

KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION 1056414

Form ACO-18 Form must be typed Form must be signed May 2009

Venting / Flaring

ID #____

APPLICATION FOR VENTING OR FLARING OF GAS OTHER THAN CASINGHEAD GAS (K.A.R. 82-3-314)

Operator Information:		Well Information:		
OPERATOR: License #		API No. 15		
Name:		Spot Description:		
Address 1:			Sec Twp	_S. R East West
Address 2:			Feet from 🗌 N	orth / 🗌 South Line of Section
City:	State: Zip: +		Feet from D	ast / 🗌 West Line of Section
Contact Person:		County:		
Phone: ()		Lease Name:		Well #:
A. Formation/Interval a	nd estimated BTU Value of gas to be v	vented:		
Formation:	Interval:	Estimated BTU Va	lue:	
B. Expected Maximum	Gas Vented Volume:			
Formation:		BOPD:	MCFPD:	BWPD:
Include the following attach	est pipeline or gathering facility:			
1. Wireline log of subject	well, if available. If not available attach,	a written explanation why not ava	ailable.	
2. Completed Well Comp	letion form for the subject well, Form AC	CO-1.		
3. Method of measuring v	vented / flared gas.			
4. Written explanation of	why venting or flaring is necessary.			
5. Signed certificate show	ving service of the application and affida	avit of publication as required in K	.A.R. 82-3-135a.	
Include the following for co	albed natural gas venting application	is only:		
6. Plat Map including loca of offsetting operators.	ation of subject well, all other wells on su	ubject lease and all wells on offse	tting leases. Include the	names and address
7. Completed Affidavit for	r Venting of Coalbed Natural Gas, Form	CG-4.		
		AFFIDAVIT		

I am the affiant and I hereby certify that to the best of my current information, knowledge and personal belief, this request to vent/flare natural gas is true and proper and I have no information or knowledge, which is inconsistent with the information supplied in this application.

KCC Office Use Only								
Denied	Approved	Permit Expires:						
15-Day Peric	ods Ends:							
Approved By	:		Date:					

Submitted Electronically

Protests may be filed by any party having a valid interest in the application. Protests must be in writing and comply with K.A.R. 82-3-135b and must be filed within 15 days of publication of the notice of the application.

	Print Date Time:		7012 11-05- 11 10: 05	18 3RD		
	Analyzed By: Meter ID:	MELINDA RE BF7012 11 LINNEBUR 9	1-05-18 3RD			
	Analysis Time: Flowing Temp.:	05/19/201 ² 68. 7 Deg.	7 9: 03 F	Sample Typ Flowing F	pe: Spo Pressure: 4	t psi g
Densi	Comp	UnNorm	Normal	Li qui ds	I deal	Rel.
Densi		%	%	(USgal/MCF)	(Btu/SCF)	
	Propane Hydrogen Sulfide I soButane Butane NeoPentane I soPentane Hexane+ Ni trogen Methane CarbonDi oxi de Ethane Heptane+ Heptane+ Heptane Octane Nonane+ Nonane Decane Undecane Ethane Ethane Fropane +	7. 2639 84. 5849 0. 0000 0. 0000 0. 0000 0. 0000 0. 0000	7. 9053 92. 0531 0. 0000 0. 0000 0. 0397 0. 0000	0.0000	0.0000 929.7360 0.0000 0.0000 1.8896 0.0000	0.0000 0.0765 0.5099 0.0000 0.0000 0.0012 0.0000
	Total	91. 8871	100.0000	0. 0168	931. 6736	0. 5885
(Btu∕	Inferior Wobbe 'SCF)			•		
(Ibm/				-		
(Btu/				Ideal CV	931.6	
(Btu/		920. 1154	(Btu/SCF)	Dry CV	935.5	
	Contract Temp.	60.0000	(deg F)	Contract F		00 (psia)
	Number of Cycles	1		Connected	Stream 1	
	Comments: MO #413					



May 19, 2011 Jim Hemmen KCC- Conservation Division 130 S. Market – Room 2078 Wichita, KS 67202

Mr. Hemmen:

connected to existing pipeline infrastructure. expected to release more than 50 mscf/day. At that point the well will be deemed economic and 9-27S-15E, approximately 1360' FSL and 2050' FWL, in Wilson county, Kansas. Venting operations are not the only supplier of the vented gas is the Linnebur, Roxanna L. 9-1 API 1520527923 located in the SE SW determine the economic feasibility of connecting this location to existing pipelines. The well which will be Post Rock Midcontinent LLC intends to vent Coal Bed Methane gas for longer than 7 days in order to

than 0.04% concentration with zero indication of Hydrogen Sulfide (detailed gas analysis attached). tested and show to be compromised of 92% Methane and 7.9% Nitrogen. All other tested gases show less Existing gathering system is located approximately 3,100' from well location. Initial gas samples were

commencement of venting operations. Rick Brown, Chairperson of Wilson County LEPC will be notified as well as the local Sheriff of the

Please Contact Jeff Buterbaugh at 405-815-4302 with any questions.

Regards,

Lance Galvin

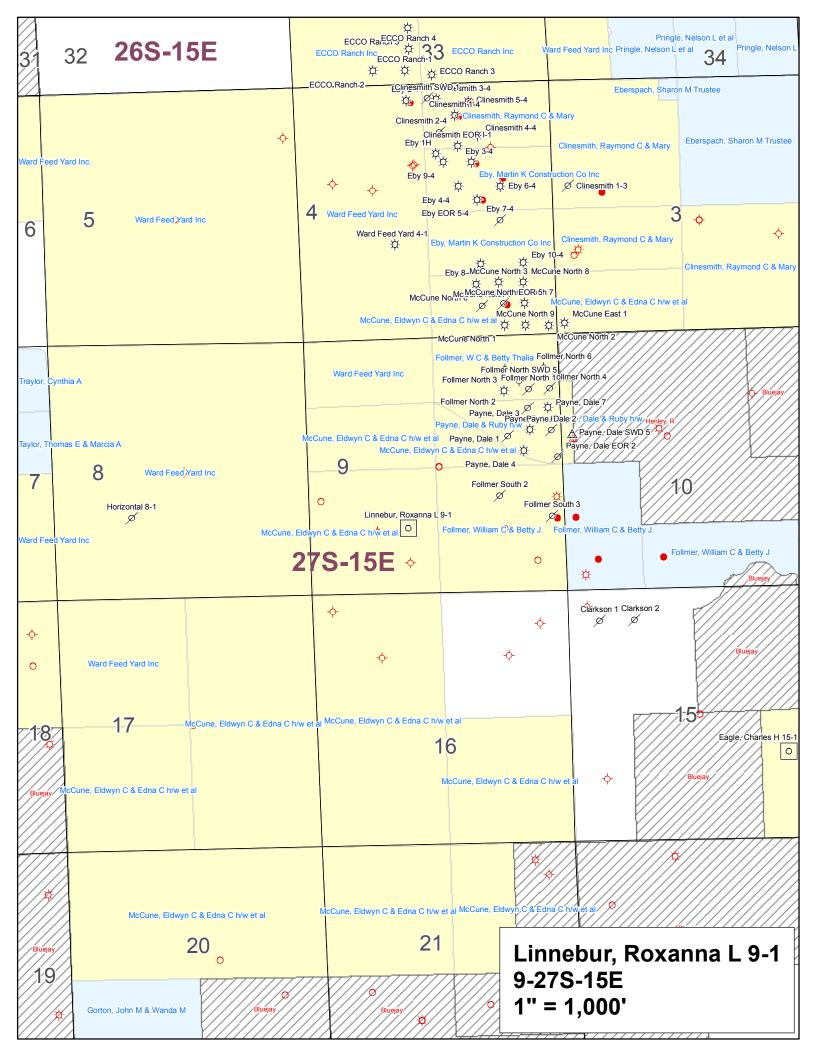
VP Engineering and Operations

210 Park Avenue, Suite 2750 Oklahoma City, OK 73102 MAIN: (405) 600-7704 FAX: (405) 600-7756 WEB: <u>www.pstr.com</u> NASDAQ: PSTR KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION Form CG-4 Form must be typed September 2005

AFFIDAVIT FOR VENTING OF COALBED NATURAL GAS

	e of KANSAS	
Cour	nty of <u>WILSON</u>) ss:	
Jour	(affiant's printed name), of lawful age and being first duly sworn, alleges	and states as follows:
		5 and states as 1010ws.
1.	I am (title) for the operator named below.	
	Operator Information:	
	License #: 33343 Contact Person: JENNIFER RS BEAL Address: 211 WEST 14TH STREET Phone #: 620-4	31-9500
	Address:	
	The operator is the designated operator of the LINNEBUR, ROXANNA L 9-1	(proposed project's name)
	proposed coalbed natural gas pilot project wells located on the following property inWILSON	County, KS.
	1. Name: LINNEBUR, ROXANNA L Spot: <u>SW</u> _ <u>SE</u> _ <u>NE</u> _ <u>SW</u> <u>Sec.</u> <u>9</u> <u>Twp.</u> <u>27</u> <u>S</u> . R. <u>15</u>	East / West; or
	feet from North / South line of Section 1360, and feet from East / / West section line 2050.	Richard Example
	2. Name: Spot Sec Twp S. R	East / West; or
	feet from North / South line of Section, and feet from East / West section line 3. Name: Spot Spot Sec Twp S. R	East / West; or
	3. Name: Spot Spot Spot Sec Wp S. R feet from North / South line of Section, and feet from East / West section line	
	4. Name: Spot Spot Sec Twp S. R	East / West; or
	feet from North / South line of Section, and feet from East / West section line	Income in the second
	5. Name: Spot Spot Sec Twp S. R	East / West; or
	feet from North / South line of Section, and feet from East / West section line	
	6. Name: Spot SecTwp S. R feet from North / South line of Section, and feet from East / West section line	East / West; or
4.	Gathering or pipeline facilities are not currently available for use on the above proposed pilot project.	
	Venting or flaring is necessary to dewater wells on the above project while the wells are being tested to determine the econor gathering or other facilities to make the gas marketable and to determine the required capacity of the facilities.	nic feasibility of installing
6.	The maximum daily volume of gas operator anticipates to be vented or flared is _50 MCFPD.	
	Operator is aware of, and agrees to comply with the Kansas Department of Health and Environment's air quality regulations a project/lease.	applicable to the above
8.	Venting or flaring began, or will begin, at the above-proposed pilot project on <u>JUNE 9TH</u> , 20 <u>11</u> . The the above-proposed pilot project shall not exceed 180 days without reapplication to the Commission.	venting or flaring from
9.	Operator has published notice of this affidavit pursuant to K.A.R. 82-3-135.	
	Operator has provided notice to the local emergency planning committee (LEPC) for the county in which the above-proposed and where any part of the above-proposed pilot project falls within the corporate limits of any city, operator has provided notic filed a certificate of mailing with the Commission indicating the date on which service of this affidavit was made to the LEPC <i>LEPCs can be obtained at http://www.accesskansas.org/kdem/LEPC.htm, or by contacting the State of Kansas Division certificate State of Kansas Division certificate State State of Kansas Division certificate State Sta</i>	e to the city clerk, and has and/or city clerk. (A list of
	The above and foregoing statements are true and correct according to my knowledge, information, and belief.	0
	Junifer KD Black	
	/Signature of Affiant	
	Subscribed and sworn to before me on this 23RD day of MAY , 20 11 , 20 by TERRA KLAUMAN .	TERRA KLAUMAN Notary Public - State of Kansa t. Expires 8-4-2014
		an

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansa's 67202





KANSAS CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION

1056417

Form ACO-1 June 2009 Form Must Be Typed Form must be Signed All blanks must be Filled

WELL COMPLETION FORM

WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License #	API No. 15
Name:	_ Spot Description:
Address 1:	
Address 2:	Feet from North / South Line of Section
City: State: Zip:+	Feet from East / West Line of Section
Contact Person:	
Phone: ()	
CONTRACTOR: License #	
Name:	Lease Name: Well #:
Wellsite Geologist:	
Purchaser:	
Designate Type of Completion:	Elevation: Ground: Kelly Bushing:
New Well Re-Entry Workover	Total Depth: Plug Back Total Depth:
Oil WSW SWD SIOW Gas D&A ENHR SIGW OG GSW Temp. Abd. CM (Coal Bed Methane) CM CM	Amount of Surface Pipe Set and Cemented at: Feet Multiple Stage Cementing Collar Used? Yes No If yes, show depth set: Feet
Cathodic Other (Core, Expl., etc.):	If Alternate II completion, cement circulated from:
If Workover/Re-entry: Old Well Info as follows:	feet depth to:w/sx cmt.
Operator:	
	Drilling Fluid Management Plan (Data must be collected from the Reserve Pit)
Original Comp. Date: Original Total Depth: Deepening Re-perf. Conv. to ENHR Conv. to SW	 Chloride content: ppm Fluid volume: bbls
Plug Back: Plug Back Total Depth	Location of fluid disposal if hauled offsite:
Commingled Permit #:	Operator Name:
Dual Completion Permit #:	License #:
SWD Permit #:	Quarter Sec TwpS. R East West
ENHR Permit #:	County: Permit #:
GSW Permit #:	1 Child #
Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date	-

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
Letter of Confidentiality Received
Date:
Confidential Release Date:
Wireline Log Received
Geologist Report Received
UIC Distribution
ALT I II III Approved by: Date:

	Side Two	
Operator Name:	Lease Name:	Well #:
Sec TwpS. R East West	County:	

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken (Attach Additional She	eets)	Yes	No		og Formatio	n (Top), Depth an	d Datum	Sample
Samples Sent to Geolog	,	Yes	No	Nam	e		Тор	Datum
Cores Taken Electric Log Run Electric Log Submitted E (If no, Submit Copy)	Electronically	☐ Yes ☐ Yes ☐ Yes	No No No					
List All E. Logs Run:								
		Report all		RECORD Ne	ew Used	ion etc		
Purpose of String	Size Hole Drilled	Size Ca Set (In C	sing	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose: Perforate	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
Protect Casing Plug Back TD				
Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Acid, Fracture, Shot, Ceme Specify Footage of Each Interval Perforated (Amount and Kind of N							Depth		
TUBING RECORD:	Si	ze:	Set At:		Packer	r At:	Liner R	un:	No	
Date of First, Resumed F	Product	ion, SWD or ENHF	λ .	Producing N		ping	Gas Lift	Other (Explain)		
Estimated Production Per 24 Hours		Oil Bb	ls.	Gas	Mcf	Wate	er	Bbls.	Gas-Oil Ratio	Gravity
DISPOSITIO	N OF (GAS:			METHOD	OF COMPLE	TION:		PRODUCTION INTER	RVAL:
Vented Sold		Used on Lease		Open Hole	Perf.	Dually (Submit)		Commingled (Submit ACO-4)		
(If vented, Sub	mit ACC)-18.)		Other (Specify))					

Form	ACO1 - Well Completion
Operator	PostRock Midcontinent Production LLC
Well Name	LINNEBUR, ROXANNA L 9-1
Doc ID	1056417

All Electric Logs Run

DIL	
CDL	
NDL	
ГЕМР	
SONIC	
GRB	



211 W. 14TH STREET, D11029 CHANUTE, KS 66720 620-431-9500

FICKET NUMBER	

FIELD TICKET REF # _____

FOREMAN Jac Blanchard

53

SSI 631090

					it A	PI <u>5.20</u>	05-27	1923
DATE		W	ELL NAME & NUMBER		SECTION	TOWNSHIP	RANGE	COUNTY
4-4-11	LINNEL	rß	OXANNA	9-1	9	27	15	WL
FOREMAN / OPERATOR	TIME	TIME		TRUCK #	TRAILER #	TRUCK HOURS		MPLOYEE IGNATURE
Joe Blanchord	7:00	5:0	0	904 850		10	1 au	Blackant
MATT Culberts	- 7'00	4:30	2	903206		9.5	Ma	tt Catte
Justin T. Janser	7:00	3:00	0	903600		8	but	han
Jes Grah Ma	17:00	中国	94:45	963414	932705	9.75	5 12	sh
Nathan bahas		4:4:	S	903255		9.75	Nat	4 Cal
Michael Jon	es 7:00	5:00		904775		10	The	chall por
JOB TYPE Longs		SIZE _ 7	7/8 H	IOLE DEPTH	25 CAS	SING SIZE & WE	ііднт <u>57</u>	2 14/4
CASING DEPTH						IER		
SLURRY WEIGHT	3.5 SLURRY	Y VOL	W	VATER gal/sk	CEM	AENT LEFT in C		Y
DISPLACEMENT	.2) DISPLA	CEMENT	PSI N	/IX PSI	RAT	E 46pm	\	
REMARKS:	7					8		
RAN 1520.	90 F+ 5%	2 12	hde Ins	stalled come RAN 28661	int head	RAN 25	KS gel	·got
Circulation	storted	Dye	S the	RAN 28661	dye & 2	20 SKS C	of ceme	NA TO
get dyeto	Surface.	Flush	pump. Pun	p wper pl	ug to bot	ton of S	et floa	+ shere.
	Α			A	C .	A MILL AL		
Franks Rig				jet Flat to				
Casing at				UCKS aroun	d 10 5po	Hem. ST	arted c	cment 2:00
ACCOUNT CODE	QUANTITY or UI		utat 3:0	DESCRIPTION OF SEF	BVICES OR PRODU	JCT		TOTAL
CODE 904 850	•	N N	Foreman Pickup					AMOUNT
903255	<u> </u>	hr br	Cement Pump Truck					
903600 490	3206 8		Bulk Truck			, ,		······
903414	9.75	hr hr	Transport Truck		· · · · · · · · · · · · · · · · · · ·			
	9.75		Transport Trailer					
932705 904735	10	he	80 Vac					
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		8	Centralizers					
		-	Float Shoe					
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		SK	Gilsonite					· · · · · · · · · · · · · · · · · · ·
		SK	Flo-Seal Premium Gel					
	16	SK	Cal Chloride					
		SK		Rock.L				
		2.0	City Water	Basket	-			
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932895	9.5	he	Casing tra	crar				
734015	1.0	N	VEDING THE	n (ar				

VDd. mc Pherson Dulling 03/28/11 Monday @ 11 Bm.

							
	Pipe #	Length	Running Total	Baffle Location	Casing Ta	Ily Sheet	
		40.32	40.32		Location: Roxanna	Linnebur 2-1	
	2	38.38	78.70	Cmart	SSI# Date: 3/28/11 6.	21060	
	3	38.77	117.47	UTP.	Date: 3/28/11	01000	
m	4	38.06	155.53	a lat	Well TD: 1525		
CNS"	5	39.54	195 07	base	AFE # DIIC	129	
From Buffelo Go W. Smiles	6	38.57	232 64				2
auffort	7	39.82	273.46	Di.	API#1	5-205-2792	
PULLE	. 8	39.19	312.65		775-150	E Wilson Co.	KS.
600	9	38.44	351,09	- AK			
iles.	10		and the second se	- <u>681</u> T			
5/~~		38.54	389.63	9			
or 1/2		70.21	429.90		Baffle Lo	cation	
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Ro	15	38.54	587.62				
+ I	16	39.90	627,52				
H	17	36.49	664.01		Note	es s	
Som	18	36.25	700.26				
ARI	19	40.36	740.102				
Porto Rota South Noto	20	39.01	779.63				
	21	40.12	819.75				
	22	39.16	858.91				
	23	38.27	897,18				·
	24	38,25	935.43				
	25	38.25	973.68				
	26	38.75	1012.43				
	27	38.74	1051.17			01	in n
	28	39.94	1091.11	- Set Upp	Boffla @ 10%	91011 ft, Beg	Hole.
	29) 30	38,68	1129,79			d'	
	.30	38.57	1168.36				
	31	40,15	1208.51				
	.32 .33	38.57	1247.08				~~ 11 M
	33	36.74	1283.82	- Set Low	Baffle (@ 128	3.82-R7.51	all Hole.
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			-			State of the second	

McPherson Drilling LLC Drillers Log

Btm.

	LRG0412			D11029	_		_	
Rig Number:	1			S. 9	T. 27	R.15 E	Gas Tests:	
API No. 15-	205-27923			County:	Wilson		480	(
	Elev.	1200		Location:			500	(
							705	(
Operator:	POSTRO	CK					780	(
Address:	210 Park	Ave Ste 2750					820	(
	Oklahoma	City, OK 731	02-56	41			955	(
Well No:	9-1	l	_ease	Name: LINN	EBER ROY	AMAL	980	(
Footage Locati	on:	1,360		ft. from the	SOUTH	Line	1000	(
		2,050		ft. from the	WEST	Line	1030	(
Drilling Contract	tor:	McPherson I	Drillin	g LLC			1045	(
Spud date: 3/24/2011		3/24/2011		Geologist: Ken Recoy			1130	:
Date Completed: 3/28/2011			Total Depth:	1525		1180	(
							1206	(
Casing Record				Rig Time:	-		1230	(
	Surface	Production		6:30-9:00	waitin on doz	er	1379	(
Size Hole:	11"	7 7/8"		12:30-1:00	waitin on doz	er	1525	(
Size Casing:	8 5/8"			h2o @ 220' 610	'			
Weight:	20#			2:30-4:30	pulled off loc	ation		
Setting Depth:	20	MCP		5 hrs rig time			Comments:	
Type Cement:	Portland			DRILLER:	Andy Coat	S	Start injecting	@ 630'
Sacks:	4	MCP						
					Well Log			
Formation	Тор	Btm.	HRS.	Formation	Тор	Btm.	Formation	Тор
soil	0	4		shale	754	812	coal	1175
sand	-							
ouna	4	7		black shale	812	814	Ishale	1177
shale	4	7 192		black shale lime	812 814	814 829	shale	1177 1189
shale wet lime	7	192		lime	814	829	coal	1189
wet lime	7 192	192 243		lime sand shale	814 829	829 843	coal shale	1189 1190
wet lime sand shale	7 192 243	192 243 319		lime sand shale lime	814 829 843	829 843 861	coal shale coal	1189 1190 1216
wet lime sand shale lime	7 192 243 319	192 243 319 339		lime sand shale lime shale	814 829 843 861	829 843 861 943	coal shale coal shale	1189 1190 1216 1217
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wet lime sand shale lime shale lime shale coal sand shale black shale	7 192 243 319 339 421 455 469 470 492	192 243 319 339 421 455 469 470 492 493		lime sand shale lime shale coal sand shale lime shale coal black shale	814 829 843 861 943 944 947 963 972 973	829 843 861 943 944 947 963 972 973 986	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale	7 192 243 319 339 421 455 469 470 492 493	192 243 319 339 421 455 469 470 492 493 512		lime sand shale lime shale coal sand shale lime shale coal black shale coal	814 829 843 861 943 944 947 963 972 973 986	829 843 861 943 944 947 963 972 973 986 987	coal shale coal shale black shale shale coal shale coal	1189 1190 1216 1217 1317 1318 1366 1368 1375
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime	7 192 243 319 339 421 455 469 470 492 493 512	192 243 319 339 421 455 469 470 492 493 512 520		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale	 814 829 843 861 943 944 947 963 972 973 986 987 	829 843 861 943 944 947 963 972 973 973 986 987 1001	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale	7 192 243 319 339 421 455 469 470 492 493 512 520	192 243 319 339 421 455 469 470 492 493 512 520 540		lime sand shale lime shale coal sand shale lime shale coal black shale coal	814 829 843 861 943 944 947 963 972 973 986 987 1001	829 843 861 943 944 947 963 972 973 986 987 1001 1024	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime	7 192 243 319 339 421 455 469 470 492 493 512 520 540	192 243 319 339 421 455 469 470 492 493 512 520 540 608		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit	814 829 843 861 943 944 947 963 972 973 986 987 1001 1024	829 843 861 943 944 947 963 972 973 973 986 987 1001 1024 1028	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608	192 243 319 339 421 455 469 470 492 493 512 520 540 608 621		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime	814 829 843 861 943 944 947 963 972 973 986 987 1001	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime	7 192 243 319 339 421 455 469 470 492 493 512 520 540	192 243 319 339 421 455 469 470 492 493 512 520 540 608		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit	814 829 843 861 943 944 947 963 972 973 986 987 1001 1024	829 843 861 943 944 947 963 972 973 973 986 987 1001 1024 1028	coal shale coal shale black shale shale coal shale coal shale shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608	192 243 319 339 421 455 469 470 492 493 512 520 540 608 621		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit lime	814 829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032	coal shale coal shale black shale shale coal shale coal shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale wet lime	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608 621	192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit lime mulky	814 829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038	coal shale coal shale black shale shale coal shale coal shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale wet lime sand shale	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628	192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628 641		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit lime mulky lime	 814 829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 1040	coal shale coal shale black shale shale coal shale coal shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale wet lime sand shale lime	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628 641	192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628 641 695		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit lime summit lime summit lime summit	 814 829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 1040 	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 1040 1042	coal shale coal shale black shale shale coal shale coal shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376
wet lime sand shale lime shale lime shale coal sand shale black shale shale lime shale lime shale wet lime sand shale lime shale lime shale	7 192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628 641 695	 192 243 319 339 421 455 469 470 492 493 512 520 540 608 621 628 641 695 698 		lime sand shale lime shale coal sand shale lime shale coal black shale coal shale lime summit lime mulky lime sand shale shale	 814 829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 1040 1042 	829 843 861 943 944 947 963 972 973 986 987 1001 1024 1028 1032 1038 1040 1042 1042 1118	coal shale coal shale black shale shale coal shale coal shale	1189 1190 1216 1217 1317 1318 1366 1368 1375 1376