ISOTECH®
ISOTECH LABORATORIES INC
1308 Parkland Court Champaign, IL 61821 • (877) 362-4190 • www.isotechlabs.com

GAS ANALYSIS TURNAROUND TIMES (TAT)

TAT in Business Days (excluding weekends and major holidays)

Effective January 1, 2019

Dissolved Gas Samples **Sampling Containers: IsoFlask™**	**TAT(days) per sample/component**			
	Standard	**Priority**	**Rush***	**Super Rush ****
Gas Chromatographic Analysis: Diss Gas GC				
Analysis of gas samples (N_2, CO_2, O_2, Ar, H_2, He, CH_4, C_2H_6, C_3H_8, i-C_4H_{10}, n-C_4H_{10}, i-C_5H_{12}, n-C_5H_{12} and C_6+). Extraction and quantification of CH_4, C_2H_6 and C_3H_8 dissolved in water	10	5	3	1
Gas Isotope Analysis - Conventional Off-Line Prep./Dual Inlet M.S. (Diss Gas GC analysis required)				
$^{13}C/^{12}C$ ($\delta^{13}C$) and $^{2}H/^{1}H$ (δD) analysis of gas components	8-20	4-10	2-5	1-2
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of gas components	8-20	4-10	2-5	1-2
Common Testing Suites for Dissolved Gas Samples				
DG-1 (includes Diss Gas GC, $\delta^{13}C$ & δD of methane)	20	10	6	1-2
DG-2 (includes DG-1 plus $\delta^{13}C$ of ethane and propane)	25	13	7	1-2

Gas Samples (including natural, production, wellhead, MDT, DST, soil and seep gases) **Sampling Containers: Cylinders, IsoTubes®, Tbag™ Gas Bags, Cali-5-Bond® Gas Bags, Tedlar Bags** **NOTE: Gas samples with H_2S not accepted**	**TAT(days) per sample/component**			
	Standard	**Priority**	**Rush***	**Super Rush ****
Gas Chromatographic Analysis:				
Analysis of gas samples (N_2, CO_2, O_2, Ar, H_2, He, CH_4, C_2H_6, C_3H_8, i-C_4H_{10}, n-C_4H_{10}, i-C_5H_{12}, n-C_5H_{12} and C_6+, specific gravity, BTU).	10	5	3	1
Gas Isotope Analysis - Conventional Off-Line Prep./Dual Inlet M.S. (GC analysis required)				
$^{13}C/^{12}C$ ($\delta^{13}C$) and $^{2}H/^{1}H$ (δD) analysis of gas components	10-20	5-10	3-5	1-2
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of gas components	8-20	4-10	2-5	1-2
$^{15}N/^{14}N$ ($\delta^{15}N$) analysis of nitrogen in gas sample	5-10	3-5	2-3	n/a
Common Testing Suites for Gas Samples				
NG-1 (includes GC, $\delta^{13}C$ & δD of methane)	20	10	6	1-2
NG-2 (includes NG-1 plus $\delta^{13}C$ of ethane and propane)	25	13	7	1-2
NG-3 (includes NG-2 plus $\delta^{13}C$ of iso and normal butane)	30	15	8	1-3
NG-4 (includes NG-3 plus $\delta^{13}C$ of iso and normal pentane)	30	15	8	1-3

Landfill Gas Samples **Sampling Containers: Gas Bags, Propane Tanks**	**TAT(days) per sample/component**			
	Standard	**Priority**	**Rush***	**Super Rush ****
Gas Chromatographic Analysis:				
Analysis of gas samples (N_2, CO_2, O_2, Ar, H_2, He, CH_4, C_2H_6, C_3H_8, i-C_4H_{10}, n-C_4H_{10}, i-C_5H_{12}, n-C_5H_{12} and C_6+).	10	5	3	1
Gas Isotope Analysis - Conventional Off-Line Prep./Dual Inlet M.S. (GC analysis required)				
$^{13}C/^{12}C$ ($\delta^{13}C$) and $^{2}H/^{1}H$ (δD) analysis of gas components	5-10	3-5	2-3	1-2
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of gas components	5-10	3-5	2-3	1-2
Radiocarbon and Tritium Analysis of Gases (GC and $\delta^{13}C$ analyses required)				
^{14}C analysis of gas component by AMS	30	15	10	CALL
^{13}H analysis of methane by beta spectrometry	30	15	CALL	n/a
Common Testing Suites for Landfill Gas Samples				
BG-1 (includes GC, $\delta^{13}C$ & δD on methane, $\delta^{13}C$ of CO_2)	20	10	6	1-2
BG-2 (includes BG-1 plus ^{14}C in methane)	30	15	CALL	n/a
BG-3 (includes BG-2 plus ^{3}H (tritium) in methane $^{34}S/^{32}S$ ($\delta^{34}S$) analysis of dissolved H_2S	30	15	CALL	n/a

Isotopic Analysis of H_2S **Sampling Container: 1 liter bottle, IsoTrap™**	**TAT(days) per sample/component**		
	Standard	**Priority**	**Rush***
$^{34}S/^{32}S$ ($\delta^{34}S$) analysis of IsoTrap™	10	5	CALL
$^{34}S/^{32}S$ ($\delta^{34}S$) analysis of dissolved H_2S	15	10	5

Mudgas and Headspace Gas Samples **Sampling Containers: IsoTubes®, IsoJars®, IsoPaks™, Steel Canned Cuttings**	**TAT(days) per sample/component**		
	Standard	**Priority**	**Rush***
Gas Chromatographic Analysis:			
Hydrocarbons (C_1-C_6+) & major fixed gases (N_2, CO_2, O_2+Ar)	3-5	n/a	1-2
Gas Isotope Analysis - Compound Specific, GC-C-IRMS / GC-P-IRMS (GC analysis required)			
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of gas components	3-10	n/a	2-5
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of gas components with cryogenic enrichment	3-10	n/a	2-5
$^{2}H/^{1}H$ (δD) analysis of gas components	3-10	n/a	2-5
Common Testing Suites for Mudgases			
MG-1 (Mudgas GC plus $\delta^{13}C$ methane where concentration is sufficient without cryogenic enrichment)	5	n/a	1-2
MG-2 (MG-1 plus $\delta^{13}C$ of ethane and propane where concentrations are sufficient without cryogenic enrichment)	5-7	n/a	1-3

***Rush TAT requires advance approval and number of samples is limited.**

****Super Rush TAT is available for some gas samples, but requires advance approval and is queue dependent.**

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OTHER ANALYSIS TURNAROUND TIMES (TAT)

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Water Samples **Sampling Containers: DIC Kit, Glass or Nalgene Bottles** **NOTE: Samples containing salts, brines, and other impurities may require additional prep work prior to analysis and will result in additional fees.**	**TAT(days) per sample/component**		
	Standard	**Priority**	**Rush***
Stable Isotopes of Water **(40 - 125 mL of sample required)**			
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis of DIC in water ***(Sample should be field filtered, stored cold & shipped on ice)***	15	10	5
$^{2}H/^{1}H$ (δD) and $^{18}O/^{16}O$ ($\delta^{18}O$) analysis of water via CRDS (***NOT*** for produced water, oilfield brines, fracking water, or water containing alcohols)	10	n/a	3
$^{2}H/^{1}H$ (δD) analysis of water via H_2/H_2O equilibration & CF-IRMS (acceptable for produced water, oilfield brines, fracking water, or water containing alcohols)	15	10	5
$^{18}O/^{16}O$ ($\delta^{18}O$) analysis of water via CO_2/H_2O equilibration & CF-IRMS (acceptable for produced water, oilfield brines, fracking water, or water containing alcohols)	15	10	5
Vacuum distillation to remove dissolved solids prior to analysis			
Isotopes of Dissolved Nitrate **(1 L of sample required, must be shipped on ice or frozen - no preservative)**			
$^{15}N/^{14}N$ ($\delta^{15}N$) analysis of dissolved nitrate	15	10	5
$^{15}N/^{14}N$ ($\delta^{15}N$) and $^{18}O/^{16}O$ ($\delta^{18}O$) analysis of dissolved nitrate	15	10	5
Isotopes of Dissolved Sulfate **(1 L of sample required, must be shipped on ice or frozen - no preservative)**			
$^{34}S/^{32}S$ ($\delta^{34}S$) analysis of dissolved sulfate	15	10	5
$^{34}S/^{32}S$ ($\delta^{34}S$) and $^{18}O/^{16}O$ ($\delta^{18}O$) analysis of dissolved sulfate	15	10	5
Tritium Analysis of Water by beta spectrometry **(1 L of sample required - no preservative)**			
^{3}H analysis of water by direct counting: detection limit 10-15 TU	15	8	CALL
^{3}H analysis of water with electrolytic enrichment: detection limit 1 TU	30	15	CALL
Radiocarbon Analysis of Water			
^{14}C analysis of DIC in water by AMS	30	15	CALL

Organic Samples by EA-IRMS **(solids, liquids, oils)** **Sampling Containers: Small Vials, Pouches, Envelopes, etc.** **NOTE: Samples must be provided ready to analyze. Solid samples that are not ground to a powder nor homogenized may require additional prep work prior to analysis and additional fees will apply.**	**TAT(days) per sample/component**		
	Standard	**Priority**	**Rush***
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis only	10	5	3
$^{15}N/^{14}N$ ($\delta^{15}N$) analysis only	10	5	3
$^{13}C/^{12}C$ ($\delta^{13}C$) and $^{15}N/^{14}N$ ($\delta^{15}N$) analysis	18	8	4
$^{34}S/^{32}S$ ($\delta^{34}S$) analysis	10	5	CALL
$^{18}O/^{16}O$ ($\delta^{18}O$) analysis by TCEA-IRMS	10	5	n/a
$^{2}H/^{1}H$ (δD) analysis by TCEA-IRMS	10	5	n/a

Inorganic Samples (carbonates) by acid digestion and CF-IRMS **Sampling Containers: Small Vials, Pouches, Envelopes, etc.**	**TAT(days) per sample/component**		
	Standard	**Priority**	**Rush***
$^{13}C/^{12}C$ ($\delta^{13}C$) analysis only	10	5	3
$^{13}C/^{12}C$ ($\delta^{13}C$) and $^{18}O/^{16}O$ ($\delta^{18}O$) analysis	10	5	3

Other Services

Gas sample archiving, 10 years, 1 cylinder per sample	
Gas sample archiving, 10 years, 2 cylinders per sample	
Gas sample archiving, 10 year extension	

***Rush TAT requires advance approval and number of samples is limited.**
Call or email for specifics about Rush services.