

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3286400

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY AGREEMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HEADWATERS INCORPORATED, AS GRANTOR	03/24/2015
TAPCO INTERNATIONAL CORPORATION, A MICHIGAN CORPORATION	03/24/2015
HEADWATERS HEAVY OIL, LLC, A UTAH CORPORATION	03/24/2015
HEADWATERS RESOURCES, INC., A UTAH CORPORATION	03/24/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	DEUTSCHE BANK AG NEW YORK BRANCH, AS ADMINISTRATIVE AGENT
<b>Street Address:</b>	60 WALL STREET
<b>City:</b>	NEW YORK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10005
<b>PROPERTY NUMBERS Total: 130</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	5706693
Patent Number:	5743129
Patent Number:	5868054
Application Number:	11662034
Application Number:	08468192
Application Number:	09002756
Application Number:	09455137
Application Number:	08729023
Application Number:	08465741
Application Number:	08494446
Application Number:	09132272
Application Number:	08554889
Application Number:	08488043
Application Number:	08724531
Application Number:	08949278
Application Number:	08697817
Application Number:	09295123

PATENT

Property Type	Number
Application Number:	09023145
Application Number:	08791192
Application Number:	09819494
Application Number:	09789695
Application Number:	09342572
Application Number:	08611936
Application Number:	09005275
Application Number:	09696488
Application Number:	10033783
Application Number:	09723900
Application Number:	09953652
Application Number:	09724093
Application Number:	10003025
Application Number:	10066817
Application Number:	10022984
Application Number:	10068408
Application Number:	08857879
Application Number:	08858835
Application Number:	08858232
Application Number:	11072874
Application Number:	10456439
Application Number:	11564624
Application Number:	10759351
Application Number:	10779076
Application Number:	12693885
Application Number:	10765551
Application Number:	10766048
Application Number:	11625682
Application Number:	10993161
Application Number:	09919136
Application Number:	11942502
Application Number:	10689137
Application Number:	10999559
Application Number:	12107653
Application Number:	10961869
Application Number:	29207253
Application Number:	29207176
Application Number:	29207175

Property Type	Number
Application Number:	10932664
Application Number:	12489216
Application Number:	13149428
Application Number:	11035315
Application Number:	12830565
Application Number:	29239501
Application Number:	29239495
Application Number:	29239504
Application Number:	29239494
Application Number:	11326111
Application Number:	11326098
Application Number:	11429045
Application Number:	12561469
Application Number:	13093153
Application Number:	12831018
Application Number:	11613470
Application Number:	12722702
Application Number:	12816230
Application Number:	11467656
Application Number:	12853724
Application Number:	10725219
Application Number:	11670505
Application Number:	12755213
Application Number:	12147305
Application Number:	11681425
Application Number:	29275171
Application Number:	11749438
Application Number:	29284162
Application Number:	29284164
Application Number:	29284166
Application Number:	11963211
Application Number:	12044839
Application Number:	12708402
Application Number:	12051376
Application Number:	12188349
Application Number:	11482521
Application Number:	11981173
Application Number:	10328018

Property Type	Number
Application Number:	29346549
Application Number:	29346551
Application Number:	29346554
Application Number:	13188857
Application Number:	13119910
Application Number:	13746137
Application Number:	14297538
Application Number:	13848103
Application Number:	14252869
Application Number:	62008427
Application Number:	14554310
Application Number:	62078695
Application Number:	08675472
Application Number:	13865726
Application Number:	14095698
Application Number:	11374369
Application Number:	12547278
Application Number:	13561479
Application Number:	11129833
Application Number:	11117262
Application Number:	11117202
Application Number:	12106112
Application Number:	12838761
Application Number:	13116195
Application Number:	13113722
Application Number:	13866220
Application Number:	11117203
Application Number:	11932201
Application Number:	08555555
Application Number:	09040515
Application Number:	09135683
Application Number:	10130333
Application Number:	09871089
Application Number:	10228008
Application Number:	10228009
Application Number:	10557756
Application Number:	11662035

**CORRESPONDENCE DATA****Fax Number:**

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Email:** marina.kelly@thomsonreuters.com  
**Correspondent Name:** KEN TAN, LEGAL ASSISTANT  
**Address Line 1:** 80 PINE STREET  
**Address Line 2:** C/O CAHILL GORDON & REINDEL LLP  
**Address Line 4:** NEW YORK, NEW YORK 10005

<b>NAME OF SUBMITTER:</b>	KEN TAN, LEGAL ASSISTANT
<b>SIGNATURE:</b>	/Marina Kelly, Thomson Reuters/
<b>DATE SIGNED:</b>	03/27/2015

**Total Attachments: 20**

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RECORDATION FORM COVER SHEET  
PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)

Headwaters Incorporated, as Grantor

Additional name(s) of conveying party(ies) attached? ☒ Yes ☐ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) March 24, 2015

- ☐ Assignment ☐ Merger  
☒ Security Agreement ☐ Change of Name  
☐ Joint Research Agreement  
☐ Government Interest Assignment  
☐ Executive Order 9424, Confirmatory License  
☐ Other \_\_\_\_\_

2. Name and address of receiving party(ies)

Name: Deutsche Bank AG New York Branch, as Administrative Agent

Internal Address: \_\_\_\_\_

Street Address: 60 Wall Street

City: New York

State: New York

Country: USA Zip: 10005

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

☐ This document is being filed together with a new application.

A. Patent Application No.(s)

See Schedule I

B. Patent No.(s)

See Schedule I

Additional numbers attached? ☒ Yes ☐ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Ken Tan, Legal Assistant

Internal Address: c/o Cahill Gordon & Reindel LLP

Street Address: 80 Pine Street

City: New York

State: New York Zip: 10005

Phone Number: (212) 701-3804

Docket Number: 05501.0269

Email Address: KTan@cahill.com

6. Total number of applications and patents involved: 130

7. Total fee (37 CFR 1.21(h) & 3.41) \$ \_\_\_\_\_

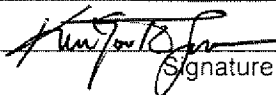
- ☐ Authorized to be charged to deposit account  
☐ Enclosed  
☐ None required (government interest not affecting title)

8. Payment Information

Deposit Account Number \_\_\_\_\_

Authorized User Name \_\_\_\_\_

9. Signature:

  
Signature

03/24/2015

Date

Ken Tan

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents:

20

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

Addendum to Cover Page of Patent Form Cover Sheet

1. Name of conveying party(ies)

Tapco International Corporation, a Michigan Corporation  
Citizenship – USA – MI  
10701 S. River Front Parkway, Suite 300  
South Jordan, UT 84095

Headwaters Heavy Oil, LLC, a Utah Corporation  
Citizenship – USA – UT  
10701 S. River Front Parkway, Suite 300  
South Jordan, UT 84095

Headwaters Resources, Inc., a Utah Corporation  
Citizenship – USA – UT  
10701 S. River Front Parkway, Suite 300  
South Jordan, UT 84095

## PATENT SECURITY AGREEMENT

**Patent Security Agreement**, dated as of March 24, 2015, by HEADWATERS INCORPORATED, TAPCO INTERNATIONAL CORPORATION, HEADWATERS HEAVY OIL, LLC and HEADWATERS RESOURCES, INC. (individually, a “**Grantor**”, and, collectively, the “**Grantors**”), in favor of DEUTSCHE BANK AG NEW YORK BRANCH, in its capacity as administrative agent (in such capacity, the “**Administrative Agent**”) pursuant to the Term Loan Credit Agreement, dated as of March 24, 2015 (as amended, supplemented or otherwise modified from time to time, the “**Credit Agreement**”), among Headwaters Incorporated, a Delaware corporation, (the “**Borrower**”), the Guarantors from time to time party thereto, the Administrative Agent and the lenders from time to time party thereto.

### WITNESSETH:

WHEREAS, the Grantors are party to a Term Loan Security Agreement dated as of March 24, 2015 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “**Security Agreement**”) in favor of the Administrative Agent pursuant to which the Grantors are required to execute and deliver this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and to induce the Administrative Agent, for the benefit of the Secured Parties, to enter into the Credit Agreement, the Grantors hereby agree with the Administrative Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Grantor hereby pledges and grants to the Administrative Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral (excluding any Excluded Assets) of such Grantor:

(a) Patents of such Grantor listed on Schedule I attached hereto.

SECTION 3. The Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Administrative Agent pursuant to the Security Agreement and Grantors hereby acknowledge and affirm that the rights and remedies of the Administrative Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control unless the Administrative Agent shall otherwise determine.

SECTION 4. Termination. Upon the termination of the Security Agreement in accordance with Section 6.11 thereof, the Administrative Agent shall, at the expense of such Grantor, execute, acknowledge, and deliver to the Grantors an instrument in writing in recordable form releasing the lien on and security interest in the Patents under this Patent Security Agreement.

SECTION 5. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts.

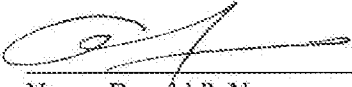
SECTION 6. ABL Intercreditor Agreement. Notwithstanding any provision to the contrary in this Patent Security Agreement, the Liens and the security interests granted to the Administrative Agent pursuant to this Patent Security Agreement and the exercise of any right or remedy by the Administrative Agent hereunder, in each case, with respect to the Collateral are subject to the limitations and provisions



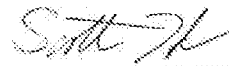
of the ABL Intercreditor Agreement. In the event of any conflict or inconsistency between the provisions of this Patent Security Agreement and the ABL Intercreditor Agreement, the provisions of the ABL Intercreditor Agreement shall prevail.

[Signature pages follow.]

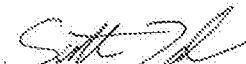
**HEADWATERS INCORPORATED**

By:   
Name: Donald P. Newman  
Title: Chief Financial Officer


**TAPCO INTERNATIONAL CORPORATION**

By:   
Name: Scott Jackson  
Title: Treasurer

**HEADWATERS HEAVY OIL, LLC**

By:   
Name: Scott Jackson  
Title: Treasurer

**HEADWATERS RESOURCES, INC.**

By:   
Name: Scott Jackson  
Title: Treasurer

DEUTSCHE BANK AG NEW YORK BRANCH,  
as Administrative Agent

By: Peter Cucchiara  
Name:  
Title: Peter Cucchiara  
Vice President

By: Dusan Lazarov  
Name: **Dusan Lazarov**  
Title: **Director**

**Schedule I**  
**to**  
**Patent Security Agreement**  
**Patent Registrations and Patent Applications**

<b>Owner</b>	<b>Patent Name</b>	<b>Country</b>	<b>App No.</b>	<b>App Date</b>	<b>Reg. No.</b>	<b>Reg. Date</b>
Headwaters Incorporated	METHOD AND SYSTEM FOR PRE-TREATING FLY ASH	US	11/662,034	9/7/2005	0076955	3/27/2008
Tapco International Corporation ("Tapco")	MODULAR SHUTTER ASSEMBLY INCLUDING A DIE CUT PANEL	CA	2172339	3/21/2006	2172339	11/28/2006
Tapco	MODULAR SHUTTER ASSEMBLY INCLUDING A DIE CUT PANEL	US	08/468192	6/6/1995	5704182	1/6/1998
Tapco	MODULAR SHUTTER ASSEMBLY INCLUDING A DIE CUT PANEL	US	09/002756	1/5/1998	6023905	2/15/2000
Tapco	MODULAR SHUTTER ASSEMBLY INCLUDING A DIE CUT PANEL	US	09/455137	12/6/1999	6141938	11/7/2000
Tapco	DENTIL MODLING APPARATUS AND METHOD FOR SECURING A MOLDING INSERT AND MEMBER	US	08/729023	10/10/1996	5850717	12/22/1998
Tapco	SHUTTER AND METHOD OF ASSEMBLING SAME	US	08/465741	6/6/1995	5634998	6/3/1997
Tapco	COMPONENT GABLE VENT APPARATUS AND METHOD OF	US	08/494446	6/26/1995	5673526	10/7/1997

Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
Tapco	ASSEMBLING SAME COMPONENT GABLE VENT APPARATUS AND METHOD OF ASSEMBLING SAME	CA	2172338	3/21/1996	2172338	8/5/2008
Tapco	MODULAR SOFFIT VENT	US	09/132272	8/11/1998	5947816	9/7/1999
Tapco	MODULAR SOFFIT VENT	CA	2178435	6/6/1996	2178435	4/26/2005
Tapco	MODULAR SOFFIT VENT	US	08/554889	11/6/1995	5791985	8/11/1998
Tapco	SUPPORT RAIL END CAP FOR A COMPONENT SHUTTER	US	08/488043	6/7/1995	5622018	4/22/1997
Tapco	GABLE VENT	US	08/724531	9/30/1996	5729935	3/24/1998
Tapco	SPLIT-BLOCK RECESS MOUNT APPARATUS	US	08/949278	10/13/1997	5918431	7/6/1999
Tapco	COMPONENT SHUTTER PANEL ASSEMBLY	US	08/697817	8/30/1996	5761865	6/9/1998
Tapco	COMPONENT SHUTTER PANEL ASSEMBLY	US	09/295123	4/20/1999	6122875	9/26/2000
Tapco	COMPONENT SHUTTER PANEL ASSEMBLY	US	09/023145	2/12/1998	5946873	9/7/1999
Tapco	AUTOMATIC INDEXER FOR A SHEET BENDING BRAKE	US	08/791192	1/31/1997	5761939	6/9/1998
Tapco	ELECTRICAL BLOCK	US	09/819494	3/28/2001	6429371	8/6/2002
Tapco	ELECTRICAL BLOCK	US	09/789695	2/21/2001	6359220	3/19/2002
Tapco	ELECTRICAL BLOCK	US	09/342572	6/29/1999	6310287	10/30/2001
Tapco	COMBINED PORTABLE SHEET BENDING BRAKE, COIL HOLDER AND	US	08/611936	3/6/1996	5706692	1/13/1998

Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
	CUT-OFF MECHANISM					
Tapco	COIL HOLDER FOR A SHEET BENDING BRAKE	US	09/005275	1/9/1998	5992203	11/30/1999
Tapco	PLASTIC BATTEN SHUTTER	US	09/696488	10/25/2000	6374560	4/23/2002
Tapco	PLASTIC BATTEN SHUTTER	CA	2351948	6/28/2001	2351948	10/16/2007
Tapco	DECORATING TRIM ASSEMBLIES	US	10/033783	12/27/2001	6725614	4/27/2004
Tapco	DECORATING TRIM ASSEMBLIES	US	09/723900	11/28/2000	6463707	10/15/2002
Tapco	VENTILATION ASSEMBLY	US	09/953652	9/17/2001	6579171	6/17/2003
Tapco	PLASTIC WINDOW ASSEMBLY	US	09/724093	11/28/2000	6604333	8/12/2003
Tapco	OPEN BACK BRAKE	US	10/003025	11/2/2001	6571594	6/3/2003
Tapco	CORNER BRICK BLOCK	US	10/066817	2/4/2002	6631600	10/14/2003
Tapco	FOLDING SAW TABLE	US	10/022984	12/17/2001	6705192	3/16/2004
Tapco	SHEET BENDING BRAKE	US	10/068408	2/6/2002	6675619	1/13/2004
Tapco	OUTDOOR WINDOW SHUTTER	US	08/857879	5/16/1997	5848505	12/15/1998
Tapco	LINEAR SHUTTER	CA	2206903	5/21/1996	2206903	10/17/2006
Tapco	EXTERIOR MOUNTING PLATE ASSEMBLY	US	08/858835	5/19/1997	5775032	7/7/1998
Tapco	ORNAMENTAL SHUTTER	US	08/858232	5/19/1997	5782052	7/21/1998
Tapco	PLASTIC BATTEN SHUTTER	US	11/072874	3/4/2005	7296383	11/20/2007
Tapco	PLASTIC BATTEN SHUTTER	US	10/456439	6/6/2003	6968656	11/29/2005
Tapco	IMPACT-RESISTANT SHUTTER ASSEMBLY	US	11/564624	11/29/2006	7296384	11/20/2007
Tapco	PIVOT LINK FOR	US	10/759351	1/16/2004	7228721	6/12/2007

Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
	SHEET BENDING BRAKE AND SHEET BENDING BRAKE INCLUDING PIVOT LINK					
Tapco	METHOD OF MANUFACTURING A MODULAR SHUTTER ASSEMBLY	US	10/779076	2/13/2004	7650918	1/26/2010
Tapco	LOUVERED SHUTTER	US	12/693885	1/26/2010	8225570	7/24/2012
Tapco	SAW TABLE	US	10/765551	1/26/2004	7047856	5/23/2006
Tapco	DECORATIVE TRIM ASSEMBLIES	US	10/766048	1/28/2004	7228663	6/12/2007
Tapco	DECORATIVE TRIM ASSEMBLIES	US	11/625682	1/22/2007	7743564	6/29/2010
Tapco	ADJUSTABLE CUTOFF	US	10/993161	11/19/2004	7117705	10/10/2006
Tapco	CONTINUOUS PRODUCTION OF PLASTIC SIDING PANELS WITH SEPARATE SHINGLE APPEARANCE	US	09/919136	7/31/2001	6635218	10/21/2003
Tapco	CONTINUOUS PRODUCTION OF PLASTIC SIDING PANELS WITH SEPARATE SHINGLE APPEARANCE	US	11/942502	11/19/2007	7775008	8/17/2010
Tapco	CONTINUOUS PRODUCTION OF PLASTIC SIDING PANELS WITH SEPARATE SHINGLE APPEARANCE	US	10/689137	10/20/2003	7008213	3/7/2006
Tapco	CONTINUOUS PRODUCTION OF PLASTIC SIDING	US	10/999559	11/30/2004	7296989	11/20/2007

<b>Owner</b>	<b>Patent Name</b>	<b>Country</b>	<b>App No.</b>	<b>App Date</b>	<b>Reg. No.</b>	<b>Reg. Date</b>
	PANELS WITH SEPARATE SHINGLE APPEARANCE					
Tapco	SAW TABLE AND CLAMPING MECHANISM THEREFOR	US	12/107653	4/22/2008	7581477	9/1/2009
Tapco	SAW TABLE AND CLAMPING MECHANISM THEREFOR	US	10/961869	10/8/2004	7373865	5/20/2008
Tapco	SHAKE SIDING PANEL	US	29/207253	6/10/2004	D507837	7/26/2005
Tapco	SHAKE SIDING PANEL	US	29/207176	6/9/2004	D507666	7/19/2005
Tapco	SHAKE SIDING PANEL	US	29/207175	6/9/2004	D506839	6/28/2005
Tapco	ADJUSTABLE HOUSING ASSEMBLY	US	10/932664	9/2/2004	7549258	6/23/2009
Tapco	ADJUSTABLE HOUSING ASSEMBLY	US	12/489216	6/22/2006	7950195	5/31/2011
Tapco	ADJUSTABLE HOUSING ASSEMBLY	US	13/149428	5/31/2011	8225563	7/24/2012
Tapco	DECORATIVE MOLDING	US	11/035315	1/14/2005	7748179	7/6/2010
Tapco	DECORATIVE MOLDING	US	12/830565	7/6/2010	8056290	11/15/2011
Tapco	STORM SHUTTER TRACK	US	29/239501	9/30/2005	D541140	4/24/2007
Tapco	STORM SHUTTER RAIL	US	29/239495	9/30/2005	D548063	8/7/2007
Tapco	STORM SHUTTER STILE	US	29/239504	9/30/2005	D541954	5/1/2007
Tapco	STORM SHUTTER STILE	US	29/239494	9/30/2005	D546975	7/17/2007
Tapco	FUNCTIONAL SHUTTER	US	11/326111	1/5/2006	7392628	7/1/2008
Tapco	GLUE MANIFOLD	US	11/326098	1/5/2006	7669380	3/2/2010



Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
	FOR A FUNCTIONAL SHUTTER					
Tapco	SHEET METAL BENDING BRAKE WITH IMPROVED HINGE	DE	40819137.3	11/15/2004	1687105	6/9/2010
Tapco	SHEET METAL BENDING BRAKE WITH IMPROVED HINGE	FR	40819137.3	11/15/2004	1687105	6/9/2010
Tapco	SHEET METAL BENDING BRAKE WITH IMPROVED HINGE	EP	40819137.3	11/15/2004	1687105	6/9/2010
Tapco	HOUSING ASSEMBLY	US	11/429045	5/5/2006	7610726	11/3/2009
Tapco	HOUSING ASSEMBLY	US	12/561469	9/17/2009	7930858	4/26/2011
Tapco	HOUSING ASSEMBLY	US	13/093153	4/25/2011	8240093	8/14/2012
Tapco	EXTERIOR SIDING MOUNTING BRACKETS WITH A WATER DIVERSION DEVICE	US	12/831018	7/6/2010	8015756	9/13/2011
Tapco	SYSTEM FOR PROVIDING A DECORATIVE COVERING IN A SUPPORT SURFACE USING PANELS WITH INTERLOCKS	US	11/613470	12/20/2006	7775009	8/17/2010
Tapco	SYSTEM FOR PROVIDING A DECORATIVE COVERING IN A SUPPORT SURFACE USING PANELS WITH INTERLOCKS	CA	2572000	12/22/2006	2572000	2/12/2013
Tapco	EXTERIOR SIDING MOUNTING	US	12/722702	3/12/2010	7997034	8/16/2011

Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
	BRACKET ASSEMBLY AND METHOD OF ASSEMBLY					
Tapco	BI-DIRECTIONAL MOUNTING BRACKET ASSEMBLY FOR EXTERIOR SIDING	US	12/816230	6/15/2010	8025263	9/27/2011
Tapco	ADJUSTABLE MOUNTING BRACKET ASSEMBLY FOR EXTERIOR SIDING	US	11/467656	8/28/2006	7566035	7/28/2009
Tapco	ADJUSTABLE MOUNTING BRACKET ASSEMBLY FOR EXTERIOR SIDING	US	12/853724	8/10/2010	8047483	11/1/2011
Tapco	WINDOW WELL	CA	2547129	11/18/2004	2547129	7/17/2012
Tapco	WINDOW WELL	US	10/725219	12/1/2003	7171786	2/6/2007
Tapco	WINDOW WELL	US	11/670505	2/2/2007	7716879	5/18/2010
Tapco	WINDOW WELL	US	12/755213	4/6/2010	7958692	6/14/2011
Tapco	WALL MOUNT ASSEMBLY	US	12/147305	6/26/2008	7880085	2/1/2011
Tapco	WINDOW WELL ASSEMBLY	US	11/681425	3/2/2007	7730673	6/8/2010
Tapco	WINDOW WELL ASSEMBLY	CA	2538533	3/3/2006	2538533	5/15/2012
Tapco	CORNER PIECE	US	29/275171	12/15/2006	D603981	11/10/2009
Tapco	PORTABLE HAND TOOL	US	11/749438	5/16/2007	7516638	4/14/2009
Tapco	CORNER TRIM PIECE	US	29/284162	8/31/2007	D574969	8/12/2008
Tapco	CORNER TRIM PIECE	CA	124879	2/29/2008	124879	2/25/2009
Tapco	CORNER TRIM PIECE	CA	124881	2/29/2008	124881	2/25/2009
Tapco	CORNER TRIM PIECE	CA	124880	2/29/2008	124880	2/25/2009
Tapco	CORNER TRIM PIECE	US	29/284164	8/31/2007	D574970	8/12/2008
Tapco	CORNER TRIM PIECE	US	29/284166	8/31/2007	D574520	8/5/2008
Tapco	WALL MOUNT	US	11/963211	12/21/2007	7946545	5/24/2011

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	ASSEMBLY					
Tapco	SHEET METAL BENDING BRAKE	US	12/044839	3/7/2008	7549311	6/23/2009
Tapco	SHEET METAL BENDING BRAKE	US	12/708402	2/18/2010	7954352	6/7/2011
Tapco	SHEET METAL BENDING BRAKE	US	12/051376	3/19/2008	7685858	3/30/2010
Tapco	PANEL FOR USE IN A SIDING SYSTEM FOR PROVIDING A DECORATIVE COVERING ON A SUPPORT SURFACE	CA	2638590	8/8/2008		
Tapco	PANEL FOR USE IN A SIDING SYSTEM FOR PROVIDING A DECORATIVE COVERING ON A SUPPORT SURFACE	US	12/188349	8/8/2008	8136323	3/20/2012
Tapco	CAP-ON-CAP MOUNTING BLOCK	US	11/482521	7/7/2006	8572910	11/5/2013
Tapco	UNIVERSAL MOUNTING BLOCK SYSTEM	US	11/981173	10/31/2007	8152013	4/10/2012
Tapco	WATER DEFLECTING APPARATUS	US	10/328018	12/26/2002	6951081	10/4/2005
Tapco	SIMULATED STONE SIDING PANEL	US	29/346549	11/2/2009	D622419	8/24/2010
Tapco	SIMULATED STONE SIDING PANEL	US	29/346551	11/2/2009	D622420	8/24/2010
Tapco	SIMULATED STONE CORNER TRIM PIECE	US	29/346554	11/2/2009	D621967	8/17/2010
Tapco	SYSTEM AND METHOD FOR MANUFACTURING A ROUGH TEXTURED MOLDED PLASTIC SIDING PRODUCT	CA	2747189	7/22/2011		

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Tapco	SYSTEM AND METHOD FOR MANUFACTURING A ROUGH TEXTURED MOLDED PLASTIC SIDING PRODUCT	US	13/188857	7/22/2011	8721318	5/13/2014
Tapco	FIXTURE WALL MOUNT ASSEMBLY WITH INTEGRAL FLASHING	CA	2737808	3/18/2011		
Tapco	FIXTURE WALL MOUNT ASSEMBLY WITH INTEGRAL FLASHING	US	13/119910	6/13/2011	8881468	11/11/2014
Tapco	SIDING PANEL SYSTEM	US	13/746137	1/21/2013	8863461	10/21/2014
Tapco	MULTI-TILE ROOFING OR SIDING SYSTEM	US	14/297538	6/5/2014		
Tapco	Pivot Link for Bending Brake	US	13/848103	3/21/2013		
Tapco	SIDING PANEL SYSTEM	US	14/252869	4/15/2014		
Tapco	MULTI-ELEMENT ROOFING PANEL	US	62/008427	6/5/2014		
Tapco	DUAL-ARCH ROOF TILE	US	14/554310	26-Nov-2014	-	-
Tapco	Sturdi Mount UL Block	US	62/078695	12-Nov-2014	-	-
Tapco	PLASTIC BUILDING WALL MOUNT ASSEMBLY	US	08/675,472	7/3/1996	RE38,881	12/22/2005
Tapco	COMBINED SHEET BENDING BRAKE AND CUTTER	US	714,215	9/16/1996	5,706,693	1/13/1998
Tapco	HEAVY DUTY SHEET BENDING BREAK	US	756,608	11/26/1996	5,743,129	4/28/1998

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Tapco	PORTABLE SAW TABLE	US	926,855	9/10/1997	5,868,054	2/9/1999
Headwaters Heavy Oil, LLC ("HHO")	METHOD FOR UPGRADING EBULLATED BED REACTOR AND UPGRADED EBULLATED BED REACTOR	US	SN 13/865,726	Filed 04-18-13		
HHO	SYSTEMS FOR HYDROPROCESSING HEAVY OIL	US	SN 14/095,698	Filed 12-03-13		
HHO	METHODS AND MIXING SYSTEMS FOR INTRODUCING CATALYST PRECURSOR INTO HEAVY OIL FEEDSTOCK	US	SN 11/374,369	Filed 03-13-06		
HHO	MIXING SYSTEMS FOR INTRODUCING A CATALYST PRECURSOR INTO A HEAVY OIL FEEDSTOCK	US	SN 12/547,278	Filed 08-25-09		
HHO	METHODS AND SYSTEMS FOR UPGRADING HEAVY OIL USING CATALYTIC HYDROCRACKING AND THERMAL COKING	US	SN 13/561,479	Filed 07-30-12		
HHO	METHOD FOR REDUCING NOX DURING COMBUSTION OF COAL IN A BURNER	US	SN 11/129,833	Filed 05-16-05	Patent No. 7,357,903	15-08 Certificate of Correction - 09-23-08 Certificate of Correction - 09-30-08
HHO	HYDROPROCESSING METHOD AND SYSTEM FOR UPGRADING HEAVY OIL USING A COLLOIDAL OR MOLECULAR CATALYST	US	SN 11/117,262	Filed 04-28-05	Patent No. 7,578,928	25-09 Request for PTA filed 01-29-10 - Request for PTA Granted 04-21-10 Certificate of Correction - 05-18-10
HHO	EBULLATED BED HYDROPROCESSING METHODS AND SYSTEMS AND METHODS OF UPGRADING AN EXISTING EBULLATED BED SYSTEM	US	SN 11/117,202	Filed 04-28-05	Patent No. 7,449,103	11-08 Certificate of Correction - 10-13-09 Certificate of Correction - 12-14-10
HHO	EBULLATED BED HYDROPROCESSING SYSTEMS	US	SN 12/106,112	Filed 04-18-08	Patent No. 7,815,870	19-10 Issued 10-
HHO	METHODS FOR	US	SN 12/838,761	Filed 07-19-	Patent No.	Issued 04-

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	HYDROCRACKING A HEAVY OIL FEEDSTOCK USING AN IN SITU COLLOIDAL OR MOLECULAR CATALYST AND RECYCLING THE COLLOIDAL OR MOLECULAR CATALYST			10	8431016	30-13; Certificate of Correction dated 05-12-14
HHO	METHODS AND SYSTEMS FOR HYDROCRACKING A HEAVY OIL FEEDSTOCK USING AN IN SITU COLLOIDAL OR MOLECULAR CATALYST AND RECYCLING THE COLLOIDAL OR MOLECULAR CATALYST	US	SN 13/116,195	11 Filed 05-26-	8,303,802 Patent No.	06-12 Issued 11-
HHO	METHODS AND SYSTEMS FOR HYDROCRACKING A HEAVY OIL FEEDSTOCK USING AN IN SITU COLLOIDAL OR MOLECULAR CATALYST	US	SN 13/113,722	11 Filed 05-23-	8,440,071 Patent No.	14-13 Issued 05-
HHO	METHOD FOR EFFICIENTLY OPERATING AN EBULLATED BED REACTOR AND AN EFFICIENT EBULLATED BED REACTOR	US	SN 13/866,220	2013 Filed 04-19-	8,673,130 Patent No.	18-14; Certificate of Correction dated 09-16-14 Issued 03-
HHO	FIXED BED HYDROPROCESSING METHODS AND SYSTEMS FOR UPGRADING AN EXISTING FIXED BED SYSTEM	US	SN 11/117,203	05 Filed 04-28-	7,517,446 Patent No.	14-09 Issued 04-
HHO	METHODS FOR INCREASING CATALYST CONCENTRATION IN HEAVY OIL AND/OR COAL RESID HYDROCRACKER	US	SN 11/932,201	07 Filed 10-31-	8,034,232 Patent No.	11-11 Issued 10-
Headwaters Resources, Inc.	Wegman Case No.ash ***/p2	United States of America	08/555,555	1995 13-Feb-	5,490,889	1996 13-Feb-
Headwaters Resources, Inc.	ASPHALTIC ROOFING MATERIAL WITH	Canada	2,068,362.7	1992 11-May-	2,068,362	1994 31-May-

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Headwaters Resources, Inc.	ULTRASONIC CONDITIONING AND WET SCRUBBING OF FLY ASH	United States of America	09/040,515	17-Mar-1998	5,840,179	24-Nov-1998
Headwaters Resources, Inc.	ULTRASONIC CONDITIONING AND WET SCRUBBING OF FLY ASH	United States of America	09/135,683	18-Aug-1998	5,988,396	23-Nov-1999
Headwaters Resources, Inc.	CONTROL OF AMMONIA EMISSION FROM AMMONIA LADEN FLY ASH IN CONCRETE	European Patent Convention	01/916439.1	07-Mar-2001	1296907	16-Aug-2006
Headwaters Resources, Inc.	CONTROL OF AMMONIA EMISSION FROM AMMONIA LADEN FLY ASH IN CONCRETE	United Kingdom	01/916439.1	07-Mar-2001	1296907	16-Aug-2006
Headwaters Resources, Inc.	CONTROL OF AMMONIA EMISSION FROM AMMONIA LADEN FLY ASH IN CONCRETE	United States of America	10/130,333	23-Sep-2002	6,790,264	14-Sep-2004
Headwaters Resources, Inc.	FIBER REINFORCED AERATED CONCRETE AND METHODS OF MAKING SAME	United States of America	09/871,089	31-May-2001	6,773,500	10-Aug-2004
Headwaters Resources, Inc.	METHOD FOR ACCELERATING SETTING OF CEMENT AND THE COMPOSITIONS PRODUCED THEREFROM	United States of America	10/228,008	26-Aug-2002	6,827,776	07-Dec-2004
Headwaters Resources, Inc.	METHOD OF DELAYING THE SET TIME OF CEMENT	United States of America	10/228,009	26-Aug-2002	6,740,155	25-May-2004

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	AND THE COMPOSITIONS PRODUCED THEREFROM					
Headwaters Resources, Inc.	CEMENTITIOUS MIXTURES AND METHODS OF USE THEREOF	United States of America	10/557,756	2005 18-Nov-	7,658,796	2010 09-Feb-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	Canada	2,578,048	2005 06-Sep-	2,578,048	2013 12-Feb-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	European Patent Convention	05796075.9	2005 06-Sep-	1786541	2012 28-Nov-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	France	05796075.9	2005 06-Sep-	1786541	2012 28-Nov-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	Germany	05796075.9	2005 06-Sep-	602005037211.3	2012 28-Nov-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	Japan	2007-531360	2007 08-Mar-	5037346	2012 13-Jul-
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	Mexico	2007/002530	2007 01-Mar-	285431	2011 04-Apr-



Owner	Patent Name	Country	App No.	App Date	Reg. No.	Reg. Date
Resources, Inc.	SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX					
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	United Kingdom	05796075.9	06-Sep-2005	1786541	28-Nov-2012
Headwaters Resources, Inc.	METHOD AND SYSTEM FOR REDUCING AMMONIA SLIP AFTER SELECTIVE REDUCTION OF NOX	United States of America	11/662,035	23-Mar- 2007	7,780,934	24-Aug- 2010
Headwaters Resources, Inc.	METHOD AND DEVICE TO DETERMINE ADSORPTION CAPACITY FOR AIR ENTRAINMENT AGENTS	PCT	PCT/US2014/60001	10-Oct-2014		