Portable High-Throughput Integrated Laboratory Identification System (PHILIS)

PHILIS
Analysis Methods and Vehicle Mobilization Readiness Assessment

04/15/2024

CSS

CSS completed the monthly assessment of PHILIS program capability to mobilize laboratory units and operate analytical instrumentation for providing analytical support to EPA emergency response operations. The current status, effective as of the date of this report, is organized by location and vehicle. Reported readiness times are estimated, based on current information and conditions, and will be reevaluated and adjusted by prioritization, to meet emergency response program needs. Laboratory analysis capability is established using GC/MS and LC/MS/MS instrumentation and methodology for analysis of CWAs, volatile, semivolatile and nonvolatile organic contaminants in water, soil and sediment, and air (sorbent tubes).

PHILIS chemists complete the following procedures to ensure operational readiness of the laboratory instrumentation:

1. Instrument readiness is measured routinely with the evaluation of the tuning compound and a continuing calibration verification standard (CCV) on each GC/MS instrument. This evaluation is conducted for the current method being evaluated on that piece of equipment. If the CCV doesn't pass, a new standard is prepared, troubleshooting is performed and if necessary injection port maintenance is performed, if the CCV still doesn't pass, then an initial calibration is performed. In completing this evaluation, the precise capability of each instrument is known. The routine analyses include tuning (if necessary), CCV or initial calibration, method blank, laboratory control spike (LCS) and LCS duplicate (LCSD). Additionally, monthly QC samples are analyzes for volatile and semivolatile analytes.

2. On the LC/MS/MS, instrument readiness is evaluated weekly by analyzing an instrument performance check (IPC) standard, which serves as a calibration verification standard. The choice of compounds in the IPC and the LC/MS/MS conditions are based on the most recent analytical method used. If the IPC does not pass acceptance criteria, and if maintenance does not resolve the exception, then the instrument shall be re-calibrated. In completing this evaluation, the precise capability of the instrument is documented. Routine analyses include IPC or initial calibration, method blank, laboratory control spike (LCS) and LCS duplicate (LCSD).

3. Each month, data is uploaded from the QC samples (LCS and LCSD) into the LIMS. This allows the laboratories to generate current precision and accuracy data, as the LIMS performs the calculations and maintains the data files. P&A data is regenerated every six months.

4. Semivolatile analytical methods require the use of at least one extraction method procedure per sample matrix to ensure that all equipment remains in a state of readiness.

5. Completion of these procedures also keeps the analysts familiar with all methods and promotes cross training, so that any analyst is able to perform all of the tests and have demonstration of capability data current.

6. PHILIS facility management ensures that the vehicles are serviced according to the established maintenance schedule, and maintained with all necessary equipment and supplies to ensure that laboratory units are ready for deployment within 2 hours, with an ability to provide service for a minimum of 4 days, as required by PHILIS contract agreement.

This report summarizes the current operational status of PHILIS assets for each location, organized according to analytical method capability, instrument & systems, vehicles, and LIMS & communications systems.

ANALYTICAL METHOD STATUS
CASTLE ROCK OPERATIONS

Sample	Contaminant and Condition	Prep Method	Analytical Method	Estimated Time Needed for Validated Method Development	Projected Number of Samples per Day (8 hours)	Projected Number of Samples per Day (24 hours) *	Comments
Water	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP TOF GC/MS	Ready for sample analysis	20	40	Need current MDLs
Soil	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP TOF GC/MS	Ready for sample analysis	20	40	Need current MDLs
Wipe	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP TOF GC/MS	Ready for sample analysis	20	40	MDL's 3/7/24
Water	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP Quad GC/MS	Need MDL			
Soil	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP Quad GC/MS	Need MDL			
Wipe	CWA compounds (GB,GD,HD,GF,VX)	CWA SAP	CWA SAP Quad GC/MS				MDL's 3/7/24 microwave
Water	† Mid/High level VOA / BTEX	SW-846 5030C	SW-846 8260D Quad	Ready for sample analysis	30	50	
Soil	† Mid/High level VOA / BTEX	SW-846 5035A	SW-846 8260D Quad	Ready for sample analysis	30	50	
Air/Sorbent Tube	CWAs in Air (HD)	TO-17/ CWA SAP	TO-17/ CWA SAP TOF / modified		20	40	Instrument is setup for CWAVX liq. injections.
Water, Soil, and Wipe	CWA Degradation Compounds	ASTM D7597/E2866	LC/MS/MS Triple Quad	Ready for sample analysis	20	60	
Sediment/Soil	† Mid/High level SVOA	Micro extraction	SW-846 8270E QUAD	Ready for sample analysis	20	60	
Water	† Mid/High level SVOA	Micro Extraction	SW-846 8270E TOF or QUAD	Micro extractions (50mL) are ready for sample analysis	20	40	
Sediment/Soil	† OP Pesticides	SW-846 3545A	SW-846 8270E TOF	Micro extractions	20	40	
Water	† OP Pesticides	SW-846 3510C mod (Micro extraction method)	SW-846 8270E TOF	Micro extractions	20	40	
Drinking Water	† VOAs	524.2	524.2 Quad	Ready for sample analysis	20	50	
Air	Mustard (HD)	PCD Method	PCD Method TOF	2 months	20	~40	Waiting for AMC/CMA standard. DAMMS tubes cannot be run overnight.
Wipes, soils and waters	Opioids Fentanyl, Carfentanil, Sulfentanil, Acetylfentanil, Alfentanil, Heroin, Remifentanil	Micro Extraction	SW-846 8270E TOF	Ready for sample analysis	20	40	Need updated MDLs for waters and soils – wipes are current
Wipes	Opioids Fentanyl, Carfentanil, Sulfentanil, Acetylfentanil, Alfentanil, Heroin, Remifentanil	Micro Extraction	SW-846 8270E MMI Quad	MDL's and real sample viability study	20	40	

Sample	Contaminant and Condition	Prep Method	Analytical Method	Estimated Time Needed for Validated Method Development	Projected Number of Samples per Day (8 hours)	Projected Number of Samples per Day (24 hours) *	Comments
Wipes, soils and waters	Opioids Fentanyl, Carfentanil, Sulfentanil, Acetylfentanil, Alfentanil, Heroin, Remifentanil,Ketamine, Xylazine	Micro Extraction	LCMS/MS Triple Quad	Ready for sample analysis	20	60	Ketamine and Xylazine MDL's done for wipes
Water, soils, and wipes	FGAs (Novichok)	Micro Extraction	TOF	Ready for sample analysis	20	40	
Water, soils, and wipes	FGAs (Novichok)	Micro Extraction	LCMSMS Triple Quad	Ready for sample analysis.	20	40	
Acrylates in Air	Butyl acrylate Ethylhexyl acrylate	NIOSH	GCMS TOF	Ready for analysis	25	60	
Acrylates in soil	Butyl acrylate, Ethylhexyl acrylate Ethylene glycol monbutyl ether	Micro Extraction	GCMS QUAD In-house	Ready for analysis	25	60	

Notes: * Projected number of samples is subject to change based on concurrent project sample analysis requirements.
† Contaminants that are NELAP accredited

ANALYTICAL METHOD STATUS
EDISON OPERATIONS

Sample	Contaminant and Condition	Prep Method	Analytical Method	Estimated Time Needed for Validated Method Development	Projected Number of Samples per Day (8 hours)	Projected Number of Samples per Day (24 hours) *	Comments
Sediment/Soil	† PCBs	SW-846 3545A	SW-846 8082A ECD	Ready for sample analysis	20	50	
Water	† PCBs	SW-846 3510C	SW-846 8082A ECD	Ready for sample analysis	20	50	
Sediment/Soil	† Pesticides	SW-846 3545A	SW-846 8081B ECD	Ready for sample analysis	20	50	
Water	† Pesticides	SW-846 3510C	SW-846 8081B ECD	Ready for sample analysis	20	50	
Sediment/Soil	† Toxaphene	SW-846 3545A	SW-846 8081B ECD	Ready for sample analysis	20	50	
Water	† Toxaphene	SW-846 3510C	SW-846 8081B ECD	Ready for sample analysis	20	50	
Sediment/Soil	† Mid/High level SVOA	SW-846 3545A	SW-846 8270E Quad	Ready for sample analysis	20	50	
Water	† Mid/High level SVOA	SW-846 3510C	SW-846 8270E Quad	Ready for sample analysis	20	50	
Sediment/Soil	† Low-level VOAs (including BTEX)	SW-846 5035A	SW-846 8260D Quad	Ready for sample analysis	30	80	
Sediment/Soil	† Mid/high level VOA (including BTEX)	SW-846 5035A	SW-846 8260D Quad	Ready for sample analysis	30	80	
Water	† Low level VOA (including BTEX)	SW-846 5030C	SW-846 8260D Quad	Ready for sample analysis	30	80	
Water	† Mid/high level VOA (including BTEX)	SW-846 5030C	SW-846 8260D Quad	Ready for sample analysis	30	80	
Water/Soil	Screening mid/High Level VOA	SW-846 3810	SW-846 3810 Quad	Ready for sample Analysis	28	90 to 100	
Air/Sorbent Tube	† VOA	TO-17	TO-17 Quad	Ready for sample analysis.	12	40	
Water	† Diesel Range Organics	SW-846 3510C	SW-846 8015D FID	Ready for sample analysis	20	30	
Water	† Gasoline Range Organics	SW-846 5030C	SW-846 8015D FID	Ready for sample analysis	10	38	
Sediment/Soil	† Diesel Range Organics	SW-846 3545A	SW-846 8015D FID	Ready for sample analysis	20	30	
Sediment/Soil	† Gasoline Range Organics	SW-846 5035A	SW-846 8015D FID	Ready for sample analysis	10	38	
Water/Soil/Wipe	CWA	CWA SAP	CWA SAP TOF	Ready for sample analysis	20	40	

Sample	Contaminant and Condition	Prep Method	Analytical Method	Estimated Time Needed for Validated Method Development	Projected Number of Samples per Day (8 hours)	Projected Number of Samples per Day (24 hours) *	Comments
Air	GB,GD,HD,GF,VX	TO-17 CWA SAP	TO-17 CWA SAP Quad	Three days to develop simulants on new instrument, 2 days at CWA appropriate facility.	12	40	DAMMS tubes cannot be run overnight.
Drinking Water	† VOA	524.2	524.2 Quad	Ready for sample analysis	30	80	
Drinking Water	† EDB,TCP,DBCP	504.1	504.1 ECD	TBD	TBD	TBD	This method will be implemented pending prioritization.
Water/Soil/Wipe	GB,GB,GD,HD,GF	CWA SAP	CWA SAP TOF	Ready for sample analysis	20	40	
Water/Soil/Wipe	GB,GD,HD,GF,VX	CWA SAP	CWA SAP LVI	Ready for sample analysis	20	50	
Acrylates in Air	Butyl acrylate 2-Ethylhexyl acrylate		8270E	Pending EPA approval	20	30-40	

Note: * Projected number of samples is subject to change based on concurrent project sample analysis requirements.
† Contaminants that are NELAP accredited

INSTRUMENT & SYSTEM STATUS
CASTLE ROCK OPERATIONS

Instrument/Equipment System	Analysis	Status
OI Purge & Trap GC/MS/Quad/System #10	VOA	Instrument ready for analyses. 8260
GC/MS-Quad System #7	SVOA	Instrument ready for analyses. 8270
GC/MS-Quad System #9	SVOA	Instrument is operational – calibrated for Opioids. Wipe MDL analyzed. Calibrated for CWAVX.
GC/MS/Quad/FPD System #5	SVOA	Instrument was removed from the PAL to make space for new LC instrument.
OI Purge & Trap GC/MS-Quad System #8	VOA	Calibrated for 524.2 and 8260.
LC/MS/MS 1	Opioids/CWA	System is operational.
LC/MS/MS 2	Opioids/CWA	Installation is complete.
GC/MS BT-TOF #6	SVOA	Vacuum gauge needs to be replaced.
GC/MS BT-TOF #7	CWAs	Instrument is setup to analyze CWAVX – liq inj.
GC/MS BT-TOF #5	CWAs	Instrument is operational. Needs to be calibrated for CWAVX
Speed Extractors	Soil/solid extractions	Pressurized solvent extractors are set up for SVOA, fentanyl and opioid extractions. One PSE unit has been removed from hood to make space for microwave extractor. Microwave unit has been installed.
TurboVap concentrators	Extract processing	Functional and in use.
Microwave Extractor	Soils/solid extractions	MDL's complete for SVOCs.

INSTRUMENT & SYSTEM STATUS
EDISON OPERATIONS

Instrument/Equipment System	Analysis	Status
GC/MS APL01A	VOA	System is currently set up for analysis of TO-17. Method implementation on TO-15 will recommence upon completion of NELAP PTs.
GC/MS APL01B	VOA	MDLs have been completed for 524.2 and 8260D water samples. MDLs for soils are pending. Instrument has just undergone maintenance is currently for 8260D aqueous samples.
GC/MS APL01C	VOA	The instrument is calibrated for method 8260D for low level soils but can be calibrated for 8260D aqueous samples or method 524.2.
GC/MS APL01D	VOA	Instrument is calibrated for screening of VOC samples by headspace method 5021A.
GC/MS APL01E	VOA	Instrument is not currently in use pending placement in a different lab unit.
GC/MS APL01F	VOA	Installation complete. Instrument DOC (P &A) and initial MDL study has been run and evaluated for method 524.2 MDL study combined with new initial MDL study on APL01B for combined 524.2 MDLs & RLs.
LC/MS/MS	SVOA	The instrument is currently in storage in building 238. Supporting lab has been emptied as per EPA instructions.
GC/MS APL02D	SVOA	The instrument is set up in APL02 and is functional and in use for LVI for CWA analysis. New Gerstel rail with TDU and cryofocusing units have been installed.
GC/MS APL02H	SVOA	GC/MS instrument is installed in APL02 and is set up for CWA/SIM by LVI. Calibrated for CWA by simulants and 8270E. P&A and MDL's have been completed. Instrument is calibrated for method 8270E at this time.
GC/MS APL02I	SVOA	GC/MS instrument is installed in APL02 and is set up for CWA/SIM by LVI. Calibrated for CWA by simulants and 8270E. P&A and MDLs have been completed. The instrument will be calibrated for method 8270E.
LECO Pegasus BT, TOF1	SVOA	Calibrated for CWA simulants. Setting up 8270E trace level analysis method.
GC/MS APL02A	SVOA	Instrument is calibrated for DRO by 8015D.The method is certified by NELAP.
Hydrogen Generator	Parker Balston	EPA 8015D GRO/DRO.
GC/MS APL02C	VOA	Instrument is calibrated for GRO by 8015D.
GC/ECD SPA01A	SVOA	Instrument is calibrated for method 8082A.
GC/ECD SPA01B	SVOA	Instrument is calibrated for pesticides and toxaphene by method 8081B.
Fast PSE Units	Soil/solid extractions	Buchi pressurized solvent extractor units were moved to the hood and counter in the SLA. One unit set up in hood and is operational.
DryVap Units	Extract processing	One Turbovap unit set up in SLA. One unit has a problem with temperature control. New Biotage Turbovap set up in SPA01 and performance tested.
Drying oven, Precision	General	Functioning
Vortex Mixer	General	Functioning
Ultrasonic Bath #1	General	Functioning
Ultrasonic Bath #2	General	Functioning
Moisture Analyzer	General	Functioning
Top loading Balance #1	General	Functioning
Top loading Balance #2	General	Functioning
GC/MS APL02B	SVOA	Not in service. MSD is currently in storage.
Horizon SPE	Liquid extraction	Unit has been turned over to recycler for excess.
Water Treatment System	General	Out of service, EPA Milli-Q water is used. Transferred to recycler for excess.
Analytical balance	General	Out of service.
CEM Microwave Extractor	SVOA	Installed in SPA01, performance studies currently in progress.

SCREENING EQUIPMENT STATUS
CASTLE ROCK OPERATIONS

Equipment Name	Analysis	Status
(00812) Proengin AP2Ce	CWA Screening	NOT IN USE/IN STORAGE.
Proengin AP4C (Castle Rock)	CWA Screening	Sent to Proengin for calibration
MX908	CWA/TIC Screen	Instrument in CR

SCREENING EQUIPMENT STATUS
EDISON OPERATIONS

Equipment Name	Analysis	Status
(00835) Proengin AP2Ce	CWA Screening	Functional, instrument verified on 03/04/20. Not in use.
Proengin AP4C S/N: F6538	CWA Screening	Received back from Proengin, functional. Loaned to Castle Rock pending calibration of their unit.
MX908	CWA/TIC Screen	

VEHICLE STATUS
CASTLE ROCK OPERATIONS

Vehicle Name	Status	Comments
Sample Preparation Area (SPA)	Ready for deployment	The unit is ready for deployment.
PHILIS Analytical Lab (PAL)	Ready for deployment	The unit is ready for deployment.
Prevost Laboratory Unit (LU)	Ready for deployment	The unit is ready for deployment.
Ford F550 Tow Vehicle	Not Ready for deployment	The unit is down for generator maintenance. (Can still deploy without generator.)

VEHICLE STATUS
EDISON OPERATIONS

Vehicle Name	Status	Comments
Analytical Portable Laboratory 01 (APL01)	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. Unit is ready for deployment.
Analytical Portable Laboratory 02 (APL02)	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. Received from mechanic, rear leveling jack pistons still need to be replaced. Unit is still ready for deployment.
Sample Log-in Area (SLA)	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. The unit is ready for deployment.
SPA01	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. Unit is ready for deployment.
Ford F550 #1	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. Unit is ready for deployment.
Ford F550 Box/Cold Storage truck, Sample Storage Area (SSA)	Ready for deployment	Standby compressor failed during the month of April 2022. Refrigerator can only be operated in transit mode. DOT inspection is current. The unit is ready for deployment as a tow vehicle or cargo carrier.
Ford F550 #2/SLA Tow Vehicle	Ready for deployment	All scheduled maintenance is completed. DOT inspection is current. Unit is ready for deployment.

PORTABLE POWER STATUS
CASTLE ROCK OPERATIONS

Vehicle Name	Status	Comments
Generator and trailer 80KW (Kohler 80REOZJD)	Ready for deployment	Trailer is operational. Generator runs as advertised. Wired to be able to power all labs at the same time.
Kohler generator and trailer 60KW (Kohler 60REOZJC, EPA-5020-T)	Ready for deployment	Trailer is operational. Generator runs as advertised.
Kohler generator and trailer 50KW (Kohler 50REOZJC, EPA-5018-T)	Ready for deployment	Trailer is operational. Generator runs as advertised. Wired to be able to power all labs at the same time.

PORTABLE POWER STATUS
EDISON OPERATIONS

Vehicle Name	Status	Comments
Kohler generator and trailer 60KW (Kohler 60REOZJC, C08380)	Ready for deployment	The trailer and generator are ready for deployment. DOT inspection is current. Cam lock panel has been installed and custom cable has been fabricated to facilitate connection to the Edison vehicles.
Kohler generator and trailer 60KW (Kohler 60REOZJC, C08381)	Ready for deployment	Unit not ready for deployment. Generator service scheduled for 04/11/24.

LIMS/COMMUNICATION SYSTEM STATUS
CASTLE ROCK OPERATIONS

LIMS / Communication Items	Status	Comments
Castle Rock Building / Bay / Facility	Operational	Internet / Intranet Communications: 5G Cellular: Online and Operational. NAS file and VM Server "N- CR": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. CR-LIMS Virtual SQL and Element Windows server VM. Operational. Peripherals and Hardware: Operational.
Analytical Lab (PAL)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: CR: PAL: LC1: Operational. CR: PAL: LC2: Installed and Operational. Pending configurations. CR: PAL: Master-Left: Operational. CR: PAL: Master-Right: Operational. CR: PAL: WGCMS05: Removed from service. CR: PAL: WGCMS07: Operational. CR: PAL: WGCMS08: Operational. CR: PAL: WGCMS09: Operational. CR: PAL: WGCMS10: Operational. NAS file and VM Server "N- PAL": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. Peripherals and Hardware: Operational.
Sample Preparation Area (SPA)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: In place, pending final configurations and mounting of cellular antenna on roof. Laboratory Information Management Systems (LIMS) Computers: CR: SPA: SPAWKS01: Operational. CR: SPA: SPAWKS02: Operational. CR: SPA: SPAWKS03: Operational. NAS file and VM Server "N- SPA": In place, pending final configurations and mounting. LIMS NELAP Compliant Data Archive System: In place, pending final configurations and mounting. LIMS Virtual Server and Workstation VMs: In place, pending final configurations and mounting. Peripherals and Hardware: Operational.
Provost Laboratory Unit (LU)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: CR: LU: TOF5: Operational. CR: LU: TOF6: Operational. CR: LU: TOF7: Operational. CR: LU: Master: Operational. NAS file and VM Server "N- LU": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Running as expected. Peripherals and Hardware: Operational.

LIMS/COMMUNICATION SYSTEM STATUS
EDISON OPERATIONS

LIMS / Communication Items	Status	Comments
Edison Building 205 IT Server Room	Operational	Internet / Intranet Communications: Operational. Fiber optics converter to building 238: Operational. Fiber optics converter to building 209: Operational.
Edison Building 238 IT Closet	Operational	Fiber optics converter from building 205: Network to bay. Operational.
Edison Building 238 Cubicles	Operational	Intranet Systems: Operational. Laboratory Information Management Systems (LIMS) Computers: NAS file and VM Server "N- ED": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. Peripherals and Hardware: Operational.
Edison Building 238 Bay	Operational	Internet Communications: Fiber runs to building 209. Operational. Intranet Systems: Operational.
Analytical Portable Laboratory 01 (APL01)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: ED: APL01: APL01-A: Operational. ED: APL01: APL01-B: Operational. ED: APL01: APL01-C: Not stable or reliable. Not Operational. ED: APL01: APL01-D: Operational. ED: APL01: APL01-F: Installed. Pending final configurations and mounting. Mounting bracket shipped to Edison. ED: APL01: APL01-Master: Operational. NAS file and VM Server "N- APL01": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. Peripherals and Hardware: Operational.
Analytical Portable Laboratory 02 (APL02)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: ED: APL02: APL02-D: Operational. ED: APL02: APL02-H: Operational. ED: APL02: APL02-I: Operational. ED: APL02: APL02-T01: Operational. ED: APL02: APL02-Master: Operational. NAS file and VM Server "N- APL02": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. Peripherals and Hardware: Operational.
Sample Log-in Area (SLA1)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: ED: SLA1: APL02-A: Operational. ED: SLA1: APL02-C: Operational. ED: SLA1: SLA1-Master: Operational. NAS file and VM Server "N- SLA1": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational. Peripherals and Hardware: Operational.
Sample Preparation Area 01 (SPA01)	Ready for deployment	Internet / Intranet Communications: 5G Cellular: Online and Operational. Laboratory Information Management Systems (LIMS) Computers: ED: SPA01: SPA01-A: Online and operational. ED: SPA01: SPA01-B: Online and operational. ED: SPA01: SPA01-Master: Online and operational. NAS file and VM Server "N-SPA01": Operational. LIMS NELAP Compliant Data Archive System: Operational. LIMS Virtual Server and Workstation VMs: Operational.

LIMS/GLOBAL COMMUNICATION SYSTEM STATUS

LIMS / Communication Items	Status	Comments
		Post-meeting configurations of all systems. Facilities will install UPS systems at all chosen system locations. SPA pending roof antenna installation. Systems Operational. Software Issues: APL01-B: Microsoft Office Activation Issue Kevin reported that Excel was missing, but it had been installed previously. The Office suite has been deactivated multiple times. Attempts to reactivate result in an error stating the product has been activated too many times, prompting a call to Microsoft support. I had successfully activated it during a previous deployment, and it functioned for a period before encountering the same issue again. APL01-D: Adobe Issues There were problems with Adobe PDF not generating PDFs after running processes. A temporary fix enabled PDF output and allowed processes to continue, but the PDFs couldn't be edited on this PC. As a workaround, files were saved to the NAS and edited on a different computer. 01-A, B, C & D and SPA01-A & B all reporting Adobe issues. Proposal to upgrade all PHILIS devices to Adobe Pro and Microsoft Office 365 subscriptions. Current Versions: Adobe Acrobat X 10. ended support in Oct 2015 Microsoft Office 2013 ended support in Apr 2023
Global	Overview	Adobe and Microsoft have discontinued support for perpetual software licenses. Aka: Buy it once and own it. Moving forward, Adobe will only offer subscription-based software licenses. We have multiple machines that are having issues with Adobe. It is recommended that we upgrade our two products Adobe Acrobat X 10 and Microsoft Office 2013 to subscription-based licensing and replace the outdated software ASAP. Hardware Issues: APL01-C is among the most dated pieces of equipment in our technology inventory and has reached the end of its operational life. The monitor on the mass spectrometer has been inoperable for years, making the menu system unusable. Its plastic shields are aged, discolored, and detaching. We've resorted to salvaging parts from our collection of decommissioned systems to maintain it. Despite collaborating with Agilent and Full Spectrum numerous times over the past six years to stabilize APL01-C, our efforts have largely been in vain. Full Spectrum has attempted to service this equipment on seven occasions, ultimately ceasing their efforts. The system frequently goes offline, with the only solution being to reboot the mass spectrometer multiple times, each requiring a significant delay. There's no discernible pattern to its failures. In 2020, we consulted with Agilent and received a quote for a new network card priced at $2,700, but even replacing the computer proved futile. Given its instability and unreliability for field operations, it's unfortunate that APL01-C was the primary instrument used for data acquisition during our latest deployment. I recommend we configure a newer, existing system to match the specifications of 01-C and proceed to retire APL01-C immediately. WGCMS05, a similar style machine was just decommissioned. I have marked the Readiness plan as "Not Ready" for 01-C and retired for WGCMS05 this machine.

CASTLE ROCK PHILIS OPERATIONS

Method 8260D SOP # L-A-101		8260D GCMSD Water 7/20/2023				8260D GCMSD Soil 6/21-23/2023 and 6/29-7/6/2023			
Purge Method 5030 Water and 5035 Soil		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/L	ug/L	%	% Recovery	ug/Kg	ug/Kg	%	% Recovery
Dichlorodifluoromethane	75-71-8	0.73	2.0	20	46-136	1.19	5.0	20	19-148
Chloromethane	74-87-3	0.66	2.0	20	32-164	2.59	5.0	20	31-149
Vinyl Chloride	75-01-4	0.71	2.0	20	39-191	1.06	5.0	20	45-147
Bromomethane	74-83-9	0.60	2.0	20	63-145	1.06	5.0	20	43-142
Chloroethane	75-00-3	0.59	2.0	20	49-163	1.07	5.0	20	46-146
Trichlorofluoromethane	75-69-4	0.78	2.0	20	61-147	1.11	5.0	20	47-139
Acetone	67-64-1	18.98	10	20	32-176	17.80	25	20	27-191
1,1-Dichloroethene	75-35-4	6.5	2.0	20	68-132	1.3	5.0	20	46-139
t-Butyl alcohol	75-65-0	0.7	10	20	40-165	12.5	25	20	21-237
Methylene chloride	75-09-2	0.65	5.0	20	52-148	3.96	20	20	55-141
Methyl tert-butyl ether	1634-04-4	0.59	2.0	20	78-128	0.73	5.0	20	62-132
trans-1,2-Dichloroethene	156-60-5	0.64	2.0	20	76-132	1.03	5.0	20	44-144
Diisopropyl ether	108-20-3	0.51	2.0	20	65-144	0.76	5.0	20	53-137
2-Butanone	78-93-3	0.55	10	20	57-155	4.83	25	20	62-161
Ethyl tert-butyl ether	637-92-3	1.1	2.0	20	59-152	0.7	5.0	20	62-129
1,1-Dichloroethane	75-34-3	0.48	2.0	20	70-133	0.98	5.0	20	47-142
cis-1,2-Dichloroethene	156-59-2	0.6	2.0	20	69-142	0.9	5.0	20	64-129
2,2-Dichloropropane	594-20-7	0.81	2.0	20	59-146	1.02	5.0	20	61-132
Bromochloromethane	74-97-5	0.50	2.0	20	78-129	1.00	5.0	20	72-130
Chloroform	67-66-3	0.55	2.0	20	76-132	0.72	5.0	20	67-128
1,1,1-Trichloroethane	71-55-6	0.5	2.0	20	68-142	1.1	5.0	20	64-130
1,1-Dichloropropene	563-58-6	0.4	2.0	20	73-132	1.0	5.0	20	61-127
Carbon tetrachloride	56-23-5	0.5	2.0	20	72-139	1.0	5.0	20	62-130
tert-Amyl methyl ether	994-05-8	0.58	2.0	20	70-142	0.58	5.0	20	67-124
1,2-Dichloroethane	107-06-2	0.55	2.0	20	80-128	0.91	5.0	20	59-139
Benzene	71-43-2	0.44	2.0	20	60-161	0.56	5.0	20	70-124
Trichloroethene	79-01-6	0.5	2.0	20	74-130	0.7	5.0	20	60-129
1,2-Dichloropropane	78-87-5	0.46	2.0	20	80-125	0.93	5.0	20	70-124
Dibromomethane	74-95-3	0.5	2.0	20	68-136	0.7	5.0	20	65-130
Bromodichloromethane	75-27-4	0.50	10.0	20	59-151	0.72	5.0	20	61-133
4-Methyl-2-Pentanone	108-10-1	1.2	2	20	80-132	1.4	25	20	43-198
cis-1,3-Dichloropropene	10061-01-5	0.70	2.0	20	83-120	3.91	5.0	20	75-131
Toluene	108-88-3	0.49	2.0	20	80-121	1.03	5.0	20	80-120
trans-1,3-Dichloropropene	10061-02-6	0.84	10.0	20	53-160	0.64	5.0	20	80-131
1,1,2-Trichloroethane	79-00-5	0.59	2.0	20	80-120	0.97	5.0	20	80-120
2-Hexanone	591-78-6	2.13	2	20	80-121	3.86	25	20	12-240
1,3-Dichloropropane	142-28-9	0.72	2.0	20	64-133	0.93	5.0	20	80-120
Tetrachloroethene	127-18-4	0.47	2.0	20	78-129	0.99	5.0	20	78-120
Dibromochloromethane	124-48-1	0.5	2.0	20	79-120	0.8	5.0	20	80-127
1,2-Dibromoethane	106-93-4	0.82	2.0	20	78-125	0.76	5.0	20	80-123
Chlorobenzene	108-90-7	0.42	2.0	20	53-150	0.48	5.0	20	80-120
1,1,1,2-Tetrachloroethane	630-20-6	0.57	4.0	20	81-134	0.77	5.0	20	74-127
Ethyl benzene	100-41-4	0.36	2.0	20	66-127	0.34	5.0	20	71-120
m,p-Xylenes	108-38-3	0.7	6.0	20	66-129	0.8	10	20	71-120
o-Xylene	95-47-6	0.51	2.0	20	50-144	0.32	5.0	20	70-120
Xylenes, Total	NA	1.2	10.0	20		1.2	15		69-120
Styrene	100-42-5	0.47	2.0	20	61-147	0.32	5.0	20	51-130
Bromoform	75-25-2	0.54	2.0	20	50-145	0.81	5.0	20	80-143
Isopropylbenzene	98-82-8	0.41	2.0	20	5-180	0.97	5.0	20	66-120
1,1,2,2-Tetrachloroethane	96-18-4	0.71	2.0	20	80-128	0.93	5.0	20	49-187

CASTLE ROCK PHILIS OPERATIONS

Method 8260D SOP # L-A-101		8260D GCMSD Water 7/20/2023				8260D GCMSD Soil 6/21-23/2023 and 6/29-7/6/2023			
Purge Method 5030 Water and 5035 Soil		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/L	ug/L	%	% Recovery	ug/Kg	ug/Kg	%	% Recovery
1,2,3-Trichloropropane	96-18-4	0.68	2.0	20	71-124	0.96	5.0	20	57-179
Bromobenzene	108-86-1	0.56	2.0	20	70-133	0.86	5.0	20	80-128
n-Propylbenzene	103-65-1	0.42	2.0	20	70-137	0.85	5.0	20	77-120
2-Chlorotoluene	106-43-4	0.40	2.0	20	72-124	1.02	5.0	20	80-120
1,3,5-Trimethylbenzene	108-67-8	0.42	2.0	20	68-125	0.87	5.0	20	69-130
4-Chlorotoluene	106-43-4	0.57	2.0	20	68-135	0.81	5.0	20	79-120
tert-Butylbenzene	98-06-6	0.50	2.0	20	65-128	0.85	5.0	20	72-120
1,2,4-Trimethylbenzene	95-63-6	0.46	2.0	20	62-127	0.77	5.0	20	70-129
sec-Butylbenzene	135-98-8	0.38	2.0	20	77-120	1.08	5.0	20	73-120
p-Isopropyltoluene	99-87-6	0.44	2.0	20	80-120	0.93	5.0	20	69-121
1,3-Dichlorobenzene	541-73-1	0.38	2.0	20	68-135	0.81	5.0	20	80-120
1,4-Dichlorobenzene	106-46-7	0.41	2.0	20	80-120	0.91	5.0	20	80-120
n-Butylbenzene	104-51-8	0.45	5.0	20	58-142	0.88	5.0	20	68-128
1,2-Dichlorobenzene	95-50-1	0.48	2.0	20	76-122	0.81	5.0	20	80-120
1,2-Dibromo-3-chloropropane	96-12-8	0.51	5.0	20	80-126	1.58	10	20	38-216
1,2,4-Trichlorobenzene	120-82-1	0.72	2.0	20	51-148	0.85	10	20	75-123
Hexachlorobutadiene	87-68-3	0.45	2.0	20	75-128	1.45	5.0	20	68-135
Naphthalene	91-20-3	0.67	2.0	20		0.77	10	20	44-176
1,2,3-Trichlorobenzene	87-61-6	0.65	2.0	20		0.89	10	20	78-125

CASTLE ROCK PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		QUADMMI CWA WATER ANALYSIS MICRO EXTRACT 9/1/22				QUADMMI CWA SOIL ANALYSIS MICRO EXTRACT 9/6/22 * VX - 9/14/22				QUADMMI CWA WIPE ANALYSIS 3/7/24-3/8/24			
Prepared and Analyzed by EPA600-R-16-116 VX Protocol using GC/MS SOP L-A-502 and SOP L-P--107		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/kg**	**ug/kg**	**%**	**% Recovery**	**µg/Wipe**	**µg/Wipe**	**%**	**% Recovery**
Sarin (GB)	107-44-8			30	50-150			30	50-150	0.00303	0.010	30	50-150
Soman (GD1)	96-64-0			30	50-150			30	50-150	0.00309	0.010	30	50-150
Soman (GD2)	96-64-1			30	50-150			30	50-150	0.00263	0.010	30	50-150
Soman Total (GD)	96-64-0			30	50-150			30	50-150	0.0057	0.010	30	50-150
Mustard (HD)	505-60-2			30	50-150			30	50-150	0.00121	0.005	30	50-150
Cyclosarin (GF)	329-99-7			30	50-150			30	50-150	0.00443	0.010	30	50-150
VX	50782-69-9			30	50-150			30	50-150	0.0389	0.050	30	50-150
Nitrobenzene-d5	4165-60-0			30	50-150			30	50-150	0.0052	0.010	30	50-150
Terphenyl-d14	1718-51-0			30	50-150			30	50-150	0.02660	0.050	30	50 - 150
Triphenyl phosphate	115-86-6			30	50-150			30	50-150	0.036	0.050	30	50-150

CASTLE ROCK PHILIS OPERATIONS

Method 524.2 SOP # L-A-103		524.2 GCMSD Water 4/6-8/22			
		MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/L	ug/L	%	% Recovery
Dichlorodifluoromethane	75-71-8	0.12	5.0	20	70-130
Chloromethane	74-87-3	0.37	1.0	20	70-130
Vinyl Chloride	75-01-4	0.16	1.0	20	70-130
Bromomethane	74-83-9	0.27	1.0	20	70-130
Chloroethane	75-00-3	0.20	2.0	20	70-130
Trichlorofluoromethane	75-69-4	0.11	1.0	20	70-130
Acetone	67-64-1		5.0	20	70-130
1,1-Dichloroethene	75-35-4	0.13	1.0	20	70-130
t-Butyl alcohol	75-65-0	0.26	5.0	20	70-130
Methylene chloride	75-09-2	2.0	5.0	20	70-130
Methyl tert-butyl ether	1634-04-4	0.11	0.50	20	70-130
trans-1,2-Dichloroethene	156-60-5	0.15	1.0	20	70-130
Diisopropyl ether	108-20-3	0.09	0.50	20	70-130
2-Butanone	78-93-3	2.5	5.0	20	70-130
Ethyl tert-butyl ether	637-92-3	0.11	0.50	20	70-130
1,1-Dichloroethane	75-34-3	0.11	0.50	20	70-130
cis-1,2-Dichloroethene	156-59-2	0.11	0.50	20	70-130
2,2-Dichloropropane	594-20-7	0.09	0.50	20	70-130
Bromochloromethane	74-97-5	0.09	0.50	20	70-130
Chloroform	67-66-3	0.10	1.0	20	70-130
1,1,1-Trichloroethane	71-55-6	0.08	0.50	20	70-130
1,1-Dichloropropene	563-58-6	0.03	0.50	20	70-130
Carbon tetrachloride	56-23-5	0.11	0.50	20	70-130
tert-Amyl methyl ether	994-05-8	2.7	0.50	20	70-130
1,2-Dichloroethane	107-06-2	0.05	0.50	20	70-130
Benzene	71-43-2	0.07	0.50	20	70-130
Trichloroethene	79-01-6	0.12	0.50	20	70-130
1,2-Dichloropropane	78-87-5	0.08	1.0	20	70-130
Dibromomethane	74-95-3	0.12	0.50	20	70-130
Bromodichloromethane	75-27-4	0.09	0.50	20	70-130
4-Methyl-2-Pentanone	108-10-1	0.54	5.00	20	70-130
cis-1,3-Dichloropropene	10061-01-5	0.11	0.50	20	70-130
Toluene	108-88-3	0.12	0.50	20	70-130
trans-1,3-Dichloropropene	10061-02-6	0.13	0.50	20	70-130
1,1,2-Trichloroethane	79-00-5	0.11	1.0	20	70-130
2-Hexanone	591-78-6	0.79	5.00	20	70-130
1,3-Dichloropropane	142-28-9	0.31	0.50	20	70-130
Tetrachloroethene	127-18-4	0.10	1.0	20	70-130
Dibromochloromethane	124-48-1	0.29	0.50	20	70-130
1,2-Dibromoethane	106-93-4	0.22	0.50	20	70-130
Chlorobenzene	108-90-7	0.15	0.50	20	70-130
1,1,1,2-Tetrachloroethane	630-20-6	0.10	0.50	20	70-130

CASTLE ROCK PHILIS OPERATIONS

Method 524.2 SOP # L-A-103		**524.2 GCMSD Water 4/6-8/22**			
		MDL	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**
Ethyl benzene	100-41-4	0.07	0.50	20	70-130
m,p-Xylenes	108-38-3	0.24	0.50	20	70-130
o-Xylene	95-47-6	0.12	1.0	20	70-130
Xylenes, Total	NA		1.5		
Styrene	100-42-5	0.11	0.50	20	70-130
Bromoform	75-25-2	0.11	0.50	20	70-130
Isopropylbenzene	98-82-8	0.10	0.50	20	70-130
1,1,2,2-Tetrachloroethane	96-18-4	0.08	1.0	20	70-130
1,2,3-Trichloropropane	96-18-4	0.16	1.0	20	70-130
Bromobenzene	108-86-1	0.18	0.50	20	70-130
n-Propylbenzene	103-65-1	0.11	0.50	20	70-130
2-Chlorotoluene	106-43-4	0.11	0.50	20	70-130
1,3,5-Trimethylbenzene	108-67-8	0.12	0.50	20	70-130
4-Chlorotoluene	106-43-4	0.14	0.50	20	70-130
tert-Butylbenzene	98-06-6	0.12	0.50	20	70-130
1,2,4-Trimethylbenzene	95-63-6	0.12	0.50	20	70-130
sec-Butylbenzene	135-98-8	0.11	0.50	20	70-130
p-Isopropyltoluene	99-87-6	0.12	0.50	20	70-130
1,3-Dichlorobenzene	541-73-1	0.13	0.50	20	70-130
1,4-Dichlorobenzene	106-46-7	0.14	0.50	20	70-130
n-Butylbenzene	104-51-8	0.14	0.50	20	70-130
1,2-Dichlorobenzene	95-50-1	0.05	0.50	20	70-130
1,2-Dibromo-3-chloropropane	96-12-8	0.00	2.0	20	70-130
1,2,4-Trichlorobenzene	120-82-1	0.13	0.50	20	70-130
Hexachlorobutadiene	87-68-3	0.18	1.0	20	70-130
Naphthalene	91-20-3	0.11	1.0	20	70-130
1,2,3-Trichlorobenzene	87-61-6	0.13	1.0	20	70-130

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		Method 8270E GCMSD Water 11/22/2022				Method 8270E GCMSD Soil 8/23/23			
Water 3510 SOP # L-P-101 100 mL Water Soil 3546 SOP # TBD 30 grams Soil		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
1,2,4-Trichlorobenzene	120-82-1	0.70	5	20	11-120	18.8	200	30.2	45-130
1,2-Dichlorobenzene	95-50-1	1.04	5	20	14-120	21.0	200	37.9	46-130
1,3-Dichlorobenzene	541-73-1	1.31	5	20	0-120	22.3	100	35.3	36.1-130
1,4-Dichlorobenzene	106-46-7	0.97	5	20	0-120	22.4	100	40.3	39.3-130
1-Methylnaphthalene	90-12-0	0.79	5	20	43-120	12.4	100	30	55.9-130
2,4,5-Trichlorophenol	95-95-4	1.20	5	20	0-154	10.6	100	30	60.5-130
2,4,6-Trichlorophenol	88-06-2	0.92	5	20	27-124	10.0	200	30	55.8-130
2,4-Dichlorophenol	120-83-2	0.98	5	20	0-137	13.5	200	28.9	48.3
2,4-Dimethylphenol	105-67-9	0.86	10	20	42-120	20.1	200	31.4	13.5-138
2,4-Dinitrophenol	51-28-5	3.68	20	20	49-133	49.4	200	33.7	20.2-173
2,4-Dinitrotoluene	121-14-2	0.98	10	20	55-126	9.6	200	30	58.5-135
2,6-Dinitrotoluene	606-20-2	1.66	10	20	58-134	11.3	200	30	61.3-130
2-Chloronaphthalene	91-58-7	0.94	2.5	20	45-120	10.8	200	30	56.2-130
2-Chlorophenol	95-57-8	0.53	5	20	25-120	19.2	200	35.1	39.1-130
2-Methyl-4,6-dinitrophenol	534-52-1	1.44	10	20	55-126	9.7	100	30	45.8-156
2-Methylnaphthalene	91-57-6	0.73	5	20	43-120	13.1	100	30	55.5-130
2-Methylphenol	95-48-7	0.83	5	20	41-120	14.6	200	39.5	28.5-138
2-Nitroaniline	88-74-4	1.40	10	20	0-215	10.2	200	30	56.5-130
2-Nitrophenol	88-75-5	1.14	10	20	43-120	16.8	100	31.4	47.7-130
3/4-Methylphenol	106-44-5	0.62	5	20	38-120	10.4	200	43.3	23.9-149
3-Nitroaniline	99-09-2	0.44	5	20	44-120	16.6	100	81.87	48.5-130
4-Bromophenyl phenyl ether	101-55-3	0.97	5	20	0-169	8.9	200	30	66.8-130
4-Chloro-3-methylphenol	59-50-7	1.22	10	20	10-144	10.6	100	30	47.3-136
4-Chloroaniline	106-47-8	0.45	2.5	20	0-125	6.0	100	30	20.3-130
4-Chlorophenyl phenyl ether	7005-72-3	0.88	5	20	0-171	9.6	100	20	64.4-130
4-Nitroaniline	100-01-6	0.85	10	20	48-136	10.7	100	88	40.167
4-Nitrophenol	100-02-7	0.77	5	20	0-131	47.0	200	30	40.2-163
Acenaphthene	83-32-9	1.01	5	20	51-120	9.3	200	30	59.9-130
Acenaphthylene	208-96-8	0.86	5	20	51-120	10.1	100	30	58.1-130
Aniline	62-53-3	0.50	2.5	20	0-120	12.5	100	74.9	7.35-130
Anthracene	120-12-7	0.73	5	20	0-170	8.2	200	30	68.6-130
Benzo(a)anthracene	56-55-3	1.25	10	20	0-154	9.2	100	52	71.5-130
Benzo(a)pyrene	50-32-8	1.68	10	20	0-148	8.0	100	43.9	68.4-130
Benzo(b)fluoranthene	205-99-2	1.63	10	20	0-155	8.0	200	30	70.4-130
Benzo(g,h,i)perylene	191-24-2	2.37	10	20	0-145	9.9	83.3	88.4	63.6-130
Benzo(k)fluoranthene	207-08-9	1.90	5	20	0-153	8.3	200	84.3	64.8-132
Benzyl alcohol	100-51-6	0.91	5	20	0-120	13.8	300	41.1	27-143
Bis(2-chloroethoxy) methane	111-91-1	0.54	5	20	47-120	13.6	100	30.9	54.2-130
Bis(2-chloroethyl) ether	111-44-4	0.58	5	20	18-120	19.3	200	48.2	43.2-130
Bis(2-chloroisopropyl) ether	108-60-1	0.48	5	20	33-120	19.8	100	35.9	44.7-130
Bis(2-ethylhexyl) phthalate	117-81-7	9.03	10	20	0-229	24.7	200	30	72.1-136
Butyl benzyl phthalate	85-68-7	2.10	10	20	0-231	11.0	200	30	70.1-144
Carbazole	86-74-8	0.68	10	20	47-132	8.8	200	30	64.7-143
Chrysene	218-01-9	1.47	5	20	0-141	9.1	200	30	67.4-130
Dibenz(a,h)anthracene	53-70-3	0.88	10	20	0-150	9.9	100	81.4	68.4-132

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**Method 8270E GCMSD Water 11/22/2022**				**Method 8270E GCMSD Soil 8/23/23**			
Water 3510 SOP # L-P-101 100 mL Water Soil 3546 SOP # TBD 30 grams Soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Dibenzofuran	132-64-9	0.97	5	20	51-120	11.0	100	30	62.8-130
Diethyl phthalate	84-66-2	1.31	10	20	54-129	18.7	100	30	68.1-130
Dimethyl phthalate	131-11-3	1.31	10	20	55-120	9.3	200	30	62.8-130
Di-n-butyl phthalate	84-74-2	1.16	10	20	0-196	9.2	200	30	49.3-168
Di-n-octyl phthalate	117-84-0	3.55	10	20	0-186	9.3	200	30	65.1-130
Fluoranthene	206-44-0	0.98	10	20	0-142	8.3	200	30	63.9-136
Fluorene	86-73-7	0.70	5	20	52-120	9.1	200	30	64.1-130
Hexachlorobenzene	118-74-1	0.98	5	20	0-146	9.9	100	38.2	38.8-130
Hexachlorobutadiene	87-68-3	1.20	2.5	20	0-122	22.1	100	38.2	38.8-130
Hexachlorocyclopentadiene	77-47-4	1.13	5	20	0-120	15.1	200	36.3	28.1-130
Hexachloroethane	67-72-1	0.82	5	20	0-124	21.6	200	40.9	34.5-130
Indeno(1,2,3-cd)pyrene	193-39-5	3.89	10	20	0-141	9.2	200	57.8	67.7-133
Isophorone	78-59-1	0.84	5	20	47-120	10.4	200	30	49.5-130
Naphthalene	91-20-3	0.82	2.5	20	36-120	17.6	100	31.8	47.7-130
Nitrobenzene	98-95-3	0.70	5	25	41-120	18.1	100	33.4	51.1-130
N-Nitrosodi-n-propylamine	621-64-7	1.77	5	20	46-120	52.8	200	38.7	29.5-142
Pentachlorophenol	87-86-5	1.52	10	20	0-158	45.0	100	30	48.3-150
Phenanthrene	85-01-8	0.93	5	20	0-167	9.0	100	30	66.2-130
Phenol	108-95-2	0.71	2.5	20	11-120	15.2	100	41.8	30.2-138
Pyrene	129-00-0	1.49	10	20	0-168	9.7	100	30	63.8-130

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**Method 8270E GCMSD Pulsed Splitless Water 9/5/23**				**Method 8270E GCMSD Pulsed Splitless Soil 8/23/23**			
Water 3510 SOP # L-P-101 100 mL Water Soil 3546 SOP TBD 30 grams Soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
1,2,4-Trichlorobenzene	120-82-1	1.11	2.5	20	11-120	7.9	20	20	29-120
1,2-Dichlorobenzene	95-50-1	1.0	2.0	20	14-120	9.1	20	20	25-120
1,3-Dichlorobenzene	541-73-1	1.3	2.5	20	0-120	6.7	20	20	24-120
1,4-Dichlorobenzene	106-46-7	1.13	2.5	20	0-120	8.0	20	20	25-120
1-Methylnaphthalene	90-12-0	0.62	2.5	20	43-120	8.4	10	20	32-120
2,4,5-Trichlorophenol	95-95-4	1.1	2.5	20	0-154	13	50	20	31-127
2,4,6-Trichlorophenol	88-06-2	1.11	2.5	20	27-124	6.6	25	20	31-121
2,4-Dichlorophenol	120-83-2	1.00	2.5	20	0-137	9.1	10	20	34-120
2,4-Dimethylphenol	105-67-9	4.04	10	20	42-120	27.9	25	20	20-120
2,4-Dinitrophenol	51-28-5	3.1	10.0	20	49-133	15	50	20	18-149
2,4-Dinitrotoluene	121-14-2	1.22	2.5	20	55-126	9.2	10	20	24-151
2,6-Dinitrotoluene	606-20-2	1.3	2.5	20	58-134	11.2	10	20	32-149
2-Chloronaphthalene	91-58-7	0.96	2.5	20	45-120	10.4	10	20	30-120
2-Chlorophenol	95-57-8	0.80	2.5	20	25-120	8.1	10	20	29-120
2-Methyl-4,6-dinitrophenol	534-52-1	1.7	5	20	55-126	7	25	20	24-140
2-Methylnaphthalene	91-57-6	0.60	2.0	20	43-120	7.7	10	20	33-120
2-Methylphenol	95-48-7	0.56	2.5	20	41-120	12.2	25	20	29-120
2-Nitroaniline	88-74-4	0.9	5	20	0-215	11.1	25	20	26-142
2-Nitrophenol	88-75-5	0.9	2.5	20	43-120	7.5	10	20	27-124
3/4-Methylphenol	106-44-5	0.96	2.5	20	38-120	6.7	10	20	30-120
3-Nitroaniline	99-09-2	0.96	2.5	20	44-120	9.9	10	20	15-140
4-Bromophenyl phenyl ether	101-55-3	0.90	2.5	20	0-169	11.4	25	20	32-127
4-Chloro-3-methylphenol	59-50-7	1.2	2.5	20	10-144	9.4	25	20	36-130
4-Chloroaniline	106-47-8	0.62	2.5	20	0-125	8.6	10	20	10-120
4-Chlorophenyl phenyl ether	7005-72-3	1.20	2.5	20	0-171	10.3	10	20	31-129
4-Nitroaniline	100-01-6	2.28	5	20	48-136	14	25	20	44-140
4-Nitrophenol	100-02-7	0.48	2.5	20	0-131	17	25	20	20-150
Acenaphthene	83-32-9	0.7	2.5	20	51-120	8.7	10	20	32-120
Acenaphthylene	208-96-8	1.23	2.5	20	51-120	8.6	10	20	33-124
Aniline	62-53-3	0.93	2.5	20	0-120	8	100	20	7-120
Anthracene	120-12-7	1.44	5	20	0-170	10	25	20	33-134
Benzo(a)anthracene	56-55-3	1.5	5	20	0-154	12.0	25	20	35-144
Benzo(a)pyrene	50-32-8	1.3	5	20	0-148	14	100	20	32-144
Benzo(b)fluoranthene	205-99-2	1.0	5	20	0-155	14.9	10	20	30-149
Benzo(g,h,i)perylene	191-24-2	1.5	5	20	0-145	15	250	20	27-139
Benzo(k)fluoranthene	207-08-9	1.0	5	20	0-153	13	250	20	25-150
Benzyl alcohol	100-51-6	0.94	2.5	20	0-120	14	250	20	30-120
Bis(2-chloroethoxy) methane	111-91-1	0.61	2.5	20	47-120	8.6	10	20	30-120
Bis(2-chloroethyl) ether	111-44-4	0.87	2.5	20	18-120	9.1	10	20	23-120
Bis(2-chloroisopropyl) ether	108-60-1	2.08	5	20	33-120	6.9	10	20	23-120
Bis(2-ethylhexyl) phthalate	117-81-7	1.4	10	20	0-229	13	100	20	58-136
Butyl benzyl phthalate	85-68-7	1.0	10	20	0-231	12	100	20	48-142
Carbazole	86-74-8	1.00	2.5	20	47-132	12.2	25	20	36-138
Chrysene	218-01-9	1.5	5	20	0-141	12.5	10	20	31-134
Dibenz(a,h)anthracene	53-70-3	0.48	2.5	20	0-150	15	250	20	32-137

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**Method 8270E GCMSD Pulsed Splitless Water 9/5/23**				**Method 8270E GCMSD Pulsed Splitless Soil 8/23/23**			
Water 3510 SOP # L-P-101 100 mL Water Soil 3546 SOP TBD 30 grams Soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Dibenzofuran	132-64-9	0.95	2.5	20	51-120	10.1	10	20	31-122
Diethyl phthalate	84-66-2	1.0	5	20	54-129	9.9	10	20	31-147
Dimethyl phthalate	131-11-3	1.5	5	20	55-120	10.3	10	20	31-132
Di-n-butyl phthalate	84-74-2	2.1	5	20	0-196	19	250	20	43-139
Di-n-octyl phthalate	117-84-0	1.1	5.0	20	0-186	11	250	20	52-137
Fluoranthene	206-44-0	0.64	2.5	20	0-142	11.4	10	20	32-149
Fluorene	86-73-7	0.81	2.5	20	52-120	10.8	10	20	31-132
Hexachlorobenzene	118-74-1	1.72	5	20	0-146	8.2	10	20	33-124
Hexachlorobutadiene	87-68-3	1.2	2.5	20	0-122	6.7	10	20	28-120
Hexachlorocyclopentadiene	77-47-4	1.5	5	20	0-120	7.0	10	20	4-132
Hexachloroethane	67-72-1	1.83	5	20	0-124	7.9	25	20	25-120
Indeno(1,2,3-cd)pyrene	193-39-5	1.5	5.0	20	0-141	15	250	20	30-137
Isophorone	78-59-1	0.87	2.5	20	47-120	7.7	10	20	28-120
Naphthalene	91-20-3	0.79	2.5	20	36-120	7.3	10	20	30-120
Nitrobenzene	98-95-3	1.39	5	25	41-120	6.8	10	20	28-120
N-Nitrosodi-n-propylamine	621-64-7	2.6	5	20	46-120	14	50	20	28-121
Pentachlorophenol	87-86-5	0.8	2.5	20	0-158	11.6	25	20	16-141
Phenanthrene	85-01-8	1.65	5	20	0-167	9	25	20	32-128
Phenol	108-95-2	1.05	2.5	20	11-120	9.1	10	20	30-120
Pyrene	129-00-0	1.5	5	20	0-168	11.5	10	20	30-138

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**Method 8270E TOF Water 8/25/23**				**Method 8270E TOF Soil 09/5/23**			
3510 SOP # L-P-101 50 mL Water 3546 SOP # TBD 30 grams Soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**ug/L**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
1,2-Dichlorobenzene	95-50-1	0.19	2.0	20	5-136	0.04	5	30	47.7-120
1,3-Dichlorobenzene	541-73-1	0.18	2.0	20	5-120	0.05	5	30	44.6-120
1,4-Dichlorobenzene	106-46-7	0.19	2.0	20	5-123	0.05	5	30	44.2-120
1-Methylnaphthalene	90-12-0	0.11	2.0	20	15.8-134	1.7	5	30	45.6-120
2-Methylnaphthalene	91-57-6	0.11	2.0	20	15.3-135	0.4	5	30	49-112
Acenaphthene	83-32-9	0.14	2.0	20	35.4-120	0.55	5	30	55.6-120
Acenaphthylene	208-96-8	0.13	2.0	20	24.6-130	0.52	5	30	51.4-120
Anthracene	120-12-7	0.19	2.0	20	35.6-131	0.27	5	30	55.9-120
Benzo[a]anthracene	56-55-3	0.45	2.0	20	53.5-125	0.52	5	30	63-120
Benzo[a]pyrene	50-32-8	0.43	2.0	20	47.1-133	0.53	5	30	60.1-120
Benzo[b]fluoranthene	205-99-2	1.07	2.0	20	46.3-130	0.36	5	30	61.7-120
Benzo[ghi]perylene	191-24-2	0.54	2	20	52.3-131	0.23	5	30	65.6-120
Benzo[k]fluoranthene	207-08-9	0.38	2.0	20	42.2-143	0.37	5	37	57.3-120
Chrysene	218-01-9	1.05	2.0	20	50.2-134	0.19	5	30	62.4-120
Dibenz[a,h]anthracene	53-70-3	0.37	2.0	20	48.3-128	0.59	5	30	65.2-120
Fluoranthene	206-44-0	0.58	2.0	20	52.4-130	0.3	5	30	60.9-120
Fluorene	86-73-7	0.18	2.0	20	27.3-132	0.32	5	30	57.4-120
Indeno[1,2,3-cd]pyrene	193-39-5	0.48	2.0	20	69.2-117	0.32	5	30	64.7-120
Naphthalene	91-20-3	0.14	2.0	20	12.6-134	0.5	5	30	50.2-120
Phenanthrene	85-01-8	0.47	2.0	20	36.7-131	0.2	5	30	61.6-120
Pyrene	129-00-0	0.55	2.0	20	49.9-130	0.44	5	30	63.2-120

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**Method 8270E TOF Micro Extraction liquid 8/25/23**				**Method 8270E TOF Micro Extraction SOIL 9/5/23**			
Water 3510 SOP # L-P-101 **Soil 3546 SOP #TBD**		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Dimethoate	65-51-5	0.26	1.0	20	50-150	0.63	5	20	50-150
Disulfoton	298-04-4	0.21	1.0	20	50-150	0.29	5	20	50-150
Famphur	52-85-7	0.17	1.0	20	50-150	1.11	5	20	50-150
Methyl parathion	298-00-0	0.04	1.0	20	50-150	0.21	5	20	50-150
O,O,O - Triethyl phosphorothioate	126-68-1	0.10	1.0	20	50-150	0.19	5	20	50-150
Parathion	56-38-2	0.06	1.0	20	50-150	0.43	5	20	50-150
Phorate	298-02-2	0.07	1.0	20	50-150	0.64	5	20	50-150
Sulfotep	3689-24-5	0.04	1.0	20	50-150	0.61	5	20	50-150
Zinophos	297-97-2	0.05	1.0	20	50-150	0.54	5	20	50-150
Malathion	121-75-5	0.05	5.0	20	50-150	0.31	5	20	50-150

CASTLE ROCK PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		TOF CWA WATER ANALYSIS MICRO EXTRACT 9/1/22				TOF CWA SOIL ANALYSIS MICRO EXTRACT 9/6/22 * VX - 9/14/22				TOF CWA WIPE ANALYSIS 3/7/24				TOF CWA WIPE ANALYSIS 9/8/22			
Prepared and Analyzed by EPA600-R-16-116 VX Protocol using GC/MS SOP L-A-502 and SOP L-P--107		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/kg**	**ug/kg**	**%**	**% Recovery**	**µg/Wipe**	**µg/Wipe**	**%**	**% Recovery**	**µg/Wipe**	**µg/Wipe**	**%**	**% Recovery**
Sarin (GB)	107-44-8	0.036	0.10	30	50-150	0.061	0.10	30	50-150	0.00245	0.010	30	50-150	0.0106	0.025	30	50-150
Soman (GD1)	96-64-0	0.081	0.20	30	50-150	0.131	0.50	30	50-150	0.000771	0.005	30	50-150	0.00228	0.005	30	50-150
Soman (GD2)	96-64-1	0.130	0.30	30	50-150	0.147	0.50	30	50-150	0.000711	0.005	30	50-150	0.00159	0.005	30	50-150
Soman Total (GD)	96-64-0	0.206	0.57	30	50-150	0.28	0.50	30	50-150	0.0015	0.010	30	50-150	0.0039	0.005	30	50-150
Mustard (HD)	505-60-2	0.034	0.29	30	50-150	0.091	0.25	30	50-150	0.00111	0.005	30	50-150	0.00293	0.005	30	50-150
Cyclosarin (GF)	329-99-7	0.253	0.57	30	50-150	0.178	0.50	30	50-150	0.00407	0.010	30	50-150	0.00546	0.010	30	50-150
VX	50782-69-9	0.125	0.57	30	50-150	0.74	1.5	30	50-150	0.0156	0.050	30	50-150	0.0022	0.010	30	50-150
Nitrobenzene-d5	4165-60-0	0.2	2.0	30	50-150	0.284	0.50	30	50-150	0.0016	0.010	30	50-150	0.0050	0.010	30	50-150
Terphenyl-d14	1718-51-0	0.265	0.57	30	50-150	0.32	1.0	30	50-150	0.00790	0.010	30	50 - 150	0.00845	0.010	30	50 - 150
Triphenyl phosphate	115-86-6	0.3	0.6	30	50-150	1.8	2.0	30	50-150	0.050	0.050	30	50-150		0.050	30	50-150

CASTLE ROCK PHILIS OPERATIONS

VX by UPLCMSMS Triple Quad		VX Wipe 10/30/23				VX Water 10/30/23				VX Soil 10/31/23			
		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/wipe	ug/wipe	%	% Recovery	ug/L	ug/L	%	% Recovery	ug/Kg	ug/Kg	%	% Recovery
VX by UPLCMSMS Triple Quad	2387496-12-8	0.00045	0.005	30	10-150	0.00002596	0.00025	30	10-150	0.033	0.100	30	10-150

CASTLE ROCK PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		SOIL TOF				WATER TOF				Wipe TOF			
		MDL	RL	RPD	Recovery Limits	MDL	RL	RPD	Recovery Limits	MDL	RL	RPD	Recovery Limits
Compound	**CAS No.**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/wipe**	**ug/wipe**	**%**	**% Recovery**
DMMP	756-79-6	0.095	0.50	30	40-160	0.062	0.29	30	40-160	0.0028	0.005	30	40-160
2-Chloroethyl ethyl sulfide	693-07-2	0.033	0.10	30	40-160	0.035	0.057	30	40-160	0.0016	0.002	30	40-160
DIMP	1445-75-6	0.11	0.50	30	40-160	0.093	0.29	30	40-160	0.0018	0.005	30	40-160
Dimethoate	60-51-5	0.13	1.0	30	40-160	0.15	0.57	30	40-160	0.050	0.100	30	40-160
2-Chloroethyl phenyl sulfide	5535-49-9	0.035	0.050	30	40-160	0.021	0.029	30	40-160	0.0015	0.005	30	40-160
Malathion	121-75-5	0.25	0.50	30	40-160	0.19	0.29	30	40-160	0.0077	0.010	30	40-160

CASTLE ROCK PHILIS OPERATIONS

TOF		ORAGANOPHOSPHONATE ANALYSIS WATER				ORAGANOPHOSPHONATE ANALYSIS SOIL				ORAGANOPHOSPHONATE ANALYSIS WIPES			
Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**µg/L**	**µg/L**	**%**	**% Recovery**	**µg/kg**	**µg/kg**	**%**	**% Recovery**	**ng/wipe**	**ng/wipe**	**%**	**% Recovery**
Diisopropyl methylphosphonate	1445-75-6	28	50	30	67 - 139	39	100	30	70-130	1.1	5.0	30	70-130
Pinacolyl methylphosphonic acid	616-52-4	3.1	10	30	69 - 133	17	50	30	70-130	1.6	5.0	30	70-130
Isobutyl hydrogen methylphosphonate	1604-38-2	5.4	10	30	70 - 130	17	50	30	70-130	1.7	5.0	30	70-130
Cyclohexyl methylphosphonic acid	1932-60-1	11	20	30	70 - 130	26	50	30	70-130	2.2	5.0	30	70-130
Isopropyl methylphosphonic acid	1832-54-8	15	50	30	55 - 142	64	100	30	70-130	2.9	5.0	30	70-130
Ethyl methylphosphonic acid	1832-57-7	9.1	20	30	75 - 134	21	50	30	70-130	2.5	5.0	30	70-130
Methylphosphonic acid	1832-54-8	470	500	30	65 - 134	460	500	30	70-130	27	50	30	50-150
ETHANOLAMINES													
Triethanolamine	102-71-6									3.6	10	30	70-130
N-Ethyldiethanolamine	139-87-7									3.9	10	30	70-130
N-Methyldiethanolamine	105-59-9									3.0	10	30	70-130
Diethanolamine	111-42-2									4.1	10	30	70-130
Diethanolamine-d_8 (surrogate)	103691-51-6											30	70-130

CASTLE ROCK PHILIS OPERATIONS

TOF		FGA Wipe 10/31/22				FGA Soil 10/26/22				FGA Water 9/1/22			
Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	Wipe (ug/wipe)	Wipe (ug/wipe)	Water (%)	Water (% Recovery)	Wipe (ug/Kg)	Wipe (ug/Kg)	Water (%)	Water (% Recovery)	Wipe (ug/L)	Wipe (ug/L	Water (%)	Water (% Recovery)
A-230	2387496-12-8	0.0431	0.100	20	10-150	0.2400	1.000	20	10-150	0.6500	1.000	20	10-150
A-232	2387496-04-8	0.0236	0.1000	20	50-150	0.5900	1.0000	20	50-150	0.4800	1.0000	20	50-150
A-234	2387496-06-0	0.0156	0.1000	20	50-150	0.8100	1.0000	20	50-150	0.3200	1.0000	20	50-150

CASTLE ROCK PHILIS OPERATIONS

FGA by UPLCMSMS Triple Quad		FGA Wipe 6/24/21				FGA Water 9/13/21				FGA Soil 9/14/21			
		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/wipe	ug/wipe	%	% Recovery	ug/L	ug/L	%	% Recovery	ug/Kg	ug/Kg	%	% Recovery
A-230	2387496-12-8	0.000050	0.00015	30	10-150	0.0061	0.025	30	10-150	0.0076	0.025	30	10-150
A-232	2387496-04-8	0.000046	0.00015	30	50-150	0.0078	0.025	30	50-150	0.0036	0.025	30	50-150
A-234	2387496-06-0	0.000018	0.00015	30	50-150	0.0030	0.025	30	50-150	0.0041	0.025	30	50-150

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201 OPIOIDS BY TOF		**Opioids on Wipes 2/6/23**				**Opioids in Water 10/1/21**				**Opioids in Soil 9/29/21**			
Water 3510 SOP # L-P-101 **Soil 3545 SOP # L-P-200**		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/wipe**	**ug/wipe**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Heroin	561-27-3	0.092	0.200	30	50 -150	0.80	1.00	30	50 -150	0.73	2.0	30	50 -150
Remifentanil	132539-07-2	0.012	0.030	30	50 -150	0.33	1.00	30	50 -150	0.66	2.0	30	50 -150
Acetylfentanyl	3258-84-2	0.0089	0.030	30	50 -150	0.36	1.00	30	50 -150	0.60	2.0	30	50 -150
Fentanyl	437-38-7	0.0067	0.030	30	50 -150	0.28	1.00	30	50 -150	0.73	2.0	30	50 -150
Carfentanil	61086-44-0	0.0073	0.030	30	50 -150	0.29	1.00	30	50 -150	0.55	2.0	30	50 -150
Sulfentanil	60561-17-3	0.0067	0.030	30	50 -150	0.33	1.00	30	50 -150	0.64	2.0	30	50 -150
Alfentanil	69049-06-5	0.0039	0.030	30	50 -150	0.35	1.00	30	50 -150	0.57	2.0	30	50 -150

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201 OPIOIDS BY LVI GCMS		Opioids on Wipes 11/9/23 MeCl2 Extraction w/ filtration				Opioids on Wipes 11/3/23 Methanol Extraction				Opioids in Water 12/29/23 MeCl2 Extraction					
Soil 3545 SOP # L-P-200		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	Water 3510C		MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/wipe	ug/wipe	%	% Recovery	ug/wipe	ug/wipe	%	% Recovery	Compound	CAS No.	ug/L	ug/L	%	% Recovery
Heroin	561-27-3	0.0708	0.200	30	50 -150	na	na	na	na	Heroin	561-27-3			30	50 -150
Remifentanil	132539-07-2	0.0097	0.030	30	50 -150	0.0894	0.200	30	50 -150	Remifentanil	132539-07-2			30	50 -150
Acetylfentanyl	3258-84-2	0.00564	0.030	30	50 -150	0.03240	0.200	30	50 -150	Acetylfentanyl	3258-84-2			30	50 -150
Fentanyl	437-38-7	0.00544	0.030	30	50 -150	0.02900	0.200	30	50 -150	Fentanyl	437-38-7	0.19500	0.500	30	50 -150
Carfentanil	61086-44-0	0.00663	0.030	30	50 -150	0.03030	0.200	30	50 -150	Carfentanil	61086-44-0			30	50 -150
Sulfentanil	60561-17-3	0.0617	0.030	30	50 -150	0.0322	0.200	30	50 -150	Sulfentanil	60561-17-3			30	50 -150
Alfentanil	69049-06-5	0.0101	0.030	30	50 -150	0.0589	0.200	30	50 -150	Alfentanil	69049-06-5			30	50 -150
Fentanyl no filtration/extraction 01/02/24	437-38-7	0.0184	0.030	30	50 -150										

CASTLE ROCK PHILIS OPERATIONS

Fentanyl by UPLCMSMS SOP L-A-310		Fentanyl Opiates on Wipes 3/13/24				Fentanyl Opiates in Water 3/15/22				Fentanyl Opiates in Soil 3/22/22				Fentanyl Opiates on Wipes 2/22/23			
		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	**CAS No.**	**ug/wipe**	**ug/wipe**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/wipe**	**ug/wipe**	**%**	**% Recovery**
Methamphetamine	300-62-9	0.01635	0.03	30	50-150									0.0147	0.03	30	50-150
Cocaine	50-36-2	0.000891	0.05	30	50-150									0.0217	0.05	30	50-150
Heroin	561-27-3	0.0101	0.030	30	50 -150	0.656	1.00	30	50 -150	1.2	3.0	30	50 -150	0.0114	0.030	30	50 -150
Remifentanil	132539-07-2	0.00192	0.008	30	50 -150	0.158	0.25	30	50 -150	0.21	0.30	30	50 -150	0.00389	0.008	30	50 -150
Acetylfentanyl	3258-84-2	0.00060	0.001	30	50 -150	0.070	0.10	30	50 -150	0.105	0.30	30	50 -150	0.00033	0.001	30	50 -150
Fentanyl	437-38-7	0.00046	0.001	30	50 -150	0.0468	0.10	30	50 -150	0.0897	0.30	30	50 -150	0.00025	0.001	30	50 -150
Carfentanil	61086-44-0	0.00098	0.001	30	50 -150	0.0605	0.10	30	50 -150	0.13	0.30	30	50 -150	0.00036	0.001	30	50 -150
Sulfentanil	60561-17-3	0.00023	0.001	30	50 -150	0.0485	0.10	30	50 -150	0.0651	0.30	30	50 -150	0.00025	0.001	30	50 -150
Alfentanil	69049-06-5	0.00037	0.001	30	50 -150	0.0606	0.10	30	50 -150	0.12	0.30	30	50 -150	0.00018	0.001	30	50 -150
Xylanzine	7361-61-7	0.00033	0.001	30	50-150												
Ketamine	6740-88-1	0.00867	0.02	30	50-150												

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-605		**Acrylates in Air Apr 14, 2023**			
		MDL	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/m3**	**ug/m3**	**%**	**% Recovery**
n-Butyl acrylate	141-32-2	0.114	0.30	30	50-150
2-Ethylhexyl acrylate	103-11-7	0.143	0.30	30	50-150

CASTLE ROCK PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**8270E GCMSD SOIL ANALYSIS Apr 13, 2023**			
Prep method: SOP # L-P-202		**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
n-Butyl acrylate	141-32-2	118	1000.0	30	50-150
2-Ethylhexyl acrylate	103-11-7	81	1000.0	30	50-150
Ethylene glycol mono butyl ether	111-76-2	97	5000.0	30	50-150

CASTLE ROCK PHILIS OPERATIONS

Method 8260D SOP # L-A-101		**8260D GCMSD Water ANALYSIS July 20, 2023**			
Prep method: Purge method 5030		**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**
n-Butyl acrylate	141-32-2	2	5.0	30	50-150
2-Ethylhexyl acrylate	103-11-7	4	10.0	30	50-150
Methyl acrylate	96-33-3	6	13.0	30	50-150

EDISON PHILIS OPERATIONS

		10/20/2023		7/11/2023	7/11/2023	10/20/2023		7/11/2023	7/11/2023							
Method 8260D SOP # L-A-101		**8260D GCMSD Water**				**8260D GCMSD Soil**				**8260D GCMSD Medium Level Soil 4/1/2022**						
Purge Method 5030 Water and 5035 soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**1x**	**50x**	**RL**	**RPD**	**Control Limits**	**MS RPD**	**MS**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**MDLs**		**ug/Kg**	**%**	**% Recovery**	**%**	**% Recovery**
Dichlorodifluoromethane	75-71-8	0.58	2.0	20	70.8-125	0.98	2.0	35	66.9-127	0.38	19	100	61	D-130	40.6	18.3-57.5
Chloromethane	74-87-3	0.35	2.0	20	62.8-140	1.0	2.0	30	63.2-133	0.44	22	100	32	43.6-130	24	50.2-130
Vinyl Chloride	75-01-4	0.40	1.0	20	72.4-136	1.1	2.0	32	67.1-131	0.50	25	100	37	33.3-130	36.1	32.7-136
Bromomethane	74-83-9	0.36	1.0	20	74.3-126	0.7	2.0	23	71.7-129	0.58	29	100	20	41.4-135	32	26.7-175
Chloroethane	75-00-3	0.36	1.0	21	66.6-142	0.71	2.0	24	75.1-125	0.46	23	100	53	47.1-134	30	37.9-163
Trichlorofluoromethane	75-69-4	0.49	1.0	20	73.8-136	0.88	2.0	32	68.8-135	0.39	19	100	32	39.5-130	20	40.0-130
1,1-Dichloroethene	75-35-4	0.52	1.0	20	66.9-141	0.92	2.0	32	70.6-129	0.37	18	50	28.3	63.8-130	20	59.8-132
Methylene Chloride	75-09-2	0.86	5.0	20	69.6-129	4.5	5.0	20	64.2-140	1.0	51	100	31	62.0-151	22	52.5-169
Acetone	67-64-1	3.5	10.0	20	74.4-126	9	25	29	61.6-144	1.8	89	250	20	70-133	50	56.6-164
trans-1,2-Dichloroethene	156-60-5	0.37	1.0	20	74.9-130	1.0	2.0	21	75.5-122	0.38	19	50	24	70-130	20	62.7-135
1,1-Dichloroethane	75-34-3	0.37	1.0	20	80-125	0.72	2.0	20	80-120	0.37	19	50	20	70-130	20	58.1-147
Methyl tert-butyl ether	1634-04-4	0.29	1.0	20	80-123	0.69	2.0	20	80-121	0.15	7.4	50	22	70-130	20	58.3-157
tert-Butanol	75-65-0	2.1	5.0	25	76.5-127	4.1	25	26	69.5-131	1.8	190	250				
Diisopropyl ether	108-20-3	0.35	1.0	20	80-120	0.65	2.0	20	80-123	0.24	12	50	20	70-130	20	55.8-157
Ethyl tert-butyl ether	637-92-3	0.55	1.0	20	80-120	0.68	2.0	20	80-122	0.19	9.5	50	20.4	70-130	20	57.2-157
tert-Amyl methyl ether	994-05-8	0.73	1.0	20	80-120	1.1	2.0	20	77.1-124	0.19	9.5	50	21.7	70-130	20	58.7-156
cis-1,2-Dichloroethene	156-59-2	0.38	1.0	20	80-127	0.89	2.0	20	79.5-122	0.33	17	50	21	70-130	20	62.6-144
2,2-Dichloropropane	594-20-7	0.71	1.0	20	64.6-143	0.82	2.0	27	74.1-127	0.46	23	50	20	66.5-140	20	48.8-168
Bromochloromethane	74-97-5	0.36	1.0	20	78.5-125	0.64	2.0	20	82.4-120	0.17	8.5	50	20	70-130	20	67.4-142
Chloroform	67-66-3	0.37	1.0	20	80-125	0.66	2.0	20	79.6-123	0.34	17	50	20	70-130	20	63.2-146
Carbon Tetrachloride	56-23-5	0.51	1.0	20	79.8-131	0.97	2.0	29	74.5-130	0.30	15	50	27	70-130	20	55.9-138
1,1,1-Trichloroethane	71-55-6	0.42	1.0	20	80-126	0.86	2.0	30	76.3-128	0.30	15	50	20.6	70-130	20	58.4-145
2-Butanone	78-93-3	0.77	2.5	20	79.8-120	2.2	5.0	23	67.2-138	0.76	38	125	20	70-130	20	66.6-146
1,1-Dichloropropene	563-58-6	0.36	1.0	20	78.8-129	0.89	2.0	24	75.6-126	0.32	16	50	21.1	70-130	20	52.1-136
Benzene	71-43-2	0.73	1.0	20	80-125	1.1	2.0	20	80-120	0.41	21	50	20	70-130	20	63.0-133
1,2-Dichloroethane	107-06-2	0.36	1.0	20	80-120	0.67	2.0	20	79.3-121	0.26	13	50	20	70-130	20	66.5-139
Trichloroethene	79-01-6	0.39	1.0	20	78.2-127	1.7	2.0	25	76.9-123	0.34	17	50	24	70-130	20	56.0-147
Dibromomethane	74-95-3	0.37	1.0	20	80-122	0.45	2.0	20	80-121	0.13	6.5	50	20	70-130	20	61.5-149
1,2-Dichloropropane	78-87-5	0.38	1.0	20	80-123	0.72	2.0	20	80-121	0.31	16	50	20	70-130	20	56.7-150
Bromodichloromethane	75-27-4	0.50	1.0	20	80-120	0.51	2.0	20	80-126	0.20	10	50	20	70-130	20	50.9-150
cis-1,3-Dichloropropene	10061-01-5	0.34	1.0	20	80-122	1.0	2.0	20	80-127	0.51	26	50	20	70-130	20	54.6-149
Toluene	108-88-3	0.38	1.0	20	80-123	0.84	2.0	20	78.3-120	0.40	20	50	20	70-130	20	59.6-145
Tetrachloroethene	127-18-4	0.50	1.0	20	78.6-126	1.1	2.0	24	72.9-123	0.30	15	50	20	70-130	20	64.2-139
4-Methyl-2-pentanone	108-10-1	1.7	2.5	20	80-120	2.4	5.0	22	74.7-138	0.39	20	125	20	70-130	20	56.1-168
trans-1,3-Dichloropropene	10061-02-6	0.40	1.0	20	80-120	1.0	2.0	20	80-125	0.93	47	100	20	70-130	20	56.8-142
1,1,2-Trichloroethane	79-00-5	0.42	1.0	20	80-120	0.58	2.0	20	78.7-126	0.16	7.0	50	20	70-130	20	59.1-151
Dibromochloromethane	124-48-1	0.37	1.0	20	80-120	0.60	2.0	20	77.2-130	0.87	44	100	20	70-130	20	51.0-142
1,3-Dichloropropane	142-28-9	0.36	1.0	20	80-125	0.61	2.0	20	81.3-124	0.14	7.0	50	20	70-130	20	64.4-146
1,2-Dibromoethane	106-93-4	0.40	1.0	20	80-122	0.59	2.0	20	80-123	0.20	10	50	20	70-130	20	66.3-143
2-Hexanone	591-78-6	1.8	2.5	20	80-124	2.6	5.0	21	72.5-136	0.5	27	125	20	70-130	20	61.4-154
Chlorobenzene	108-90-7	0.39	1.0	20	80-120	0.79	2.0	20	80-120	0.38	19	50	20	70-130	20	62.7-146
Ethylbenzene	100-41-4	0.34	1.0	20	80-126	0.83	2.0	21	79.4-124	0.36	18	50	20	70-130	20	60.1-150
1,1,1,2-Tetrachloroethane	630-20-6	0.52	1.0	20	80-121	0.74	2.0	20	82.3-126	0.25	13	50	22	70-130	20	53.1-158
m,p-Xylene	108-38-3	0.67	2.0	20	80-128	2.0	4.0	21	79-125	0.71	36	100	20	70-130	20	59.4-149
o-Xylene	95-47-6	0.33	1.0	20	80-123	1.1	2.0	20	80-123	0.38	19	50	20	70-130	20	58.5-154
Bromoform	75-25-2	0.89	2.0	20	80-124	0.88	2.0	20	78.1-130	0.97	49	100	20	70-130	20	51.3-138
Styrene	100-42-5	0.45	1.0	20	80-121	1.1	2.0	20	73.2-130	0.35	18	50	20	70-130	20	62.0-157
Isopropylbenzene	98-82-8	0.55	1.0	20	80-128	1.2	2.0	26	73-131	0.39	20	50	25	70-130	20	59.6-152
Bromobenzene	108-86-1	0.48	1.0	20	80-120	0.64	2.0	20	80-120	0.27	14	50	20	70-130	20	65.0-142
n-Propylbenzene	103-65-1	0.38	1.0	20	80-126	0.74	2.0	25	74.9-129	0.38	19	50	21.5	70-130	20	50.0-151
1,1,2,2-Tetrachloroethane	96-18-4	0.39	1.0	20	80-121	0.56	2.0	20	82.3-123	0.14	7.0	50	20	70-130	23	56.9-159
2-Chlorotoluene	106-43-4	0.37	1.0	20	80-125	1.0	2.0	20	79.6-123	0.35	18	50	21.2	70-130	20	58.00-143
1,2,3-Trichloropropane	96-18-4	0.39	1.0	20	76.9-120	1.0	2.0	20	77-127	0.29	15	50	32	68.0-130	37	40.9-176
1,3,5-Trimethylbenzene	108-67-8	0.48	1.0	20	80-130	1.0	2.0	21	76.2-129	0.37	19	50	21.6	70-130	20	56.2-156
4-Chlorotoluene	106-43-4	0.35	1.0	20	80-122	0.87	2.0	21	75.7-124	0.34	17	50	31	70-130	20	53.2-154
tert-Butylbenzene	98-06-6	0.34	1.0	20	80-127	1.2	2.0	25	75.8-129	0.36	18	50	22	70-130	20	56.5-156
1,2,4-Trimethylbenzene	95-63-6	0.37	1.0	20	80-127	1.1	2.0	21	76.4-127	0.35	18	50	21.1	70-130	20	57.8-157
sec-Butylbenzene	135-98-8	0.59	1.0	20	80-131	0.8	2.0	29	72.8-133	0.38	19	50	23.8	70-130	20	58.0-155
1,3-Dichlorobenzene	99-87-6	0.37	1.0	20	80-120	0.74	2.0	20	77.6-120	0.31	16	50	20	70-130	20	62.0-148
4-Isopropyltoluene	541-73-1	0.57	1.0	20	80-132	0.8	2.0	27	72.6-134	0.38	19	50	23	70-130	20	56.0-153
1,4-Dichlorobenzene	106-46-7	0.37	1.0	20	80-120	0.66	2.0	20	77-118	0.33	17	50	20	70-130	20	62.7-146
n-Butylbenzene	104-51-8	0.38	1.0	20	80-134	0.81	2.0	32	67.8-138	0.47	24	50	23	70-130	20	56.7-159
1,2-Dichlorobenzene	95-50-1	0.66	1.0	20	80-120	0.81	2.0	20	81.1-120	0.26	13	50	20	70-130	20	57.8-155
1,2-Dibromo-3-Chloropropane	96-12-8	0.66	2.0	20	79.6-122	1.2	2.0	20	76.5-129	0.33	17	100	24	60.6-130	20	41.0-154
Hexachlorobutadiene	87-68-3	0.72	1.0	20	77.4-129	0.74	2.0	35	634.-135	0.43	22	50	23	70-130	20	51.2-158
1,2,4-Trichlorobenzene	120-82-1	0.38	1.0	21	80-126	0.77	2.0	22	63.3-135	0.30	15	50	21	70-130	22	51.6-159
Naphthalene	91-20-3	0.65	2.0	22	80-127	1.3	2.0	20	78.3-125	0.23	12	100	24	70-130	20	54.9-170
1,2,3-Trichlorobenzene	87-61-6	0.40	1.0	23	80-125	0.83	2.0	20	71.8-128	0.25	13	50	22	70-130	20	43.8-163

EDISON PHILIS OPERATIONS

Method524.2 SOP # L-A-103		524.2 GCMSD Water 10/20/2023				524.2 GCMSD Water 03/27/24			
		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/L	ug/L	%	% Recovery	ug/L	ug/L	%	% Recovery
Dichlorodifluoromethane	75-71-8	0.13	0.50	20	70-130	0.136	0.50	20	70-130
Chloromethane	74-87-3	0.21	0.50	20	70-130	0.165	0.50	20	70-130
Vinyl Chloride	75-01-4	0.12	0.50	20	70-130	0.127	0.50	20	70-130
Bromomethane	74-83-9	0.10	0.50	20	70-130	0.187	0.50	20	70-130
Chloroethane	75-00-3	0.12	0.50	20	70-130	0.142	0.50	20	70-130
Trichlorofluoromethane	75-69-4	0.13	0.50	20	70-130	0.149	0.50	20	70-130
1,1-Dichloroethene	75-35-4	0.15	0.50	20	70-130	0.120	0.50	20	70-130
Methylene Chloride	75-09-2	0.51	1.00	20	70-130	0.216	0.50	20	70-130
Acetone	67-64-1	1.1	5.00	20	70-130	2.11	5.00	20	70-130
trans-1,2-Dichloroethene	156-60-5	0.14	0.50	20	70-130	0.087	0.50	20	70-130
1,1-Dichloroethane	75-34-3	0.079	0.50	20	70-130	0.084	0.50	20	70-130
Methyl tert-butyl ether	1634-04-4	0.10	0.50	20	70-130	0.105	0.50	20	70-130
Diisopropyl ether	108-20-3	0.069	0.50	20	70-130	0.073	0.50	20	70-130
Ethyl tert-butyl ether	637-92-3	0.060	0.50	20	70-130	0.064	0.50	20	70-130
tert-Amyl methyl ether	994-05-8	0.080	0.50	20	70-130	0.066	0.50	20	70-130
cis-1,2-Dichloroethene	156-59-2	0.067	0.50	20	70-130	0.094	0.50	20	70-130
2,2-Dichloropropane	594-20-7	0.15	0.50	20	70-130	0.110	0.50	20	70-130
Bromochloromethane	74-97-5	0.065	0.50	20	70-130	0.068	0.50	20	70-130
Chloroform	67-66-3	0.058	0.50	20	70-130	0.155	0.50	20	70-130
Carbon Tetrachloride	56-23-5	0.09	0.50	20	70-130	0.096	0.50	20	70-130
1,1,1-Trichloroethane	71-55-6	0.05	0.50	20	70-130	0.083	0.50	20	70-130
2-Butanone	78-93-3	0.62	1.25	20	70-130	0.258	1.25	20	70-130
1,1-Dichloropropene	563-58-6	0.045	0.50	20	70-130	0.075	0.50	20	70-130
Benzene	71-43-2	0.04	0.50	20	70-130	0.049	0.50	20	70-130
1,2-Dichloroethane	107-06-2	0.11	0.50	20	70-130	0.083	0.50	20	70-130
Trichloroethene	79-01-6	0.095	0.50	20	70-130	0.043	0.50	20	70-130
Dibromomethane	74-95-3	0.067	0.50	20	70-130	0.049	0.50	20	70-130
1,2-Dichloropropane	78-87-5	0.066	0.50	20	70-130	0.049	0.50	20	70-130
Bromodichloromethane	75-27-4	0.060	0.50	20	70-130	0.185	0.50	20	70-130
cis-1,3-Dichloropropene	10061-01-5	0.088	0.50	20	70-130	0.128	0.50	20	70-130
Toluene	108-88-3	0.035	0.50	20	70-130	0.089	0.50	20	70-130
Tetrachloroethene	127-18-4	0.043	0.50	20	70-130	0.070	0.50	20	70-130
4-Methyl-2-pentanone	108-10-1	0.67	1.25	20	70-130	0.249	1.25	20	70-130
trans-1,3-Dichloropropene	10061-02-6	0.09	0.50	20	70-130	0.141	0.50	20	70-130
1,1,2-Trichloroethane	79-00-5	0.060	0.50	20	70-130	0.078	0.50	20	70-130
Dibromochloromethane	124-48-1	0.07	0.50	20	70-130	0.146	0.50	20	70-130
1,3-Dichloropropane	142-28-9	0.042	0.50	20	70-130	0.087	0.50	20	70-130
1,2-Dibromoethane	106-93-4	0.038	0.50	20	70-130	0.106	0.50	20	70-130
2-Hexanone	591-78-6	0.65	1.25	20	70-130	0.400	1.25	20	70-130
Chlorobenzene	108-90-7	0.043	0.50	20	70-130	0.075	0.50	20	70-130
Ethylbenzene	100-41-4	0.048	0.50	20	70-130	0.180	0.50	20	70-130
1,1,1,2-Tetrachloroethane	630-20-6	0.056	0.50	20	70-130	0.207	0.50	20	70-130

EDISON PHILIS OPERATIONS

Method524.2 SOP # L-A-103		524.2 GCMSD Water 10/20/2023				524.2 GCMSD Water 03/27/24			
		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	CAS No.	ug/L	ug/L	%	% Recovery	ug/L	ug/L	%	% Recovery
m,p-Xylene	108-38-3	0.09	1.00	20	70-130	0.167	1.00	20	70-130
o-Xylene	95-47-6	0.047	0.50	20	70-130	0.114	0.50	20	70-130
Bromoform	75-25-2	0.18	0.50	20	70-130	0.143	0.50	20	70-130
Styrene	100-42-5	0.06	0.50	20	70-130	0.139	0.50	20	70-130
Isopropylbenzene	98-82-8	0.04	0.50	20	70-130	0.091	0.50	20	70-130
Bromobenzene	108-86-1	0.046	0.50	20	70-130	0.098	0.50	20	70-130
n-Propylbenzene	103-65-1	0.037	0.50	20	70-130	0.112	0.50	20	70-130
1,1,2,2-Tetrachloroethane	96-18-4	0.055	0.50	20	70-130	0.061	0.50	20	70-130
2-Chlorotoluene	106-43-4	0.036	0.50	20	70-130	0.119	0.50	20	70-130
1,2,3-Trichloropropane	96-18-4	0.14	0.50	20	70-130	0.129	0.50	20	70-130
1,3,5-Trimethylbenzene	108-67-8	0.050	0.50	20	70-130	0.120	0.50	20	70-130
4-Chlorotoluene	106-43-4	0.050	0.50	20	70-130	0.106	0.50	20	70-130
tert-Butylbenzene	98-06-6	0.11	0.50	20	70-130	0.175	0.50	20	70-130
1,2,4-Trimethylbenzene	95-63-6	0.17	0.50	20	70-130	0.124	1.00	20	70-130
sec-Butylbenzene	135-98-8	0.15	0.50	20	70-130	0.230	0.50	20	70-130
1,3-Dichlorobenzene	99-87-6	0.055	0.50	20	70-130	0.082	0.50	20	70-130
4-Isopropyltoluene	541-73-1	0.18	0.50	20	70-130	0.270	1.00	20	70-130
1,4-Dichlorobenzene	106-46-7	0.057	0.50	20	70-130	0.099	0.50	20	70-130
n-Butylbenzene	104-51-8	0.12	0.50	20	70-130	0.129	0.50	20	70-130
1,2-Dichlorobenzene	95-50-1	0.045	0.50	20	70-130	0.092	0.50	20	70-130
1,2-Dibromo-3-Chloropropane	96-12-8	0.10	0.50	20	70-130	0.296	1.00	20	70-130
Hexachlorobutadiene	87-68-3	0.05	0.50	20	70-130	0.300	1.00	20	70-130
1,2,4-Trichlorobenzene	120-82-1	0.066	0.50	20	70-130	0.100	0.50	20	70-130
Naphthalene	91-20-3	0.05	0.50	20	70-130	0.340	1.00	20	70-130
1,2,3-Trichlorobenzene	87-61-6	0.073	0.50	20	70-130	0.114	0.50	20	70-130

EDISON PHILIS OPERATIONS

		6/30/2023	10/22/2023	6/30/2023	3/18/2024	3/182024
Method 8270E SOP # L-A-201		**8270E GCMSD WATER ANALYSIS SEP FUNNEL**	**8270E GCMSD ANALYSIS SOIL**	**8270E GCMSD WATER ANALYSIS SEP FUNNEL**	**8270E GCMSD ANALYSIS SOIL**	
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**µg/L**	**µg/L**	**%**	**% Recovery**	**µg/kg**	**µg/kg**	**%**	**% Recovery**	**µg/L**	**µg/L**	**%**	**% Recovery**	**µg/kg**	**µg/kg**	**%**	**% Recovery**
N-Nitrosodimethylamine	62-75-9	4.8	20	30	10-130	12	67	36	39-130	4.8	20	30	23-130	12	67	36	24-130
Pyridine **not in LIMS**	110-86-1	3.5	20	30	4.8-120		67	30	18-130	3.5	20	30	4.8-120		67	30	18-130
Phenol	108-95-2	5.1	20	30	20-130	15	67	30	39-130	5.1	20	30	10-147	15	67	30	40-130
Aniline	62-53-3	8.1	20	40	15-130	18	67	30	20-130	8.1	20	40	25-130	18	67	30	15-130
Bis(2-chloroethyl) ether	111-44-4	5.8	20	30	53-130	18	67	32	21-130	5.8	20	30	42-130	18	67	32	24-130
2-Chlorophenol	95-57-8	5.4	20	30	48-130	19	67	30	30-130	5.4	20	30	35-130	19	67	30	33-130
1,3-Dichlorobenzene	541-73-1	5.5	20	30	40-130	33	67	53	19-130	5.5	20	30	28-130	33	67	53	21-130
1,4-Dichlorobenzene	106-46-7	6.1	20	31	42-130	29	67	48	20-130	6.1	20	31	29-130	29	67	48	24-130
Benzyl alcohol	100-51-6	3.9	20	30	50-130	20	67	30	47-130	3.9	20	30	27-130	20	67	30	46-130
1,2-Dichlorobenzene	95-50-1	5.9	20	32	44-130	18	67	45	23-130	5.9	20	32	28-130	18	67	45	26-130
2-Methylphenol	95-48-7	9.2	20	30	47-130	15	67	30	40-130	9.2	20	30	37-130	15	67	30	41-130
Bis(2-chloroisopropyl) ether	108-60-1	6.5	20	30	54-130	19	67	31	20-130	6.5	20	30	51-130	19	67	31	23-130
3/4-Methylphenol	106-44-5	4.6	20	30	47-130	18	67	30	47-130	4.6	20	30	32-130	18	67	30	46-130
N-Nitrosodi-n-propylamine	621-64-7	4.6	20	30	57-130	18	67	30	47-130	4.6	20	30	49-130	18	67	30	47-130
Hexachloroethane	67-72-1	5.2	20	33	36-130	27	167	52	19-130	5.2	20	33	29-130	27	167	52	22-130
Nitrobenzene	98-95-3	7.5	20	30	50-130	20	67	30	34-130	7.5	20	30	45-130	20	67	30	35-130
Isophorone	78-59-1	5.2	20	30	57-130	16	67	30	47-130	5.2	20	30	48-130	16	67	30	46-130
2-Nitrophenol	88-75-5	4.6	20	30	32-130	21	67	30	43-130	4.6	20	30	41-130	21	67	30	44-130
2,4-Dimethylphenol	105-67-9	23	50	30	57-130	20	67	30	19-130	23	50	30	43-130	20	67	30	19-130
Bis(2-chloroethoxy)methane	111-91-1	5.5	20	30	57-130	19	67	30	28-130	5.5	20	30	46-130	19	67	30	33-130
2,4-Dichlorophenol	120-83-2	5.6	20	30	53-130	14	67	30	56-130	5.6	20	30	46-130	14	67	30	54-130
1,2,4-Trichlorobenzene	120-82-1	6.1	20	32	52-130	20	67	32	28-130	6.1	20	32	29-130	20	67	32	31-130
Naphthalene	91-20-3	5.9	20	30	53-130	16	67	30	36-130	5.9	20	30	39-130	16	67	30	36-130
4-Chloroaniline	106-47-8	7.1	20	30	7-132	19	67	30	36-130	7.1	20	30	38-130	19	67	30	30-130
Hexachlorobutadiene	87-68-3	5.5	20	31	47-130	17	167	32	20-130	5.5	20	31	26-134	17	167	32	24-130
4-Chloro-3-methylphenol	59-50-7	6.1	20	30	56-130	17	67	30	66-130	6.1	20	30	51-130	17	67	30	61-130
2-Methylnaphthalene	91-57-6	5.5	20	30	56-130	16	67	30	49-130	5.5	20	30	43-130	16	67	30	47-130
1-Methylnaphthalene	90-12-0	6.0	20	30	56-130	16	67	30	50-130	6.0	20	30	44-130	16	67	30	48-130
Hexachlorocyclopentadiene	77-47-4	3.6	20	30	40-130	15	67	30	17-130	3.6	20	30	33-130	15	67	30	12-130
2,4,6-Trichlorophenol	88-06-2	3.5	20	30	58-130	18	67	30	65-130	3.5	20	30	45-133	18	67	30	61-130
2,4,5-Trichlorophenol	95-95-4	3.9	20	30	62-130	11	67	30	67-130	3.9	20	30	52-130	11	67	30	63-130
2-Chloronaphthalene	91-58-7	5.7	20	30	63-130	16	67	30	54-130	5.7	20	30	39-130	16	67	30	51-130
2-Nitroaniline	88-74-4	4.1	20	30	61-130	15	67	30	67-130	4.1	20	30	59-130	15	67	30	64-130
Dimethyl phthalate	131-11-3	5.1	20	30	62-130	8.9	67	30	69-130	5.1	20	30	52-130	8.9	67	30	64-130
2,6-Dinitrotoluene	606-20-2	3.1	50	30	41-130	14	67	30	70-130	3.1	50	30	60-130	14	67	30	68-130
Acenaphthylene	208-96-8	5.0	20	30	60-130	15	67	30	40-130	5.0	20	30	46-130	15	67	30	41-130
3-Nitroaniline	99-09-2	4.0	20	30	41-130	12	67	30	64-130	4.0	20	30	49-130	12	67	30	58-130
Acenaphthene	83-32-9	5.5	20	30	63-130	15	67	30	61-130	5.5	20	30	57-130	15	67	30	56-130
2,4-Dinitrophenol	51-28-5	140	500	30	58-130	26	333	66	18-130	140	500	30	41-146	26	333	66	18-130
4-Nitrophenol	100-02-7	27	50	30	50-130	8.7	167	30	57-130	27	50	30	21-130	8.7	167	30	56-130
2,4-Dinitrotoluene	121-14-2	2.3	20	30	64-130	10	67	30	70-130	2.3	20	30	59-130	10	67	30	70-130
Dibenzofuran	132-64-9	5.0	20	30	62-130	14	67	30	64-130	5.0	20	30	50-130	14	67	30	57-130
Diethylphthalate	84-66-2	5.4	50	30	66-130	84	167	30	67-130	5.4	50	30	54-130	84	167	30	62-130
4-Chlorophenyl phenyl ether	7005-72-3	5.8	20	30	61-130	14	67	30	67-130	5.8	20	30	47-130	14	67	30	59-130
Fluorene	86-73-7	4.9	20	30	63-130	11	67	30	65-130	4.9	20	30	51-130	11	67	30	57-130
4-Nitroaniline	100-01-6	3.1	50	30	70-130	11	167	30	69-130	3.1	50	30	70-130	11	167	30	69-130
4,6-Dinitro-2-methylphenol	534-52-1	1.7	50	30	55-130	22	167	33	46-130	1.7	50	30	48-139	22	167	33	48-130
N-Nitrosodiphenylamine**not in LIMS**	86-30-6	5.4	20	30	35-130		67	36	26-130	5.4	20	30	35-130		67	36	26-130
4-Bromophenyl phenyl ether	101-55-3	4.0	20	30	63-130	13	67	30	70-130	4.0	20	30	47-131	13	67	30	64-130
Hexachlorobenzene	118-74-1	5.1	20	30	62-130	10	67	30	69-130	5.1	20	30	45-130	10	67	30	66-130
Pentachlorophenol	87-86-5	4.1	20	30	55-130	22	67	30	68-130	4.1	20	30	45-146	22	67	30	65-130
Phenanthrene	85-01-8	5.2	20	30	62-130	11	67	30	67-130	5.2	20	30	58-130	11	67	30	61-130
Anthracene	120-12-7	4.4	20	30	61-130	7.6	67	30	68-130	4.4	20	30	57-130	7.6	67	30	62-130
Carbazole	86-74-8	4.3	20	30	66-130	5.5	67	30	70-130	4.3	20	30	62-130	5.5	67	30	63-130
Di-n-butyl phthalate	84-74-2	3.7	20	30	51-130	11	167	30	70-130	3.7	20	30	57-131	11	167	30	69-130
Fluoranthene	206-44-0	4.2	20	30	58-130	8.9	67	30	69-130	4.2	20	30	55-133	8.9	67	30	64-130
Pyrene	129-00-0	4.2	20	30	61-130	4.9	67	30	70-130	4.2	20	30	57-131	4.9	67	30	65-130
Butyl benzyl phthalate	85-68-7	2.9	50	30	56-130	14	167	30	65-130	2.9	50	30	59-130	14	167	30	63-130
Benz(a)anthracene	56-55-3	3.6	20	30	53-130	7.1	67	30	64-130	3.6	20	30	50-140	7.1	67	30	61-130
Chrysene	218-01-9	3.1	20	30	65-130	7.7	67	30	70-130	3.1	20	30	61-130	7.7	67	30	65-130
Bis(2-ethylhexyl) phthalate	117-81-7	5.7	50	30	67-130	22	167	30	66-130	5.7	50	30	62-130	22	167	30	63-130
Di-n-octyl phthalate	117-84-0	2.2	50	30	52-130	8.0	67	30	60-130	2.2	50	30	54-130	8.0	67	30	60-130
Benzo(b)fluoranthene	205-99-2	3.7	20	30	63-130	15	67	30	70-130	3.7	20	30	63-130	15	67	30	70-130
Benzo(k)fluoranthene	207-08-9	6.3	20	30	58-130	20	67	30	70-130	6.3	20	30	61-130	20	67	30	69-130
Benzo(a)pyrene	50-32-8	2.6	20	30	64-130	5.0	67	30	70-130	2.6	20	30	63-130	5.0	67	30	67-130
Indeno(1,2,3-cd)pyrene	193-39-5	7.0	20	30	67-131	18	167	30	50-151	7.0	20	30	70-130	18	167	30	55-141
Dibenz(a,h)anthracene	53-70-3	6.3	20	30	70-130	13	67	30	58-142	6.3	20	30	70-130	13	67	30	61-134
Benzo(g,h,i)perylene	191-24-2	7.5	20	30	70-130	9.1	67	30	56-141	7.5	20	30	64-130	9.1	67	30	60-131

EDISON PHILIS OPERATIONS

Method 8270E SOP # L-A-201		8270E WATER ANALYSIS SEP FUNNEL TOF 4/5/2021				8270E ANALYSIS SOIL TOF 3/30/2021			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30grams		MDL	RL	RPD	Control Limits	MDL	RL	RPD	Control Limits
Compound	**CAS No.**	**µg/L**	**µg/L**	**%**	**% Recovery**	**µg/kg**	**µg/kg**	**%**	**% Recovery**
N-Nitrosodimethylamine	62-75-9	0.35	1.0	30	70-130	4.1	6.7	30	70-130
Phenol	108-95-2	0.60	1.0	30	70-130	2.3	3.3	30	70-130
Aniline	62-53-3	0.86	2.0	30	70-130	2.4	3.3	30	70-130
Bis(2-chloroethyl) ether	111-44-4	0.40	1.0	30	70-130	3.6	6.7	30	70-130
2-Chlorophenol	95-57-8	0.47	1.0	30	70-130	1.4	3.3	30	70-130
1,3-Dichlorobenzene	541-73-1	0.83	1.0	30	70-130	2.7	3.3	30	70-130
1,4-Dichlorobenzene	106-46-7	0.81	1.0	30	70-130	3.3	3.3	30	70-130
Benzyl alcohol	100-51-6	0.51	2.0	30	70-130	1.4	6.7	30	70-130
1,2-Dichlorobenzene	95-50-1	0.70	1.0	30	70-130	2.0	3.3	30	70-130
2-Methylphenol	95-48-7	0.38	1.0	30	70-130	3.8	6.7	30	70-130
Bis(2-chloroisopropyl) ether	108-60-1	0.42	1.0	30	70-130	4.2	6.7	30	70-130
3/4-Methylphenol	106-44-5	0.57	2.0	30	70-130	2.3	3.3	30	70-130
N-Nitrosodi-n-propylamine	621-64-7	1.1	2.0	30	70-130	2.4	3.3	30	70-130
Hexachloroethane	67-72-1	1.3	2.0	30	70-130	1.9	3.3	30	70-130
Nitrobenzene	98-95-3	0.41	1.0	30	70-130	1.4	3.3	30	70-130
Isophorone	78-59-1	0.39	1.0	30	70-130	2.9	3.3	30	70-130
2-Nitrophenol	88-75-5	0.38	1.0	30	70-130	2.4	3.3	30	70-130
2,4-Dimethylphenol	105-67-9	0.47	1.0	30	70-130	5.2	6.7	30	70-130
Bis(2-chloroethoxy)methane	111-91-1	0.50	1.0	30	70-130	1.7	3.3	30	70-130
2,4-Dichlorophenol	120-83-2	0.70	2.0	30	70-130	0.86	3.3	30	70-130
1,2,4-Trichlorobenzene	120-82-1	0.96	1.0	30	70-130	1.2	3.3	30	70-130
Naphthalene	91-20-3	0.49	1.0	30	70-130	1.4	3.3	30	70-130
4-Chloroaniline	106-47-8	0.89	1.0	30	70-130	2.1	3.3	30	70-130
Hexachlorobutadiene	87-68-3	1.3	2.0	30	70-130	1.6	3.3	30	70-130
4-Chloro-3-methylphenol	59-50-7	0.57	1.0	30	70-130	1.2	3.3	30	70-130
2-Methylnaphthalene	91-57-6	0.72	1.0	30	70-130	1.0	3.3	30	70-130
Hexachlorocyclopentadiene	77-47-4	1.2	2.0	30	70-130	2.5	3.3	30	70-130
2,4,6-Trichlorophenol	88-06-2	0.67	1.0	30	70-130	3.1	3.3	30	70-130
2,4,5-Trichlorophenol	95-95-4	0.62	1.0	30	70-130	2.5	3.3	30	70-130
2-Chloronaphthalene	91-58-7	0.57	1.0	30	70-130	0.60	3.3	30	70-130
2-Nitroaniline	88-74-4	6.80	10.0	30	70-130	3.3	3.3	30	70-130
Dimethyl phthalate	131-11-3	0.50	1.0	30	70-130	0.82	3.3	30	70-130
2,6-Dinitrotoluene	606-20-2	0.62	1.0	30	70-130	2.0	3.3	30	70-130
Acenaphthylene	208-96-8	0.46	1.0	30	70-130	1.5	3.3	30	70-130
3-Nitroaniline	99-09-2	6.0	10.0	30	70-130	36	67	30	70-130
Acenaphthene	83-32-9	0.47	1.0	30	70-130	1.4	3.3	30	70-130
2,4-Dinitrophenol	51-28-5	38	100.0	30	70-130	430	500	30	70-130
4-Nitrophenol	100-02-7	2.2	5.0	30	70-130	62	67	30	70-130
2,4-Dinitrotoluene	121-14-2	0.56	2.0	30	70-130	0.51	3.3	30	70-130
Dibenzofuran	132-64-9	0.34	1.0	30	70-130	0.51	3.3	30	70-130
Diethylphthalate	84-66-2	2.80	5.0	30	70-130	43	67	30	70-130
4-Chlorophenyl phenyl ether	7005-72-3	0.44	1.0	30	70-130	0.79	3.3	30	70-130
Fluorene	86-73-7	0.46	1.0	30	70-130	0.56	3.3	30	70-130
4-Nitroaniline	100-01-6	4.5	10.0	30	70-130	42	67	30	70-130
4,6-Dinitro-2-methylphenol	534-52-1	0.73	5.0	30	70-130	100	120	30	70-130

EDISON PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**8270E WATER ANALYSIS SEP FUNNEL TOF 4/5/2021**				**8270E ANALYSIS SOIL TOF 3/30/2021**			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**µg/L**	**µg/L**	**%**	**% Recovery**	**µg/kg**	**µg/kg**	**%**	**% Recovery**
N-Nitrosodiphenylamine**not in LIMS**	86-30-6			30	70-130			30	70-130
4-Bromophenyl phenyl ether	101-55-3	0.44	1.0	30	70-130	1.2	3.3	30	70-130
Hexachlorobenzene	118-74-1	0.50	1.0	30	70-130	1.9	3.3	30	70-130
Pentachlorophenol	87-86-5	0.65	5.0	30	70-130	47	67	30	70-130
Phenanthrene	85-01-8	0.47	1.0	30	70-130	1.0	3.3	30	70-130
Anthracene	120-12-7	0.34	1.0	30	70-130	1.0	3.3	30	70-130
Carbazole	86-74-8	0.34	1.0	30	70-130	1.4	3.3	30	70-130
Di-n-butyl phthalate	84-74-2	1.6	2.0	30	70-130	110	170	30	70-130
Fluoranthene	206-44-0	0.31	1.0	30	70-130	1.2	3.3	30	70-130
Pyrene	129-00-0	0.35	1.0	30	70-130	1.3	3.3	30	70-130
Butyl benzyl phthalate	85-68-7	0.38	1.0	30	70-130	4.2	6.7	30	70-130
Benz(a)anthracene	56-55-3	1.3	2.0	30	70-130	3.4	6.7	30	70-130
Chrysene	218-01-9	0.34	1.0	30	70-130	1.9	3.3	30	70-130
Bis(2-ethylhexyl) phthalate	117-81-7	1.5	2.0	30	70-130	16	17	30	70-130
Di-n-octyl phthalate	117-84-0	0.35	2.0	30	70-130	4.6	6.7	30	70-130
Benzo(b)fluoranthene	205-99-2	0.31	1.0	30	70-130	2.4	3.3	30	70-130
Benzo(k)fluoranthene	207-08-9	0.30	1.0	30	70-130	2.6	3.3	30	70-130
Benzo(a)pyrene	50-32-8	0.24	1.0	30	70-130	3.8	6.7	30	70-130
Indeno(1,2,3-cd)pyrene	193-39-5	0.54	1.0	30	70-130	3.1	3.3	30	70-130
Dibenz(a,h)anthracene	53-70-3	0.34	1.0	30	70-130	3.0	3.3	30	70-130
Benzo(g,h,i)perylene	191-24-2	0.42	1.0	30	70-130	2.7	3.3	30	70-130
1-Methylnaphthalene	90-12-0	0.57	1.0	30	70-130	0.94	3.3	30	70-130

EDISON PHILIS OPERATIONS

										3/19/2024							3/19/2024
Pesticides by Method 8081		**8081 GCECD WATER SEP FUNNEL ANALYSIS 10/27/2023**				**8081 GCECD SOIL ANALYSIS 10/27/2023**				**8081 GCECD WATER SEP FUNNEL ANALYSIS 10/27/2023**				**8081 GCECD SOIL ANALYSIS 10/27/2023**			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30 Grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/kg**	**ug/kg**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/kg**	**ug/kg**	**%**	**% Recovery**
alpha-BHC	319-84-6	0.022	0.2	20	52-130	0.10	0.99	20	70-130	0.022	0.2	20	46-133	0.10	0.99	20	43-176
gamma-BHC	319-85-9	0.027	0.2	20	56-130	0.077	0.99	20	70-130	0.027	0.2	20	47-130	0.077	0.99	20	40-174
beta-BHC	319-85-7	0.028	0.2	20	55-130	0.12	0.99	20	45-130	0.028	0.2	20	33-153	0.12	0.99	20	29-177
delta-BHC	319-86-8	0.066	0.2	20	65-130	0.18	0.99	20	70-130	0.066	0.2	20	52-140	0.18	0.99	20	42-179
Heptachlor	76-44-8	0.021	0.2	20	53-130	0.11	0.99	20	53-132	0.021	0.2	20	58-130	0.11	0.99	20	36-167
Aldrin	309-00--2	0.015	0.2	20	38-130	0.17	0.99	20	57-130	0.015	0.2	20	58-130	0.17	0.99	20	37-173
Heptachlor epoxide	1024-57-3	0.019	0.2	20	60-130	0.15	0.99	20	54-130	0.019	0.2	20	50-130	0.15	0.99	20	35-175
trans-Chlordane	5103-74-2	0.022	0.2	20	57-130	0.18	0.99	20	70-130	0.022	0.2	20	41-140	0.18	0.99	20	39-168
cis-Chlordane	5103-71-9	0.017	0.2	20	59-130	0.088	0.99	20	52-130	0.017	0.2	20	44-130	0.088	0.99	20	31-175
4,4'-DDE	72-55-9	0.017	0.2	20	62-130	0.068	0.99	20	70-130	0.017	0.2	20	43-156	0.068	0.99	20	40-173
Endosulfan I	959-98-8	0.020	0.2	20	61-130	0.068	0.99	20	52-130	0.020	0.2	20	46-131	0.068	0.99	20	33-174
Dieldrin	60-57-1	0.023	0.2	20	61-130	0.090	0.99	20	70-130	0.023	0.2	20	43-146	0.090	0.99	20	38-171
Endrin	72-20-8	0.025	0.2	20	60-137	0.36	0.99	20	61-130	0.025	0.2	20	49-162	0.36	0.99	20	23-165
4,4'-DDD	72-54-8	0.020	0.2	20	57-132	0.062	0.99	20	69-130	0.020	0.2	20	45-158	0.062	0.99	20	45-169
Endosulfan II	33213-65-9	0.025	0.2	20	63-130	0.38	0.99	20	70-130	0.025	0.2	20	38-156	0.38	0.99	20	37-170
4,4'-DDT	50-29-3	0.021	0.2	20	67-130	0.13	0.99	20	60-130	0.021	0.2	20	38-167	0.13	0.99	20	21-175
Endrin aldehyde	7421-93-4	0.033	0.2	20	52-130	0.15	0.99	20	48-130	0.033	0.2	20	40-146	0.15	0.99	20	26-143
Endosulfan sulfate	1031-07-8	0.080	0.2	20	66-130	0.08	0.99	20	70-130	0.080	0.2	20	36-164	0.08	0.99	20	32-175
Methoxychlor	72-43-5	0.030	0.2	20	63-130	0.18	0.99	20	60-132	0.030	0.2	20	55-149	0.18	0.99	20	20-182
Endrin ketone	53494-70-5	0.030	0.2	20	60-130	0.16	0.99	20	70-130	0.030	0.2	20	40-157	0.16	0.99	20	37-178
Toxaphene	8001-35-2	0.17	0.25	20	56-130	3.5	4.17	20	55-130	0.17	0.25	20	57-130	3.5	4.17	20	60-130

EDISON PHILIS OPERATIONS

										3/19/2024							3/19/2024
Method 8082A PCBs		**8082AGCECD WATER SEP FUNNEL ANALYSIS 10/27/2023**				**8082A GCECD SOIL ANALYSIS 10/27/2023**				**8082AGCECD WATER SEP FUNNEL ANALYSIS 10/27/2023**				**8082A GCECD SOIL ANALYSIS 10/27/2023**			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30 grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Aroclor-1016	12674-11-2	0.58	2.00	30	46-130	8.7	20	30	50-138	0.58	2.00	30	42-130	8.7	20	30	55-139
Aroclor-1221	11104-28-2	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1232	11141-16-5	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1242	53469-21-9	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1248	12672-29-6	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1254	11097-69-1	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1260	11096-82-5	0.24	2.00	30	56-130	2.9	20	30	53-139	0.24	2.00	30	62-130	2.9	20	30	53-141
Aroclor-1262	37324-23-5	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140
Aroclor-1268	11100-14-4	0.50	0.50	30	60-140	8.3	8.3	30	60-140	0.50	0.50	30	60-140	8.3	8.3	30	60-140

EDISON PHILIS OPERATIONS

12/28/2023 12/28/2023

TO-17 GCMSD Volatile Analysis SOP L-A-601		**TO-17 Air**				
		MDL	**RL**	**RPD**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ppbv**	**ppbv**	**% for Duplicates**	**% for Distributed Volume Pairs**	**% Recovery**
Propene	115-07-1	0.48	1.00	20	25	50 - 150
Dichlorodifluoromethane	75-71-8	0.22	0.50	20	25	50 - 150
Freon 114	76-14-1	0.15	0.50	20	25	50 - 150
Chloromethane	74-87-3	0.83	2.00	20	25	50 - 150
1,3-Butadiene	106-99-0	0.22	0.50	20	25	50 - 150
Vinyl Chloride	75-01-4	0.16	0.50	20	25	50 - 150
Bromomethane	74-83-9	0.52	2.00	20	25	50 - 150
Chloroethane	75-00-3	0.47	1.00	20	25	50 - 150
Trichlorofluoromethane	75-69-4	0.14	0.50	20	25	50 - 150
1,1-Dichloroethene	75-34-4	0.12	0.50	20	25	50 - 150
Freon 113	76-13-1	0.16	0.50	20	25	50 - 150
Isopropyl alcohol	67-63-0	0.43	1.00	20	25	50 - 150
Methylene Chloride	75-09-2	0.58	2.00	20	25	50 - 150
Acetone	67-64-1	0.72	2.00	20	25	50 - 150
trans-1,2-Dichloroethene	156-60-5	0.14	0.50	20	25	50 - 150
Hexane	110-54-3	0.16	0.50	20	25	50 - 150
Methyl tert-butyl ether	1634-04-4	1.58	5.00	20	25	50 - 150
1,1-Dichloroethane	75-34-3	0.16	0.50	20	25	50 - 150
cis-1,2-Dichloroethene	156-59-2	0.13	0.50	20	25	50 - 150
Cyclohexane	110-82-7	0.14	0.50	20	25	50 - 150
Chloroform	67-66-3	0.13	0.50	20	25	50 - 150
Carbon Tetrachloride	56-23-5	0.13	0.50	20	25	50 - 150
Ethyl acetate	141-78-6	0.11	0.50	20	25	50 - 150
1,1,1-Trichloroethane	71-55-6	0.16	0.50	20	25	50 - 150
2-butanone	78-93-3	0.17	0.50	20	25	50 - 150
Heptane	14-82-5	0.12	0.50	20	25	50 - 150
Benzene	71-43-2	0.14	0.50	20	25	50 - 150
1,2-Dichloroethane	107-06-2	0.15	0.50	20	25	50 - 150
Trichloroethene	79-01-6	0.24	0.50	20	25	50 - 150
1,2-Dichloropropane	78-87-5	0.12	0.50	20	25	50 - 150
Bromodichloromethane	75-27-4	0.08	0.50	20	25	50 - 150
1,4-Dioxane	123-91-1	0.21	0.50	20	25	50 - 150
Methyl methacrylate	80-62-6	0.11	0.50	20	25	50 - 150
cis-1,3-Dichloropropene	10061-01-5	0.14	0.50	20	25	50 - 150

EDISON PHILIS OPERATIONS

12/28/2023 12/28/2023

TO-17 GCMSD Volatile Analysis SOP L-A-601		**TO-17 Air**				
		MDL	**RL**	**RPD**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ppbv**	**ppbv**	**% for Duplicates**	**% for Distributed Volume Pairs**	**% Recovery**
4-Methyl-2-pentanone	108-10-1	0.18	0.50	20	25	50 - 150
Toluene	108-88-3	0.15	0.50	20	25	50 - 150
trans-1,3-Dichloropropene	10061-02-6	0.13	0.50	20	25	50 - 150
1,1,2-Trichloroethane	79-00-5	0.12	0.50	20	25	50 - 150
Tetrachloroethene	127-18-4	0.14	0.50	20	25	50 - 150
2-Hexanone	591-78-6	0.16	0.50	20	25	50 - 150
Dibromochloromethane	124-48-1	0.15	0.50	20	25	50 - 150
1,2-Dibromoethane	106-93-4	0.13	0.50	20	25	50 - 150
Chlorobenzene	108-90-7	0.15	0.50	20	25	50 - 150
Ethylbenzene	100-41-4	0.17	0.50	20	25	50 - 150
m,p-Xylene	106-42-3/108-38-3	0.43	1.00	20	25	50 - 150
o-Xylene	95-47-6	0.17	0.50	20	25	50 - 150
Styrene	100-42-5	0.20	0.50	20	25	50 - 150
Bromoform	75-25-2	0.20	0.50	20	25	50 - 150
1,1,2,2-Tetrachloroethane	79-34-5	0.22	0.50	20	25	50 - 150
4-Ethyltoluene	622-96-8	0.19	0.50	20	25	50 - 150
1,3,5-Trimethylbenzene	108-67-8	0.25	0.50	20	25	50 - 150
1,2,4-Trimethylbenzene	95-63-6	0.22	0.50	20	25	50 - 150
1,3-Dichlorobenzene	541-73-1	0.23	0.50	20	25	50 - 150
1,4-Dichlorobenzene	106-46-7	0.28	1.00	20	25	50 - 150
Benzyl Chloride	100-44-7	0.26	1.00	20	25	50 - 150
1,2-Dichlorobenzene	95-90-41	0.25	0.50	20	25	50 - 150
Hexachlorobutadiene	87-68-3	0.65	2.00	20	25	50 - 150
1,2,4-Trichlorobenzene	120-82-1	0.51	2.00	20	25	50 - 150
Naphthalene	91-20-3	1.06	5.00	20	25	50 - 150

EDISON PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		CWA ANALYSIS WATER GCMSD MMI LVI				CWA ANALYSIS SOIL GCMSD MMI LVI				CWA ANALYSIS WIPES GCMSD MMI LVI			
Prepared and Analyzed by EPA600-R-16-116 VX Protocol using GC/MS SOP L-A-502 and SOP L-P-107		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**µg/Wipe**	**µg/Wipe**	**%**	**% Recovery**
Sarin (GB)	107-44-8	0.16	0.57	30	50 -150	0.36	1.0	30	50 -150	0.000079	0.00025	30	50 -150
Soman (GD1)	96-64-0	0.33	0.36	30	50 -150	0.57	1.3	30	50 -150	0.00025	0.0010	30	50 -150
Soman (GD2)	96-64-1	0.31	0.36	30	50 -150	0.95	1.3	30	50 -150	0.00032	0.00050	30	50 -150
Soman Total (GD)	96-64-0	0.64	1.0	30	50 -150	1.5	2.0	30	50 -150	0.00067	0.0015	30	50 -150
Cyclohexyl Sarin (GF)	329-99-7	0.18	0.57	30	50 -150	0.22	1.0	30	50 -150	0.000059	0.00010	30	50 -150
Mustard (HD)	505-60-2	0.33	0.71	30	50 -150	0.40	0.5	30	50 -150	0.000051	0.00010	30	50 -150
VX	50782-69-9	0.66	1.4	30	50 -150	1.1	2.5	30	50 -150	0.00016	0.00050	30	50 -150

EDISON PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		**CWA ANALYSIS WIPES GC-TOF 7/16/2021**			
Prepared and Analyzed by EPA600-R-16-116 VX Protocol using GC/MS SOP L-A-502 and SOP L-P-107		**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**µg/Wipe**	**µg/Wipe**	**%**	**% Recovery**
Sarin (GB)	107-44-8	0.0037	0.005	30	50 -150
Soman (GD1)	96-64-0	0.0085	0.001	30	50 -150
Soman (GD2)	96-64-1	0.0020	0.005	30	50 -150
Soman Total (GD)	96-64-0	0.010	0.01	30	50 -150
Cyclohexyl Sarin (GF)	329-99-7	0.0044	0.005	30	50 -150
Mustard (HD)	505-60-2	0.0013	0.002	30	50 -150
VX	50782-69-9	n/a	n/a	30	50 -150

EDISON PHILIS OPERATIONS

SOP L-A-502 and SOP L-P-107		**CWA SIMULANTS ANALYSIS SOIL GCMSD MMI LVI**				**CWA SIMULANTS ANALYSIS WATER GCMSD MMI LVI**				**CWA SIMULANTS ANALYSIS WIPE GCMSD MMI LVI**			
Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS		**MDL**	**RL**	**RPD**	**Recovery Limits**	**MDL**	**RL**	**RPD**	**Recovery Limits**	**MDL**	**RL**	**RPD**	**Recovery Limits**
Compound	**CAS No.**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ng/wipe**	**ng/wipe**	**%**	**% Recovery**
DMMP	756-79-6	1.0	2.0	30	40-160	0.10	0.57	30	40-160	0.35	0.40	30	40-160
2-Chloroethyl ethyl sulfide	693-07-2	0.94	1.0	30	40-160	3.9	5.7	30	40-160	0.42	0.80	30	40-160
DIMP	1445-75-6	1.2	2.0	30	40-160	0.39	0.57	30	40-160	0.35	0.40	30	40-160
Dimethoate	60-51-5	5.3	7.5	30	40-160	0.65	1.1	30	40-160	1.0	2.0	30	40-160
2-Chloroethyl phenyl sulfide	5535-49-9												
Malathion	121-75-5												

EDISON PHILIS OPERATIONS

Prepared and Analyzed by EPA600-R-16-115 CWA Protocol using GC/MS SOP L-A-502 and SOP L-P-107		**CWA SIMULANTS WATER TOF**			
		MDL	**RL**	**RPD**	**Recovery Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**
DMMP	756-79-6	0.10	0.11	30	40-160
2-Chloroethyl ethyl sulfide	693-07-2	0.040	0.057	30	40-160
DIMP	1445-75-6	0.039	0.057	30	40-160
Dimethoate	60-51-5	0.21	0.29	30	40-160
2-Chloroethyl phenyl sulfide	5535-49-9	0.051	0.057	30	40-160
Malathion	121-75-5	0.19	0.29	30	40-160

EDISON PHILIS OPERATIONS

		8/8/2023				4/17/2023							
Method 8015D SOP L-A-104		**8015D GCFID WATER ANALYSIS 1/25/2023**				**8015D GCFID Med. LEVEL SOIL ANALYSIS 1/25/2023**				**8015D GCFID LOW SOIL ANALYSIS 5/31/2022**			
Purge Method 5030 Water and 5035 Soil		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
Gasoline Range Organics (GRO) C6-C10	N/A	11	50	20	70-130	491	2500	20	60-140	42	100	20	60-140

EDISON PHILIS OPERATIONS

		1/27/23				5/20/2023			
Method 8015D SOP L-A-205		**8015D/3510C GCFID WATER ANALYSIS**				**8015D/3545A GCFID SOIL ANALYSIS**			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30Grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**mg/L**	**mg/L**	**%**	**% Recovery**	**mg/Kg**	**mg/Kg**	**%**	**% Recovery**
Diesel Range Organics (C10-C28)	N/A	0	1	20	35-130	1	2	20	42.9-130
0-terphenyl (surro)									44.7-140

EDISON PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**8270E GCMSD WATER ANALYSIS 3/31/2022**				**8270E GCMSD SOIL ANALYSIS 3/31/2022**				**8270E GCMSD Wipe Analysis 7/8/2022**			
Water 3510 SOP # L-P-101 100 mL Soil 3545 SOP # L-P-200 30 grams		**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**	**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/L**	**ug/L**	**%**	**% Recovery**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**	**ug/Wipe**	**ug/Wipe**	**%**	**% Recovery**
Dimethoate	65-51-5	2	20.0	30	50-150	19	66.7	30	50-150				
Disulfoton	298-04-4	6	20.0	30	50-150	11	66.7	30	50-150				
Famphur	52-85-7	2	20.0	30	50-150	8	66.7	30	50-150				
Methyl parathion	298-00-0	4	20.0	30	50-150	7	66.7	30	50-150				
O,O,O - Triethyl phosphorothioate	126-68-1	5	20.0	30	50-150	17	66.7	30	50-150				
Parathion	56-38-2	5	20.0	30	50-150	11	66.7	30	50-150				
Phorate	298-02-2	3	20.0	30	50-150	8	66.7	30	50-150				
Sulfotep	3689-24-5	6	20.0	30	50-150	12	66.7	30	50-150				
Zinophos	297-97-2	5	20.0	30	50-150	11	66.7	30	50-150				
Malathion	121-75-5	4	20.0	30	50-150	9	66.7	30	50-150	0.70	20	30	50-150

EDISON PHILIS OPERATIONS

Method 8270E SOP # L-A-201		**8270E GCMSD SOIL ANALYSIS March, 2023**			
Prep method: SOP # L-P-202		**MDL**	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/Kg**	**ug/Kg**	**%**	**% Recovery**
n-Butyl acrylate	141-32-2	245	1000.0	30	50-150
2-Ethylhexyl acrylate	103-11-7	570	1000.0	30	50-150
Ethylene glycol mono butyl ether	111-76-2	1375	5000.0	30	50-150

EDISON PHILIS OPERATIONS

Method 8270E SOP # L-A-605		**Acrylates in Air March, 2023**			
		MDL	**RL**	**RPD**	**Control Limits**
Compound	**CAS No.**	**ug/m3**	**ug/m3**	**%**	**% Recovery**
n-Butyl acrylate	141-32-2	1	3.1	30	50-150
2-Ethylhexyl acrylate	103-11-7	1	5.0	30	50-150