	683.6	40,000	1.7 %
8-hour	582	653.1	10,000	6.5 %
PM <sub>10</sub> - 24-hour	50.7	140.6	150	93.7 %
Annual	21.6	29.5	50	59.0 %
SO <sub>2</sub> - 3-hour	170	172.6	1,300	13.3 %
24-hour	54	55.2	365	15.1 %
Annual	7	7.2	80	9.0 %

## XI. INSIGNIFICANT ACTIVITIES

In the permit application, MPI proposed that several activities be classified as insignificant activities under A.A.C. R18-2-101.57. Table 8, below, lists the proposed insignificant activities at the Mineral

Park Mine, along with the Department's determination as to whether or not the activity qualifies as insignificant.

**Table 8  
Insignificant Activities**

Equipment Description	Number of Equipment Items	Maximum Size or Capacity	Verification of Insignificance
SAG, ball and lime plant ball mills			A.A.C. R18-2-101(57)(j)
Rougher, cleaner and re-cleaner flotation cells			A.A.C. R18-2-101(57)(j)
Recycle crusher for wet material off of the SAGs			A.A.C. R18-2-101(57)(j)
Regrind cyclones off the SAGs and ball mills			A.A.C. R18-2-101(57)(j)
Thickener tanks with agitators for mixing ore concentrates and reagents			A.A.C. R18-2-101(57)(j)
Wet lab for assaying ores and concentrates			A.A.C. R18-2-101(57)(i)
Orfom® MCO flotation oil tank			A.A.C. R18-2-101(57)(j)
Orfom® R200 collector tank			A.A.C. R18-2-101(57)(j)
AERO A-3302 promoter tank			A.A.C. R18-2-101(57)(j)
Milk of lime tank			A.A.C. R18-2-101(57)(j)
Sodium hydrosulfide solution tank			A.A.C. R18-2-101(57)(j)
Dust collector discharge back to conveyors			A.A.C. R18-2-101(57)(j)
LPG storage tank			A.A.C. R18-2-101(57)(j)
Diesel	1	25,000 gallons	A.A.C. R18-2-101(57)(c)
Kerosene	1	10,000 gallons	A.A.C. R18-2-101(57)(c)
Sulfuric Acid	1	5,000 gallons	A.A.C. R18-2-101(57)(j)
Sulfuric Acid	1	10,000 gallons	A.A.C. R18-2-101(57)(j)

**XII. LIST OF ABBREVIATIONS**

A.A.C.....	Arizona Administrative Code
ADEQ.....	Arizona Department of Environmental Quality
AZ.....	Arizona
CAM.....	Compliance Assurance Monitoring
CO.....	carbon monoxide
EPA.....	Environmental Protection Agency
g.....	gram(s)
HAP.....	Hazardous Air Pollutant
hr.....	hour(s)
lb.....	pound(s)
LPG.....	liquefied petroleum gas
MMBtu/ft <sup>3</sup> .....	million British Thermal Units per cubic foot
MPI.....	Mineral Park Inc.
µg/m <sup>3</sup> .....	micrograms per cubic meter
NAAQS.....	National Ambient Air Quality Standard
NO <sub>2</sub> .....	nitrogen dioxide
PM.....	particulate matter
PM <sub>10</sub> .....	particulate matter with an aerodynamic diameter less than or equal to 10 micrometers
PSD.....	Prevention of Significant Deterioration
PSEU.....	Pollutant Specific Emission Unit
PTE.....	Potential to Emit
s.....	second(s)
SAG.....	semi-autogenous grinding
SO <sub>2</sub> .....	sulfur dioxide
SX/EW.....	solvent extraction electrowinning
tpy.....	ton(s) per year
VOC.....	Volatile Organic Compound
yr.....	year(s)