



#### OWSG GENERAL MEETING September 28, 2022

#### 8:01 am CDT Start Time

Jonathan Lightfoot (Oxy) Sub-Committee Chair



#### Wellbore Positioning Technical Section



The Industry Steering Committee on Wellbore Survey Accuracy (ISCWSA)

2

Name	Operator Affiliation	Email	Attendees – Sept 28, 2022		
Jonathan Lightfoot	Оху	Jonathan_lightfoot@oxy.com	Guest Name	Affiliation	Email
Pete Clark	Chevron	peterjclark@chevron.com	Philip Gurden	Gurden Technical	philip@gurden.gotadsl.co.uk
Dalis Deliu	ConocoPhillips	Dalis.Deliu@conocophillips.com		Consultancy	
Frank Gao	Оху	Frank_Gao@oxy.com	Tim Paton	Superior QC	Timothy.paton@superiorqc.com
Tatiana Gobert	Оху	Tatiana_Gobert@oxy.com	Mike Calkins	Three Sigma Well Design, LLC	<u>tswd@threesigmawelldesign.com</u>
Ryan Carlson	XTO (ExxonMobil)	ryan.p.carlson@exxonmobil.com	David Gutierrez	Superior QC	David.Gutierrez@superiorqc.com
Juan Sierra	Оху	Juan_Sierra@oxy.com	Chad Hanak	Superior QC	chad@superiorqc.com
Matt Weber	Shell	Matthew.Weber@shell.com	Marc Willerth	HP Tech	Marc.Willerth@hpinc.com
Bill Allen	Вр	William.Allen@bp.com	Jerry Codling	Halliburton	Jerry.Codling@hallibrton.com
David Baker	ConocoPhillips	David.Baker@conocophillips.com	Adrian Ledroz	Gyrodata	Adrianl@GYRODATA.com
Juan Jose Exposito	CEPSA EP SA	juanjose.exposito@cepsaep.com	Philip Harbidge	Path Control	philip.harbidge@pathcontrol.com
Heather Vannoy	EOG Resources	Heather_Vannoy@eogresources.com			
Nicholas Robertson	Вр	nicholas.robertson@uk.bp.com			
Matt Weber	Shell	Matthew.Weber@shell.com			
Will Tank	Оху	Willard_Tank@oxy.com			
Petter Kvandal	Akerbp	petter.kvandal@akerbp.com	9/28/2022 Attendees		



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## AGENDA

- OWSG Mission & Anti-Trust
- API RP-78 Update Jonathan Lightfoot (Oxy)
- Power BI Well Placement Dashboard Nicholas Robertson (bp)
- Independent Advanced Magnetic Survey Correction Verification & Evaluation Workflow Technical Presentation from Chad Hanak (Superior QC)
- Collision Avoidance on Plugged and Abandoned Offset Wells Dalis Deliu (ConocoPhillips)
- Upcoming Events
- Open Discussion Session
  - ISCWSA Rev 5.1 Implementation of Current Error Models
  - Future adoption plans for the WPTS Well-Collision-Avoidance Separation Rule (SPE-187073-PA)





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### Introductions

- Name
- Company Affiliation
- Favorite Music Genre



Music Genres for Your Business | Jukeboxy Music for Business





# **OWSG Mission**

To promote practices that provide confidence that reported wellbore positions are within their stated uncertainty.





## **OWSG Anti-Trust**

We are meeting to help develop and promote good practices in wellbore surveying necessary to support wellbore construction which enhance safety and competition.

The meeting will be conducted in compliance with all laws including the antitrust laws, both state and federal. We will not discuss prices paid to suppliers or charged to customers nor will we endorse or disparage vendors or goods or services, divide markets, or discuss with whom we will or will not do business, nor other specific commercial terms, because these are matters for each company or individual to independently evaluate and determine.





### API RP-78

- Technical Writer Employed Evan Bernard
- Master Draft for Comment 50% Complete
- Terms & Abbreviations edited for consistency

SharePoint				٥
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American Petri MyCommit	teen Institute  MyCommittees My Rosters Shared Documents  MyCommittees - Stadards - Dailing & Production Ope	rations > RP 7	8 TG	
Documents	🕀 New 🏦 Upload 😴 Sync. 📿 Share M	ore 🗸		
Shared Documents	All Documents Explorer View +++ Find a file	Q		
Lists Calendar Tasks	<ul> <li>Name</li> <li>00-API RP 78</li> </ul>		Modified April 13, 2021	Modified By
Discussions Team Discussion	<ul> <li>0-API Documents for Standards Development</li> <li>0-BSEE Report and RP 78 WG Comments</li> </ul>	***	August 6, 2019 August 6, 2019	🗌 cocob@api.org
Sites	<ul> <li>0-Material Not Utilized - e.g., educational or out of scop</li> </ul>	e	August 6, 2019	🗆 encob@api.org
People and Groups	Anti-Collision WG		April 11, 2016	Cocob@api.org
Site Contents	Database WG	***	April 11, 2016	cocob@api.org
	Directional Survey Records WG	+++	June 1, 2016	□ jonsthan_lightfoot@oxy.com
	Maps-Plots-Graphics WG		April 11, 2016	🗆 cocob@api.org
	Measurement and Calculation WG	***	February 13, 2018	Deterjelark@chevron.com
	Meeting Sign-in Sheets	-++	April 11, 2016	□ cocob@api.org
	Operation-Execution WG	+++	April 11, 2016	cocob@api.org

Department Coordinator Parent Committee Term Email Start Date		Standards Development										
		Benjamin J Coco Standards Committees rp78tg@listserve.api.org 03/02/2016										
							End	Date				
							Director		Benjamin J Coco			
								Member Name		Company		
1	Abe King		Shell USA, Inc.									
2	Adrian Ledroz		Gyrodata Incorporated									
3	Alba Arroyo		Schlumberger									
4	Alexey Ruzhnikov		Schlumberger									
5	Alton Payne		Bureau of Safety and Environmental Enforcement									
6	Andy Sentance		DigitalGlobe									



cocob@api.org

Task: Organize a general meeting for Workgroup Members on November 17th





# **Power BI Well Placement Dashboard**

- Automates the generation and comparison of well coordinate logs
- Provides insight day-to-day well location changes
- Flags unexpected data changes for investigation
- Close out expected changes with supporting comments



Presentation from Nicholas Robertson (bp)



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### Independent Advanced Magnetic Survey Correction Verification & Evaluation Workflow



Presentation from Chad Hanak (Superior QC)

Advanced Magnetic Survey Correction Verification - Presentation





# Practical solutions for everyday issues - Permian

- How are we dealing with NO data?
  - Wells with no surveys, assumed vertical
  - P/A wells, do we know what we don't know
  - Surface locations challenges ??
- How do we deal with potential collision with these wells?
  - What SF is good enough in planning
  - What SF is good while operating
- Any parties interested in sharing new Gyro's of the wells with no previous data





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## Excerpt from past presentation – Life 2019

- <u>https://www.landmark.solutions/life2019-presentations</u>
- Getting the Most Out of Your COMPASS™ Software
- Jonathan Lightfoot, Drilling Engineering Consultant, Occidental Petroleum
- Quite often, it is difficult to find key well records needed for collision avoidance work. Our company needed to create a simplified offset wellbore research tool to aid in collision avoidance research workflows. We had the desire to make this available directly within the EDT™, COMPASS™, and OpenWells® applications. Innovative hyperlink research tools, workflows, and collision avoidance methods were employed directly within the COMPASS application. We were able to create useful links directly to critical well records. Important offset well environment details such as scanned records, digital files, directional surveys, wellbore logs, GIS maps, and other useful offset information were added directly to the user interface. Engineers and well planning team members now have efficient access to helpful well research tools directly within the COMPASS and OpenWells applications. This allows for efficient research when evaluating the status of offset wells in close proximity to future planned wells. These new methods of research improve the quality of work and streamline efficient direct access to critical well attributes and information, thus saving time and helping to ensure that the most accurate information is used in the planning and wellbore construction process.
- LISTEN TO THE ORIGINAL PRESENTATION HERE





#### Upcoming Technical Events

- <u>SPE ATCE 2022</u>
- <u>WPTS / ISCWSA #56</u>
- <u>API RP 78 Mtg</u>
- <u>OWSG SC Mtg. 21</u>

October 5<sup>th</sup> & 6<sup>th</sup> The Laura Hotel, Houston TX

November 17<sup>th</sup>

October 3<sup>rd</sup> - 5<sup>th</sup>

- November 22<sup>nd</sup>
- TBD (Organized by API), Houston TX

George R. Brown Conv. Ctr., Houston

<sup>d</sup> Virtual Teams Mtg.





#### Regional Technical Forum – AADE Event

- <u>2022 AADE Technical Forum</u> October 11<sup>th</sup> Bush Convention Center, Midland TX
- Surveying Technology, Quality & Wellbore Placement Accuracy
  - West TX MWD Market Update David Gibson (Gibson Reports)
  - General Survey Quality, Survey Errors, and Survey QC Process Nicholas Zachman (K&M Technology)
  - Introducing an Industry Standard Process to Validate Accuracy of Survey Correction Software Chad Hanak (Superior QC)
  - Practical approach to evaluating wellbore collision risk with vertical wells Cade Jackson (Deep Energy LLC)
  - Permian Bain Case Studies related to Overall Cumulative Curvature Jonathan Lightfoot (Oxy)



American Association of Drilling Engineers (aade.org)

Permian Basin :: American Association of Drilling Engineers (aade.org)



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# **Open Discussion**

ISCWSA Rev 5.1 Implementation of Current Error Models

Open Discussion

Future adoption plans for the WPTS Well-Collision-Avoidance Separation Rule (SPE-187073-PA)

Other Business?

OWSG Teams / SharePoint Collaboration Site 2023 Virtual & In-Person Mtg Options





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# Thank you

Questions?





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#### Anonymous Chat Comments

- Nicky, nice presentation, much better than the old spreadsheet. You can now automate the generation of WCL files through compass command line so you can just run it on a timer.
- Great presentation Chad and Phil. This does have some cross over with what Andy MacGregor (Error Model) and the Survey QAQC Subcommittees will work on providing recommended practice and attempting to standardize the process
- Finding a heavy-tailed declination error sounds like a tall order for a Survey correction company
- Having done this manually for a lot of years :-(, the visualization of the database integrity overcomes the concern of how good is the database we are using to make risk management evaluations. Excellent stuff
- Jonathan, its in my backlog to have a picklist on site and well location, to define surface location type & choose the error radius from RP78, its in the DB now
- If you dig into the old literature, there are survey corrections you can do on those acid bottles!
- In the US I have seen some operators use "Site uncertainty" to distinguish for wells on a pad.....often you have more confidence in the relative placement of adjacent slots on a pad compared to wells approaching toe-to-toe from differing pads
- Closing Comments: Thank you all and for hosting; Thanks a lot | Got to go to another meeting appreciate the share | thanks. look forwards to seeing folk at ISCWSA | Thanks, everyone. Great presentations. I have to leave for another meeting. See you next week at the ISCWSA meeting!! | Thank you, Jonathan Lightfoot for a great session. Motivating and informational!