



AMERICAN PETROLEUM INSTITUTE

Audit EP2014-3693

Audit - U.S. GLOBAL PETROLEUM - EVEREST FULL SYN 5W-20

Status: Complete

Brand Name: [EVEREST FULL SYN](#)

Viscosity Grade: 5W-20

Service Category & Designation: SN Resource Conserving, ILSAC GF-5

Blind Sample ID: EP2014-3693

Sample Type: Packaged

Date Sample Taken: 02-Nov-2014

Sample Trace Code: BATCH #12541 MFG. 09-24-2014

COLLECTION COMPANY RESULTS

Results Received

If a dropdown arrow is present on the formulation shown below, it can be used to toggle through all formulations selected by API for this report. This includes (1) the originally selected formula based on the formulations on file at the time of the audit and (2) any other formulations you have added as part a previous response to this audit. Be aware that findings may still be present on any newly-added formulation and that all findings must be responded to in order to put the audit into a responded state for API to review.

Pick a Formulation:

Test	Method	Reported	1509 Range	Expanded Range	Quick Test	Primary Test	Retest 1	Retest 2	Reference Test	Average
Visc @ 100C - ASTM D445	ASTM D445	8.7	5.60 - 9.29	5.56 - 9.36		8.68				8.68
CCS @ -30C - ASTM D5293	ASTM D5293	6300	<= 6600	<= 7082		4670				4670
MRV_Pumping @ -35C - ASTM D4684	ASTM D4684	25000	<= 60000	<= 81480		13900				13900
MRV_Yield Stress - ASTM	ASTM D4684		< 0	< 35		<35				

Test	Method	Reported	1509 Range	Expanded Range	Quick Test	Primary Test	Retest 1	Retest 2	Reference Test	Average
D4864										
HT/HS - ASTM D4683	ASTM D4683	2.7	>= 2.60	>= 2.51		2.76				2.76
NOACK - ASTM D5800_Method B	ASTM D5800_Method B	15	<= 15.00	<= 17.50		10.5				10.5
OPT A - SEQ 1-Stab - 1 Min - ASTM D892	ASTM D892		<= 0	<= 29		0				0
OPT A - SEQ 1-Stab - 10 Min - ASTM D892	ASTM D892		<= 0	<= 29		0				0
OPT A - SEQ 1-Tend - ASTM D892	ASTM D892		<= 10	<= 42		0				0
OPT A - SEQ 2-Stab - 1 Min - ASTM D892	ASTM D892		<= 0	<= 29		0				0
OPT A - SEQ 2-Stab - 10 Min - ASTM D892	ASTM D892		<= 0	<= 29		0				0
OPT A - SEQ 2-Tend - ASTM D892	ASTM D892		<= 50	<= 98		0				0
OPT A - SEQ 3-Stab - 1 Min - ASTM D892	ASTM D892		<= 0	<= 44		0				0
OPT A - SEQ 3-Stab - 10 Min - ASTM D892	ASTM D892		<= 0	<= 44		0				0
OPT A - SEQ 3-Tend - ASTM D892	ASTM D892		<= 10	<= 42		0				0
Zinc_Zn	ASTM D4951	0.085	0.0765 - 0.0978	0.0710 - 0.1048		0.0862				0.0862
Calcium_Ca	ASTM D4951	0.214	0.1926 - 0.2461	0.1859 - 0.2547		0.217				0.217
Magnesium_Mg	ASTM D4951		<= 0.0001	<= 0.0040		0.0009				0.0009
Sodium_Na	ASTM D4951		<= 0.0010	<= 0.0030		<0.0001				
Titanium_Ti	ASTM D4951		<= 0.0001	<= 0.0020		<0.0001				
Nitrogen_N - ASTM D5762	ASTM D5762	0.102	0.0918 - 0.1173	0.0679 - 0.1478		0.096				0.096

Test	Method	Reported	1509 Range	Expanded Range	Quick Test	Primary Test	Retest 1	Retest 2	Reference Test	Average
Boron_B	ASTM D4951	0.023	0.0207 - 0.0265	0.0172 - 0.0300		0.0247				0.0247
Molybdenum_Mo	ASTM D4951	0.0079	0.0067 - 0.0095	0.0056 - 0.0111		0.0084				0.0084
Phosphorus_P	ASTM D4951	0.077	0.0600 - 0.0800	0.0540 - 0.0880		0.0778				0.0778
Sulfur_S - ASTM D4951	ASTM D4951	0.3	<= 0.5000	<= 0.5610		0.2884				0.2884
Total Base Number - ASTM D2896	ASTM D2896	7.9	7.11 - 9.09	6.61 - 9.72		8.1				8.1
Aluminum_Al	ASTM D4951					0.0002				0.0002
Copper_Cu	ASTM D4951					<0.0001				
Silicon_Si	ASTM D4951					0.0005				0.0005
Silver_Ag	ASTM D4951					<0.0001				
Barium_Ba	ASTM D4951					<0.0001				
Cadmium_Cd	ASTM D4951					<0.0001				
Chromium_Cr	ASTM D4951					<0.0001				
Iron_Fe	ASTM D4951					0.0001				0.0001
Potassium_K	ASTM D4951					<0.0001				
Manganese_Mn	ASTM D4951					<0.0001				
Nickel_Ni	ASTM D4951					<0.0001				
Lead_Pb	ASTM D4951					<0.0001				
Antimony_Sb	ASTM D4951					<0.0001				
Tin_Sn	ASTM D4951					<0.0001				
Vanadium_V	ASTM D4951					<0.0001				