

Wellbore Positioning Technical Section



The Industry Steering Committee on Wellbore Survey Accuracy (ISCWSA)

# OWSG / API RP-78

Jonathan Lightfoot & Will Tank



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## OWSG & RP-78 Outline

- Introduction
  - Future OWSG Meetings
  - Anti-Trust
  - Meeting Outline
  - Membership Operator's
  - Minutes
- API RP-78 Update





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## Operator's Wellbore Survey Group

- **Mission:** To promote practices that provide confidence that reported wellbore positions are within their stated uncertainty.
- Founded in 2012
- Past Sub-Committee Chair Neil Bergstrom (Devon) & Pete Clark (Chevron)
- Incoming Sub-Committee Chair Jonathan Lightfoot (Occidental)
- Schedule 6 Meetings a year (Every other Month)
  - Kick-Off November 12<sup>th</sup> (8am 11am CST)





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## Anti-Trust Statement

 We are meeting to help develop and promote good practices in wellbore surveying necessary to support oil and gas operations 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.





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## **Future Meetings**

- Microsoft Teams Virtual Meetings
- Fourth Tuesday of every other Month
  - 2021 thru 2022 Dates: 11/23, 1/25, 3/22, 5/24, 7/26, 9/27 & 11/22
- Time: 8am 11am Central Standard Time (US Houston Time)
- Membership Exploration & Production Operators
  - Open to all Major, Medium, Small, Independent & National Oil and Gas Production Companies
  - No membership fees or dues required, Free to participate
  - 3-4 Planned Collaboration Discussions and/or Presentations Each Meeting



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## **Roster & Minutes**

- Participate by Emailing: <u>Jonathan\_Lightfoot@oxy.com</u>
- Meeting Minutes to be posted on ISCWSA.NET

Wellbore Standards Committees, Wellbore Surveys Committees (iscwsa.net)

https://www.iscwsa.net/committees/operatorwellbore-survey/

JOIN ISCWSA CONTACT US GET UPDATES ABOUT ~ RESOURCE LIBRARY E-BOOKS & VIDEOS ~ MEETINGS	SUBMIT ABSTRACTS SEARCH
OPERATOR WELLBORE SURVEY GROUP SUB-COMMITTEE	SPONSORS
To promote practices that provide confidence that reported wellbore positions are within their stated uncertainty.	RESOURCE LIBRARY
About Extract from 24 Jan 2018 meeting: Specification spreadsheets for sets A & B are available at http://copsegrove.sharepoint.com/Pages/OWSGSurveyToolErrorModels.aspx	From an Art to a Science: Factory Drilling Plug and Abandonment Wells at Twice
Diagnostic files for both seat A and B are available at http://copsegrove.sharepoint.com/Pages/OWSGSetA.aspx http://copsegrove.sharepoint.com/Pages/OWSGSetB.aspx	the Speed for Half the Cost Combined Gyroscopic and Magnetic Surveys Provide
Please contact OWSG Chair Person <u>Jonathan Lightfool</u> if you would like to participate in the Operator Wellbore Survey Sub-Committee.	Improved Magnetic Survey Data and Enhanced Survey Quality Control
Position Name Contact Chair Jonathan Lightfoot Jonathan_Lightfoot@oxy.com Secretary TBD	Declination Error at Depth: A Comparison Study of Gyro vs. MWD Surveys
Sub-committee Reports	VIEW ALL RESOURCES >
Meeting 47 OWSG Subcommittee Report     Meeting 46 OWSG Subcommittee Report	UPCOMING EVENTS



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American Petroleum Institute

## **RP-78 Wellbore Positioning**

Will Tank – Chair Jonathan Lightfoot – Vice Chair Pete Clark – Technical Advisor Ben Coco – API Representative

A special word of thanks to everyone in the industry that has contributed to this effort. Many hours have been volunteered to provide critical wellbore positioning guidance to the industry and it is our goal to finish this effort and get the document published.





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## API RP 78 Wellbore Positioning

**Current Status** 

- A draft of the document is complete.
- Ben Coco has moved the text into an API style document.
- The ISCWSA QA/QC sub-committee has reviewed the QA/QC and Directional Survey Records sections of the document to summarize a significant amount of important knowledge to fit into the document.

## **Action Items**

- Incorporate the new QA/QC and Directional Survey Records sections into the document.
- Secure a technical advisor who could commit to reviewing the entire document for a cohesive voicing of the document.
- Get a work group review of the technical cleanup prior to balloting.

This document is not an API Standard; it is under consideration within an API technical committee but has not received all approvals required to become an API Standard. It shall not be reproduced or circulated or quoted, in whole or in part, outside of API committee extinitive except with the approval of the Chairman of the committee having jurindicion and stall of the API Standards Deat. Coxyright API, AII rights reserved.

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- 1 Scope
- 2 Normative References
- 3 Terms, Definitions, Symbols, and Abbreviations
- 4 Wellbore Positioning—Technical Requirements
- 4.1 Directional Survey Measurements and Wellbore Position Calculation
- 4.2 Directional Survey Records
- 4.3 Database
- 4.4 Software
- 4.5 Surface Location
- 4.6 Survey Program
- 4.7 Positional Uncertainty Models
- 4.8 QA/QC
- 4.9 Collision Avoidance
- 5 Wellbore Positioning—Process
- 5.1 Planning and Engineering
- 5.2 Handover from Planning team to Operations Team
- 5.3 Operations and Execution
- 5.4 Post-well Data Reintegration
- 6 Data Transfer—Outputs, Deliverables, and Transfer Files
- Annex A—Survey Mathematics

Annex B—



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## **API Website**

## **API Standards Process**

## Email Roster Updates to Ben Coco: cocob@api.org

### **Get Involved In The Standards Process**

#### Overview

Important Standards Announcements Purchase Requests for Interpretation

### Global Standards

Get Involved

Standards Plan

Committees

Copyright / IBR Reading Room

#### Interested In Participating In API's Standards Development Process?

Do you work in the oil and natural gas industry and have an interest in participating in API's standards development process? API's Standards Committees welcome participation from industry experts around the world to enhance applicability throughout the global oil and natural gas industry. API standards advance the safety of industry operations, assure quality, increase industry efficiency, and improve environmental performance. Click here to to for more information on how you can participate on an API standards committee!

### Have A Suggestion For A New API Standard?

API maintains more than 700 standards that are used throughout the oil and natural gas supply chain in upstream, midstream, and downstream operations. You can view the complete list of API Standards and Publications <u>here gF</u>. Is an important topic missing? If you review our standards lists and see a need for a new standard, please contact API at <u>Standards@api.org</u>.

### API's Minority Serving Institutions Initiative

The mission of the Minority Serving Institutions (MSI) initiative is to develop and promote diversity, equity, and inclusion in the natural gas and oil industry by providing <u>API's 700+ standards</u> catalog to students at Historically Black Colleges and Universities (HBCUs) and other Minority Serving Institutions. <u>Click here</u> for more information on the initiative and how you can get involved.

	Stand	ards	Plar	ı							
Overview	Below is a list of standards in development by industry segment. See a breakdown of standards in pre-ballot, ballot, and editing: <b>all Chart Standards</b>										
Important Standards Announcements	See a Dreakdov	vii or stain	arus in pre	-ballot, ballot, and editing.	uart star	iuarus					
Purchase	Downstream	Mids	tream l	Jpstream Published (2021)							
Requests for Interpretation	Copy Print	Show 100 r	DW/5			Sat	rch:				
Global Standards											
Get Involved	Committee 💵	Pub. Type ↓↑	Pub. No ↓₹	Title 11	Ed. ↓↑	Pre- Ballot Phase ↓↑	Ballot Phase ↓↑	In Editing ↓†			
Standards Plan	DPOSC	RP	79	Tripping Operations in Hydrostatically Overbalanced Wells	1	х					
Committees	DPOSC	RP	78	Wellbore Surveying and Positioning	1	х					
Copyright / IBR Reading Room	CSOEM	Spec	9A-A1 Specification for Wire Rope		27	х					
	DPOSC	RP	92C	Controlled Mud Level Managed Pressure Drilling Operations	1	х					
	CSOEM	Spec	8C	Drilling and Production Hoisting Equipment (PSL 1 and PSL 2)	6	х					
	CSOEM	Spec	7V	Drill Stem Valves	1	х					

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### **API Standards Process**



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## **API MyCommittees Website**

- Contact Ben Coco for access to the site.
- Once you gain access to the RP 78 site you can read and review all of the work that has been done to date to put this document together.

API MyCommittees					
BROWSE FILES LIBRARY					
American Petroleum		A MyCommittees My Rosters			
MyCommittees	5	Shared Documents 🛛			
		MyCommittees > Standards > Drilling & Production Operation	s > RP 7	3 TG	
Documents	New	🚹 Upload 🛛 😂 Sync 🛛 🖓 Share 🛛 More 🗸	,		
Shared Documents	All Docur	aents Explorer View Find a file	Q		
Lists	v n	Name		Modified	Modified By
Calendar		00-API RP 78		April 13	cocob@api.org
Tasks	- 2	0-API Documents for Standards Development		August 6, 2019	cocob@api.org
Discussions Team Discussion		0-BSEE Report and RP 78 WG Comments		August 6, 2019	cocob@api.org
Sites		0-Material Not Utilized - e.g., educational or out of scope		August 6, 2019	<ul> <li>cocob@api.org</li> </ul>
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	jonathan_lightfoot@oxy.com
		Maps-Plots-Graphics WG		April 11, 2016	<ul> <li>cocob@api.org</li> </ul>
		Measurement and Calculation WG		February 13, 2018	<ul> <li>peterjclark@chevron.com</li> </ul>
		Meeting Sign-in Sheets		April 11, 2016	<ul> <li>cocob@api.org</li> </ul>
		Operation-Execution WG		-	cocob@api.org
				April 11, 2016	
		Planning-Engineering to Operation-Execution Hand-off WG		April 11, 2016	cocob@api.org
		Planning-Engineering WG		April 11, 2016	cocob@api.org
		Positional Uncertainty Models WG		April 11, 2016	cocob@api.org
		Purpose and Scope		July 12, 2016	cocob@api.org
		QA-QC WG		April 11, 2016	cocob@api.org
		Software WG		April 11, 2016	cocob@api.org
		Surface Location WG		April 11, 2016	cocob@api.org
		Survey Mathematics WG		April 11, 2016	cocob@api.org
		Survey Program WG		April 11, 2016	cocob@api.org
		Terms and Definitions WG		April 11, 2016	cocob@api.org
		API RP 78 1st Ed DRAFT (December 2019)		January 15, 2020	cocob@api.org
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