



CSAP FALL 2014 PROFESSIONAL DEVELOPMENT WORKSHOP

Evolving with Policy and Technology

DRAFT Agenda

Date: Oct 23, 2014

Time: 8:30 check-in, 9 am start

Location: 1055 Canada Place, West Meeting Room, Level One

Morning Session:

9:00 – 9:05	Introduction: morning session	Greg Southerland
9:05 – 9:20 (20 minutes)	CSAP updates – thank you to retiring board members <ul style="list-style-type: none"> • Tech Review Committee – 10 minutes • Performance Assessment Committee – 10 minutes 	Catherine Schachtel Guy Patrick Reidar Zapf Gilje
9:20 – 9:35	PVP / Risk Assessment Update	Mike Rankin Sam Reimer
9:35 – 9:50	Converting an AiP to a CoC when vapour management is in use	Keith Gagne Bob Symington
9:55 – 10:10	“Vapour Intrusion in High Density Development: This session provides an update on the work initiated by Science Advisory Board for Contaminated Sites in 2011. The intent is to differentiate between residential development styles when assessing vapour intrusion risk. The session will highlight recent approaches to developing attenuation factors applicable to high density development.”	Andrew Sorensen– Mark Adamson, Ian Hers
10:10 – 10:35	<i>Coffee Break</i>	
	Innovative Solutions	
10:35 -11:05 (30 min)	Using negative pressure to identify vapour - what is and isn't acceptable Distinguishing between Vapour Intrusion (VI) and indoor sources of VOC is a significant challenge in site assessments, greatly increasing the cost and complexity of investigations. Rapid on-site analysis of indoor air samples using a GC/MS allows the users to understand the distribution of VOC in real-time, supporting a real-time identification of the source. For this project, we have developed a protocol for using on-site GC/MS analysis to distinguish between VI and indoor sources of VOC. The overall objective of the demonstration is to validate the accuracy and utility of the protocol for the evaluation of VI.	ESTCP Thomas McHugh Mike Rankin



<p>11:05– 11:35 (30 minutes)</p>	<p>Update on Silica Gel use to Separate Polar Compounds in Water Samples</p> <p>Update on Nature and Toxicity of Polar Metabolites in Water Samples</p> <p>Groundwater at fuel release sites often contains nonpolar hydrocarbons that originate from both the fuel release and other environmental sources, as well as polar metabolites of petroleum biodegradation. These compounds, along with other polar artifacts, can be quantified as “total petroleum hydro- carbons” using USEPA Methods 3510/8015B (or as LEPH/HEPH in BC) unless a silica gel cleanup step is used to separate the hydrocarbons and polars. This separation is necessary because the regulatory limits for “LEPH/HEPH” are based on the properties of the hydrocarbons assumed to be present, and not on the properties of the polars. This work presents the nature and toxicity of polar metabolites present in groundwater at biodegrading fuel release sites that are removed by the SGC. The metabolites are mixtures of organic acids, alcohols, and ketones, with very minor aldehydes and phenols. The mixture is of “Low” toxicity ranking to humans (lower than the aromatic hydrocarbons). The metabolites naturally biodegrade also, and the trend is toward more organic acids and lower overall toxicity with increasing biodegradation. Update on aquatic toxicity testing of groundwater samples will be presented</p>	<p>Dawn A. Zemo, PG, CEG Zemo & Associates, Inc.</p> <p>Bob Symington</p>
<p>11:35 – 12:05 (30 minutes)</p>	<p>CO2 Flux Measurements to Estimate Source Zone Natural Attenuation</p> <p>Light non-aqueous phase liquids (LNAPLs) are commonly found beneath petroleum facilities. Recent studies suggest that natural LNAPL losses are significant and may rival hydraulic recovery technologies. Therefore, it has become clear that accurately estimating natural LNAPL loss rates is a crucial step in developing efficient and effective (i.e. sustainable) remediation strategies at LNAPL sites. In support of a need for simple and robust methods to estimate natural LNAPL losses CO2 can be measure and used to calculate natural LNAPL loss rates.</p>	<p>Mark Lyverse Senior Staff Hydrogeologist Site Assessment & Remediation Team Chevron Energy Technology Company</p> <p>Bob Symington</p>
<p>12:05 – 1:30</p>	<p><i>Lunch Break</i></p>	



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Afternoon Session

	Introduction: afternoon session	Michael Rankin
1:30 -2:15	Recent discussion papers (Teeing up Regulatory Review) <ul style="list-style-type: none"> • Site Profiles • Soil Relocation Agreement • Regulatory Change 	MOE
2:15- 3:00	Recent ministry document report out: <ul style="list-style-type: none"> • 14 documents recently release (including Performance Verification Plans) • Vapour guidance updates 	MOE
3:00 – 3:15	<i>Coffee Break</i>	
OPTION B 3:15 –4:00 (45 minutes)	Panel discussion: <ul style="list-style-type: none"> • Under construction 	Moderator Paul Cassidy
	<i>Closing Remarks</i>	

JOIN US FOR A “NO HOST” HAPPY HOUR – MAHOENY & SONS, PROMANADE LEVEL FOLLOWING THE WORKSHOP

CSAP PD Workshops qualify as professional development hours (Fall PD workshop 6 hours)



MARK LYVERSE BIO

Mark Lyverse is a senior staff hydrogeologist with Chevron's Energy Technology Company. He is a member of the Site Assessment and Remediation Team in San Ramon , California and is a subject matter expert in LNAPL. Since 1990, he has provided technical advice both domestically and internationally to project managers and consultants in the areas of developing site strategies, site characterization, assessment, and remediation. His experience prior to Chevron includes 10 years with the U.S.G.S and 2 years in private consulting. Mark has been a member of the American Petroleum Institute's soil and groundwater technical group since 2002 and was industry co-chair the former RTDF LNAPL group from 2001-2005. In that role he made technical presentations to over hundreds of attendees from various regulatory and stakeholder groups. In addition, he routinely provides technical transfer workshops and seminars to project managers engaged in site assessment and remediation activities at numerous Chevron sites. His current research interests include a collaboration with Colorado State University (CSU) investigating LNAPL stability/ mobility/ recoverability, natural source zone (LNAPL) depletion, and developing innovative techniques to better understand and manage petroleum sheens. He is a co-inventor on three patents with CSU related to these topics. Mark earned a bachelor of science degree from Utah State in Logan in 1977 and a master's degree in Water Resources (specialization in hydrology) from the University of Wyoming in Laramie in 1981.