



Address 100 Barr Harbor Drive  
PO Box C700  
W. Conshohocken, PA  
19428-2959 | USA

Phone 610.832.9500  
Fax 610.832.9555  
e-mail [service@astm.org](mailto:service@astm.org)  
Web [www.astm.org](http://www.astm.org)

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**Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS**

*Chairman:* W. JAMES BOVER, ExxonMobil Biomedical Sciences, 1545 Route 22 East, PO Box 971, Annandale, NJ 08801-0971, (908) 730-1048, Fax: (908) 730-1151, e-mail: [w.j.bover@exxonmobil.com](mailto:w.j.bover@exxonmobil.com)  
*First Vice Chairman:* KENNETH O. HENDERSON, Cannon Instrument Co., 30 Doe Dr., Port Matilda, PA 16870, (814) 353-8000 ext:265, Fax: (814) 353-8007, e-mail: [kenohenderson@worldnet.att.net](mailto:kenohenderson@worldnet.att.net)  
*Second Vice Chairman:* SALVATORE J. RAND, 221 Flamingo Dr., Fort Myers, FL 33908, (239) 481-4729, Fax: (239) 481-4729, e-mail: [sjrand@earthlink.net](mailto:sjrand@earthlink.net)  
*Secretary:* MICHAEL A. COLLIER, Petroleum Analyzer Co. LP, PO Box 206, Wilmington, IL 60481, (815) 458-0216, Fax: (815) 458-0217, e-mail: [macvarlen@aol.com](mailto:macvarlen@aol.com)  
*Assistant Secretary:* JANET L. LANE, ExxonMobil Research & Engineering, 600 Billingsport Rd., PO Box 480, Paulsboro, NJ 08066-0480, (856) 224-3302, Fax: (856) 224-3616, e-mail: [janet.l.lane@exxonmobil.com](mailto:janet.l.lane@exxonmobil.com)  
*Staff Manager:* DAVID R. BRADLEY, (610) 832-9681, Fax: (610) 832-9668, e-mail: [dbradley@astm.org](mailto:dbradley@astm.org)

Reply to:

Scott Parke  
ASTM Test Monitoring Center  
6555 Penn Avenue  
Pittsburgh, PA 15206

December , 2005

To: Single Cylinder Diesel Surveillance Panel

Enclosed are the minutes of the SCOTE Surveillance panel teleconference held November 2, 2005. Please address any corrections during the time allotted for minutes approval at the next meeting.

Scott Parke  
Secretary SCOTE Surveillance Panel

Attachments

cc: <ftp://ftp.astmtmc.cmu.edu/docs/diesel/scote/minutes/TELECONFERENCE%202005-11-02.pdf>

distribution: Email

## **TELECONFERENCE MINUTES**

### **SINGLE CYLINDER DIESEL SURVEILLANCE PANEL**

HELD NOVEMBER 2, 2005

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#### **13:00cst SUPPLY STATUS FOR 0.4% SULFUR FUEL (SDTF)**

Chairman Jim McCord (Southwest Research) called the teleconference to order at 13:00 cst to update the discussion on the soon-to-be depleted supply of Dow/Haltermann 0.4% sulfur test fuel. The participants in the call are listed in attachment 1.

Jim McCord reported that in his last conversation with Bob Rumford (Dow/Haltermann) Bob said that it looked like they would be able to make a suitable replacement fuel for SDTF. He said he was confident that they would be able to meet both the natural sulfur and cetane specifications by using stock available in Europe. Dow currently has on hand 3,000 gallons of fuel uncommitted to any customer. Jim Carter (Dow/Haltermann) said that it would likely be sometime in December before they could have a sample of the new fuel available for anyone to try. Dennis Doerr (Phillips) said that he did not know if his company would be able to make a competing product. He was unsure if he had access to stock available with the required natural sulfur. He will investigate.

#### **13:12cst 1MPC CYLINDER LINER UPDATE**

Jim McCord said that he has seen no performance difference in candidate testing at his lab using 5H-5657 liners. Jerry Brys (Lubrizol) reported that he has had severe results (TGF and WTD) on those liners. Chuck Dutart (Caterpillar) asked Jerry if he has checked the liners for surface finish and other measurements; Jerry replied that all measurements have been within expectations. Chris Mazuca (PerkinElmer) has had mixed experience with the 5H-5657 liners; he's seen results bounce around quite a bit.

Chuck Dutart asked if anyone had noted any irregularities in the liners. Jerry Brys described one of his recent test results that had extremely high WTD due to severe 4<sup>th</sup> land carbon. Scott Parke (TMC) said that he had had the opportunity to look at that piston during the recent rating workshop. He noted that the 4<sup>th</sup> groove carbon was peculiar in that the land and groove directly above the carbon deposit were clean; it was difficult to guess at the path the deposit might have taken to get where it wound up. The raters at the workshop were in agreement that there was something odd about that test. Jerry said that the succeeding test also had high 4<sup>th</sup> land deposits with the groove and land above being clean.

Chuck Dutart reported that the new batch of 5H-5657 liners was available now. Scott Parke asked if there was anything in the markings on the parts or boxes to distinguish old-source 5H-5657 from the new-source 5H-5657 since both have the same part number. Chuck said that the only difference would be the higher serial numbers. Scott was uncomfortable relying on tracking serial numbers since the serial number format has occasionally unexpectedly changed. He suggested that since liner inspection code (dictionary name: LINERIC) has fallen into disuse it be populated with the value "NEW" or "OLD" as appropriate. The panel agreed. Jim McCord offered to photograph the

new 5H liner he has just received and distribute to the group to aid in identification; some subtle machining differences are apparent.

Chuck Dutart said that a small number (approximately 20) of the new-source 5H liners went into the system early on (last spring); the latest block was 200 pieces. Scott Parke asked Chuck whether the 20 and the 200 came from the same batch of parts or if 20 parts were pulled off the line last spring and the current 200 were from a more recent run from a possibly newer batch. Chuck wasn't sure but said he'd try to find out. Jim McCord said that he expected to begin a run on new-stock 5H liners in the next week or so.

To add another data point to the discussion, Jerry Brys reported that his company had recently run the same formulation both at Lubrizol and at Southwest Research. At Lubrizol, the test used an old-stock 5H liner; at Southwest it used a 1Y-3995. The results were similar. When pressed, Jerry conceded that the two formulations were not *identical* but rather differed by approximately 1%.

Scott Parke gave a rundown of the 5H-5657 results to date:

CMIR	LAB	STAND	LINER	VAL	DATE	TGF	TGFyi	WTD	WTDyi	COMMENTS
51762	B	7	1Y3995	AC	20050124	40	-0.062	279.0	0.921	
51764	B	8A	1Y3995	OC	20050222	76	2.174	238.6	0.121	Severe TGF
51742	G	13A	1Y3995	AC	20050309	64	1.429	188.8	-0.865	
51763	B	8A	5H5657	AC	20050321	62	1.304	315.7	1.648	
51743	G	10A	1Y3995	AC	20050322	31	-0.621	195.0	-0.743	
55453	G	8A	5H5657	RN	20050417	45	0.248	359.7	2.519	Severe WTD
50842	A	6A	1Y3995	AC	20050503	72	1.925	324.2	1.816	
50843	A	9	5H5657	AC	20050516	56	0.932	322.6	1.784	
55454	G	8A	1Y3995	LC	20050530	2	-2.422	237.4	0.097	Mild TGF. Worn intake valve guide, intake debris
51761	D	2	5H5657	AC	20050531	58	1.056	180.8	-1.024	
55455	G	13A	5H5657	OC	20050907	80	2.422	295.0	1.238	Severe TGF
55450	B	7	5H5657	OC	20050919	70	1.801	340.6	2.141	Severe WTD
55456	G	13A	1Y3995	AC	20050919	46	0.311	192.9	-0.784	
55451	B	7	5H5657	LC	20050927	74	2.050	255.6	0.457	Severe TGF. High oil jet pressure.
57164	G	10A	1Y3995	AC	20051003	57	0.994	323.9	1.810	
55452	B	8A	5H5657	OC	20051005	63	1.366	584.0	6.960	Severe WTD
57412	B	8A	5H5657	OC	20051102	70	1.801	180.1	-1.038	Precision
55996	A	9	5H5657	AC	20051112	57	0.994	190.6	-0.830	
57413	B	8A	5H5657	OC	20051115	76	2.174	318.1	1.695	Severe TGF

#### **14:04cst OTHER BUSINESS**

Bob Campbell (Afton) reported that he recently received a piston with an improperly cut oil ring groove; the back of the groove has a chamfer in it. Chuck Dutart acknowledged recent receipt of a bunch of 1M-PC rings from Afton that had out of spec end gaps. Jim McCord said that it was still common to see parts that have been shipped from lab to lab and repeatedly rejected. Scott Parke expressed puzzlement at this occurring. He noted that this was a problem that the panel supposedly solved years ago with the introduction of the "Return Goods Authorization" system that appears in every SCOTE procedure. He asked Jim and the others if this procedure was being followed. Jim replied that in most cases it was not. Chuck said that the retirement of Roger Riviere has adversely affected the RGA system.

Jerry Brys asked for an update on the availability of 1P liners. Chuck Dutart reported that they are trying a new machining process; they are still getting too much graphite pullout. He expects that everything will be resolved by January.

The teleconference concluded at 14:17cst.

## Attendance:

Representative	Organization
Chuck Dutart	Caterpillar
Jim Gutzwiller	Infineum
Scott Cobb	Chevron
Mark Sutherland	Chevron
Dennis Doerr	Phillips
Jerry Brys	Lubrizol
Jim McCord	Southwest Research
Bob Campbell	Afton Chemical
Chris Mazuca	PerkinElmer
Riccardo Conti	ExxonMobil
Jim Carter	Dow/Haltermann
Mike Wendling	Dow/Haltermann
Scott Parke	Test Monitoring Center