

Purpose/Application

Pigging in the maintenance of pipelines refers to the practice of using pipeline inspection gauges or 'pigs' to perform various operations on a pipeline without stopping the flow of the product in the pipeline. These operations include but are not limited to cleaning and inspection of the pipeline.

Soap Testing is done to detect pinholes on weld joints prior to pigging.

PPE

- Gloves
- Steel Toe Boots
- Safety Glasses
- Hearing Protection

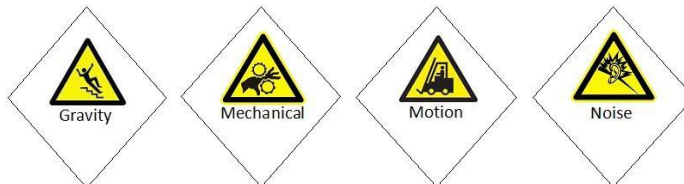
TRAINING

- Orientation
- Training
- Competency

TOOLS/EQUIPMENT

- Pigs
- Air Compressor
- Spray Bottles with soap and water mixture
- Rags
- Pig Catches / Senders
- Welding Truck
- Grinders
- Two-Way Radio
- Spill Kit
- Whip Checks

Hazard Sources



#	Job Steps	Hazards	Control Measures
1	Pressurize pipeline to specified pressure using an air compressor	<ul style="list-style-type: none"> ▪ Stored energy ▪ Pressurized pipeline ▪ Line of fire ▪ Mechanical failure 	<ul style="list-style-type: none"> ▪ Restrict access to personnel ▪ Ensure proper signage is being utilized to communicate hazards ▪ Stay out of the line of fire ▪ With those working near-by ▪ Inspect all components prior to use and remove deficient equipment from service ▪ Ensure all hose connections have whip checks installed prior to use
2	Inspect all weld joints by spraying soap/water mixture on them	<ul style="list-style-type: none"> ▪ Open excavations ▪ Uneven ground conditions ▪ Confined spaced 	<ul style="list-style-type: none"> ▪ Ensure proper permits are in place before starting work ▪ Watch footing ▪ Ensure sufficient access/egress to pipe and barriers in place along any excavation ▪ Never work alone
3	De-pressurize pipeline	<ul style="list-style-type: none"> ▪ Flying debris ▪ Excessive noise ▪ Releasing of trapped pressure 	<ul style="list-style-type: none"> ▪ Restrict access to personnel ▪ Use hearing protection at all times ▪ Restrict access to personnel ▪ Ensure proper signage is being utilized to communicate hazards with those working near-by ▪ Stay out of the line of fire
4	Once system has been de-pressurized, remove blinds, insert appropriately sized pigs in correct order and weld Pig Catcher and Pig Sender to ends of pipe being pigged. *Note some risers require bolt on Senders/catchers	<ul style="list-style-type: none"> ▪ Arc flash ▪ Heavy lifting ▪ Rotational hazards ▪ Fire and explosion ▪ Pinch/crush points ▪ Tool failure 	<ul style="list-style-type: none"> ▪ Appropriate PPE ▪ Lift with your legs, not your back, or get help for lifting heavy objects (human or mechanical) ▪ Fire extinguisher on hand while welding/grinding ▪ Torque bolts only to required spec. ▪ Inspect threads and wrenches prior to use ▪ Make sure all bolts are in and not hot bolted

#	Job Steps	Hazards	Control Measures
5	Send pigs using air compressor	<ul style="list-style-type: none"> ▪ Miscommunication ▪ Pinch point ▪ Line of fire ▪ Blockage in pipeline ▪ Inadequate Pig size 	<ul style="list-style-type: none"> ▪ Ensure party waiting at other end of pipeline is aware that Pg has been sent by use of two-way radios ▪ Always stay out of the line of fire ▪ If pig gets stuck in pipeline, it may be necessary to push it back to the sender and try again ▪ Ensure you are using the proper pig for the application
6	De-pressurize system once Pig has arrived at its destination	<ul style="list-style-type: none"> ▪ Excessive noise ▪ Release of unknown fluids and debris 	<ul style="list-style-type: none"> ▪ Always contain all released of pressures and products ▪ Dispose of all releases or soiled material according to regulations ▪ Wear hearing protection
7	Remove pig from Pig Catcher and repeat steps as necessary	<ul style="list-style-type: none"> ▪ Heavy lifting ▪ Contact with unknown substance ▪ Trapped pressure resulting in stored energy behind pig ▪ Trapped pressure between pigs ▪ Line of fire 	<ul style="list-style-type: none"> ▪ Get help for lifting heavy objects or use mechanical lifting devices ▪ Ensure pipeline depressurized at both ends, before removing cutting loose pig catcher. ▪ Using a probe and catcher vents verify ALL pigs have arrived prior to cutting catcher loose ▪ If possible, use a probe/hook to pull pigs out to catcher ▪ But, if using low air pressure to remove/move pigs, ensure that catcher is properly secured against any unplanned movement.

Additional Information:

CPES SWP 11 Compressed Air

CPES SWP 18 Tools and Equipment



SAFE JOB PROCEDURE
Revised: June 29, 2021

SJP-11
PIGGING AND SOAP TESTING

Developed by:	1. <u>Angie Anton</u>	2. _____	Date: <u>June 2010</u>
Revised by:	1. <u>Shane Vanderkooi</u>	2. <u>Mike Boxma</u>	Date: <u>May 14, 2021</u>
	3. <u>Allen Monk</u>	4. <u>Gary Lyster</u>	
Approved by:	1. <u>HSE Committee</u>		Date: <u>June 29, 2021</u>
