

**PENNSTATE**

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**Establishment of an Industry-Driven Consortium Focused on Improving  
the Production Performance of Domestic Stripper Wells**

Fourth Quarterly Technical Progress Report for the Period 7/01/2001 to 9/30/2001

By

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September 14, 2001

Work Performed Under Grant No. DE-FG26-00NT41025

For  
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## ABSTRACT

The Pennsylvania State University, under contract to the U.S. Department of Energy, National Energy Technology Laboratory will establish, promote, and manage a national industry-driven Stripper Well Consortium (SWC) that will be focused on improving the production performance of domestic petroleum and/or natural gas stripper wells. The consortium creates a partnership with the U.S. petroleum and natural gas industries and trade associations, state funding agencies, academia, and the National Energy Technology Laboratory.

This report serves as the four quarterly technical progress report for the SWC. During this reporting period, Penn State primary focus was on finalizing all subcontracts, planning the SWC technology transfer meeting and two workshops in the southern US, and preparing the next SWC newsletter. Membership in the SWC now stands at 49.

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## **1.0 INTRODUCTION**

The Pennsylvania State University, under contract to the U.S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is in the process of establishing an industry-driven stripper well consortium that will be focused on improving the production performance of domestic petroleum and/or natural gas stripper wells. Industry-driven consortia provide a cost-efficient vehicle for developing, transferring, and deploying new technologies into the private sector. The Stripper Well Consortium (SWC) will create a partnership with the U.S. petroleum and natural gas industries and trade associations, state funding agencies, academia, the National Energy Technology Laboratory, and the National Petroleum Technology Office.

Consortium technology development research will be conducted in the areas of reservoir remediation, wellbore clean up, and surface system optimization. Consortium members elected an Executive Council that will be charged with reviewing projects for funding consortium co-funding. Proposals must address improving the production performance of stripper wells and must provide significant cost share. The process of having industry develop, review, and select projects for funding will ensure that the consortium conducts research that is relevant and timely to industry. Co-funding of projects using external sources of funding will be sought to ensure that consortium funds are highly leveraged.

## **2.0 EXPERIMENTAL**

A description of experimental methods is required by the DOE for all quarterly technical progress reports. In this program, Penn State is responsible for establishing and managing an industry-driven stripper well consortium. Technology development research awards are made on a competitive basis. Therefore, this section is not applicable to the Penn State contracted activities. Technical reports from the individual researchers will be required to contain an experimental discussion section and will be submitted to consortium members and DOE for their review.

## **3.0 RESULTS AND DISCUSSION**

During the last reporting period, the SWC focused the following: 1) finalizing the subcontracts for all SWC co-funded projects, 2) planning the upcoming SWC technology transfer meeting and two workshops in the southern US, and 3) membership recruitment.

### ***3.1 Subcontract Status***

During this reporting period, Penn State continued working on getting all subcontracts in place for the 13 projects approved for co-funding. Appendix A contains a summary on the status for each of the subcontracts.

### ***3.2 Upcoming Meetings***

Three meetings were planned during the last reporting period. Final agendas are now being drafted. These meetings include two upcoming workshops in the southern US to raise awareness of the consortium among southern producers and the scheduling of the SWC technology transfer meeting. The meetings will be held in the following locations:

***Oklahoma City, Oklahoma***  
SWC Workshop  
Oklahoma Zoo Educational Center  
October 24, 2001

***Dallas, Texas***  
SWC Workshop  
Harvey Hotel and Conference Center  
October 25, 2001

***Hershey, Pennsylvania***  
Annual Technology Transfer Meeting  
Hershey Lodge and Conference Center  
December 18-19, 2001

### ***3.3 Membership Recruitment***

During the last reporting period, one additional member joined (West Virginia University). This now brings the SWC membership to 49. Table 1 summarizes the current membership status. The SWC will also be attending the Society of Petroleum Engineers (SPE) regional meeting in Ohio in mid-October 2001 to recruit additional members.

TABLE 1. SWC Membership Summary

Affiliation	Lname	Fname	Address	City	State	Zip	E-Mail
ABARTA Oil & Gas Co., Inc.	Emmerling	John	1000 RIDC Plaza	Pittsburgh	PA	15238	jemmerli@ebarta.com
Advanced Resources International	Pekot	Lawrence	1110 N. Glebe Road_Suite 600	Arlington	VA	22201	lpekol@adv-res.com
Appalachian Well Services, Inc.	Henson	Doug	PO Box 636	Indiana	PA	15701-0636	
Belden & Blake Corporation	Wozniak	David	5200 Stoneham Road_PO Box 2500	North Canton	OH	44720-0500	
BJ Services Co.	Myers	Roger	Penn Center West, Suite 102	Pittsburgh	PA	15276	rmyers@bjservices.com
Brandywine Energy & Development Co., Inc.	Swoyer	Gerald	P.O. Box 756	Frazer	PA	19355	yanigapm@aol.com
Bretagne	Miller	Bernie	836 Euclid Avenue_Suite 309	Lexington	KY	40502	bmiller@bretagnegp.com
C-FER Technologies, Inc.	Nichol	Bob	200 Karl Clark Rd	Edmonton AB	Canada	T6N 1H2	b.nichol@cfertech.com
Cabot Oil & Gas Corp.	Papso	John	900 Lee StEast, Suite 500_Huntingdon Sq	Charleston	WV	25301	john.papso@cabot06.com
Cementing Solutions, Inc.	Sabins	Fred	4613 Brookwoods	Houston	TX	77092	f.sabins@cementingsolutions.com
Colorado School of Mines	Christiansen	Richard	1500 Illinois Street	Golden	CO	80401	rchristi@mines.edu
Commission on Marginally Prod Oil & Gas Wells	Fajen	Liz	1218-B West Roack Creek Road	Norman	OK	73069	lfajen@mhs.oklaosf.state.ok.us
East Resources	Pegula	Terrence	P.O. Box 907	Wexford	PA	15090	
EOG Resources, Inc.	Smith	Gary	1032 Eagle Point Drive	Canonsburg	PA	15317	gary_smith@eogresources.com
Equitable Production Company	Sciullo	Fil	1710 Pennsylvania Ave.	Charleston	WV	25302	
Gasduct Technology LLC	Kuespert	Jon	901 Mohawk, #48	Bakersfield	CA	93309	jkuespert@earthlink.net
Geo-Microbial Technologies/_LATA Group	Dennis	Mike	PO Box 132_East Main Street	Ochelata	OK	74051	mike@latagroup.com
Great Lakes Energy Partners, L.L.C.	Paugh	Lensie	PO Box 235	Yatesboro	PA	16263	lpaugh@gl-energy.com
Hart Resource Technologies, Inc.	Hart	Paul	PO Box 232	Creekside	PA	15732	harthrt@microserve.net
Holditch	Frantz, Jr.	Joseph	1310 Commerce Drive_Park Ridge 1	Pittsburgh	PA	15275-1011	frantz@pittsburgh.oilfield.slb.com
I.L. Geer & Sons	Wenzel	Coralee	PO Box 126	Clarendon	PA	16313	
Innovative Discovery Technologies, LLC	Surdam	Ronald	1050 N. 3rd., Suite E	Laramie	WY	82072	rcsurdam@idt-gti.com
IOGA - NY	Gill	Brad	One Main Street	Hamburg	NY	14075	gill@buffnet.net
James Engineering, Inc.	Knobloch	Timothy	231 Third Street	Marietta	OH	45750	jeitsk@ee.net
Lenape Resources, Inc.	Holko	John	9489 Alexander Road	Alexander	NY	14005	jholko@lenaperesources.com
Marjo Operating Co., Inc.	Keefer	Brian	P.O.Box 729	Tulsa	OK	74114	bkeefer@swbell.net
Maurer Engineering, Inc.	Williams	Thomas	2916 West T.C. Jester	Houston	TX	77018	t.williams@maurereng.com
Minard Run Oil Company	Fesenmyer	Frederick	609 South Avenue_PO Box 18	Bradford	PA	16701-0018	mroc@penn.com
Moody and Associates Inc.	Rademacher	Greg	11548 Cotton Road	Meadville	PA	16335	
National Fuel Gas Supply Corporation	Kittka	Jeffrey	PO Box 2081_1100 State Street	Erie	PA	16512	kittkaj@natfuel.com
Natural Oil and Gas Corp.	Reetz	John, Jr.	1410 West Warren Road	Bradford	PA	16701	Naturaloilandgas@aol.com
North Penn Pipe & Supply	Metzgar	Robert	2351 Dorcon Road	Warren	PA	16365	rmetzgar@northpennpipe.com
NYSEG	Roloson	Bruce	Kirkwood Industrial Park_PO Box 5224	Binghamton	NY	13902-5224	bdroloson@nyseg.com
PA Oil & Gas Association	Rhoads	Stephen	106 Locust Grove Road_P.O. Box 349	Bainbridge	PA	17502	srhoads@per.com
Penneco Oil Co., Inc.	Stromple	Kevin	200 Route 22_PO box 300	Delmont	PA	15626-0300	penneco@penneco.com
Pennsylvania General Energy	Lind	David	208 Liberty Street	Warren	PA	16365	davidlind@penngeneralenergy.com
Petroleum Technology Transfer Council	Duttlinger	Don	2916 West T.C. Jester_Suite 103	Houston	TX	77018	dduttlinger@pttc.org
Phillips Production Co.	Fragale	Sam	502 Keystone Drive	Warrendale	PA	15086	sfragale@phillipsres.com
Quicksilver Resources, Inc.	Bastian	Peter	777 West Rosedale	Ft. Worth	TX	76104	pbastian@qrine.com
RealtimeZone	Scott	George	100 N. Penn	Roswell	NM	88203	glstrz@aol.com
S.W. Jack Drilling Co.	McElwain	James	57 S. 9th Street	Indiana	PA	15701	
Snyder Brothers, Inc.	O'Hara	David	PO Box 1022	Kittanning	PA	16201	dave.ohara@snydercos.com
Surtek, Inc.	Pitts	Malcolm	1511 Washington Ave.	Goldon	CO	80401	pitts@surtek.com
Tennessee Oil & Gas Association	Goodwin	Bill	750 Old Hickory Blvd., Suite 170	Brentwood	TN	37027	tmbill@aol.com
Texas A&M University	Burnett	David	501 Richardson Bldg._Campus Mail MS 3116	College Station	TX	77843-3116	burnett@gpri.org
The Pennsylvania State University	Watson	Robert	C211 CUL	University Park	PA	16802	rww1@psu.edu
Universal Well Services, Inc.	Stoner	Bill	Box 1456	Meadville	PA	16335	bstoner@univwell.com

## **4.0 CONCLUSION**

During the last reporting period, program logistics such as ensuring that all subcontracts were in place and arranging the next set the SWC host meetings served as the primary focus of the Penn State efforts. The SWC is poised very well to begin its second year activities.

## **5.0 REFERENCES**

A listing of referenced materials is required by the DOE for each quarterly technical progress report. This technical progress did not utilize any reference materials.

APPENDIX A: Subcontract Status Summary

### **Colorado School of Mines**

Subcontract 2035-CSM-DOE-1025 “New Technologies for Lifting Liquids from Natural Gas Wells”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 11, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 16, 2001 – proposed subcontract sent to Dr. Richard L. Christiansen for review and signature.

June 26, 2001 – Agreement fully executed

### **Colorado School of Mines**

Subcontract 2036-CSM-DOE-1025 “Optimization of Plunger Lift Performance in Stripper Gas Wells”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 11, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 16, 2001 – proposed subcontract sent to Dr. Richard L. Christiansen for review and signature.

June 26, 2001 – Agreement fully executed

### **Penn State/Dr. Watson**

Subcontract 2037-TPSU-DOE-1025 “Changer Lift: A Technology for Producing Stripper Oil Wells”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract preparation.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 3, 2001 – Received draft subcontract agreement from OSP for review

May 4, 2001 – Sole Source cost certification letter submitted to OSP.

May 10, 2001 – Received revised draft subcontract agreement from OSP for review.

June 11, 2001 – Agreement fully executed

### **Penn State/Dr. Watson**

Subcontract 2038-TPSU-DOE-1025 “Analysis of the Wileyville Waterflood”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract preparation.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 3, 2001 – Received draft subcontract agreement from OSP for review

May 4, 2001 – Sole Source cost certification letter submitted to OSP.

May 10, 2001 – Received revised draft subcontract agreement from OSP for review.

June 11, 2001 – Agreement fully executed.

### **Innovative Discovery Technologies**

Subcontract No. 2039-IDT-DOE-1025 " Development of Diagnostic Techniques to Identify Bypassed Gas Reserves and Badly Damaged Productive Zones in Gas Stripper Wells"

April 12, 2001 – Funding decision made. PI forwards offer letter to me for subcontract preparation.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 14, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP.

May 16, 2001 – Agreement sent to IDT for review and signature.

May 15, 2001 – Subcontract signed by Ronald Surdam, President of IDT.

June 11, 2001 – Penn State signs Subcontract

June 11, 2001 – Agreement fully executed.

### **Penn State/Dr. Watson**

Subcontract 2040-TPSU-DOE-1025 "Analysis of the Taylorstown Injectivity Problems"

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract preparation.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 3, 2001 – Received draft subcontract agreement from OSP for review

May 4, 2001 – Sole Source cost certification letter submitted to OSP.

May 10, 2001 – Received revised draft subcontract agreement from OSP for review.

June 11, 2001 – Agreement fully executed.

### **Schlumberger Holditch-Reservoir Technologies**

Subcontract 2041-SHRT-DOE-1025 "Developing Methods to Identify Unstimulated and/or Ineffectively Stimulated Reservoirs Resulting from Multi-Stage Hydraulic Fracture Treatments``"

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 11, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 16, 2001 – proposed subcontract sent to subcontractor for review and signature.

August 7, 2001 – Agreement fully executed.

### **James Engineering, Inc.**

Subcontract 2042-JE-DOE-1025 "Identification of Effective Fluid Removal Technologies for Stripper Wells"

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 14, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 29, 2001 – proposed subcontract sent to subcontractor for review and signature.

June 28, 2001 – Agreement fully executed.

### **Texas A&M University**

Subcontract 2043-TAMU-DOE-1025 “Environmental and Regulatory issues Relating to the Utilization of Recycled Produced Water from Oil and Gas Operations”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 11, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 29, 2001 – proposed subcontract sent to subcontractor for review and signature.

August 22, 2001 – Agreement fully executed.

### **Advanced Resources International, Inc.**

Subcontract 2044-ARI-DOE-1025 “Advanced decline Model for stripper Well Production Analysis (METEOR)”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 15, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP

May 29, 2001 – proposed subcontract sent to subcontractor for review and signature.

July 27, 2001 – Agreement fully executed.

### **Penn State/Bruce Miller**

Subcontract 2050-TPSU-DOE-1026 “On-Site Treatment of Brine”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract preparation.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 16, 2001 – Received draft subcontract agreement from OSP for review

May 15, 2001 – Sole Source cost certification letter submitted to OSP.

June 11, 2001 – Agreement fully executed.

### **Hart Resources Technologies**

Subcontract 2051-HRT-DOE-1025 “On Site Treatment of Brine”

April 12, 2001 – Funding decision made/PI forwards offer letter to me for subcontract.

April 19, 2001 – Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 14, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to Osp.

May 16, 2001 – Agreement sent to Hart for review and signature.

May 25, 2001 – Subcontract signed by Paul Hart, President of Hart Resources.

June 8, 2001 – Penn State signs Subcontract

June 8, 2001 – Agreement fully executed.

**Brandywine Energy and Development Company**

Subcontract 2052-BEDC-DOE-1025 "Design, Development, and in Well Testing of Two Prototype Tools for the Enhancement in Recovery of Natural Gas"

April 12, 2001 – Funding decision made/PI forwards offer letter to me.

April 13, 2001 – Call Gerald Swoyer, request revised budget/SOW based on award letter.

April 18, 2001 – Revised budget/SOW received from Gerald Swoyer.

April 27, 2001 - Request for subcontract signed by PI, FO and Research Dean sent to OSP.

May 14, 2001 – Received draft subcontract agreement from OSP for review.

May 15, 2001 – Sole Source cost certification letter submitted to OSP.

May 29, 2001 – Agreement sent to Brandywine Energy for review and signature.

June 2, 2001 - Subcontract signed by Gerald Swoyer, President of Brandywine.

June 13, 2001 – Penn State signs Subcontract

June 14, 2001 – Agreement fully executed.

**Republic Energy, Inc.**

Subcontract 2057-RE-DOE-1025 "Applying and Developing New approaches for Maximizing Recovery in the Barnett Shale Gas Play under the Consortium for Improving Production Performance of Domestic Stripper Wells"

April 12, 2001 – Funding decision made/PI forwards offer letter to me.

April 13, 2001 – Called Jason Lacewell requesting revised budget/SOW based on award letter.

April 30, 2001 – Revised budget/SOW received from Jason Lacewell.

May 5, 2001 - Request for subcontract signed by PI, FO and Research Dean sent to OSP.

June 6, 2001 – Received draft subcontract agreement from OSP for review.

June 7, 2001 – Sole Source cost certification letter submitted to OSP.

June 15, 2001 – Agreement sent to Republic Energy for review and signature.

July 31, 2001 - OSP follow-up with Sherry Odel of Republic Energy...subcontract still under review.

August 2, 2001 – Jason Lacewell phones OSP; the PSU proposed subcontract found acceptable; document routed for signature and should be returned to PSU soon.