EXHIBIT 3

3

Bond Report
And
Docket Summary

Montana Board of Oil and Gas Conservation
Summary of Bond Activity

8/5/2013 Through 10/8/2013

Approved

American Midwest Oil & Gas Corp. Billings MT		744 G1	Approved Amount: Purpose:	8/14/2013 $5,000.00 Single Well Bond
Certificate of Deposit	$5,000.00	Western Security Bank		
Glacier Production, Inc. Cut Bank MT		2975 G1	Approved Amount: Purpose:	9/23/2013 $5,000.00 Single Well Bond
Certificate of Deposit	$5,000.00	Bank of Glacier County		
North Range Exploration, LLC Lake Placid NY		725 G5	Approved Amount: Purpose:	9/23/2013 $10,000.00 Single Well Bond
Certificate of Deposit	$10,000.00	Stockman Bank of Montana		
North Range Exploration, LLC Lake Placid NY		725 G4	Approved Amount: Purpose:	8/21/2013 $1,500.00 Single Well Bond
Certificate of Deposit	$1,500.00	Stockman Bank of Montana		
P&P Industries LLC 1 Lambert MT		747 T1	Approved Amount: Purpose:	9/6/2013 $10,000.00 UIC Single Well Bond
Certificate of Deposit	$10,000.00	STOCKMAN BANK, SIDNEY		
Synergy Offshore LLC Houston TX		662 U1	Approved Amount: Purpose:	9/16/2013 $50,000.00 UIC Limited Bond
Certificate of Deposit	$50,000.00	FIRST STATE BANK OF SHELBY		
Weil Oil LLC Richmond VA		748 G1	Approved Amount: Purpose:	9/16/2013 $10,000.00 Single Well Bond
Certificate of Deposit	$10,000.00	FIRST STATE BANK OF SHELBY		
Wexco Exploration, LLC Dallas TX		746 G1	Approved Amount: Purpose:	9/5/2013 $10,000.00 Single Well Bond
Certificate of Deposit	$10,000.00	FIRST INTERSTATE BANK		

Released

Amoco Production Company Chicago IL		220 M1	Released Amount: Purpose:	9/23/2013 $25,000.00 Multiple Well Bond
Surety Bond	$25,000.00	SEABOARD SURETY CO.		
Amoco Production Company Chicago IL		220 U1	Released Amount: Purpose:	9/24/2013 $200,000.00 UIC Limited Bond
Surety Bond	$200,000.00	TRAVELERS CASUALTY & SURETY CO. OF AMERICA		

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Surety Bond	$200,000.00	TRAVELERS CASUALTY & SURETY CO. OF AMERICA		

ALL APPLICATIONS, 10/10/2013 (DRAFT)

Docket	Applicant	Status	Request
425-2013	Kraken Oil & Gas LLC	Default	Vacate Field/Rule
426-2013	Slawson Exploration Company Inc		Exception
427-2013	Slawson Exploration Company Inc		Spacing
428-2013	Slawson Exploration Company Inc		Pooling
429-2013	Slawson Exploration Company Inc		Well Density
430-2013	Slawson Exploration Company Inc		Pooling
431-2013	Slawson Exploration Company Inc		Spacing
432-2013	Slawson Exploration Company Inc		Pooling
433-2013	Slawson Exploration Company Inc		Well Density
434-2013	Burlington Resources Oil & Gas Company LP	Withdrawn	Temp. Spacing
435-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
436-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
437-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
438-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
439-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
440-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
441-2013	Burlington Resources Oil & Gas Company LP	Withdrawn	Temp. Spacing
442-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
443-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
444-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
445-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
446-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
447-2013	Samson Resources Company		Pooling
448-2013	Samson Resources Company	Withdrawn	Well Density
449-2013	Denbury Onshore, LLC	Default	Class II Permit
450-2013	Denbury Onshore, LLC	Default	Class II Permit
451-2013	Denbury Onshore, LLC	Withdrawn	Class II Permit
452-2013	Whiting Oil and Gas Corporation		Spacing
453-2013	Whiting Oil and Gas Corporation		Pooling
454-2013	Whiting Oil and Gas Corporation		Well Density
455-2013	Whiting Oil and Gas Corporation		Pooling
456-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
457-2013	Whiting Oil and Gas Corporation	Default	Temp. Spacing
458-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
459-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
460-2013	Keesun Corporation		Temp. Spacing
461-2013	Keesun Corporation		Well Density
462-2013	American Midwest Oil & Gas Corp.		Field Amendment
463-2013	American Midwest Oil & Gas Corp.		Reduction
464-2013	Continental Resources Inc		Spacing
465-2013	Continental Resources Inc		Spacing

ALL APPLICATIONS, 10/10/2013 (DRAFT)

466-2013	Continental Resources Inc		Spacing
467-2013	Continental Resources Inc		Spacing
468-2013	Continental Resources Inc		Spacing
469-2013	Continental Resources Inc		Pooling
470-2013	Continental Resources Inc		Spacing
471-2013	Continental Resources Inc		Pooling
472-2013	Continental Resources Inc	Continued	Spacing
473-2013	Continental Resources Inc	Withdrawn	Well Density
474-2013	Continental Resources Inc		Spacing
475-2013	Continental Resources Inc	Withdrawn	Well Density
476-2013	Continental Resources Inc		Spacing
477-2013	Continental Resources Inc		Pooling
478-2013	Continental Resources Inc		Well Density
479-2013	Continental Resources Inc	Default	Well Density
480-2013	Continental Resources Inc	Default	Well Density
481-2013	Continental Resources Inc	Default	Well Density
482-2013	Continental Resources Inc	Default	Well Density
483-2013	Continental Resources Inc	Default	Well Density
484-2013	Continental Resources Inc	Default	Well Density
485-2013	Continental Resources Inc	Default	Well Density
486-2013	Continental Resources Inc	Default	Well Density
487-2013	Continental Resources Inc	Default	Well Density
488-2013	Continental Resources Inc		Enhanced Recovery
489-2013	Continental Resources Inc	Default	Class II Permit
490-2013	Oasis Petroleum, Inc.	??	Spacing Amendment
491-2013	Oasis Petroleum, Inc.	Withdrawn	Spacing
492-2013	Oasis Petroleum, Inc.	Withdrawn	Pooling
493-2013	Oasis Petroleum, Inc.	Protested	Temp. Spacing
494-2031	Black Gold Energy Services Incorporated	Continued	Class II Permit
476-2012	Oasis Petroleum, Inc.	Continued	Pooling
736-2012	Oasis Petroleum, Inc.	Continued	Spacing
737-2012	Oasis Petroleum, Inc.	Continued	Pooling
738-2012	Oasis Petroleum, Inc.	Continued	Well Density
746-2012	Oasis Petroleum, Inc.	Continued	Pooling
174-2013	XTO Energy Inc.	Continued	Pooling
304-2013	Continental Resources Inc		Spacing
305-2013	Continental Resources Inc		Pooling
306-2013	Continental Resources Inc		Well Density
345-2013	Statoil Oil & Gas LP	Continued	Spacing
346-2013	Statoil Oil & Gas LP	Continued	Pooling
347-2013	Statoil Oil & Gas LP	Continued	Pooling
348-2013	Statoil Oil & Gas LP	Continued	Well Density

ALL APPLICATIONS, 10/10/2013 (DRAFT)

396-2013	Continental Resources Inc		Spacing
397-2013	Continental Resources Inc		Well Density
418-2013	Denbury Onshore, LLC	Default	Class II Permit
495-2013	Bensun Energy, LLC		Show-Cause

DEFAULT DOCKET, 10/10/2013 (DRAFT)

Docket	Applicant	Status	Request
425-2013	Kraken Oil & Gas LLC	Default	Vacate Field/Rule
435-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
436-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
437-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
438-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
439-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
440-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
442-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
443-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
444-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
445-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
446-2013	Burlington Resources Oil & Gas Company LP	Default	Temp. Spacing
449-2013	Denbury Onshore, LLC	Default	Class II Permit
450-2013	Denbury Onshore, LLC	Default	Class II Permit
456-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
457-2013	Whiting Oil and Gas Corporation	Default	Temp. Spacing
458-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
459-2013	Whiting Oil and Gas Corporation	Default	Spacing Amendment
479-2013	Continental Resources Inc	Default	Well Density
480-2013	Continental Resources Inc	Default	Well Density
481-2013	Continental Resources Inc	Default	Well Density
482-2013	Continental Resources Inc	Default	Well Density
483-2013	Continental Resources Inc	Default	Well Density
484-2013	Continental Resources Inc	Default	Well Density
485-2013	Continental Resources Inc	Default	Well Density
486-2013	Continental Resources Inc	Default	Well Density
487-2013	Continental Resources Inc	Default	Well Density
489-2013	Continental Resources Inc	Default	Class II Permit
418-2013	Denbury Onshore, LLC	Default	Class II Permit

APPLICATIONS TO HEAR, 10/10/2013 (DRAFT)

Docket	Applicant	Status	Request
426-2013	Slawson Exploration Company Inc		Exception
427-2013	Slawson Exploration Company Inc		Spacing
428-2013	Slawson Exploration Company Inc		Pooling
429-2013	Slawson Exploration Company Inc		Well Density
430-2013	Slawson Exploration Company Inc		Pooling
431-2013	Slawson Exploration Company Inc		Spacing
432-2013	Slawson Exploration Company Inc		Pooling
433-2013	Slawson Exploration Company Inc		Well Density
447-2013	Samson Resources Company		Pooling
452-2013	Whiting Oil and Gas Corporation		Spacing
453-2013	Whiting Oil and Gas Corporation		Pooling
454-2013	Whiting Oil and Gas Corporation		Well Density
455-2013	Whiting Oil and Gas Corporation		Pooling
460-2013	Keesun Corporation		Temp. Spacing
461-2013	Keesun Corporation		Well Density
462-2013	American Midwest Oil & Gas Corp.		Field Amendment
463-2013	American Midwest Oil & Gas Corp.		Reduction
464-2013	Continental Resources Inc		Spacing
465-2013	Continental Resources Inc		Spacing
466-2013	Continental Resources Inc		Spacing
467-2013	Continental Resources Inc		Spacing
468-2013	Continental Resources Inc		Spacing
469-2013	Continental Resources Inc		Pooling
470-2013	Continental Resources Inc		Spacing
471-2013	Continental Resources Inc		Pooling
474-2013	Continental Resources Inc		Spacing

APPLICATIONS TO HEAR, 10/10/2013 (DRAFT)

476-2013	Continental Resources Inc		Spacing
477-2013	Continental Resources Inc		Pooling
478-2013	Continental Resources Inc		Well Density
488-2013	Continental Resources Inc		Enhanced Recovery
304-2013	Continental Resources Inc		Spacing
305-2013	Continental Resources Inc		Pooling
306-2013	Continental Resources Inc		Well Density
396-2013	Continental Resources Inc		Spacing
397-2013	Continental Resources Inc		Well Density
490-2013	Oasis Petroleum, Inc.	??	Spacing Amendment
493-2013	Oasis Petroleum, Inc.	Protested	Temp. Spacing
495-2013	Bensun Energy, LLC		Show-Cause

425-2013	Kraken Oil & Gas LLC	Vacate Order 64-2004 (TSU, 26N-52E-4: all, 9: all). Default request.	**Default**	*2-section spacing requested by EOG during 2004.*	☐
426-2013	Slawson Exploration Company Inc	Exception to produce, Bakken/Three Forks Formation, south lateral does not comply with setback provision (Order 227-2012), 23N-53E-4 (Python 3-4MLH).		*PSU, Order 199-2007; additional wells, 227-2012.*	☐
427-2013	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 24N-52E-26: all (Archer Federal 1-26H).		*TSU, Order 152-2012.* *Related applications, Dockets 427, 428, and 429-2013.*	☐
428-2013	Slawson Exploration Company Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 24N-52E-26: all (Archer Federal 1-26H). Non-consent penalties requested.		*Related applications, Dockets 427, 428, and 429-2013.*	☐
429-2013	Slawson Exploration Company Inc	Authorization to drill up to four additional Bakken/Three Forks wells, permanent spacing unit, 24N-52E-26: all, 200' heel/toe, 660' lateral setback. Default request.		*Related applications, Dockets 427, 428, and 429-2013.*	☐
430-2013	Slawson Exploration Company Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-52E-2: all (Desperado Federal 1-2H). Non-consent penalties requested.		*PSU, Order 454-2012.*	☐
431-2013	Slawson Exploration Company Inc	Permanent spacing unit, Bakken/Three Forks Formation, 21N-59E-21: all, 22: all (Dirk Federal 1-22-21H).		*TSU, Order 148-2012.* *Related applications, Dockets 431, 432, and 433-2013.*	☐
432-2013	Slawson Exploration Company Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 21N-59E-21: all, 22: all (Dirk Federal 1-22-21H). Non-consent penalties requested.		*Related applications, Dockets 431, 432, and 433-2013.*	☐
433-2013	Slawson Exploration Company Inc	Authorization to drill up to four additional Bakken/Three Forks wells, permanent spacing unit, 21N-59E-21: all, 22: all, 200' heel/toe, 660' lateral setback. Default request.		*Related applications, Dockets 431, 432, and 433-2013.*	☐
434-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-7: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Withdrawn**	*Withdrawn, ltr recd 9/25/2013.*	☐
435-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-9: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
436-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-11: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
437-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-13: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐

438-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-15: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
439-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-17: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
440-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-21: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
441-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-53E-27: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Withdrawn**	*Withdrawn, ltr recd 9/25/2013.*	☐
442-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-15: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
443-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-17: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
444-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-19: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
445-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-21: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
446-2013	Burlington Resources Oil & Gas Company LP	Temporary spacing unit, Bakken/Three Forks Formation, 23N-54E-23: all, 200' heel/toe, 660' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Default**		☐
447-2013	Samson Resources Company	Pool, permanent spacing unit, Bakken/Three Forks Formation, 33N-56E-6: all, 7: all (Riva Ridge 06-07-2H). Non-joinder penalties requested.		*PSU, Order 624-2013. (Three Forks well.)*	☐
448-2013	Samson Resources Company	Exception to recomplete as additional well in permanent spacing unit, Duperow Formation commingled with Red River Formation, 30N-59E-18: W/2 (Sunmark Crusch Fee 1-R located 917' FNL/919' FWL). Default request.	**Withdrawn**	*PSU, Red River B & C, W/2 of Section 18 (Fee 1-R well) Order 75-1985.* *Statewide TSU, SW/4 for 14-18 well.* *Withdrawn, fax recd 9/27/2013.*	☐
449-2013	Denbury Onshore, LLC	Class II saltwater disposal permit, Mission Canyon Formation, Federal 22-02A, 6N-60E-2: 2080' FNL/1992' FWL (SE/4NW/4), API #025-05156.	**Default**		☐
450-2013	Denbury Onshore, LLC	Class II enhanced recovery permit, Stony Mountain (Ordovician) Formation, South Pine Unit 22-33, 12N-57E-33: 1850' FNL/1950' FWL (SE/4NW/4), API #109-21185.	**Default**		☐
451-2013	Denbury Onshore, LLC	Class II saltwater disposal permit, Dakota/Swift Formations, ELOB 2-18B, 7N-61E-18: 660' FSL/660' FWL (SW/4SW/4), API #025-21261.	**Withdrawn**	*Withdrawn by applicant, 10/8/2013.*	☐

452-2013	Whiting Oil and Gas Corporation	Permanent spacing unit, Bakken/Three Forks Formation, 25N-58E-27: all, 34: all (Sundheim 21-27-1H).		*TSU, Order 380-2011 (Special Statewide); setbacks amended by Order 632-2012.* *Related Dockets 452, 453, 454-2013.*	☐
453-2013	Whiting Oil and Gas Corporation	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-58E-27: all, 34: all (Sundheim 21-27-1H). Non-consent penalties requested.		*Related Dockets 452, 453, 454-2013.*	☐
454-2013	Whiting Oil and Gas Corporation	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 25N-58E-27: all, 34: all, 200' heel/toe, 500' lateral setback. Default request.		*Related Dockets 452, 453, 454-2013.*	☐
455-2013	Whiting Oil and Gas Corporation	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-58E-5: all, 8: all (Sundheim 44-8-3H). Non-consent penalties requested.		*PSU, Order 325-2013.*	☐
456-2013	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 500' lateral, 200' heel/toe setbacks in temporary spacing unit, Bakken/Three Forks Formation, 24N-59E-16: all, 17: all. Apply for permanent spacing within 90 days of successful completion. Operations must commence within one year of date of order. Default request.	**Default**	*(380-2011 - Special Statewide spacing.)*	☐
457-2013	Whiting Oil and Gas Corporation	Vacate Order 455-2011 (24N-60E-17: all, 20: all). Temporary spacing unit, Bakken/Three Forks Formation, 24N-60E-5: all, 8: all, 17: all, 200' heel/toe, 500' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Operations must commence within one year of date of order. Default request.	**Default**	*(Correcting potential orphan tracts; amending setbacks.)* *Somewhat related Dockets 457, 458, 459-2013.*	☐
458-2013	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 500' lateral, 200' heel/toe setbacks in temporary spacing unit, Bakken/Three Forks Formation, 24N-60E-20: all, 29: all. Apply for permanent spacing within 90 days of successful completion. Operations must commence within one year of date of order. Default request.	**Default**	*Somewhat related Dockets 457, 458, 459-2013.*	☐
459-2013	Whiting Oil and Gas Corporation	Amend Order 380-2011 to allow 500' lateral, 200' heel/toe setbacks in temporary spacing unit, Bakken/Three Forks Formation, 24N-60E-31: all, 32: all. Apply for permanent spacing within 90 days of successful completion. Operations must commence within one year of date of order. Default request.	**Default**	*Somewhat related Dockets 457, 458, 459-2013.*	☐
460-2013	Keesun Corporation	Temporary 20-acre spacing units for oil wells with projected depth of less than 2500', surface to the top of the Madison Group, 36N-3W-16: N/2, NW/4SW/4, SE/4SW/4, SE/4, 20: E/2NE/4, 21: NW/4NW/4, 220' setback. Requests each 20-acre spacing unit consist of either the W/2 & E/2 or N/2 & S/2 of qtr-qtr section to be selected by applicant. Default request.		*Will hear - 220' setbacks to external boundaries.*	☐
461-2013	Keesun Corporation	Authorization to drill second Sunburst Formation well in each qtr-qtr section (statewide spacing), 36N-3W-16: SW/4SW/4, NE/4SW/4, 17: SE/4SE/4, 220' setback. Default request.		*Will hear - 220' setbacks to external boundaries.*	☐

462-2013	American Midwest Oil & Gas Corp.	Vacate Order 46-1984 relating to and covering 35N-1E-32: NE/4, Nisku Formation. Default request.		*80-acre PSUs, E/2 & W/2 of quarter section (Order 46-1984).* *Will hear; change of permanent spacing units.*	☐
463-2013	American Midwest Oil & Gas Corp.	Vacate Orders 46-1984 and 9-1986 by removing certains lands in 34N-1E & 35N-1E. Default request.		*80-acre PSUs, E/2 & W/2 of quarter section (Order 46-1984).* *Enlargement, Order 9-1986.* *Will hear; change of permanent spacing units.*	☐
464-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-21: all, 22: all, 27: all, 28: all (Alice/Thomas HSU).		*Overlapping TSU, Order 288-2008.*	☐
465-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 24N-56E-31: all, 23N-56E-6: all, 23N-55E-1: all, 24N-55E-36: all (Audrey Federal HSL)		*Overlapping TSU, Order 282-2008.*	☐
466-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-9: all, 10: all, 15: all, 16: all (Prevost/Mondalin HSU).		*Overlapping TSU, Order 274-2008.*	☐
467-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-22: all, 23: all, 26: all, 27: all (Thomas/Bettye HSU).		*Overlapping TSU, Order 275-2008.*	☐
468-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-19: all, 30: all, 23N-55E-24: all, 25: all (Earl/Rita HSU).		*Overlapping TSU, Order 342-2008.* *Related Dockets 468, 469-2013.*	☐
469-2013	Continental Resources Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-19: all, 30: all, 23N-55E-24: all, 25: all (Earl/Rita HSU). Non-joinder penalties requested.		*Related Dockets 468, 469-2013.*	☐
470-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-7: all, 18: all, 23N-55E-12: all, 13: all (Constance/Linnea HSU).		*Overlapping TSU, Order 285-2008.* *Related Dockets 470, 471-2003.*	☐
471-2013	Continental Resources Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 23N-56E-7: all, 18: all, 23N-55E-12: all, 13: all (Constance/Linnea HSU). Non-joinder penalties requested.		*Related Dockets 470, 471-2003.*	☐
472-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-53E-34: all (Lepel 1-34H).	**Continued**	*Statewide TSU, toe setback exception by Order 647-2012.* *Related Dockets 472, 473-2013. NOTICE OBJECTION - THOMAS HALVORSON* *Continued to December, email recd 10/1/2013.*	☐
473-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-53E-34: all, 200' heel/toe, 660' lateral setback.	**Withdrawn**	*Related Dockets 472, 473-2013.* *Withdrawn, email recd 10/1/2013.*	☐
474-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-54E-26: all (Fitzsimons 1-26H).		*Statewide TSU, toe setback exception by Order 71-2013.* *Related Dockets 474, 475-2013.*	☐

475-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-54E-26: all, 200' heel/toe, 660' lateral setback.	**Withdrawn**	*Related Dockets 474, 475-2013.* *Withdrawn, email recd 10/1/2013.*	☐
476-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 29N-59E-6: all, 7: all (Foxx 1-6H).		*TSU, special statewide (Order 380-2011).* *Related Dockets 476, 477, 478-2013.*	☐
477-2013	Continental Resources Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 29N-59E-6: all, 7: all (Foxx 1-6H). Non-joinder penalties requested.		*Related Dockets 476, 477, 478-2013.*	☐
478-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 29N-59E-6: all, 7: all, 200' heel/toe, 500' lateral setback.		*Related Dockets 476, 477, 478-2013.*	☐
479-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-54E-18: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 352-2007.*	☐
480-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-54E-8: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 88-2007.*	☐
481-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-54E-10: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 393-2006.*	☐
482-2013	Continental Resources Inc	Amend Order 106-2009 to allow two additional Bakken Formation well in the permanent spacing unit comprised of 23N-56E-25: all, 23N-57E-30: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 445-2005. Additional wells, Orders 470-2005 (drilled), 106-2009.*	☐
483-2013	Continental Resources Inc	Amend Order 392-2006 to allow three additional Bakken Formation well in the permanent spacing unit comprised of 25N-55E-7: all, 25N-54E-12: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 391-2006. One additional well, 660' setback, by Order 392-2006.* *(Vacate 392-2006 ?? Not drilled.)*	☐
484-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 26N-53E-1: all, 12: all, 200' heel/toe, 500' lateral setback. Default request.	**Default**	*PSU, Order 130-2011.*	☐
485-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 25N-55E-33: all, 24N-55E-2: all, 200' heel/toe, 500' lateral setback. Default request.	**Default**	*PSU, Order 157-2005.*	☐
486-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-56E-8: all, 17: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 161-2005.* *additional wells (drilled), 660' SB, Orders 326-2005, 170-2008.*	☐
487-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 24N-55E-35: all, 23N-55E-2: all, 200' heel/toe, 660' lateral setback. Default request.	**Default**	*PSU, Order 418-2005.* *Additional wells, 660' setback, Orders 457-2005, 154-2007 (drilled?).* *Overlapping TSU, Order 278-2008 (Secs. 2, 35, 3, 34)*	☐

488-2013	Continental Resources Inc	Class II pilot enhanced recovery project, Bakken Formation, Staci 3-11H, permanent spacing unit 23N-55E-11: all, 14: all.			☐
489-2013	Continental Resources Inc	Class II Injection permit, enhanced recovery, Bakken Formation, Staci 3-11H, 23N-55E-11: 330' FNL/1700' FWL (NE/4NW/4), API #083-22748.	**Default**		☐
490-2013	Oasis Petroleum, Inc.	Amend Order 380-2011 to allow 500' lateral, 200' heel/toe setbacks in temporary spacing unit, Bakken/Three Forks Formation, 26N-58E-6: all, 7: all. Apply for permanent spacing within 90 days of successful completion. Operations must commence within one year of date of order. Default request.			☐
491-2013	Oasis Petroleum, Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 26N-58E-6: all, 7: all (Matador Federal 2658 43-7H).	**Withdrawn**	*TSU - special statewide (Order 380-2011). Related Dockets 491, 492-2013. Withdrawn, ltr recd 9/25/2013.*	☐
492-2013	Oasis Petroleum, Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 26N-58E-6: all, 7: all (Matador Federal 2658 43-7H).	**Withdrawn**	*Related Dockets 491, 492-2013.* *Withdrawn, ltr recd 9/25/2013.*	☐
493-2013	Oasis Petroleum, Inc.	Temporary spacing unit, Bakken/Three Forks Formation, two horizontal wells, 27N-58E-29: all, 30: all, 31: all, 32: all, 200' heel/toe, 500' lateral setbacks. Apply for permanent spacing within 90 days of successful completion. Default request.	**Protested**	*Protest - Shane Garman.*	☐
494-2031	Black Gold Energy Services Incorporated	Class II saltwater disposal permit, Dakota Formation, Briske 4-9H, 29N-58E-9: 300' FNL/300' FWL (NW/4NW/4), API #085-21709.	**Continued**		☐
476-2012	Oasis Petroleum, Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 27N-58E-4: all, 9: all (Signal Butte Federal 2758 43-9H). Non-consent penalties requested.	**Continued**	*PSU, Order 352-2012; additional wells, Order 353-2012.* *Continued, ltr recd 9/25/2013.*	☐
736-2012	Oasis Petroleum, Inc.	Permanent spacing unit, Bakken/Three Forks Formation, 27N-58E-27: all, 28: all (Betsy Federal 2758 24-29H).	**Continued**	*TSU, Order 441-2011 - 1320/200. Related Dockets 736, 737, 738-2012. Continued to December, ltr recd 9/25/2013.*	☐
737-2012	Oasis Petroleum, Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 27N-58E-27: all, 28: all (Betsy Federal 2758 24-29H). Non-consent penalties requested.	**Continued**	*Related Dockets 736, 737, 738-2012.* *Continued to December, ltr recd 9/25/2013.*	☐
738-2012	Oasis Petroleum, Inc.	Exception to drill up to four additional wells, permanent spacing unit, Bakken/Three Forks Formation, 27N-58E-27: all, 28: all, 200' heel/toe, 500' lateral setbacks. Default request.	**Continued**	*Related Dockets 736, 737, 738-2012.* *Continued to December, ltr recd 9/25/2013.*	☐
746-2012	Oasis Petroleum, Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 28N-58E-29: all, 32: all (Piercy Federal 2758 13-5H). Non-consent penalties requested.	**Continued**	*PSU, Order 608-2012, Additional wellls, Order 609-2012.* *Continued to December, ltr recd 9/25/2013.*	☐

174-2013	XTO Energy Inc.	Pool, permanent spacing unit, Bakken/Three Forks Formation, 28N-57E-35: all, 36: all (State 42X-36C). Non-consent penalties requested.	**Continued**	*PSU, Order 128-2013; additional wells, Order 129-2013.* *Continued to December, ltr recd 9/25/2013.*	☐
304-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 25N-54E-4: all, 5: all (Charlie 1-5H).		*Overlapping TSU, Order 199-2012; (Amestoy Protest).* *Related Dockets 304, 305, 306-2013.* *Ltr of protest? Pennie Muth, Barbee Hekkel, Sonja Smart*	☐
305-2013	Continental Resources Inc	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-54E-4: all, 5: all (Charlie 1-5H). Non-joinder penalties requested.		*Related Dockets 304, 305, 306-2013.*	☐
306-2013	Continental Resources Inc	Exception to drill up to three additional wells, permanent spacing unit, Bakken/Three Forks Formation, 25N-54E-4: all, 5: all, 200' heel/toe, 500' lateral setbacks. Default request.		*Related Dockets 304, 305, 306-2013.*	☐
345-2013	Statoil Oil & Gas LP	Permanent spacing unit, Bakken/Three Forks Formation, 25N-59E-25: all, 26: all, 35: all, 36: all (Sundheim 26-35 #1-H and Sundheim 26-35 #2-H).	**Continued**	*TSU, Order 188-2011, 2 wells authorized.* *Related Dockets 345, 346, 347, 348-2013.* *Continued to December, email recd 9/30/2013.*	☐
346-2013	Statoil Oil & Gas LP	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-59E-25: all, 26: all, 35: all, 36: all (Sundheim 26-35 #1-H). Non-joinder penalties requested.	**Continued**	*Related Dockets 345, 346, 347, 348-2013.* *Continued to December, email recd 9/30/2013.*	☐
347-2013	Statoil Oil & Gas LP	Pool, permanent spacing unit, Bakken/Three Forks Formation, 25N-59E-25: all, 26: all, 35: all, 36: all (Sundheim 26-35 #2-H). Non-joinder penalties requested.	**Continued**	*Related Dockets 345, 346, 347, 348-2013.* *Continued to December, email recd 9/30/2013.*	☐
348-2013	Statoil Oil & Gas LP	Exception to drill up to five additional wells, permanent spacing unit, Bakken/Three Forks Formation, 25N-59E-25: all, 26: all, 35: all, 36: all, 200' heel/toe, 500' lateral setbacks. Default request.	**Continued**	*Related Dockets 345, 346, 347, 348-2013.* *Continued to December, email recd 9/30/2013.*	☐
396-2013	Continental Resources Inc	Permanent spacing unit, Bakken/Three Forks Formation, 23N-53E-28: all (Larry 1-28H).		*Statewide TSU, 200' toe/heel by Order 66-2013.* *Related Dockets 396, 397-2013.*	☐
397-2013	Continental Resources Inc	Authorization to drill up to three additional Bakken/Three Forks wells, permanent spacing unit, 23N-53E-28: all, 200' heel/toe, 660' lateral setback.		*Related Dockets 396, 397-2013.*	☐
418-2013	Denbury Onshore, LLC	Class II disposal permit, Madison Formation, Madison 1 WSW, 8S-54E-27: 2970 FNL/660 FWL (NW/4SW/4), API #075-21799.	**Default**		☐
495-2013	Bensun Energy, LLC	Show cause, failure to file production reports.			☐

EXHIBIT 4

GRANT PROJECT SUMMARY : 2007, 2009, 2011, 2013

10-9-13

2007 & 2011 Southern Tank Battery Grant:
There is $19,258 left in the C-Brewer contract. Terri has requested Gwen Ungerman to increase the Brewer contract by the remaining grant balance of $104,241 to assure the project gets finished. Are waiting on soil sampling to get done to determine whether to disc the soils more before freeze-up. There is a lot of junk iron that remains to be hauled off from the site.

2009 Grants:

Northern:	Project is completed and contract will expire 12-31-13.
Southern:	Project is completed except for one well which will be finished on the upcoming 2009 Northern-Southern grant. Contract expires 12-31-13.
Northern-Southern:	This project is to spend the remaining 2009 grant monies of $263,757. RFP response due date was 10-1-13. LGWS was the only bidder and the bid came in at $374,709.25 Will have to trim some of the 24 wells from the contract that have lower priority rating. Service/Equip rates have risen and most wells involve significant travel from Cut Bank for the contractor. Staff reviewed the LGWS bid proposal 10-9-13.

2011 Grants:

Eastern:	Notice to Proceed given to LGWS. Plan to start on first well 10-9-13.
Northern-Eastern:	Notice to Proceed given to LGWS. Plan to start on eastern wells first, sometime within the next week or two.

2013 Grant:
Not funded by legislature.

EXHIBIT 5

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

BOARD OF OIL AND GAS CONSERVATION

STEVE BULLOCK, GOVERNOR

OIL AND GAS CONSERVATION DIVISION

STATE OF MONTANA

October 7, 2013

Tom Yates
Denbury Onshore, LLC
5320 Legacy Drive
Plano, TX 75025

Dear Mr. Yates:

A few weeks ago, a Board Field Inspector noticed Denbury had a number of injection wells which were overdue for their mechanical integrity test (MIT). He reminded Denbury personnel of this situation, and instructed them to shut-in the wells which were overdue, until they could demonstrate they had mechanical integrity.

Last week, when he witnessed the MITs of these wells, he noticed that four of them had continued operating, in direct violation of the regulations and his instructions. These wells are:

Well	MIT due date	MIT performed
34-9A	9-4-13	10-2-13
14x-13	9-8-13	10-2-13
42-22B	9-17-13	10-2-13
BN 42-17B	9-23-13	10-2-13

This situation will be brought before the Board at their business meeting this Wednesday, October 9, for enforcement action.

You can contact me at (406) 656-0040 if you have any questions.

Sincerely,

George Hudak

George Hudak
UIC Director

DIVISION OFFICE
1625 ELEVENTH AVENUE
PO BOX 201601
HELENA, MONTANA 59620-1601
(406) 444-6675

TECHNICAL AND
SOUTHERN FIELD OFFICE
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102-4693
(406) 656-0040

NORTHERN FIELD OFFICE
201 MAIN STREET
PO BOX 690
SHELBY, MONTANA 59474-0690
(406) 434-2422

EXHIBIT 6

Duties

The petroleum engineer will work closely with other Board professionals – petroleum geologist and UIC director, chief field inspectors, executive secretary, etc.

- Analyze drilling permits and other well work permits to determine if proposals comply with acceptable engineering practice, Board rules and other regulatory requirements.
- Provide technical review and advice to support decisions on appropriate well plugging procedures, completion techniques, safe work procedures to chief field inspector and other staff
- Review environmental impacts of proposals and assist other staff in preparing assessments and evaluating potential drilling locations and associated impacts or related facilities
- monitor and analyze reservoir performance, especially for new or developing fields
- review drilling, completion and recovery methods to advise the Board on approval of various proposals and projects
- research special projects and unique proposals (eg: CO2 sequestration, innovations in well drilling or completions) to determine if changes in regulatory program are needed and recommend changes to the Board
- design and implement appropriate production, processing and transportation options
- estimate the immediate and long-term production capabilities of oil and gas wells and their ultimate recoverable volumes of oil and gas
- review the design of subsurface storage facilities for natural gas, CO2 and produced fluids
- Review and recommend regulatory processes for health, safety and environmental controls on oil and gas operations.

Engineer may work in remote field locations overseeing the collection and analysis of oil and gas well data or supervising the installation or operation of facilities or well plugging, but the petroleum engineer usually works in an office environment.

Personal Characteristics

Petroleum engineers need the following characteristics:

- the ability to think logically and solve problems
- good communication skills including written and oral presentation skills
- the ability to work independently or with a team of other staff
- ability to deal with demanding workloads and changing priorities
- skill in dealing with groups and individuals having diverse interests and backgrounds

Educational Requirements

The minimum education requirement for the petroleum engineer is a bachelor's degree in petroleum engineering or a closely related discipline (for example, geological engineering, or a degree in engineering science with a minor in petroleum engineering).

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Petroleum Engineer Average Salary by Employer Name

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Updated: 2 Oct 2013

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Job Title:

Years in Field/Career:

Location:

United States (change)

Submit

- OR -

Sign in with LinkedIn »

Job: Petroleum Engineer

Salary by Employer Name

Employer Name	National Salary Data (?)
Petroleum Engineer - Chevron Corporation 29 salaries	$80,131 - $211,495
Petroleum Engineer - British Petroleum (BP) 21 salaries	$51,278 - $156,838
Petroleum Engineer - Shell Oil Company 12 salaries	$86,554 - $244,679
Petroleum Engineer - Schlumberger 10 salaries	$64,429 - $188,571
Petroleum Engineer - ConocoPhillips Company 9 salaries	$99,937 - $193,968
Petroleum Engineer - ExxonMobil Corporation 9 salaries	$87,500 - $131,000
Petroleum Engineer - Occidental Petroleum Corporation 6 salaries	$98,264 - $152,605

Who You Know

Petroleum Engineer - EOG Resources, Inc.
5 salaries
$96,133 - $111,480

Petroleum Engineer - Anadarko Petroleum Corp
5 salaries
$87,500 - $187,500

Country: United States | Currency: USD | Updated: 2 Oct 2013 | Individuals Reporting: 217

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Petroleum Engineer

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Petroleum Engineer Job Listings

Petroleum Engineer

Oct 04

Bureau of Land Management - Billings, MT

seeking a dynamic and energetic individual to join the team to serve as a Petroleum Engineer in the Montana State Office, Division of Resources, Branch of Fluid... - *Indeed*

Apply For This Job »

Operations / Petroleum Engineer

Sep 16

Enscicon Corporation - United States

Responsibilities & Qualifications: Petroleum Engineering degree with 1-2 years of engineering experience in the Oil and Gas industry. Conduct a broad scope of... - *Indeed*

Apply For This Job »

SPE Conference - Society Of Petroleum Engineers Conference - 2013 - New Orleans, LA Job

Sep 10

BASF - United States

SPE Conference - Society Of Petroleum Engineers Conference - 2013 - New Orleans, LA-1302863 BASF is proud to be an Affirmative Action and Equal Opportunity... - *Indeed*

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EXHIBIT 7

BOGC - 9OCT13

SNaP

A Survey of Native Proppant Resources within Montana

Interim Report
9 October 2013
John Getty, Instructor
Petroleum Engineering
Montana Tech

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SNaP
Survey of Native Proppant

Collaborative effort between Montana Bureau of Mines and Geology, Petroleum Engineering

- Use existing geological maps to identify access to outcrops
- Collect and evaluate samples
- Produce and publish a map product that can be used for development of resources.

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Two Part Project

Expenditure	Part 1	Part 2	
	Yr1	Yr2	Yr3
Personnel	$48,216	$89,402	$71,303
Travel	$14,300	$15,800	$7,460
Supplies	$13,500	$6,500	$2,000
Equipment	$25,000	$13,000	$0
Fac & Admin (IDC 25%)	$25,254	$31,176	$20,191
Totals	**$126,270**	$155,878	$100,954

Part 1 – Initial Survey of Potential Sources (Year 1)

Part 2 – Detailed Sampling to estimate deposit size, improve estimate of quality (Years 2 and 3)

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Activities over the last year

- Collected >70 samples
- Acquired:
  - Computer controlled press
  - Particle Size Analyzer ($100k TechFndn)
  - Field equipment
- Created a SNaP Data Base
- Constructed Simplified Reporting Form
- Project Extended to 3 years

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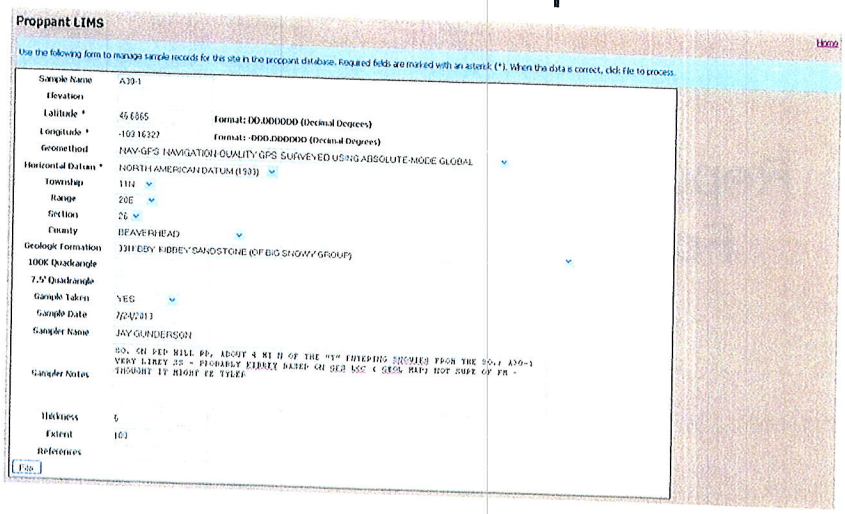
Data Base Input



Proppant LIMS

Home

Use the following form to manage sample records for this site in the proppant database. Required fields are marked with an asterisk (*). When the data is correct, click file to process.

Sample Name	A39-1
Elevation	
Latitude *	46.6865 Format: DD.DDDDDD (Decimal Degrees)
Longitude *	-102.16322 Format: -DDD.DDDDDD (Decimal Degrees)
Geomethod	NAV-GPS NAVIGATION-QUALITY GPS SURVEYED USING ABSOLUTE-MODE GLOBAL
Horizontal Datum *	NORTH AMERICAN DATUM (1983)
Township	11N
Range	20E
Section	26
County	BEAVERHEAD
Geologic Formation	33HEBBY HIBBEY SANDSTONE (OF BIG SNOWY GROUP)
100K Quadrangle	
7.5' Quadrangle	
Sample Taken	YES
Sample Date	7/24/2013
Sampler Name	JAY GUNDERSON
Sampler Notes	GO. ON PER HILL PA, ABOUT 4 MI N OF THE "S" ENTERING SNOWIES FROM THE SOUT A39-1 VERY LIKEY 33 - PROBABLY EIBBEY BASED ON BED ASSC & SIZE. MAYB NOT SURE OF FM - THOUGHT IT MIGHT BE TYLER
Thickness	5
Extent	100
References	

File

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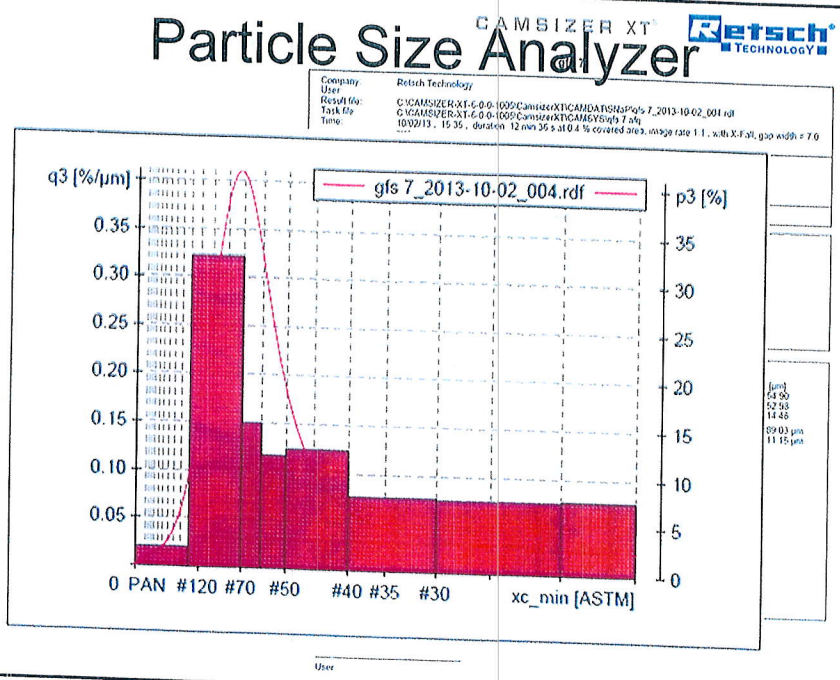
Particle Size Analyzer



CAMSIZER XT Retsch TECHNOLOGY

Company: Retsch Technology
User:
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Task file: C:\CAMSIZER-XT-6-0-0-1005\CamsizerXT\CAMDATA\SNaP\gfs 7.xfg
Time: 10/02/13, 15:35, duration 12 min 36 s at 0.4 % covered area, image rate 1:1, with X-Fall, gap width = 7.0

User

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Reporting Form

SNaP
Montana Tech
Proppant Research Division

Sample # *	B6-1	**Name of Sampler ***	Chris Bulau
Date *	06/26/2013	**Email**	
LAT (decimal) *	48.022/2	**Formation Name**	Virgelle
LON (decimal) *	110.25464	**Thickness (ft)**	40
Elevation (ft)	2611	**Exposed**	
Township		**Extent**	
Range		**Pictures**	
Section		**How many ***	
County	Cascade	**Picture Numbers ***	

Sample Characteristics

Hardness	Hard to break apart
Color	White
Grain Size	Sand
Grain Shape	
Reaction to Acid	Yes

Lab Results

Microscopy		**Hopeful? (y,n)**	No
Color		Camsizer plot? (y,n)	No
Photo Taken (y,n)	Yes	Camsizer S&R	
Est Sphericity	0.6		
Est Roundness	0.6		
Mineralology			
Cuts Produced	%	Testing Done	Clusters%
12/20			
16/30	11		
20/40	30		
30/50	56		
40/70	48		
70/140	13		
Other_____			

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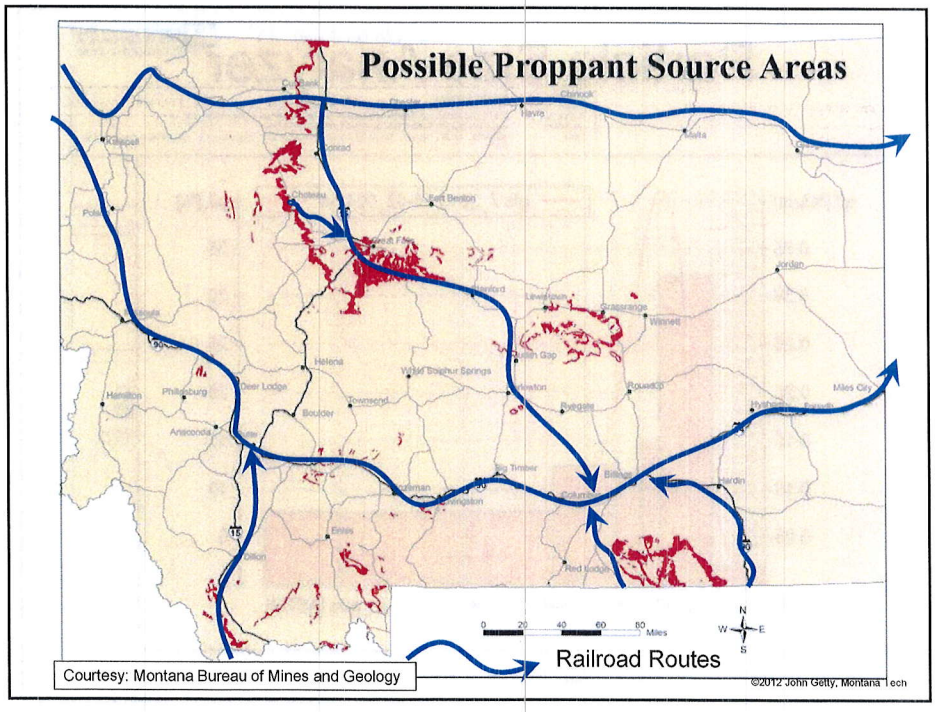

Courtesy: Montana Bureau of Mines and Geology

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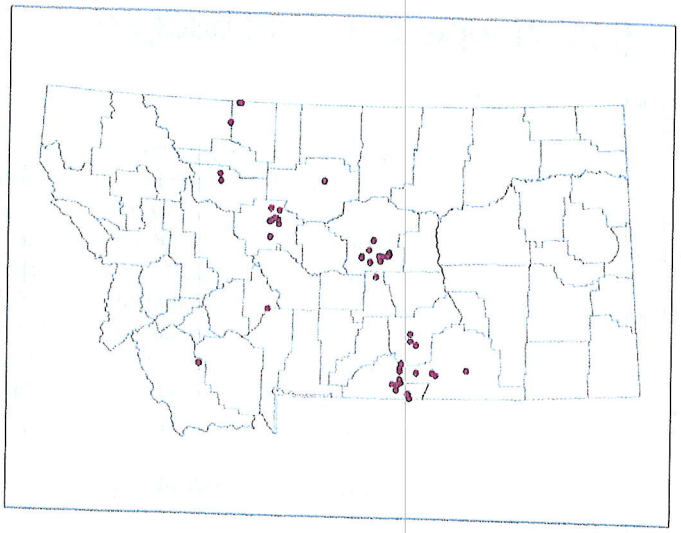
Sample Locations in DB



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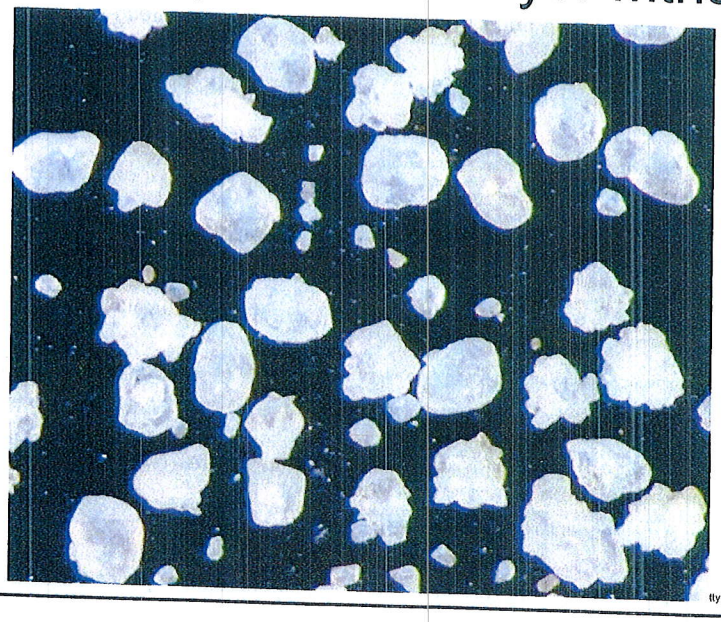
Tensleep from the Pryor Mtns



tty, Montana Tech

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Requested Budget Revision

(No change in annual budget)

Revison Summary	8-Oct-13		
SNaP Budget			
	Original 3 yr Budget	Requested Revision	Reallocation
Professional Salary	79,688.00	107,107.00	27,419.00
Student Salary	86,400.00	60,200.00	(26,200.00)
Benefits	42,833.00	52,881.00	10,048.00
Contracted Services		6,000.00	6,000.00
Travel	37,560.00	26,560.00	(11,000.00)
Supplies	22,000.00	19,733.00	(2,267.00)
Equipment	38,000.00	34,000.00	(4,000.00)
IDC's	76,620.00	76,620.00	-
TOTAL	383,101.00	383,101.00	

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Contact Information

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(406) 496-4847, jgetty@mtech.edu

Montana Tech
1300 W Park St.
Butte, MT 59701

References

1. U.S. Energy Information Administration, Annual Energy Outlook 2012 Early Release Overview
2. The Oil Drum, http://www.theoildrum.com/uploads/28/PU200611_Fig1.png, accessed 12Feb2012
3. InflationData.com, http://inflationdata.com/inflation/inflation_rate/historical_oil_prices_table.asp, accessed 12Feb2012
4. Frac Sand in Wisconsin, B. A. Brown, Wisconsin Geological and Natural History Survey, http://monroe.uwex.edu/files/2012/02/Frac_sand_in_Wisconsin1.pdf, accessed 13Feb2012
5. US Silica web site, locations page, http://www.ussilica.com/locations, accessed 20Feb2012
6. "Proppants: Where in the World", R Beckwith, JPT, April 2011, p36, http://www.spe.org/jpt/print/archives/2011/04/11ProppantShortage.pdf, accessed 22Feb2012
7. WTRG Economics, US rotary Rig Count Active Rigs, short term, http://www.wtrg.com/rigs_graphs/short/ngus.gif
8. http://www.ldeo.columbia.edu/res/div/mgg/lodos/Education/Logging/slides/LWD_Feb_15_2008.pdf
9. Night time image of Williston basin courtesy of the Image Science and Analysis Laboratory, NASA Johnson Space Center
10. US Department of the Interior, "Oil and Gas Lease Utilization – Onshore and Offshore, Report to the President", March 2011
11. Retsch, www.retsch.com, accessed 17Mar2012
12. North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division
13. Montana Board of Oil and Gas Conservation
14. "Montana Tech Graduate Presentation, Fracture Hydraulics, Geometry & Azimuth", Syfan, F., Presentation delivered at Montana Tech, Butte, MT, 6Mar2012

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EXHIBIT 8

SNaP Budget - Evaluating Proppant Sources within Montana

New Budget for Contract Extension to 3 Years

7-Oct-13

Item	Description	Qty	Monthly Rate	Part 1 Yr 1	Extension Yr 2	Extension Yr 3	Project Total
1	**Personnel**						
1.1	John Getty, Pet Engr, PI (summer salary 0.5mo/Yr 1, 1.5mos/Yr 2, 3wks/Yr 3)	2.75	6,441	$3,220	$9,951	$5,120	$18,292
1.2	John Getty, Pet Engr, PI (1 month AY Extra Compensation Yr 1, Yr 2 & Yr 3)	3	6,441	$6,441	$6,634	$6,827	$19,902
1.3	Katie McDonald, MBMG, Co-PI (0.5 mo/Yr 1, 3wks/Yr 2, 1mo/Yr 3)	1.75	6,116	$3,058	$4,724	$6,483	$14,265
1.4	Susan Vuke (1 mo/Yr 1, 2 mo/Yr 2, 1 mo/Yr 3)	3.5	4,982	$4,982	$10,262	$2,640	$17,884
1.5	Jay Gunderson (1 mo/Yr1, 0.5/Yr2, 0.5mo/Yr3	2	6,116	$6,116	$3,150	$3,241	$12,507
1.6	Luke Buckley, GIS programming (1 mo/Yr 1, 1 mo/Yr 2, 2 mo/Yr 3)	5	4,683	$4,683	$9,647	$9,928	$24,258
1.7	4 Students (10 hrs/wk @ $10/hr during AY, 20 hrs/wk@$10/hr Summer)			$13,760	$25,800	$20,640	$60,200
1.8	Benefits (46% Professionals)			13,110	$20,409	$15,750	$49,269
1.9	Benefits (students 3 % AY & 10% Summer)			$1,135	$1,496	$980	$3,612
	TOTAL SALARY & BENEFITS			**$56,504**	**$92,073**	**$71,610**	**$220,188**
2	**Travel**						
2.1	Field work, per diem (3 ppl, 100 days)	300	$23	$2,000	$4,400	$500	$6,900
2.2	Field work, lodging (3 rooms, 40 nights)	120	$77	$1,500	$5,900	$1,860	$9,240
2.3	Field work, mileage (200 miles/day)	15000	$0.36	$1,500	$3,300	$600	$5,400
2.4	Presentations/Conferences (2 ppl)	2	$2,500		$1,500	$3,500	$5,000
	TOTAL TRAVEL			**$5,000**	**$15,100**	**$6,460**	**$26,560**
3	**Supplies**						
3.1	Chisle Hammer and generator	2	$1,500		$3,000		$3,000
3.2	Drying Oven	1	$700	$700			$700
3.3	Crush cell	1	$500	$500			$500
3.4	Lab Supplies (per year)	3	var	$1,962	$2,255	$2,143	$6,359
3.5	Sieve set	1	$500	$500			$500
3.6	Gram scales	1	$600	$600			$600
3.7	GPS units for field notes and photo-documentation	3	$600	$1,800			$1,800
3.8	Communication and copying charges	3	$450	$450	$500	$550	$1,500
3.9	Sieve Shaker	1	$2,000	$2,000			$2,000
3.10	Computer	1	$1,900	$1,900			$1,900
3.11	Equipment Maintenance				$874		$874
	TOTAL SUPPLIES			**$10,412**	**$6,629**	**$2,693**	**$19,733**
4	**Equipment**						
4.1	Load frame	1	$19,700	$19,700			$19,700
4.2	Petrographic Microscope	1	$7,300		$7,300		$7,300
4.3	Storage Unit	1	$7,000	$7,000			$7,000
	TOTAL EQUIPMENT			**$26,700**	**$7,300**	**$0**	**$34,000**
5	**Contracted Services**						
5.1	Consultant (David Lopez, $600/day)	10	600	$2,400	$3,600	$0	$6,000
	TOTAL CONTRACTED SERVICES			**$2,400**	**$3,600**	**$0**	**$6,000**

	Yr1	Yr2	Yr3	Project Total
Project Expenses	101,016	124,702	80,763	306,481
Indirect Costs (State rate 25%)	25,254	31,175	20,191	76,620
Project Cost	**$ 126,270**	**$ 155,877**	**$ 100,954**	**$ 383,101**
	Part 1	Extended		

Revison Summary 8-Oct-13
SNaP Budget

	Original 3 yr Budget	Requested Revision	Reallocation
Professional Salary	79,688.00	107,107.00	27,419.00
Student Salary	86,400.00	60,200.00	(26,200.00)
Benefits	42,833.00	52,881.00	10,048.00
Contracted Services		6,000.00	6,000.00
Travel	37,560.00	26,560.00	(11,000.00)
Supplies	22,000.00	19,733.00	(2,267.00)
Equipment	38,000.00	34,000.00	(4,000.00)
IDC's	76,620.00	76,620.00	-
TOTAL	383,101.00	383,101.00	