#### UNITED STATES PATENT AND TRADEMARK OFFICE

\_\_\_\_\_

BEFORE THE PATENT TRIAL AND APPEAL BOARD

\_\_\_\_\_

NEW NGC, INC., dba NATIONAL GYPSUM COMPANY, Petitioner

V.

UNITED STATES GYPSUM COMPANY, Patent Owner.

Case No. IPR2017-01088 U.S. Patent No. 7,425,236

PATENT OWNER UNITED STATES GYPSUM COMPANY'S PRELIMINARY RESPONSE

Mail Stop PATENT BOARD Patent Trial and Appeal Board US Patent and Trademark Office PO Box 1450 Alexandria, Virginia 22313-1450



# TABLE OF CONTENTS

			<u>Page</u>	
I.	Summary Of Arguments			
II.	Responsive Overview Of The Relevant Technology			
	A.	A. Gypsum And Set Gypsum		
	B.	"Sag" In Set Gypsum Used For Gypsum Board	8	
	C.	Petitioner's Central Premise Is False – Crosslinking Starch Has Nothing To Do With Adding STMP To Gypsum Slurries	9	
	D.	There is No Evidence That STMP Was Used or Was Known To Be Effective To Improve The Properties of Set Gypsum Products	11	
	E.	Prior Art Use of Boric Acid	12	
III.	Overview Of The '236 Patent And Its Prosecution History			
	A.	A. The Patented Technology And Methods		
	B.	The Claimed "Enhancing Materials"	14	
	C.	The Disclosed And Established Benefits Of The "Enhancing Materials"	17	
	D.	The Prosecution History Of The '236 Patent	17	
	E.	The Claims of the '236 patent	18	
IV.	The Petition Fails To Meet The Requirements For Instituting An Inter Partes Review			
	A.	The Board Should Not Institute On Horizontally Redundant Grounds	18	
V.	The Petition Advances Flawed Claim Constructions That Should Be Rejected			
	A.	The Phillips Claim Construction Standard	20	
	B.	Many Federal Circuit Cases Confirm the Importance of the Specification to a Proper Analysis Under <i>Phillips</i>	22	
	C.	Response To Petitioner's Proposed Claim Constructions	26	



		1.	"Accelerator"	26		
		2.	"Set gypsum product"	28		
		3.	"Enhancing materials"	29		
VI.	Petitioner Has Not Met Its Burden To Show A Reasonable Likelihood Of Success On Its Asserted Obviousness Grounds					
	A.	Lega	gal Standards			
	B.	Level Of Ordinary Skill In The Art				
	C.	Overview of Asserted Prior Art				
		1.	Graux (U.S. Patent No. 5,932,001)	41		
		2.	Satterthwaite (U.S. Patent No. 3,234,037)	43		
		3.	Kerr (U.S. Patent No. 2,884,413)	46		
		4.	Conroy (U.S. Patent No. 4,956,031)	47		
		5.	Johnstone (U.S. Patent No. 4,372,814)	48		
	D.	Petitioner Fails To Meet Its Burden on Ground 1 Claiming Obviousness Based Upon Graux + Kerr				
		1.	One Skilled In The Art Would Not Have Been Motivated to Use or to Combine Graux and Kerr	50		
		2.	The Proposed Combination of Ground 1 Does Not Disclose Or Suggest All Elements Of Claim 2	52		
			2a: A method for producing a set gypsum product comprising	52		
			2b: dissolving one or more enhancing materials in water	52		
			2c: forming a mixture of calcined gypsum, water and accelerator	53		
			2d: inserting the aqueous solution of enhancing material into the mixture, and	54		
			2e: maintaining the mixture under conditions sufficient for the calcined gypsum to form an interlocking matrix of set gypsum.	54		
	E.		ioner Fails To Meet Its Burden on Ground 2 Claiming	55		



		1.	One Skilled In The Art Would Not Have Been Motivated to Use or to Combine Satterthwaite and Kerr	55	
		2.	The Proposed Combination of Ground 2 Does Not Disclose Or Suggest All Elements Of Claim 2		
			2a: A method for producing a set gypsum product comprising	57	
			2b: dissolving one or more enhancing materials in water	58	
			2c: forming a mixture of calcined gypsum, water and accelerator	60	
			2d: inserting the aqueous solution of enhancing material into the mixture, and	60	
			2e: maintaining the mixture under conditions sufficient for the calcined gypsum to form an interlocking matrix of set gypsum.	61	
	F.		ioner Fails To Meet Its Burden on Ground 3 Claiming ousness Based Upon Conroy and Johnstone	62	
VII.	Seco	ndary	Considerations	63	
VIII	Conclusion				



### **TABLE OF AUTHORITIES**

	<u>Page</u>
Cases	
Abbott Diabetes Care, Inc., In re,	
696 F.3d 1142 (Fed. Cir. 2012)	32
Activevideo Networks, Inc. v. Verizon Commc'ns, Inc.,	
694 F.3d 1312 (Fed. Cir. 2012)	39, 49
ADT Corp. v. Lydall Inc.,	
159 F.3d 534 (Fed. Cir. 1998)	35
Ariosa Diagnostics v. Verinata Health, Inc.,	
IPR2013-00276, Paper 64 (PTAB Aug. 15, 2016)	39
Bigio, In re,	
381 F.3d 1320 (Fed. Cir. 2004)	40
Black & Decker, Inc. v. Positec USA, Inc., RW,	
646 Fed. App'x. 1019 (Fed. Cir. 2016)	20
Clay, In re,	
966 F.2d 656 (Fed. Cir. 1992)	40
Curtiss-Wright Flow Control Corp. v. Velan, Inc.,	
438 F.3d 1374 (Fed. Cir. 2006)	22, 35
EMC Corp. v. PersonalWeb Techs., LLC,	
IPR2013-00087, Paper 25 (June 5, 2013)	19
Felix v. American Honda Motor Company, Inc.,	
562 F.3d 1167 (Fed. Cir. 2009)	24
Graham v. John Deere Co. of Kansas City,	
383 U.S. 1 (1966)	38
Hologic, Inc. v. SensoRx, Inc.,	
639 F.3d 1329 (Fed. Cir. 2011)	37
Honeywell Int'l v. Universal Avionics Sys. Corp.,	
488 F.3d 982 (Fed. Cir. 2007)	22, 25
Icon Health and Fitness, Inc., In re,	
496 F.3d 1374 (Fed. Cir. 2007)	40
Intri-Plex Techs., Inc. v. Saint-Gobain Performance Plastics Rencol Ltd.,	
IPR2014-00309, Paper 83 (PTAB Mar. 23, 2014)	39
Irdeto Access, Inc. v. Echostar Satellite Corp.,	
383 F.3d 1295 (Fed. Cir. 2004)	25
Kinetic Concepts, Inc. v. Blue Sky Medical Group,	



# DOCKET

# Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## **Real-Time Litigation Alerts**



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## **Advanced Docket Research**



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

### **Analytics At Your Fingertips**



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

#### API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

#### **LAW FIRMS**

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

#### **FINANCIAL INSTITUTIONS**

Litigation and bankruptcy checks for companies and debtors.

#### **E-DISCOVERY AND LEGAL VENDORS**

Sync your system to PACER to automate legal marketing.

