

## ACKNOWLEDGMENTS

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Thank you to all the Subgroup Leaders and other key team members. Without their hard work and dedication to completing this project, this document would not have been possible.

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- Lila Beckley, GSI Environmental, Inc.
- Ashley Blauvelt, Rhode Island Department of Environmental Management
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- Corin Fogle, Ohio Environmental Protection Agency
- David Folkes, Geosyntec Consultants, Inc.
- Tom Fox, Colorado Division of Oil and Public Safety
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- Richard Hamner, Alabama Department of Environmental Management
- Ian Hers, Hers Environmental Consulting, Inc.
- Chase Holton, GSI
- Matthew Jenny, GSI
- Kelly Johnson, Jacobs
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## ITRC Vapor Intrusion Technical and Regulatory Guidance

- Jane Parkin Kullmann, Woodard & Curran
- Matthew Lahvis, Shell
- Andrew Leavitt, California Department of Toxic Substances Control
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### **Technical Resources for Vapor Intrusion Mitigation—December 2020**

- Kelly Johnson (TL), North Carolina Department of Environmental Quality
- Matthew Williams (TL), Michigan Department of Environment, Great Lakes, and Energy
- Steve Brauner (PA), Environmental Works, Inc.
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### **Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management—October 2014**

- John Boyer (TL), New Jersey Department of Environmental Protection
- John Menatti (TL), Utah Department of Environmental Quality
- Matthew Williams (TL Training Team), Michigan Department of Environmental Quality
- Mary Yelken (PA), The Yelken Group

### **Vapor Intrusion Pathway: A Practical Guideline—January 2007**

- John Boyer (TL), New Jersey Department of Environmental Protection

## ITRC Vapor Intrusion Technical and Regulatory Guidance

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Name	Company	2007	2014	2020	2026
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Barker, Nicholas	TRC				○
Barnett, Pam	RACER Trust				○
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Bauders, Vanessa	U.S. Army Corps of Engineers		○		
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Baushke, Sam	Geosyntec Consultants, Inc.			○	
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Beckley, Lila	GSI Environmental, Inc.	○	●	●	
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Bergeron, Eric	Golder Associates			○	
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Blauvelt, Ashley	Rhode Island Department of Environmental Management				●
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Blodgett, Eric	Barr Environmental Company	○	●		
Bolint, James	GHD			○	
Bond, Bob	Langan			○	
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## ITRC Vapor Intrusion Technical and Regulatory Guidance

Name	Company	2007	2014	2020	2026
Booze, Thomas	California Environmental Protection Agency, California Department of Toxic Substances Control		○		
Borski, Jennifer	Wisconsin Department of Natural Resources		●	●	
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Broughton, Anita	Haley & Aldrich, Inc.	○			
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Brown, Christopher	Delaware Department of Natural Resources and Environmental Control		●		
Brown, Kevin	San Francisco Bay Regional Water Quality Control Board	○			
Brown, Marshall	South Dakota Department of Environment and Natural Resources		○		
Brown, Michelle	U.S. Air Force		○		
Brown, Sarah	North Carolina Department of Environmental Quality		○		
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Burns, Richard	Conestoga Associates (2007); Conestoga-Rovers & Associates (2014)	○	○		
Burrows, Chris	ERM		○		
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Byrd, Stacy	CETCO			○	
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Caldwell, Kimberly	Department of Environmental Conservation Waste Management & Prevention Division		○	○	
Camarata, Mary	Oregon Department of Environmental Quality	○			
Camera, Frank	New Jersey Department of Environmental Protection	○			
Capasso, J.R.	City of Trenton, New Jersey		●		
Carey, Brian	Terracon		○		
Carrington, Troy	Shell		○		
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Champagne, Jared	Louisiana Department of Environmental Quality		○		
Chan, Angus	California State Water Resources Control Board			●	
Chance, Joel	GHD		○		
Chang, Pamela	Battelle Memorial Institute		○		
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Coley, James	South Australian Environmental Protection Agency		○		
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Name	Company	2007	2014	2020	2026
Cook, Anna-Marie	U.S. Environmental Protection Agency			○	
Cook, Laura	U.S. Navy				○
Cook, Shannon	Ohio Environmental Protection Agency			●	
Corcoran, Andrew	ERM			○	
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Corsello, Joe	Sanborn Head & Associates, Inc.			●	
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Crum, Jeff	Hamp, Mathews & Associates, Inc.		○	○	
Cushing, Pamela	Canada Department of National Defence		○		
Dally, Katie	Arcadis		○		
Davin, Jeffrey	Brown and Caldwell			○	
Davis, Luke	Tetra Tech, Inc.			○	
Davis, Robin	Utah Department of Environmental Quality		●		
Denly, Elizabeth	TRC				○
DeVault, George	Shell		●	○	○
Donatucci, John	Kleinfelder			○	
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Dubec, Katie	AECOM			○	
Dukes, Craig	South Carolina Department of Health and Environmental Control		○		
Dyson, Joann	GHD				○
Easly, Dianne	U.S. Environmental Protection Agency	○			
Ecker, Paul	EES Environmental Consulting, Inc.			○	
Edwards, Amy	Holland & Knight, LLP	○			
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Eklund, Bart	URS Corporation	○	○		
Elcoate, Will	Alpha Analytical			○	
Epema, David	Missouri Department of Natural Resources			○	
Epple, Eric	Arcadis				○
Eremita, Peter	Maine Department of Environmental Protection	○			
Ettinger, Robert	Geosyntec Consultants, Inc.		○	○	
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Faulkner, Scott	Jacobs			○	
Felix, Mike	U.S. Army Corps of Engineers			○	
Ferguson, Chris	Protect Environmental			○	
Ferreira, James	U.S. Environmental Protection Agency			○	
Fiedler, Becky	Illinois Environmental Protection Agency			○	
Fields, Cheryl	Connecticut Department of Energy and Environmental Protection				○
Fisher, Mark	U.S. Army Corps of Engineers	○			
Fitch, Todd	U.S. Air Force Civil Engineer Center			○	
Fitton, Douglas	LFR Inc.		○		
Flagg, Jason	Langan			○	
Flammia, Dwight	Virginia Department of Health				○
Fogle, Corin	Ohio Environmental Protection Agency				●
Folkes, David	EnviroGroup Limited (2007); Geosyntec Consultants, Inc. (2014, 2020, 2026)	●	●	●	●

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Name	Company	2007	2014	2020	2026
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Gates, Kimberly	U.S. Naval Facilities Engineering Service Center	○			
Gath, Ken	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Gattenby, Jessica	Arcadis				○
Gaurin, Sandra	BEM Systems, Inc. (2007); Tetra Tech (2014)	○	○		
Geissler, Jared	Terracon				○
Gilland, Ken	Buck Engineering		○		
Gillespie, Rick	Regenesis			●	
Gimson, Kirby	Intrinsyx				○
Gledhill, Johnathan	Policy Navigation Group		○		
Golding, Joshua	Langan			○	
Goodwin, Debi	Arizona Department of Environmental Quality				○
Gorman, Angela	South Carolina Department of Health and Environmental Control			●	
Grant, Jamie	Alaska Department of Environmental Conservation		○		
Grant, Peter	EPRO		●	○	
Grape, Tim	Minnesota Pollution Control Agency		●		
Graves, Cheryl	Arizona Department of Environmental Quality			○	
Green, Scott	Arizona Department of Environmental Quality		○		
Grevengoed, Lincoln	Utah Department of Environmental Quality				○
Grimes, Jerry	Virginia Department of Environmental Quality	○			
Groves, Matthew	GHD			○	
Gruszczak, Carl	Connecticut Department of Energy & Environmental Protection		○	○	
Guinot, Guy	ERM			○	
Guiseppe-Elie, Annette	DuPont Engineering		○		
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Haddad, Elie	Haley & Aldrich, Inc.			○	
Hajicek, Marilyn	Colorado Department of Labor and Employment	○			
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Hamilton, Megan	Arcadis				○
Hamner, Richard	Alabama Department of Environmental Management			●	
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Hanley, Jeanene	Arizona Department of Environmental Quality	○			
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Harrover, Poppy	U.S. Army			○	

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Name	Company	2007	2014	2020	2026
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Hawbaker, Carol	Illinois Environmental Protection Agency			○	
Hawkins, Dusty	Alabama Department of Environmental Management			○	
Hawthorne, Mike	GEI Consultants, Inc.			○	
Hecker, Brian	GES, Inc.			○	
Hecker, Joel	Pioneer Technologies Corporation			○	
Heckle, Chris	Protect Environmental			○	
Heidlauf, David	Ramboll			○	
Henry, Christophe	Jacobs			○	
Hernandez, Noel	New Mexico Environmental Department			○	
Hers, Ian	Golder Associates Ltd (2014); Hers Environmental Consulting, Inc. (2020, 2026)	●	○	●	
Hewitt, Geoff	ION Science, Inc.		○		
Higgins, Tom	Minnesota Pollution Control Agency	○	○		
Hodny, Jay	W.L. Gore & Associates, Inc. (2007); Amplified Geochemical Imaging, LLC (2014)	○	○		
Hoffine, Stephen	Burns and McDonnell Engineering Company, Inc.	○			
Holton, Chase	GSI Environmental, Inc.			●	
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Hong Luo, Emma	Chevron			○	○
Hopkins, Harley	American Petroleum Institute (2007); ExxonMobil (2014)	○	○		
Hornaday, Chuck	Vadose Remediation Technologies			○	
Horwath, Andrew	Civil & Environmental Consultants, Inc.			○	
Hoyleman, Kyle	Protect Environmental			○	
Huber, Jane	Eurofins			○	
Hudgins, Mike	Terracon			○	○
Hutchens, James	Ramboll			○	○
Hutchinson, Courtney	Terracon				○
Hyman, Michael	North Carolina State University			○	
Ingling, Madison	Terraphase			○	
Jaimes, Ricardo	Michigan Department of Environment, Great Lakes, and Energy			○	
Jarrett, Alex	Tetra Tech, Inc.			○	
Jeng, Chawn	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Jenkins, Allison	Texas Commission of Environmental Quality			○	
Jenny, Matthew	GSI Environmental, Inc.			●	
Johnson, Greg	Colorado Department of Labor and Employment	○			
Johnson, Kelly	North Carolina Department of Environmental Quality (2020); Jacobs (2026)			●	●
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Jones, Ryan	Brown and Caldwell			○	
Jonker, Sarah	Arcadis			○	
Jordan, Brian	OSD			○	
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Name	Company	2007	2014	2020	2026
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Kolhatkar, Ravi	Chevron		○		
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Kuzmkowski, Christine	Woodard & Curran			○	
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Lahvis, Matthew	Shell	●	●	●	
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Leeper, Mark	Colorado State University			○	
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Name	Company	2007	2014	2020	2026
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Lutes, Chris	Jacobs			○	○
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Madabhushi, Sriram	AECOM				○
Malagon, Alan	ERM			○	
Mallonee, Cathryn	Kansas Department of Health and Environment			○	
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Martich, Ben	Geosyntec Consultants, Inc.		●		
Marzooghi, Solmaz	California State Water Resources Control Board			○	
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Mathews, Alan	Hamp, Mathews & Associates, Inc.			○	
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McAlary, Todd	Geosyntec Consultants, Inc.		●		○
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McCoy, Richard	Air National Guard			○	
McCue, Dana	EHS Support, LLC				○
McDonnell, Erin	Oregon Department of Environmental Quality				○
McGill, Alicia	Georgia Environmental Protection Division			○	
McGraw, Maureen	Tetra Tech, Inc.			○	
McGuigan, Claire	Alberta Environment & Parks			○	
McHugh, Thomas	GSI Environmental, Inc.		○		
McIntosh, Lisa	Terraphase				○
McKercher, William	Mississippi Department of Environmental Quality	○	●		
McKinley, Susan	Indiana Department of Environmental Management		●	●	
McLoughlin, Patrick	McLoughlin Environmental Science, LLC.			○	
McNulty, Kathy	U.S. Department of Housing and Urban Development			○	
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Mellow, John	Pennsylvania Department of Environmental Protection		○		
Menatti, John	Utah Department of Environmental Quality		●		
Merola, Kristina	New Jersey Department of Environmental Protection			○	
Meskanen, Nikki	GHD			○	
Metheny, Laura	Kansas Department of Health and Environment			○	
Meyers, Alex	Integral			○	
Michael, Sara	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
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Name	Company	2007	2014	2020	2026
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Mongeon, Robin	New Hampshire Department of Environmental Services		○		
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Morris, Melinda	South Australian Environmental Protection Agency			○	
Morris, William	Kansas Department of Health and Environment (2007); Vapor Mitigation Sciences, LLC (2014, 2020)	●	●	●	
Morrison, Shane	Michigan Department of Environment, Great Lakes, and Energy				○
Mulry, Christopher	GES, Inc.		●		
Murshed, Nabil	Georgia Department of Natural Resources			○	
Muthu, Ranga	ExxonMobil			○	
Myers, Perry	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Myller, Brian	Pinyon Environmental, Inc.		○		
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Navas, Sandra	EP Petroecuador			○	
Nemesh, Joseph	Tetra Tech, Inc.			○	
Newhart, Gary	U.S. Environmental Protection Agency			○	
Newton, Susan	Colorado Department of Public Health and Environment		○		
Ni'Mary, April	Virginia Department of Environmental Quality			○	
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Nilsen, Frannie	North Carolina Department of Environmental Quality			○	
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O'Hearn, Michael	Wood PLC			○	
O'Neill, Harry	Beacon Environmental			○	
Oliver, Rebecca	Geosyntec Consultants, Inc.			○	
Olm, Richard	Arizona Department of Environmental Quality	○			
Olson, Ethan	Battelle Memorial Institute			○	
Osgerby, Ian	U.S. Army Corps of Engineers	○			
Ostrowski, Marek	Brown and Caldwell		●	○	
Pabich, Matthew	Idaho Department of Environmental Quality		○		
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Paladugu, Srikanth	New Mexico Department of Health			○	
Panchol, Reuben	North Carolina Department of Environmental Quality			○	
Panzino, Paula	Arizona Department of Environmental Quality			○	
Paolucci, Angela	Battelle Memorial Institute			○	
Pappoe, Michael	AECOM			○	
Parcher, MaryAnn	Groundwater & Environmental Services, Inc.		○		

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Name	Company	2007	2014	2020	2026
Parekh, Bhuvnesh	GZA GeoEnvironmental, Inc.			○	
Parkin Kullmann, Jane	Woodard & Curran				○
Patel-Coleman, Kanan	Burns & McDonnell Engineering Company, Inc.				○
Payne, Derek	Battelle Memorial Institute			○	
Penzone, Mike	Delaware Department of Natural Resources and Environmental Control				○
Peters, Daniele	EES Environmental Consulting, Inc.			○	○
Peterson, Chrissy	EHS Support, LLC			○	
Petry, Augusto	ERM			○	
Pettit, Michael	ERM			○	
Pfister, Mike	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Pfister, Susan	Wood PLC			○	
Pica, Nasim	CDM Smith			○	
Pirozek, Crystal	New Jersey Department of Environmental Protection				○
Plantz, Gina	Newfields (2007); Haley & Aldrich, Inc. (2014, 2020, 2026)	○	○	○	○
Plath, Ryan	ERM			○	
Poustchi, Ron	New Jersey Department of Environmental Protection	○	○	○	
Puentes, Kenneth	Engineering Analytics, Inc.			○	
Pulvino, Derek	U.S. Environmental Protection Agency			○	
Rackow, Jeff	Arizona Department of Environmental Quality			○	
Rago, Richard	Haley & Aldrich, Inc.	●	○		
Ramacciotti, Francis	GHD			○	
Regan, Catherine	Environmental Resource Management (ERM) (2014, 2020); Haley & Aldrich (2026)	●	●	●	
Reinis, Sigrida	Langan		●	○	
Reynolds, Krendon	Texas State University			○	
Rezendes, Andy	Alpha Analytical	●			
Rhiner, Ben	U.S. Navy			○	
Rice, Will	Montrose			○	
Rickli, Jonathan	Burns & McDonnell Engineering Company, Inc.			○	
Riegert, Michael	U.S. Army Corps of Engineers			○	
Ries, Divinia	Elkhart County, Indiana			○	
Ririe, Todd	BP		●		
Roberts, Steve	EES Environmental Consulting, Inc.			○	
Robinson, Robert	TRC			○	
Roche, Allison	Woodard & Curran			○	
Rodak, Andrew	Duncklee & Dunham, P.C. (2020); TRC (2026)	○	○		
Rolison, Christopher	Pinyon Environmental, Inc.			○	
Roob, Christine	North Dakota Department of Environmental Quality			○	
Rosano, Debbie	U.S. Department of Energy			○	
Roth, Julia	Clean Vapor LLC			○	
Rousseau, Matthew	GHD			○	
Rydquist, Eric	Brice			○	
Saari, Rachel	Arcadis			○	○
Salameh, Marwan	Terracon			○	○
Sanchez, Craig	California State Water Resources Control Board			○	

## ITRC Vapor Intrusion Technical and Regulatory Guidance

Name	Company	2007	2014	2020	2026
Sandberg, Brian	GHD			○	
Sarmiento, Riz	California Environmental Protection Agency, California Department of Toxic Substances Control (2020); WSP (2026)			○	○
Schaettle, Jessica	Langan			○	
Schiwal, Alyssa	North Dakota Department of Environmental Quality				○
Schnorr, Barry	Ramboll				○
Schohn, Collin	BBJ Group				○
Schuver, Henry	U.S. Environmental Protection Agency		○		
Seitz, Sarah	Trihydro Corporation			○	
Shea, David	Sanborn, Head & Associates, Inc.			○	
Sherman, Jason	Air Force Environmental Law Field Support Center			○	
Siders, Mary	Nevada Division of Environmental Protection		○		
Siegel, Lenny	Center for Public Environmental Oversight	●		●	●
Singh, Deepak	District Department of the Environment (Washington, DC)	○	○		
Sirinek, Lawrence	West Virginia Department of Environmental Protection		○		
Smith, Matt	Orange County Sanitation District			○	
Smith, Nelly	Alabama Department of Environmental Management	○			
Sommargren, Erik	Sierra Club			○	
Souza, Andre	Cetrel			○	
Specht, Megan	Pennsylvania Department of Environmental Protection				○
Spence, Lynn	Chevron	●			
Spencer, Tracey	U.S. Marine Corp		○		
Spiese, Richard	Vermont Waste Management Division		○	○	
Sprenger, James	Jacobs			○	
Stackhouse, Jennifer	Kleinfelder (2020); California Department of Toxic Substances Control (2026)		○		●
Stevens, Michael	TRC			○	
Stocum, Jonathan	GES, Inc.			○	
Stokes, Kimberly	Jacobs			○	
Strauss, Peter	PM Strauss and Associates		○		
Stubbs, Chris	Ramboll		○	○	
Suggs, Shannon	North Dakota Department of Environmental Quality			○	
Sun, Wenjie	Agency for Toxic Substances and Disease Registry			○	
Szocinski, Thomas	GES, Inc.			○	
Tanaka, John	BBJ Group			○	
Taranto, Stephen	TRC			○	
Tay, Herman	WSP			○	
Taylor, Neil	Utah Department of Environmental Quality	○			
Taylor, Zachary	National Park Service				○
Teipel, Alexa	Ramboll		○		
Telano, Jessica	Honeywell			○	
Teuscher, Kathleen	TRC				○
Thapa, Kritika	EA Engineering				○
Thoma, Debra	South Carolina Department of Health & Environmental Control		○	○	●
Thompson, Rod	Indiana Department of Environmental Management	○			

## ITRC Vapor Intrusion Technical and Regulatory Guidance

Name	Company	2007	2014	2020	2026
Thompson, Shannon	South Australian Environmental Protection Agency			○	
Thompson, Shannon	Trihydro Corporation			○	
Thornton, Garrett	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Tillman, Fred	U.S. Environmental Protection Agency	○			
Tisdell, Shawn	Alaska Department of Environmental Conservation			○	
Tomlinson, Derek	Geosyntec Consultants, Inc.		○		
Tomlinson, Priscilla	Washington State Department of Ecology			○	
Traister, Matthew	O'Brien & Gere	○			
Trozzolo, Laura	AECOM (2014); TRC (2020)		○	○	○
Truesdale, Robert	RTI	○			
Tucker, Holly	Ohio Environmental Protection Agency			○	
Tull, Kerry	Wood PLC			○	
Ures, Tina	California State Water Resources Control Board				●
VanCleve, Audrey	Minnesota Pollution Control Agency	○			
Vandell, Terry	Phillips 66	○			
Varner, Abby	Hamp, Mathews & Associates, Inc.			○	
Vedagiri, Usha	WSP			○	
Verwiel, Ann	ToxStrategies, Inc.			○	
Vowles, Cory	WSP			○	
Wagaw, Wally	Michigan Department of Environment, Great Lakes, and Energy			○	
Waiss, Erik	Nebraska Department of Environment and Energy				○
Walker, Teresie	U.S. Naval Facilities Engineering Systems Command			○	
Walker, Tom	U.S. Environmental Protection Agency	○		○	
Walker, Yvonne	Navy Environmental Health Center	○			
Wallbom, Todd	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Wang, Nina	Alberta Health			○	
Wang, Qian	Georgia Department of Natural Resources			○	
Wardle, Alexander	U.S. Environmental Protection Agency			○	
Watikunas, Megan	Michigan Department of Environment, Great Lakes, and Energy			○	
Weaver, Rachel	Terraphase			○	
Weinberg, Nadine	ERM			○	
Wells, Brett	U.S. Environmental Protection Agency			○	
Whetzel, Jim	W.L. Gore & Associates, Inc.(2007); Amplified Geochemical Imaging, LLC (2014)	○	○		
Willard, Frank	Virginia Department of Environmental Quality				○
Williams, Matt	Michigan Department of Environment, Great Lakes, and Energy	○	●	●	●
Williams, Matthew	Arcadis			○	
Williamson, Bryce	New Mexico Environmental Department			○	
Winger, Elizabeth	Eurofins			○	
Xavier, Garcia	Litoclean—Spain			○	
Yang, Li	California Environmental Protection Agency, California Department of Toxic Substances Control			○	
Yargeau, Tedd	California Environmental Protection Agency, California Department of Toxic Substances Control		○		
Zemek, Peter	TRC			○	

Name	Company	2007	2014	2020	2026
Zentmeyer, James	Civil & Environmental Consultants, Inc.			○	
Zevitas, Chris	U.S. Department of Transportation			○	
Zhuang, Yuan	Ramboll			○	
Ziegler, Ken	City of Albuquerque, Environmental Health Department			○	
Zimmerman, Brian	U.S. Department of Energy			○	
Zimmerman, John	U.S. Environmental Protection Agency			○	

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