

Lead Containing Ceramic Report

Site: 1441 Schilling Place, Salinas, California

Prepared for: County of Monterey Department of Public Works

S Tech Project: 15070

May 15, 2015

S Tech Consulting was retained by the County of Monterey Department of Public Works to conduct an assessment for the presence of elevated lead content in ceramic tile finishes at 1441 Schilling Place in the City of Salinas, California. Ceramic tile, from any manufacture date, may contain high lead content depending on the country of origin. Intact, glazings with high lead content pose no exposure hazard to building occupants. However, during improvements or repairs, lead may be released in the work area, when ceramic finishes are crushed or become damaged. This assessment was conducted to document lead levels in the ceramic finishes of the building, to be used as reference for building operations and future improvements.

Cal-OSHA requires identifying lead hazards to comply with the '[Lead in Construction Standard](#)'. When lead is identified, lead-safe work practices must be implemented to ensure a lead-risk hazard for workers and building occupants is not created. Additionally, contractor or employers of in-house construction staff must conduct exposure assessments to determine the level of personal protective equipment (PPE) and engineering controls necessary to safely complete tasks which impact lead.

The site visit took place April 22, 2015 by Sean Tillema, a State of California Department of Public Health Certified Lead Related Construction Inspector / Risk Assessor (#1646).

Scope of Work & Property Description

Our scope of work was to conduct representative lead testing in each area of 1441 Schilling Place where ceramic wall or floor tile is present. The sampling was for compliance with the Cal-OSHA Lead in Construction Standard.

Ceramic tile is predominately present in the main restrooms, of which there two men's and two women's. Ceramic tile is also present in the entry lobby, cafeteria, and in the gym locker rooms.

The tile in each area assessed appeared in good, intact condition.

Lead-Containing Ceramic Glazing

Glazed ceramic finishes are known to contain extremely high lead content. The lead compounds used in the manufacturing process enhanced the glass-like properties of the glaze and offered the manufacturers a wider range of pigment colors. The process of firing the glaze at high temperatures fused the lead compounds into the glaze; and in normal use these lead compounds remained locked in the glaze and presented no health risk. However, crushing, abrading or shattering of a glaze can release a fine dust in which the lead becomes bioavailable. These types of activities would be common in the case of tile demolition for repairs or improvement projects. The resulting dust from such activities poses hazards to the worker and can result in unnecessary lead contamination of interior spaces and exterior soil.



Lead-Containing Ceramic Glazing - continued

Sampling on this project was conducted by X-ray Fluorescence (XRF), which provides instant analysis penetrating all layers of the glazing. A state of the art Innov-X Delta Dynamic XRF was utilized to conduct the lead analysis.

The following conclusions were arrived at from the testing:

- * **The majority of the ceramic finishes contain only trace lead content, ranging from less than (<) 10 parts per million (ppm) to 291ppm. However, the rectangular ceramic tile in the gym restrooms (men’s & women’s) contains lead as high as 28,933ppm. The tile poses no exposure hazard unless it will be disturbed by construction activities which result in damage to the tile glazing.**

See the summary for additional information. A table listing the lead paint results is provided on the following page.

Lead Analysis by X-ray Fluorescence					
Analysis	Building Area	Area	Component	Substrate	Lead Content ppm
XRF	North - Floor 1	Men’s Restroom	Floor Tile	Ceramic	25 ppm
XRF	North - Floor 1	North Building Men’s Restroom	Wall Tile	Ceramic	23 ppm
XRF	North - Floor 1	Women’s Restroom	Floor Tile	Ceramic	20 ppm
XRF	North - Floor 1	Women’s Restroom	Wall Tile	Ceramic	21 ppm
XRF	North - Floor 1 Gym	Men’s Restroom	Floor Tile	Ceramic	28,000 ppm
XRF	North - Floor 1 Gym	Men’s Restroom	Wall Tile	Ceramic	27,588 ppm
XRF	North - Floor 1 Gym	Men’s Shower/ Locker Room	Floor Tile	Ceramic	22 ppm
XRF	North - Floor 1 Gym	Men’s Shower/ Locker Room	Wall Tile	Ceramic	290 ppm
XRF	North - Floor 1 Gym	Women’s Restroom	Wall Tile	Ceramic	28,210 ppm
XRF	North - Floor 1 Gym	Women’s Restroom	Floor Tile	Ceramic	28,933 ppm

Lead-Containing Ceramic Glazing - continued

Lead Analysis by X-ray Fluorescence					
Analysis	Building Area	Area	Component	Substrate	Lead Content ppm
XRF	North - Floor 1 Gym	Women's Shower / Locker Room	Floor Tile	Ceramic	38 ppm
XRF	North - Floor 1 Gym	Women's Shower / Locker Room	Wall Tile	Ceramic	291 ppm
XRF	South Building Floor 1	Lobby	Floor Tile	Marble	<10 ppm
XRF	South Building Floor 1	Men's Restroom	Floor Tile	Ceramic	28 ppm
XRF	South Building Floor 1	Men's Restroom	Wall Tile	Ceramic	160 ppm
XRF	South Building Floor 1	Women's Restroom	Floor Tile	Ceramic	15 ppm
XRF	South Building Floor 1	Women's Restroom	Wall Tile	Ceramic	205 ppm
XRF	South Building Floor 1	Cafeteria	Floor Tile	Ceramic	64 ppm
XRF	South Building Floor 1	Kitchen	Floor Tile	Ceramic	12 ppm
XRF	South Building Floor 1	Kitchen Restroom	Floor Tile	Ceramic	41 ppm
XRF	South Building Floor 2	Men's Restroom	Floor Tile	Ceramic	21 ppm
XRF	South Building Floor 2	Men's Restroom	Wall Tile	Ceramic	89 ppm
XRF	South Building Floor 2	Women's Restroom	Floor Tile	Ceramic	20 ppm
XRF	South Building Floor 2	Women's Restroom	Wall Tile	Ceramic	98 ppm

Summary of Findings & Recommendations for Proceeding

Intact, ceramic tile containing lead does not pose a safety hazard to building occupants or maintenance

personnel. Environmental and safety concerns would result only if the tile will be demolished at some point in the future. In that case, the contractor conducting the removal must comply with Cal-OSHA Title 8 CCR 1532.1, the Lead in Construction Standard. Those not familiar with the requirements of the Standard can refer to a Cal-OSHA fact sheet on lead safety issues by following this link http://www.dir.ca.gov/dosh/dosh_publications/lead-fct-sheet-rev.pdf. Based on the methods of removal, engineering controls and personal protective equipment may be necessary during the demolition of ceramic finishes in this building.

In addition to health and safety compliance, disposal of materials containing lead must be done so in compliance with Cal/EPA DTSC waste profiling requirements. Characterization of waste is conducted by submitting a sample of the waste debris to an accredited laboratory to determine how the lead will respond in a landfill environment, including the potential for leachability from the substrate. Based on the results of waste stream characterization (STLC/TTLC/TCLP analysis), the ceramic debris would either be disposed of as construction debris, California Hazardous Waste, or Federal RCRA waste.

If you have any questions please feel free to call us at 831.883.8415.

STech Consulting



Sean P. Tillema

CDPH Certified Lead Inspector / Risk Assessor (CDPH) #1646

Limitations

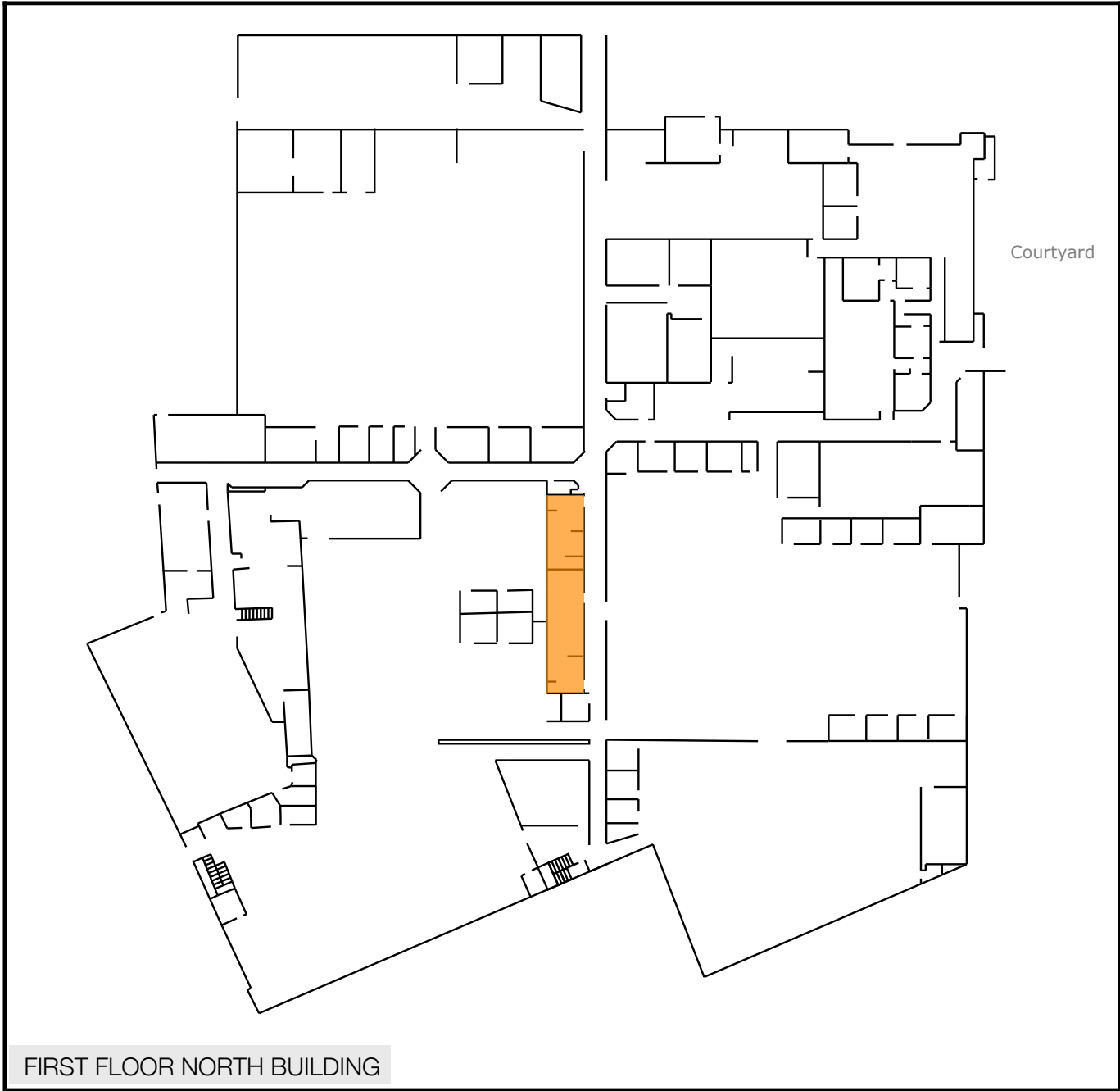
This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed scope of work and S Tech's experience in performing this type of assessment.

Areas and materials outside our scope or inaccessible areas are excluded from this report.

S Tech Consulting has performed this survey in a professional manner using the degree of skill and care exercised for similar projects under similar conditions, by reputable and competent environmental consultants. S Tech Consulting shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

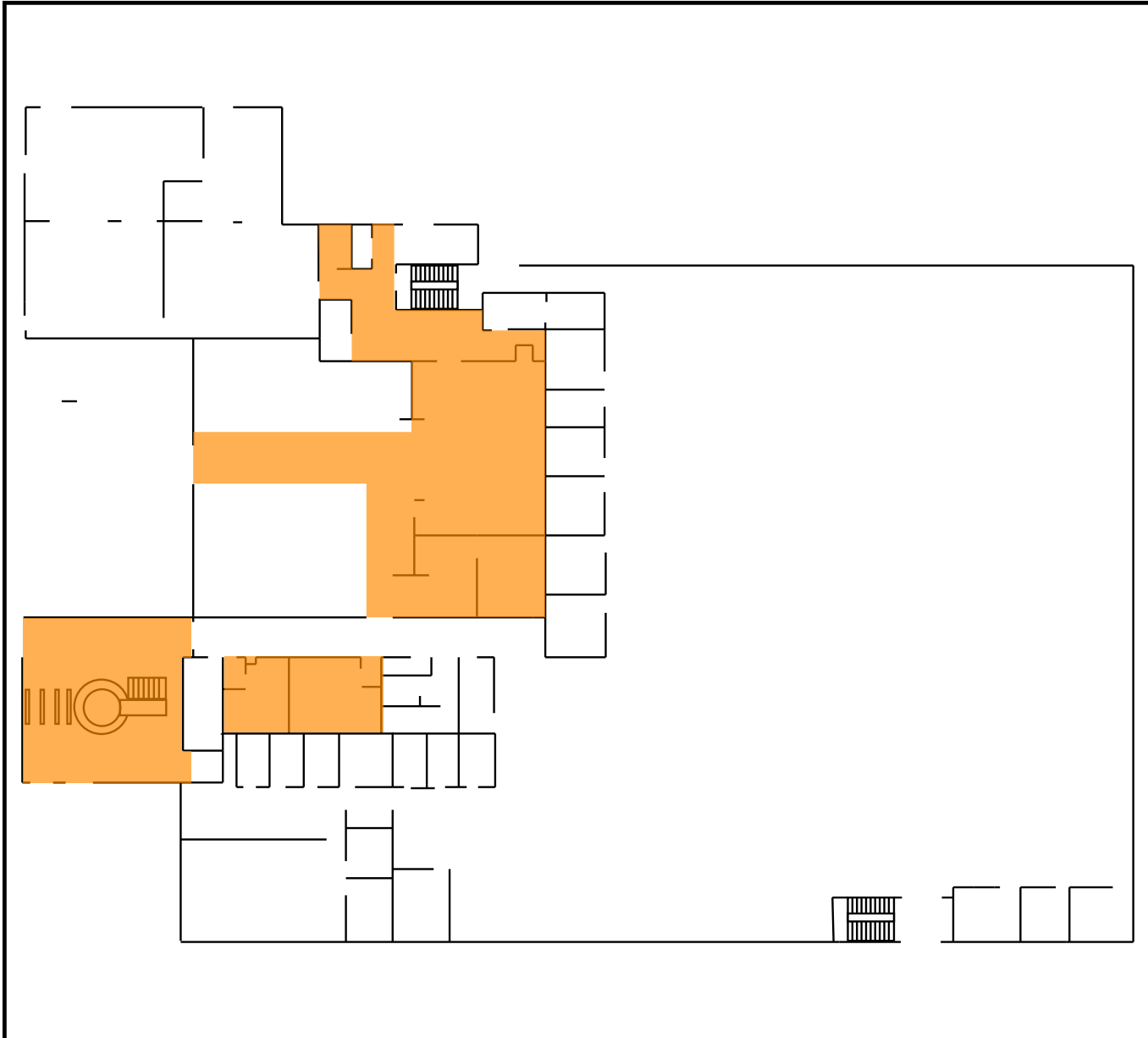
S Tech Consulting further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report or impacted by information not properly disclosed to S Tech at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

Site Plan & XRF Assay Locations




Indicates Lead-Glazed Ceramic Floor Tile

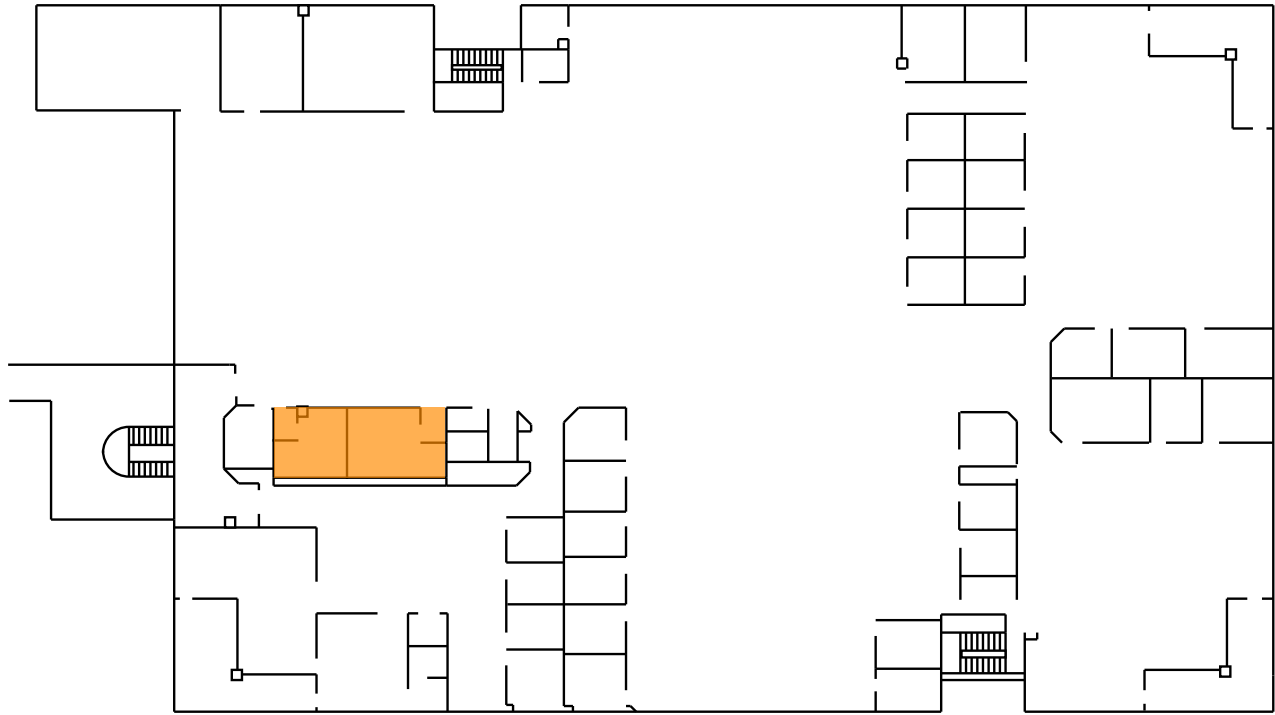
	DATE PREPARED:	SOURCE:	D.T.	DRAWING TITLE: Lead Site Sample Location Plan
	4/30/15			
	REVISION:	REVISION DATE:		
	PROJECT NO:	SCALE:		FIGURE NO.
	15070	NTS		1
PROJECT NAME:			CLIENT:	
1441 Schilling Place, Salinas, California			County of Monterey: Department of Public Works	



FIRST FLOOR SOUTH BUILDING


 Indicates Lead-Glazed Ceramic Floor Tile

	DATE PREPARED: 4/30/15	SOURCE: D.T.	DRAWING TITLE: Lead Site Sample Location Plan
	REVISION:	REVISION DATE:	
	PROJECT NO: 15070	SCALE: NTS	
PROJECT NAME: 1441 Schilling Place, Salinas, California		CLIENT: County of Monterey: Department of Public Works	FIGURE NO. 2



SECOND FLOOR SOUTH BUILDING

 Indicates Lead-Glazed Ceramic Floor Tile

	DATE PREPARED: 4/30/15	SOURCE: D.T.	DRAWING TITLE: Lead Site Sample Location Plan
	REVISION:	REVISION DATE:	
	PROJECT NO: 15070	SCALE: NTS	
PROJECT NAME: 1441 Schilling Place, Salinas, California		CLIENT: County of Monterey: Department of Public Works	FIGURE NO. 3