

Oil and Gas Division

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.dmr.nd.gov/oilgas/

April 6, 2018

Ms. Donna Patocka
Continental Resources, Inc.
P.O. Box 269000
Oklahoma City, OK 73126

**RE: Tallahassee #3-16H
SENE Sec. 16, T.153N., R.101W.
McKenzie County, North Dakota
Baker Field
Well File No. 25157
STRIPPER WELL DETERMINATION**

Dear Ms. Patocka:

Continental Resources, Inc. (Continental) filed with the North Dakota Industrial Commission – Oil and Gas Division (Commission) on March 9, 2018 an application for a Stripper Well Determination for the above captioned well.

Information contained in the application indicates that the above mentioned well is a stripper well pursuant to statute and rule, and Continental has elected to designate said well as a stripper well. The well produced from a well depth greater than 10000 feet and was completed after June 30, 2013. During the qualifying period, October 1, 2016 through September 30, 2017, the well produced at a maximum efficient rate or was not capable of exceeding the production threshold. The average daily production from the well was 32.0 barrels of oil per day during this period.

It is therefore determined that the above captioned well qualifies as a “Stripper Well” pursuant to Section 57-51.1-01 of the North Dakota Century Code. This determination is applicable only to the Bakken Pool in and under said well.

The Commission shall have continuing jurisdiction, and shall have the authority to review the matter, and to amend or rescind the determination if such action is supported by additional or newly discovered information. If you have any questions, do not hesitate to contact me.

Sincerely,

David J. McCusker
Petroleum Engineer

Cc: ND Tax Department



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5749 (09-2006)

Well File No.

25157

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input type="checkbox"/> Notice of Intent	Approximate Start Date
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed December 29, 2017
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date
<input type="checkbox"/> Drilling Prognosis <input type="checkbox"/> Spill Report <input type="checkbox"/> Redrilling or Repair <input type="checkbox"/> Shooting <input type="checkbox"/> Casing or Liner <input type="checkbox"/> Acidizing <input type="checkbox"/> Plug Well <input type="checkbox"/> Fracture Treatment <input type="checkbox"/> Supplemental History <input type="checkbox"/> Change Production Method <input type="checkbox"/> Temporarily Abandon <input type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Other NDAC 43-02-03-49 Compliance	

Well Name and Number
See Attached

Footages	F	L	F	L	Qlr-Qtr	Section	Township	N	Range	W
Field					Pool			County		

24-HOUR PRODUCTION RATE

Before	After
Oil Bbls	Oil Bbls
Water Bbls	Water Bbls
Gas MCF	Gas MCF

Name of Contractor(s)

Address

City

State

Zip Code

DETAILS OF WORK

Continental Resources, Inc. has inspected all the sites listed on the attached list and all are in compliance with NDAC 43-02-03-49. All sites are in compliance based on the fact that our oil storage tanks, flow-through process vessels, recycle pumps, and load lines are all located within secondary containment.

confirmed per RSD

Company Continental Resources, Inc.	Telephone Number (405) 234-9020	
Address PO Box 268870		
City Oklahoma City	State OK	Zip Code 73126
Signature <i>Robert Sandbo</i>	Printed Name Robert Sandbo	
Title Regulatory Compliance Supervisor	Date February 8, 2018	
Email Address robert.sandbo@cir.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 3/22/18	
By <i>J. C. H.</i>	
Title Regulatory Compliance Supervisor	



Oil and Gas Division

Lynn D. Helms - Director Bruce E. Hicks - Assistant Director
Department of Mineral Resources
Lynn D. Helms - Director
North Dakota Industrial Commission
www.dmr.nd.gov/oilgas

August 29, 2017

CONTINENTAL RESOURCES
ATTENTION: BOB SANDBO
P.O. BOX 268870
OKLAHOMA CITY, OK 73126

RE: North Dakota Administrative Code (NDAC) Section 43-02-03-49
Perimeter Berm Requirement

NDIC # Please see attached list of 103 Facilities

Dear Bob Sandbo:

Please be advised that the attached list of facilities require a perimeter berm to be constructed within 180 days of this notice because they have:

1. Storage tanks;
2. Daily throughput of more than one hundred barrels of fluid per day; and
3. Includes production equipment or load lines that are not contained within secondary containment dikes

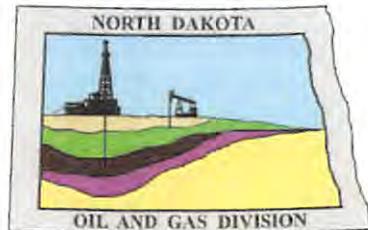
The berm must be at least six inches in height, constructed of sufficiently impermeable material to provide emergency containment, and must be maintained until the facility is either granted a waiver or the site is reclaimed.

Pursuant to NDAC Section 43-02-03-49 - Within one hundred eighty days from the date the operator is notified by the Commission, a perimeter berm, at least six inches in height, must be constructed of sufficiently impermeable material to provide emergency containment and to divert surface drainage away from the site around all storage facilities and production sites that include storage tanks, have a daily throughput of more than one hundred barrels of fluid per day, and include production equipment or load lines that are not contained within secondary containment dikes. The Director may consider an extension of time to implement these requirements if conditions prevent timely construction, or modification of these requirements if other factors are present that provide sufficient protection from environmental impacts.

This perimeter berm requirement may be modified or waived if the operator can demonstrate that other factors are present that provide sufficient protection from environmental impacts. A Sundry Notice (Form 4) outlining any engineering controls or other factors must be submitted to the Commission for approval of this modification or waiver. Should you have any questions regarding this matter, feel free to contact me at 701-770-3554.

Sincerely,

Richard Dunn /BDR
Richard Dunn
Field Inspector



Oil and Gas Division

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.dmr.nd.gov/oilgas

NDIC #	Facility Name	TB/CTB #	NDIC #	Facility Name	TB/CTB #
19126	LANSING 1-25H		24834	DURHAM 3X-2H	
19578	MISSOULA 1-21H		24837	WAHPETON 2-16H2	
19740	SYRACUSE 1-23H		24840	WAHPETON 4-16H1	
19858	JAMESTOWN 1-17H		24842	WAHPETON 5-16H2	
19915	STEELE 1-24H		24843	WAHPETON 6-16H	
19918	CHARLOTTE 1-22H		24844	WAHPETON 7-16H3	
20566	MONTPELIER 1-14H		24908	CHARLOTTE 6-22H2	
20629	PATTERSON 1-13H		25116	BJARNE 2-29H	
20638	KUHN 1-12H		25117	BJARNE 3-29H	
20676	NORFOLK 1-1H		25156	COLUMBUS FEDERAL 1-16H	
21128	CHARLOTTE 2-22H		25157	TALLAHASSEE 3-16H	
21511	BOULDER 1-4H		25158	TALLAHASSEE 2-16H	
21600	ROCHESTER 1-24H		25159	COLUMBUS FEDERAL 2-16H	
22155	LANSING 2-25H		25160	COLUMBUS FEDERAL 3-16H	
22158	KUHN 2-12H		25189	PATTERSON FEDERAL 2-13H	
22273	STEELE 2-24H		25190	PATTERSON FEDERAL 3-13H	
22375	CHICAGO 2-26H		25826	AKRON 6-34H1	
22891	MONROE 1-2H		25827	AKRON 5-34H1	
23048	CHICAGO 3-26H		26190	MONTPELIER 4-14H	
23049	CHICAGO 4-26H		26191	MONTPELIER 3-14H1	
23050	SYRACUSE 3-23H		26420	MONTPELIER 2-14H	
23051	SYRACUSE 4-23H		26476	ROCHESTER FEDERAL 6-24H	
23086	NORFOLK 2-1H		26477	ROCHESTER FEDERAL 7-24H1	
23087	NORFOLK 3-1H		26525	JERRY 2-8H	
23351	MISSOULA 2-21H		26526	JERRY 3-8H	
23352	MISSOULA 3-21H		26530	JERRY 5-8H	
23427	MISSOULA 7-21H		26531	JERRY 4-8H	
23428	MISSOULA 6-21H		26535	JERRY 7-8H	
23429	MISSOULA 5-21H		26536	JERRY 6-8H	
23430	MISSOULA 4-21H		27418	GARFIELD FEDERAL 7-5H1	
23477	DURHAM 2-2H		27419	GARFIELD FEDERAL 6-5H	
23608	CHARLOTTE 5-22H		27420	GARFIELD FEDERAL 5-5H1	
23609	AKRON 3-27AH		27421	GARFIELD 4-5H	
23610	AKRON 2-27AH		27694	BERLAIN 3-30H	
23611	AKRON 4-34H		27695	BERLAIN 2-30H	
23612	CHARLOTTE 4-22H		28202	JAMESTOWN FEDERAL 2-17H	
23664	CHARLOTTE 3-22H		28203	JAMESTOWN FEDERAL 3-17H1	
23747	ROCHESTER 3-24H		28405	HARRISBURG 1-34H	
23748	ROCHESTER 2-24H		28604	JAMESTOWN FEDERAL 6-17H	
23749	ROCHESTER 5-24H1		28605	JAMESTOWN FEDERAL 7-17H	
23750	ROCHESTER 4-24H		28735	DURHAM 7-2H	
24490	DURHAM 4-2H		28736	DURHAM 6-2H1	
24491	DURHAM 5-2H		28737	UHLMAN 1-7H	
24507	NORFOLK 5-1H		28999	NORFOLK 6-1H1	
24508	NORFOLK 4-1H		29000	NORFOLK 7-1H	
24804	WAHPETON 14-16H2	224837-01	31508	AKRON FEDERAL 7-27H	
24805	WAHPETON 13-16H		31838	CHARLOTTE 7X-22H	
24806	WAHPETON 12-16H3		32033	NORFOLK 11-1H	
24807	WAHPETON 11-16H1		32034	NORFOLK 10-1H1	
24808	WAHPETON 10-16H2		32035	NORFOLK 9-1H	
24809	WAHPETON 9-16H		32036	NORFOLK 8-1H1	
24810	WAHPETON 8-16H1				



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5749 (09-2006)

Received

OCT 05 2016

Well File No.
25157

ND Oil & Gas Division

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input type="checkbox"/> Notice of Intent	Approximate Start Date	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed August 2, 2016	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date	<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input checked="" type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input type="checkbox"/> Other	

Well Name and Number
Tallahassee 3-16H

Footages	Qtr-Qtr	Section	Township	Range
2585 F N L	268 F E L	SENE	16	153 N 101 W
Field Baker	Pool Bakken	County McKenzie		

24-HOUR PRODUCTION RATE

	Before		After
Oil	41 Bbls	Oil	44 Bbls
Water	75 Bbls	Water	108 Bbls
Gas	65 MCF	Gas	68 MCF

Name of Contractor(s)

Address	City	State	Zip Code
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DETAILS OF WORK

Continental Resources, Inc. requests a change in production method on the above mentioned well. The well went from flowing to Rod Pump on 8/2/2016. New Tubing: 1 3/4 Depth: 9928

Company Continental Resources	Telephone Number (405) 234-9688	
Address P.O. Box 268870		
City Oklahoma City	State OK	Zip Code 73126
Signature 	Printed Name Zach Green	
Title Regulatory Specialist	Date September 30, 2016	
Email Address Zach.Green@clr.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 11-2-2016	
By 	
Title TAYLOR ROTH	
Engineering Technician	



AUTHORIZATION TO PURCHASE AND TRANSPORT OIL FROM LEASE - FORM 8

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5698 (03-2000)



Well File No.	25157
NDIC CTB No.	125157

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND FOUR COPIES.

Well Name and Number Tallahassee 3-16H	Qtr-Qua SENE	Section 16	Township 16 N	Range 101 W	County McKenzie
Operator Continental Resources Inc.	Telephone Number 405-234-9000	Field Baker			
Address P.O. Box 268870	City Oklahoma City		State OK	Zip Code 73126	

Name of First Purchaser Continental Resources, Inc.	Telephone Number 405-234-9000	% Purchased 100	Date Effective April 10, 2014
Principal Place of Business P.O. Box 268870	City Oklahoma City	State OK	Zip Code 73126
Field Address	City	State	Zip Code
Name of Transporter Hiland Crude, LLC	Telephone Number 580-616-2053	% Transported	Date Effective April 10, 2014
Address P.O. Box 3886	City Enid	State Ok	Zip Code 73702
The above named producer authorizes the above named purchaser to purchase the percentage of oil stated above which is produced from the lease designated above until further notice. The oil will be transported by the above named transporter.			

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other Transporters Transporting From This Lease	% Transported	Date Effective
Other Transporters Transporting From This Lease	% Transported	Date Effective

Comments

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Date April 11, 2014
Signature 	Printed Name Becky Barnes
Title Regulatory Compliance Specialist	

Above Signature Witnessed By	Witness Signature 	Witness Printed Name Terry Olson	Witness Title Regulatory Compliance Specialist
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FOR STATE USE ONLY	
Date Approved MAY 16 2014	
By 	
Title Oil & Gas Production Analyst	

GEOLOGICAL MARKERS

PLUG BACK INFORMATION

CORES CUT

Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Well Specific Stimulation

Date Stimulated 3/14/2014	Stimulated Formation Three Forks		Top (Ft) 10830	Bottom (Ft) 18434	Stimulation Stages 24	Volume 64952	Volume Units Barrels
Type Treatment Sand Frac	Acid %	Lbs Proppant 2829582	Maximum Treatment Pressure (PSI) 8491		Maximum Treatment Rate (BBLS/Min) 31.0		
Details Pumped 89291# 40/70 mesh, 1970321# 20/40 sand and 769970# 20/40 ceramic.							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address becky.barnes@clr.com	Date 4/24/2014
--	---------------------------------------	-------------------

Signature 	Printed Name Becky Barnes	Title Regulatory Compliance Specialist
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SYNOPSIS

OPERATOR	Continental Resources Inc.
WELL NAME	Tallahassee 3-16H
SURFACE LOCATION	2585' FNL & 268' FEL: Sec 16, T153N, R101W
BOTTOM HOLE LOCATION	232' FSL & 1304' FEL: Sec 21, T153N, R101W
FIELD	Williston
COUNTY/STATE	McKenzie Co., North Dakota
API NUMBER	33-053-04853
NorAm FILE NUMBER	NR2691
ELEVATIONS	G.L. = 1920' K.B. = 1940'
SPUD DATE	November 8, 2013
T.D. DATE	November 21, 2013
DRILLING CONTRACTOR	Cyclone 4
HOLE SIZE	10 3/4" to 1975', 8 3/4" to 10863 , 6" to 18434'
CASING SIZE & DEPTH	9 5/8" to 1975', 7" to 10829, 5" to
DRILLING MUD COMPANY	GEO Drilling Fluids Inc
DRILLING FLUID TYPE	Invert OBM to 10863', Saltwater Brine to 18434'
DIRECTIONAL COMPANY	Leam Energy Services
WIRELINE LOGGING COMPANY	N/A
LOG RECORD	NorAm Wellsite Services
DRILLING SUPERVISION	Steve Northern, Biggens, Monty Harris
GEOLOGICAL SUPERVISION	R. D. Reinert Jr. & Darcy Klessens
MUDLOGGING COMPANY	NorAm Wellsite Services
TOTAL DEPTH	18434'

FORMATION TOPS (ft)

KB =1940'

GL =1920'

FORMATION	PROGNOSIS			SAMPLES			LOGS		
	MD	TVD	SS	MD	TVD	SS	MD	TVD	SS
Top Charles Salts	-	8329	-6389	8286	8285	-6345	-	-	-
Base Last Salt	-	9025	-7085	8994	8993	-7053	-	-	-
Mission Canyon	-	9250	-7310	9220	9219	-7279	-	-	-
Lodgepole	-	9817	-7877	9786	9785	-7845	-	-	-
False Bakken	-			10536	10483	-8543	-	-	-
Upper Bakken Shale	-	10505	-8565	10548	10490	-8550	-	-	-
Middle Bakken	-	10522	-8582	10578	10506	-8566	-	-	-
Lower Bakken Shale	-	10557	-8617	10650	10539	-8599	-	-	-
Three Forks	-	10583	-8643	10748	10571	-8631	-	-	-

DEVIATION SURVEY RECORD (Teledrift and Wireline Data)

Depth	Incl	Azim	TVD	VS	Coordinates		DLS
(ft)	(?)	(?)	(ft)	(ft)	N/S (ft)	E/W (ft)	(?/100')
1938	0.70	307.10	1937.97	3.52	3.52	-3.92	0.70
2014	0.80	280.20	2013.96	-3.21	3.89	-4.81	0.48
2077	0.90	246.50	2076.96	-2.97	3.77	-5.70	0.80
2170	1.10	238.70	2169.94	-2.03	3.02	-7.13	0.26
2263	1.30	236.50	2262.92	-0.78	1.97	-8.77	0.22
2357	1.80	235.80	2356.89	0.91	0.56	-10.88	0.53
2450	2.40	199.00	2449.83	3.80	-2.11	-12.73	1.55
2543	2.20	181.60	2542.76	7.48	-5.73	-13.41	0.78
2638	1.20	152.80	2637.71	10.11	-8.44	-13.01	1.35
2732	1.00	119.70	2731.70	11.23	-9.72	-11.84	0.70
2825	1.20	134.30	2824.68	12.11	-10.80	-10.44	0.37
2918	1.50	119.20	2917.65	13.14	-12.08	-8.68	0.50
3011	1.80	119.00	3010.62	14.11	-13.38	-6.34	0.32
3105	1.20	84.60	3104.59	14.42	-14.00	-4.07	1.12
3198	1.50	66.70	3197.56	13.57	-13.43	-1.98	0.55
3291	1.10	90.20	3290.54	12.83	-12.95	0.03	0.71
3384	1.10	92.30	3383.52	12.63	-12.99	1.81	0.04
3477	1.00	80.50	3476.50	12.30	-12.89	3.50	0.26
3571	0.90	91.60	3570.49	11.98	-12.78	5.05	0.22
3664	0.70	94.10	3663.48	11.87	-12.84	6.35	0.22
3758	0.60	124.30	3757.48	12.05	-13.16	7.33	0.37
3851	0.50	138.60	3850.47	12.54	-13.74	8.00	0.18
3945	0.40	127.30	3944.47	12.97	-14.24	8.53	0.14
4038	0.40	231.90	4037.47	13.36	-14.64	8.53	0.68
4132	0.30	320.00	4131.47	13.43	-14.65	8.12	0.52
4225	0.10	245.80	4224.47	13.31	-14.50	7.89	0.31
4319	0.10	344.60	4318.47	13.28	-14.45	7.79	0.16
4412	0.30	254.00	4411.47	13.30	-14.44	7.53	0.34
4505	0.10	258.10	4504.46	13.42	-14.53	7.22	0.22
4599	0.40	231.50	4598.46	13.69	-14.75	6.88	0.33
4692	0.30	263.70	4691.46	13.98	-14.98	6.39	0.23
4785	0.30	351.80	4784.46	13.81	-14.76	6.11	0.45
4879	0.50	40.30	4878.46	13.22	-14.21	6.34	0.40
4972	0.40	63.10	4971.46	12.70	-13.75	6.89	0.22
5066	0.80	44.90	5065.45	11.99	-13.14	7.65	0.47
5159	1.10	55.80	5158.44	10.88	-12.18	8.84	0.38
5253	1.10	62.60	5252.42	9.75	-11.25	10.39	0.14
5347	0.90	60.30	5346.41	8.79	-10.47	11.83	0.22
5440	1.10	68.10	5439.39	7.90	-9.78	13.30	0.26
5533	1.20	62.80	5532.37	6.90	-9.00	14.99	0.16
5627	0.90	51.00	5626.36	5.80	-8.08	16.44	0.39

Depth	Incl	Azim	TVD	VS	Coordinates		DLS
(ft)	(?)	(?)	(ft)	(ft)	N/S (ft)	E/W (ft)	(?/100')
5720	0.80	32.60	5719.35	4.68	-7.08	17.36	0.31
5813	0.70	79.50	5812.34	3.91	-6.43	18.27	0.65
5907	1.10	100.90	5906.33	3.78	-6.49	19.72	0.55
6000	0.40	110.60	5999.32	3.90	-6.78	20.90	0.76
6094	0.80	289.50	6093.32	3.84	-6.67	20.59	1.28
6187	0.50	289.20	6186.31	3.63	-6.32	19.59	0.32
6281	0.50	5.70	6280.31	3.14	-5.78	19.24	0.66
6375	0.60	43.10	6374.31	2.33	-5.01	19.62	0.39
6469	0.10	144.00	6468.30	1.99	-4.72	20.01	0.67
6562	1.10	255.60	6561.30	2.38	-5.01	19.19	1.23
6655	1.00	255.60	6654.28	3.02	-5.43	17.54	0.11
6749	1.10	245.80	6748.27	3.81	-6.00	15.92	0.22
6843	1.10	247.20	6842.25	4.74	-6.72	14.27	0.03
6936	1.20	254.60	6935.23	5.58	-7.33	12.50	0.19
7030	1.20	239.50	7029.21	6.58	-8.09	10.71	0.34
7123	1.80	238.60	7122.18	8.10	-9.34	8.62	0.65
7216	1.80	246.30	7215.13	9.78	-10.69	6.04	0.26
7309	1.10	286.60	7308.10	10.41	-11.03	3.84	1.29
7404	1.10	284.30	7403.09	10.16	-10.54	2.09	0.05
7497	1.10	286.70	7496.07	9.92	-10.06	0.37	0.05
7590	1.50	292.50	7589.05	9.47	-9.34	-1.61	0.45
7683	1.60	299.40	7682.01	8.68	-8.24	-3.87	0.23
7777	1.30	305.50	7775.98	7.70	-6.97	-5.88	0.36
7870	1.40	288.80	7868.96	6.99	-5.99	-7.81	0.43
7963	1.10	285.20	7961.93	6.66	-5.39	-9.75	0.33
8056	0.90	279.50	8054.92	6.52	-5.04	-11.33	0.24
8149	0.90	270.00	8147.91	6.59	-4.92	-12.78	0.16
8243	1.00	268.30	8241.90	6.83	-4.94	-14.34	0.11
8336	1.00	272.10	8334.88	7.04	-4.94	-15.96	0.07
8429	0.90	276.50	8427.87	7.14	-4.83	-17.50	0.13
8522	0.90	280.40	8520.86	7.12	-4.61	-18.95	0.07
8616	1.00	257.40	8614.84	7.37	-4.66	-20.47	0.42
8709	1.10	267.20	8707.83	7.81	-4.88	-22.16	0.22
8803	1.00	261.10	8801.81	8.21	-5.05	-23.87	0.16
8896	0.90	264.20	8894.80	8.62	-5.25	-25.40	0.12
8990	0.40	334.00	8988.79	8.52	-5.03	-26.27	0.90
9083	0.80	47.70	9081.79	7.75	-4.30	-25.94	0.85
9176	0.80	63.10	9174.78	6.88	-3.57	-24.88	0.23
9270	0.80	59.10	9268.77	6.10	-2.93	-23.73	0.06
9363	0.50	49.80	9361.77	5.39	-2.34	-22.86	0.34
9457	0.40	48.20	9455.76	4.84	-1.86	-22.30	0.11
9550	0.40	48.60	9548.76	4.35	-1.42	-21.82	0.00

Depth	Incl	Azim	TVD	VS	Coordinates		DLS
(ft)	(?)	(?)	(ft)	(ft)	N/S (ft)	E/W (ft)	(?/100')
9643	0.50	51.70	9641.76	3.81	-0.96	-21.26	0.11
9737	0.40	12.90	9735.76	3.19	-0.38	-20.86	0.33
9830	0.30	351.40	9828.75	2.63	0.17	-20.82	0.18
9923	0.30	308.20	9921.75	2.27	0.56	-21.05	0.24
10019	0.30	299.40	10017.75	2.05	0.84	-21.47	0.05
10112	0.40	325.20	10110.75	1.72	1.23	-21.87	0.20
10143	1.80	252.60	10141.74	1.85	1.17	-22.39	5.56
10174	5.70	242.60	10172.67	2.94	0.32	-24.22	12.71
10205	9.10	239.30	10203.41	5.35	-1.64	-27.70	11.05
10236	12.50	234.40	10233.86	9.18	-4.85	-32.54	11.35
10268	15.70	234.50	10264.89	14.52	-9.38	-38.88	10.00
10299	20.40	232.60	10294.35	21.23	-15.10	-46.59	15.28
10330	25.70	233.30	10322.87	29.77	-22.40	-56.28	17.12
10361	29.90	231.90	10350.29	40.02	-31.19	-67.75	13.71
10392	33.20	231.00	10376.70	51.75	-41.30	-80.43	10.75
10423	36.80	230.80	10402.09	64.71	-52.52	-94.23	11.62
10455	40.00	230.00	10427.16	79.33	-65.19	-109.54	10.12
10485	45.40	229.80	10449.20	94.40	-78.29	-125.09	18.01
10516	49.40	230.00	10470.18	111.31	-92.98	-142.55	12.91
10548	55.00	230.00	10489.79	130.02	-109.23	-161.91	17.50
10579	59.40	230.00	10506.58	149.29	-125.98	-181.86	14.19
10610	61.30	229.80	10521.91	169.26	-143.33	-202.47	6.15
10641	64.30	229.10	10536.08	189.84	-161.25	-223.42	9.88
10672	68.90	227.80	10548.39	211.40	-180.12	-244.70	15.33
10703	72.10	227.70	10558.74	233.77	-199.77	-266.33	10.33
10735	73.90	227.50	10568.09	257.26	-220.40	-288.92	5.66
10766	77.20	227.10	10575.83	280.40	-240.76	-310.98	10.72
10797	82.50	226.10	10581.29	304.15	-261.72	-333.14	17.39
10807	84.20	225.90	10582.45	311.95	-268.62	-340.29	17.12
10889	88.00	222.60	10588.02	377.68	-327.20	-397.35	6.13
10920	89.50	221.30	10588.70	403.30	-350.25	-418.07	6.40
11015	90.90	218.70	10588.37	483.62	-423.02	-479.13	3.11
11110	91.80	214.70	10586.13	566.69	-499.15	-535.87	4.31
11205	89.20	213.60	10585.30	651.76	-577.76	-589.20	2.97
11300	90.00	210.30	10585.96	738.38	-658.35	-639.46	3.57
11395	90.40	207.60	10585.63	826.93	-741.47	-685.44	2.87
11490	90.70	205.30	10584.72	916.89	-826.52	-727.75	2.44
11585	89.90	204.60	10584.22	1007.63	-912.65	-767.82	1.12
11680	89.70	204.50	10584.55	1098.57	-999.06	-807.29	0.24
11775	88.20	202.70	10586.29	1189.92	-1086.09	-845.32	2.47
11870	89.1	201.5	10588.532	1281.92	-1174.09	-881.046	1.57866
11965	90.1	199.4	10589.196	1374.58	-1263.09	-914.235	2.44829

Depth	Incl	Azim	TVD	VS	Coordinates		DLS
(ft)	(?)	(?)	(ft)	(ft)	N/S (ft)	E/W (ft)	(?/100')
12060	89.1	197.6	10589.859	1467.9	-1353.18	-944.377	2.16744
12155	89.7	194.6	10590.854	1561.88	-1444.43	-970.717	3.22025
12250	89.8	191.8	10591.269	1656.43	-1536.91	-992.408	2.94922
12345	90.7	189.4	10590.854	1751.3	-1630.28	-1009.88	2.69806
12440	91.3	186.4	10589.196	1846.28	-1724.36	-1022.94	3.21995
12535	88.8	184.1	10589.113	1941.18	-1818.95	-1031.63	3.57572
12630	89	181.6	10590.937	2035.81	-1913.8	-1036.35	2.6395
12725	90.40	181.80	10591.43	2130.28	-2008.76	-1039.17	1.49
12820	90.90	179.30	10590.36	2224.52	-2103.74	-1040.08	2.68
12915	90.00	179.70	10589.61	2318.54	-2198.73	-1039.25	1.04
13010	89.30	179.00	10590.19	2412.52	-2293.72	-1038.17	1.04
13104	88.80	180.40	10591.75	2505.58	-2387.71	-1037.68	1.58
13199	89.50	180.90	10593.16	2599.85	-2482.69	-1038.76	0.91
13295	90.80	180.90	10592.91	2695.16	-2578.67	-1040.27	1.35
13389	91.50	179.50	10591.02	2788.33	-2672.65	-1040.59	1.66
13484	91.80	180.20	10588.29	2882.39	-2767.61	-1040.35	0.80
13579	89.20	180.00	10587.46	2976.54	-2862.60	-1040.51	2.74
13674	89.00	180.00	10588.95	3070.67	-2957.59	-1040.51	0.21
13769	90.50	179.00	10589.36	3164.68	-3052.58	-1039.68	1.90
13864	89.70	180.40	10589.20	3258.75	-3147.57	-1039.19	1.70
13959	89.10	180.70	10590.19	3353.00	-3242.56	-1040.10	0.71
14054	89.60	179.70	10591.27	3447.17	-3337.56	-1040.43	1.18
14149	89.70	179.70	10591.85	3541.24	-3432.55	-1039.93	0.11
14244	90.90	179.20	10591.35	3635.24	-3527.54	-1039.02	1.37
14339	89.90	179.30	10590.69	3729.20	-3622.53	-1037.78	1.06
14434	90.40	179.00	10590.44	3823.14	-3717.52	-1036.37	0.61
14529	90.3	178.6	10589.86	3916.98	-3812.5	-1034.38	0.434
14624	91.5	178.3	10588.368	4010.73	-3907.45	-1031.81	1.30202
14719	90.9	177.4	10586.378	4104.3	-4002.36	-1028.24	1.13842
14814	90.7	178.5	10585.052	4197.9	-4097.29	-1024.85	1.17677
14909	91.1	179.7	10583.56	4291.82	-4192.26	-1023.35	1.33134
15004	91.1	179.7	10581.736	4385.87	-4287.25	-1022.86	1.5E-06
15099	89.60	179.30	10581.16	4479.88	-4382.24	-1022.03	1.63
15193	89.60	180.20	10581.81	4572.97	-4476.23	-1021.62	0.96
15289	89.20	180.70	10582.82	4668.19	-4572.22	-1022.37	0.67
15383	89.30	181.30	10584.05	4761.53	-4666.20	-1024.01	0.65
15479	90.80	180.20	10583.96	4856.82	-4762.19	-1025.27	1.94
15574	89.90	181.60	10583.38	4951.14	-4857.17	-1026.76	1.75
15668	88.80	182.50	10584.45	5044.67	-4951.10	-1030.12	1.51
15763	90.4	182.7	10585.113	5139.28	-5046	-1034.43	1.69732
15858	88.5	182.8	10586.025	5233.92	-5140.88	-1038.99	2.00277
15953	89.3	182.7	10587.849	5328.54	-5235.75	-1043.55	0.84866

Depth	Incl	Azim	TVD	VS	Coordinates		DLS
(ft)	(?)	(?)	(ft)	(ft)	N/S (ft)	E/W (ft)	(?/100')
16048	90.5	182.5	10588.015	5423.16	-5330.66	-1047.86	1.28058
16143	88.4	182.3	10588.926	5517.74	-5425.56	-1051.83	2.22053
16238	89.40	182.50	10590.75	5612.31	-5520.46	-1055.81	1.07
16333	89.00	182.10	10592.08	5706.87	-5615.37	-1059.62	0.60
16428	89.00	181.80	10593.73	5801.37	-5710.30	-1062.86	0.32
16523	92.90	181.30	10592.16	5895.79	-5805.24	-1065.42	4.14
16618	91.00	180.90	10588.93	5990.10	-5900.16	-1067.25	2.04
16712	92.30	180.20	10586.22	6083.32	-5994.11	-1068.15	1.57
16807	91.10	180.60	10583.40	6177.50	-6089.07	-1068.81	1.33
16902	88.70	179.30	10583.57	6271.61	-6184.06	-1068.73	2.87
16997	92.10	179.50	10582.91	6365.60	-6279.04	-1067.73	3.59
17092	89.20	180.70	10581.83	6459.74	-6374.02	-1067.90	3.30
17187	90.30	180.00	10582.24	6553.95	-6469.02	-1068.48	1.37
17282	90.10	179.20	10581.91	6647.99	-6564.01	-1067.82	0.87
17377	88.00	178.80	10583.49	6741.87	-6658.98	-1066.16	2.25
17472	88.80	179.70	10586.14	6835.79	-6753.93	-1064.92	1.27
17567	90.30	179.20	10586.88	6929.80	-6848.92	-1064.01	1.66
17662	90.60	178.30	10586.14	7023.63	-6943.89	-1061.93	1.00
17757	92.20	179.00	10583.82	7117.41	-7038.84	-1059.70	1.84
17852	90.40	179.00	10581.66	7211.28	-7133.79	-1058.04	1.89
17947	91.00	178.60	10580.50	7305.12	-7228.76	-1056.05	0.76
18042	89.50	177.80	10580.09	7398.80	-7323.71	-1053.07	1.79
18137	90.00	177.60	10580.50	7492.35	-7418.64	-1049.25	0.57
18232	91.00	177.40	10579.67	7585.84	-7513.54	-1045.11	1.07
18327	91.6	177.8	10577.517	7679.33	-7608.43	-1041.1	0.759
18385	92.3	177.6	10575.543	7736.41	-7666.35	-1038.8	1.25514
18434	92.3	177.6	10573.577	7784.61	-7715.27	-1036.8	0

BIT RECORD

BIT #	TYPE	SIZE (IN)	IN (FT)	OUT (FT)	TOTAL (FT)	HOURS DRLG	WOB (K)	RPM
1	Security MM65D	8.75	1975	10064	8089	78.5	40	30-60
2	Security FDX55M	8.75	10064	10863	799	18.5	20-70	0-30
3	Reed SKHE711M	6	10863	18434	7571	130	15-25	40-50

DRILLING FLUID PARAMETERS

DATE	WT	VIS	PV	YP	WL	PH	NaCL	Ca	% SOL
11/09/2013	9.5	57	12	16	-	-	37k	2.9	8.83
11/10/2013	9.6	51	13	14	-	-	41k	3.1	9.59
11/11/2013	9.9	53	15	11	-	-	43k	4.29	10.59
11/12/2013	10.1	56	14	17	-	-	47k	4.68	11.97
11/13/2013	10.2	49	15	11	-	-	42k	3.8	11.97
11/14/2013	10.4	65	15	10	-	-	42k	3.8	13.35
11/15/2013	10.4	65	15	10	-	-	42k	3.8	13.35
11/16/2013	10.4	65	15	10	-	-	42k	3.8	13.35
11/17/2013	9.7	28	1	1	-	7.5	167.5k	30,500	1.39
11/18/2013	9.7	28	1	1	-	7.5	167.5k	30,500	1.39
11/19/2013	9.7	28	1	1	-	7.5	167.5k	30,500	1.39
11/20/2013	9.8	29	1	1	-	9.0	169k	32,000	0.56
11/21/2013	9.8	29	1	1	-	9.0	169k	32,000	0.56
11/22/2013	9.8	29	1	1	-	8.0	162k	30,400	0.54

DAILY DRILLING CHRONOLOGY

DATE (m/d/y)	DEPTH @ 24.00	PROGRESS (ft/24 hours)	BREAKDOWN 00:00 – 24:00	RIG ACTIVITY
11/10/2013	7671	3643	0:00-24:00	Drill 7671-8910
11/11/2013	8910	1239	0:00-24:00	Drill 8910-9856
11/12/2013	9856	946	0:00-4:00	Drill 9856-10064
			4:00-4:30	Problem with drilling assembly, Tag bottom with 20 K, no reactive diff pressure
			4:30-5:30	Circulate bottoms up while building slug
			5:30-10:30	TOOH for Curve Assembly 10064-0
			10:30-12:00	Drain motor, pull MWD tool, Break Bit, Lay down old motor/ pick up new motor, scribe, M/U new Bit. Insert MWD Tool
			12:00-20:30	TIH With Curve Assembly
			20:30-24:00	Build Curve 10064-10157
11/13/2013	10157	301	00:00-16:00	Build Curve 10157-10863
			16:00-24:00	Circulate, Wiper Trip, Circulate, TOOH, Lay Down 5" Drill Pipe
11/14/2013	10863	706	00:00-24:00	Intermediate Casing Operations
11/15/2013	10863	0	00:00-24:00	Intermediate Casing Operations
11/16/2013	10863	0	00:00-01:30	Drill 10' new hole, Fit test at 10873'MD
			01:30-24:00	Drill 10873-12395
11/17/2013	12395	1532	00:00-24:00	Drill 12395-13820
11/18/2013	13820	1425	00:00-24:00	Drill 13820-14868
11/19/2013	14868	1048	00:00-24:00	Drill 14868-16257
11/20/2013	16257	1389	00:00-24:00	Drill 16257-17379
11/21/2013	17379	1122	00:00-18:30	Drill 17379-18434 (TD Well)
			18:30-19:30	Circulate
			19:30-24:00	Wiper Trip, 5" Casing Operations
11/22/2013	18434'	1055		

TOTAL GAS DATA

SHOW INTERVAL FROM – TO (ft)	BKGD UNITS	SHOW UNITS	BRIEF DESCRIPTION (Rock type, porosity, visual show, etc.)
8295-9220	20	40	SALT: clear, translucent, light brown, cream; LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material; ANHYDRITE: cream to buff
9220-9786	30	56	LIMESTONE: light to medium brown, light to medium gray brown, medium to dark gray, tan, slightly mottled, firm to moderately hard, microcrystalline to cryptocrystalline, earthy, argillaceous
9786-10490	70	240	LIMESTONE: dark to medium gray brown, dark to medium gray, mottled, firm to moderately hard, microcrystalline to cryptocrystalline, moderately silty, argillaceous, trace asphalt staining, earthy texture
10490-10578	250	5023	LIMESTONE: light to medium brown, light to medium grey, tan, mottled, moderately hard, microcrystalline to cryptocrystalline, argillaceous, silty, partly laminated
10578-10650	150	289	DOLOMITE: light to medium gray brown, mottled, medium to firm, microcrystalline to cryptocrystalline, shale, sandy, dull yellow fluorescence, flash yellow to green cut
10650-18434	300	504	DOLOMITE: light brown, tan, light gray, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous

LITHOLOGY

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
<i>30' samples were caught in the vertical and curve, and 50' samples caught in the lateral by NorAm Wellsite Services. Logging began at 8250'MD on November 10, 2013 at 10:06 hours.</i>	
8250-8280	LIMESTONE: red orange medium gray brown, trace light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material CHARLES TOP: 8286' MD, 8285' TVD (-6345)
8280-8340	SALT: clear, translucent, LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, slightly argillaceous
8340-8370	SALT: clear, translucent; LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material, trace siltstone material; trace ANHYDRITE: cream to buff
8370-8430	SALT: clear, translucent; trace LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material, trace siltstone material; trace ANHYDRITE: cream to buff
8430-8460	SALT: clear, translucent, brown; LIMESTONE: light to medium gray, friable to firm, microcrystalline, slightly argillaceous, trace silica
8460-8490	SALT: clear, translucent, brown; trace LIMESTONE: light to medium gray, friable to firm, microcrystalline, slightly argillaceous
8490-8520	SALT: clear, translucent, brown; LIMESTONE: light to medium gray, friable to firm, microcrystalline, slightly argillaceous, trace silica
8520-8610	SALT: clear, translucent, light brown, cream, brown; LIMESTONE: light to medium gray, mottled in part, friable to firm, microcrystalline, slightly argillaceous, trace silica
8610-8640	SALT: clear, translucent; LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material; ANHYDRITE: cream to buff
8640-8670	SALT: clear, translucent, light brown, cream; LIMESTONE: light to medium gray, firm to brown, microcrystalline, moderately silica, argillaceous, trace sandy material; ANHYDRITE: cream to buff

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
8670-8700	LIMESTONE: light gray brown, light to medium gray, firm to brown, microcrystalline, moderately silty, argillaceous, ANHYDRITE: white, soft, amorphous; trace SILTSTONE: red to orange, friable to firm, calcareous, material; SALT: clear, translucent, hard
8700-8790	LIMESTONE: light gray brown, light to medium gray, firm to brown, microcrystalline, moderately silty, argillaceous, ANHYDRITE: white, soft, amorphous; SALT: clear, translucent, hard
8790-8850	ANHYDRITE: white, soft, amorphous; LIMESTONE: light gray brown, light to medium gray, firm to brown, microcrystalline, moderately silty, argillaceous; trace SALT: clear, translucent, hard
8850-8880	ANHYDRITE: white, soft, amorphous; LIMESTONE: medium gray brown, light to medium gray, firm to brown, microcrystalline, moderately silty, argillaceous; trace SALT: clear, translucent, hard
8880-8910	ANHYDRITE: white to gray, soft, amorphous; LIMESTONE: light gray brown, light to medium gray, firm to brown, microcrystalline, moderately silty, argillaceous
8910-8940	LIMESTONE: light gray brown to tan, light gray, firm to brown, microcrystalline, moderately silty, argillaceous, ANHYDRITE: white to gray, soft, amorphous, trace SALT: clear, translucent, hard
8940-9000	SALT: clear, translucent, hard; trace LIMESTONE: medium gray, light to medium gray brown, firm to hard, microcrystalline, moderately silty, trace argillaceous, mottled in part
<u>BASE LAST SALT: 8994' MD, 8993' TVD (-7053)</u>	
9000-9030	SALT: clear, translucent, hard; trace LIMESTONE: light to medium gray, tan to light brown, firm to hard, microcrystalline, moderately silty, trace argillaceous, mottled in part
9030-9060	LIMESTONE: light to medium gray, light brown, tan, off white in part, firm to hard, microcrystalline, silty, trace argillaceous, mottled in part
9060-9090	LIMESTONE: light to medium gray, light brown, tan, off white in part, firm to hard, microcrystalline, silty, trace argillaceous, mottled in part, trace ANHYDRITE: white to gray, soft, amorphous

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
9090-9150	LIMESTONE: medium to dark gray, medium gray brown, off white to cream in part, firm to moderately hard, microcrystalline, silty, argillaceous; ANHYDRITE: white to gray, soft, amorphous
9150-9210	LIMESTONE: light to medium gray, dark gray, light to medium brown, off white to cream in part, firm to moderately hard, microcrystalline to cryptocrystalline, slightly silty, argillaceous; trace ANHYDRITE: white to gray, soft, amorphous, calcareous
<u>MISSION CANYON: 9220' MD, 9219' TVD (-7279)</u>	
9210-9330	LIMESTONE: medium to dark gray, medium to dark gray brown, light to medium brown, firm to hard, microcrystalline to cryptocrystalline, moderately silty, very argillaceous, mottled in part
9330-9390	LIMESTONE: light to medium brown, medium to dark gray brown, tan, firm to hard, microcrystalline to cryptocrystalline, slightly silty, very argillaceous, mottled
9390-9420	LIMESTONE: light to medium brown, dark brown, medium to dark gray to gray brown, tan, slightly mottled, firm, cryptocrystalline, earthy, slightly silty, argillaceous
9420-9480	LIMESTONE: light to medium brown, light to medium gray brown, medium to dark gray, tan, slightly mottled, firm to moderately hard, microcrystalline to cryptocrystalline, earthy, slightly silty, argillaceous
9480-9540	LIMESTONE: light to medium brown, light to medium gray brown, medium to dark gray, tan, slightly mottled, firm to moderately hard, microcrystalline to cryptocrystalline, earthy, argillaceous
9540-9570	LIMESTONE: light to medium brown, tan, off white, light to medium gray brown, firm to moderately hard, microcrystalline to cryptocrystalline, argillaceous, mottled in part, carbonaceous stain
9570-9600	LIMESTONE: light to medium gray brown, medium to dark gray, tan, slightly mottled, firm, cryptocrystalline, earthy, slightly silty, argillaceous
9600-9630	LIMESTONE: cream, tan, off white, light to medium brown, light to medium gray brown, medium gray, slightly mottled, firm, cryptocrystalline, earthy, slightly silty, argillaceous, trace chert

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
9630-9780	LIMESTONE: medium gray brown, light to medium gray, cream to off white in part, firm to hard, microcrystalline to cryptocrystalline, silty, argillaceous in part, earthy texture
<u>LOGEPOLE 9786' MD, 9785' TVD (-7845)</u>	
9780-9870	LIMESTONE: light to medium gray to brown, light brown to tan in part, trace medium to dark gray, mottled in part, firm, microcrystalline to cryptocrystalline, earthy, slightly silty, argillaceous
9870-10020	LIMESTONE: dark to medium gray, light to medium brown, very trace tan in part, mottled in part, firm to hard, microcrystalline to cryptocrystalline, slightly to moderately silty, argillaceous, earthy texture
10020-10440	LIMESTONE: dark to medium gray brown, dark to medium gray, mottled, firm to moderately hard, microcrystalline to cryptocrystalline, moderately silty, argillaceous, trace asphalt staining, earthy texture
10440-10470	LIMESTONE: light to medium gray, light to medium gray brown, tan, mottled, firm to moderately hard, microcrystalline to cryptocrystalline, moderately silty, argillaceous, partly laminated
10470-10500	LIMESTONE: medium to dark grey, light to medium gray to brown, mottled, firm to moderately hard, microcrystalline to cryptocrystalline, moderately silty, argillaceous, partly laminated
10500-10530	LIMESTONE: light to medium brown, light gray, tan, mottled, moderately hard, microcrystalline to cryptocrystalline, slightly argillaceous, laminated; interbedded DOLOMITE: medium to dark grey, mottled, moderately hard, microcrystalline to cryptocrystalline, silty, very argillaceous, partly laminated.

FALSE BAKKEN 10536' MD, 10483' TVD (-8543)

UPPER BAKKEN SHALE: 10548' MD, 10490' TVD (-8550)

10530-10560	LIMESTONE: light to medium brown, light to medium grey, tan, mottled, moderately hard, microcrystalline to cryptocrystalline, argillaceous, silty, partly laminated
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Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
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MIDDLE BAKKEN MEMBER: 10578' MD, 10506' TVD (-8566)

- 10560-10590 DOLOMITE: light to medium gray brown, light to medium brown, moderately firm to hard microcrystalline to cryptocrystalline, argillaceous, silty, moderately carbonaceous; SHALE: blue, very laminated, hard, no porosity, dull yellow fluorescence, flash yellow to green cut
- 10590-10620 DOLOMITE: light to medium gray brown, mottled, medium to firm, microcrystalline to cryptocrystalline, shale, sandy, dull yellow fluorescence, flash yellow to green cut
- 10620-10650 DOLOMITE: light to medium gray brown, mottled, medium to firm, microcrystalline to cryptocrystalline, shale, sandy, carbonaceous, dull yellow fluorescence, flash yellow to green cut

LOWER BAKKEN SHALE: 10650'MD, 10539' TVD (-8551)

- 10650-10680 SHALE: black, firm to medium hard, very laminated, no porosity, dull yellow fluorescence, flash yellow to green cut; LIMESTONE: light to medium grey brown, tan, microcrystalline, cryptocrystalline, carbonaceous, partly lm, dull yellow fluorescence, flash yellow to green cut
- 10680-10710 LIMESTONE: medium to dark gray, black microcrystalline to cryptocrystalline, shale, pyrite, no porosity, dull yellow fluorescence, fast streaming yellow to green fluorescence cut
- 10710-10740 DOLOMITE: dark gray, blue, firm to medium hard, microcrystalline cryptocrystalline, no porosity, laminated, silty, dull yellow fluorescence, flash yellow to green cut

THREE FORKS: 10748' MD, 10571' TVD (-8583)

- 10740-10770 DOLOMITE: olive gray, tan, light gray, firm, microcrystalline to cryptocrystalline, rare lamination, argillaceous, no porosity, carbonaceous, light yellow fluorescence, light yellow to green flash; interbedded SHALE: blue, firm to hard, calcareous cement, fast streaming yellow to green cut
- 10770-10830 DOLOMITE: olive gray, tan, pink, blue to grained, firm to moderately hard, microcrystalline to cryptocrystalline, argillaceous, laminated, minor porosity, carbonaceous, pyrite, light to grained dull fluorescence, slow yellow to green flash

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
10830-10863: DOLOMITE: olive gray, tan, pink, blue to grained, firm to moderately hard, microcrystalline to cryptocrystalline, argillaceous, laminated, minor porosity, carbonaceous, pyrite, dull light green fluorescence, slow yellow to green streaming cut	
10863-11200: DOLOMITE: pink to off white, light gray in part, firm to hard, microcrystalline to cryptocrystalline, calcareous, silty, poor intercrystalline porosity, trace spotty brown oil stain, dull yellow fluorescence, slow yellow to green diff cut; SHALE: light blue to green, hard, sub platy	
11200-11450 DOLOMITE: pink to off white, tan, light brown, cream, light gray in part, firm to hard, microcrystalline to cryptocrystalline, calcareous, silty, poor intercrystalline porosity, trace dull yellow fluorescence, slow yellow diffuse cut; SHALE: light blue to green, hard, sub platy	
11450-11600 DOLOMITE: pink to tan, light brown, cream, microcrystalline to cryptocrystalline, firm to hard, poor intercrystalline porosity, no mineral fluorescence, slow streaming yellow to green cut; SHALE: light blue to green, gray, sub platy	
11600-11650 DOLOMITE: pink to tan, light brown to grey, microcrystalline to cryptocrystalline, calcareous, silty, firm to hard, poor intercrystalline porosity, bright yellow to green mineral fluorescence, flash yellow to green cut; SHALE: light blue to green, gray, sub platy	
11650-11700 DOLOMITE: pink to tan, light brown to grey, microcrystalline to cryptocrystalline, calcareous, silty, firm to hard, poor intercrystalline porosity, bright yellow to green mineral fluorescence, flash yellow to green cut; SHALE: red, firm to hard, no porosity, argillaceous, calcite cement; SHALE: light blue to green, gray, sub platy	
11700-11750 DOLOMITE: pink to tan, light brown to grey, microcrystalline to cryptocrystalline, calcareous, silty, firm to hard, poor intercrystalline porosity, bright yellow to green mineral fluorescence, flash yellow to green cut; SHALE: red, firm to hard, no porosity, argillaceous; SHALE: light blue to green, gray, sub platy	
11750-11850 DOLOMITE: tan, light pink to brown, microcrystalline to cryptocrystalline, firm to hard, calcareous, silty, poor intercrystalline porosity, dull yellow mineral fluorescence, slow orange to brown cut	
12000-12050 DOLOMITE: tan, light pink to white, microcrystalline to cryptocrystalline, firm to hard, calcareous, intercrystalline porosity, dull yellow mineral fluorescence, no cut; SHALE: light blue to gray to white, firm hard, calcareous, no porosity	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
12050-12150 DOLOMITE: tan, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, intercrystalline porosity, dull yellow mineral fluorescence, very dull orange to yellow cut; SHALE: light blue to gray, firm, calcareous, laminated, no porosity	
12150-12200 DOLOMITE: tan, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, intercrystalline porosity, laminated, dull yellow mineral fluorescence, very dull yellow spotted cut, very trace carbonaceous material	
12200-12250 DOLOMITE: tan, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, intercrystalline porosity, laminated, dull yellow mineral fluorescence, very dull yellow to green cut	
12250-12350 SHALE: medium to light gray, very fine grained, laminated, firm to hard, calcareous, no porosity, no mineral fluorescence, no cut; trace DOLOMITE: pink to tan, off white, microcrystalline to cryptocrystalline, firm to hard, calcareous, scattered dull yellow fluorescence, very dull yellow diff cut	
12350-12550 DOLOMITE: pink to tan, off white, microcrystalline to cryptocrystalline, firm to hard, calcareous, scattered dull yellow fluorescence, very dull yellow to green diff cut; SHALE: dull light gray to white, dull light green gray, calcareous, laminated, sub platy in part, no fluorescence, no cut	
12550-12700 DOLOMITE: pink to tan, off white, microcrystalline to cryptocrystalline, firm to hard, calcareous, scattered dull yellow fluorescence, very dull yellow to green diff cut; SHALE: dull light gray to white, very trace dull light green gray, calcareous, laminated, sub platy in part, no fluorescence, no cut	
12700-12800 DOLOMITE: tan to light brown, off white, microcrystalline to cryptocrystalline, firm to hard, calcareous, scattered dull yellow fluorescence, very dull yellow to green diff cut; SHALE: dull light gray to white, very trace dull light green gray, calcareous, laminated, sub platy in part, no fluorescence, no cut	
12800-13000 DOLOMITE: tan to light brown, cream, microcrystalline to cryptocrystalline, firm to hard, calcareous, scattered dull yellow fluorescence, very dull yellow to green diff cut; SHALE: dull light gray, very trace dull light green gray, calcareous, laminated, sub platy in part, no fluorescence, no cut	
13000-13050 DOLOMITE: tan to light brown, cream, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, laminated, intercrystalline porosity, dull yellow fluorescence, dull yellow to orange cut; trace SHALE: light gray, calcareous, laminated sub platy, no fluorescence, no cut	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
13050-13100 DOLOMITE: tan to light brown, cream, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, laminated, intercrystalline porosity, dull yellow fluorescence, very dull yellow to orange cut; trace SHALE: light gray, calcareous, laminated sub platy, no fluorescence, no cut	
13100-13250 DOLOMITE: tan to light brown, cream, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, laminated, intercrystalline porosity, dull yellow fluorescence, dull yellow to orange cut; trace SHALE: light gray, calcareous, laminated sub platy, no fluorescence, no cut	
13250-13300 DOLOMITE: tan to light brown, cream, white, microcrystalline to cryptocrystalline, firm to hard, calcareous, laminated, intercrystalline porosity, scattered dull yellow fluorescence, dull yellow to orange cut; trace SHALE: light gray, calcareous, laminated sub platy, no fluorescence, no cut	
13300-13450 DOLOMITE: tan to light brown, cream, white, microcrystalline to cryptocrystalline, laminated in part, intercrystalline porosity, no mineral fluorescence, very dull yellow to green cut; SHALE: light blue to gray, laminated, calcareous, sub platy, no fluorescence, no cut	
13450-13550 DOLOMITE: tan to light brown, pink, white, microcrystalline to cryptocrystalline, laminated in part, calcareous, intercrystalline porosity, no mineral fluorescence, no mineral cut; SHALE: blue to gray, laminated, calcareous, silty, sub platy, no fluorescence, no cut	
13550-13650 DOLOMITE: tan to light to brown, pink, white, microcrystalline to cryptocrystalline, laminated in part, calcareous, intercrystalline porosity, sample contaminated with lube, no mineral fluorescence, no cut performed; trace SHALE: blue to gray, laminated, calcareous, silty, no fluorescence, no cut	
13650-13750 DOLOMITE: white, tan to cream, pink, light gray, microcrystalline to cryptocrystalline, laminated in part, calcareous, intercrystalline porosity, sample contaminated with lube, no mineral fluorescence, no cut; trace SHALE: blue to gray, very calcareous, laminated, no fluorescence, no cut	
13750-13850 DOLOMITE: off white to pink, tan to cream, pink, light gray, microcrystalline to cryptocrystalline, laminated in part, calcareous, trace intercrystalline porosity; trace SHALE: dull blue to gray, very calcareous, laminated, sample contaminated with lube	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
13850-14150 DOLOMITE: pink to tan, cream to off white light gray, firm to moderately hard, microcrystalline to cryptocrystalline, laminated in part, calcareous, trace intercrystalline porosity; trace SHALE: dull blue to gray, very calcareous, laminated, sample contaminated with lube	
14150-14300 DOLOMITE: tan to light brown, cream to off white, light to medium gray, firm to moderately hard, microcrystalline to cryptocrystalline, laminated in part, calcareous, trace intercrystalline porosity; trace SHALE: dull blue to gray, very calcareous, laminated, sample contaminated with lube	
14300-14350 DOLOMITE: clean sample, white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, intercrystalline porosity, no mineral fluorescence, very dull green to yellow cut; trace SHALE: dull blue to gray, calcareous, laminated, no apparent porosity, sample contaminated with lube in part	
14350-14400 DOLOMITE: clean sample, white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, intercrystalline porosity, minor oil staining, no mineral fluorescence, very dull green to yellow cut; trace SHALE: dull blue to gray, calcareous, laminated, no apparent porosity, sample contaminated with lube in part	
14400-14500 DOLOMITE: white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, intercrystalline porosity, minor oil staining, no mineral fluorescence, very dull green to yellow cut; trace SHALE: dull blue to gray, calcareous, laminated, no apparent porosity, sample contaminated with lube in part	
14500-14600 DOLOMITE: white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, intercrystalline porosity, minor oil staining, very dull yellow mineral fluorescence, very dull yellow to green cut; trace SHALE: dull blue to gray, calcareous, laminated, sample contaminated with lube in part	
14600-14700 DOLOMITE: white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, intercrystalline porosity, minor oil staining, very dull yellow mineral fluorescence, very dull yellow to green cut; trace SHALE: blue to gray, light gray, calcareous, laminated, sample contaminated with lube and LCM	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
14700-14750 DOLOMITE: off white to cream, very dull pink to tan firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, spotty light brown oil stain, scattered dull yellow to green fluorescence, yellow to green moderately diff cut; trace SHALE: blue to gray, light gray, calcareous, laminated	
14750-14850 DOLOMITE: off white to cream, very dull pink to tan firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, spotty light brown oil stain, scattered green fluorescence, yellow to green moderately fast diff cut; trace SHALE: blue to gray, light gray, calcareous, laminated	
14850-15000 DOLOMITE: off white, light to medium gray, dull pink to tan firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, spotty light brown oil stain, scattered green fluorescence, slow to moderately yellow to green streaming cut; trace SHALE: blue to gray, light gray, calcareous, laminated	
15000-15050 DOLOMITE: light brown, tan, off white, light gray, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, trace intercrystalline porosity, spotty light brown oil stain, yellow to green fluorescence, slow to moderately yellow to green streaming cut; trace SHALE: blue to gray, light gray, calcareous, laminated, trace pyrite	
15050-15150 DOLOMITE: light to medium gray, light brown, off white, tan, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, trace intercrystalline porosity, spotty light brown oil stain, scattered green fluorescence, yellow to green slow to moderately streaming cut; trace SHALE: blue to gray, light gray, calcareous, laminated, trace pyrite	
15150-15200 DOLOMITE: light brown, tan, off white, light gray, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, trace intercrystalline porosity, spotty light brown oil stain, scattered yellow to green fluorescence, yellow to green slow to moderately streaming cut; trace SHALE: blue to gray, light gray, calcareous, laminated, trace pyrite	
15200-15300 DOLOMITE: tan, white, cream, light gray, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, very laminated in part, trace intercrystalline porosity, spotty carbonaceous material, scattered yellow to green fluorescence, light yellow cut; SHALE: blue to gray, light gray, calcareous, laminated, no porosity, scattered carbonaceous material, trace pyrite	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
15300-15350 DOLOMITE: white, light pink, tan, cream, light gray, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, trace intercrystalline porosity, spotty carbonaceous material, trace pyrite, scattered yellow to green fluorescence, light yellow cut; SHALE: blue to gray, light gray, calcareous, laminated, no porosity, scattered carbonaceous material, trace pyrite	
15350-15450 DOLOMITE: white, light brown, pink, tan, cream, light gray, firm to moderately hard, microcrystalline to cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, spotty carbonaceous material, trace pyrite, dull yellow to green mineral fluorescence, light yellow cut; SHALE: blue to gray, light gray, calcareous, laminated, no porosity, scattered carbonaceous material, trace pyrite	
15450-15500 DOLOMITE: light brown, cream, pink, off to white, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, scattered carbonaceous material, yellow mineral fluorescence in part, dull light yellow cut; dolomitic SHALE: blue to gray, light gray, calcareous, laminated, no porosity, scattered carbonaceous material, sample contaminated with lube	
15500-15550 DOLOMITE: cream, pink, off to white, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, trace intercrystalline porosity, scattered carbonaceous material, pyrite, yellow mineral fluorescence in part, dull yellow cut; dolomitic SHALE: blue to gray, light gray, calcareous, laminated, no porosity, scattered carbonaceous material	
15550-15600 DOLOMITE: cream, pink, off to white, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, cryptic porosity, pyrite, minor carbonaceous material, light yellow mineral fluorescence, cream to white flash cut; SHALE: blue to gray light gray, calcareous, laminated, scattered carbonaceous material, light yellow mineral fluorescence, cream to white flash cut	
15600-15650 DOLOMITE: cream, off to white, pink, firm to moderately hard, cryptocrystalline, calcareous, pyrite, intercrystalline porosity, minor carbonaceous material, yellow mineral fluorescence, light yellow fluorescence cut, but sample contaminated with lube; SHALE: blue to gray, light gray, calcareous, laminated, scattered carbonaceous material	
15650-15750 DOLOMITE: cream, off to white, light brown, firm to moderately hard, cryptocrystalline, calcareous, pyrite, intercrystalline porosity, minor carbonaceous material, yellow mineral fluorescence, light yellow flash cut; SHALE: blue to gray, light gray, calcareous, laminated, scattered carbonaceous material	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
15750-15800 DOLOMITE: cream, off to white, light brown, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, pyrite, intercrystalline porosity, yellow mineral fluorescence, yellow to cream flash cut; SHALE: blue to gray, light gray, very calcareous, laminated, minor carbonaceous material	
15800-15850 DOLOMITE: cream, off to white, light brown, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, pyrite, intercrystalline porosity, yellow mineral fluorescence, yellow to cream flash cut; SHALE: blue to gray, light gray, very calcareous, laminated, minor carbonaceous material	
15850-15900 DOLOMITE: cream, off to white, firm to moderately hard, cryptocrystalline, calcareous, laminated in part, pyrite, intercrystalline porosity, yellow mineral fluorescence, yellow to cream flash cut; SHALE: blue to gray, light gray, very calcareous, laminated, minor carbonaceous material	
15900-16000 DOLOMITE: white, off to white, tan, firm to moderately hard, cryptocrystalline, laminated in part, minor pyrite, intercrystalline porosity, minor carbonaceous material, light yellow mineral fluorescence, yellow to green flash cut; SHALE: blue to gray, light to gray, very calcareous, laminated, minor carbonaceous material, sample contaminated with lube	
16000-16150 DOLOMITE: white, off to white, tan, pink, firm to moderately hard, microcrystalline to cryptocrystalline, minor pyrite, intercrystalline porosity, carbonaceous material, light yellow mineral fluorescence, blue to white flash cut; SHALE: blue to gray, light to gray, very calcareous, laminated, minor carbonaceous material, sample contaminated with lube	
16150-16350 DOLOMITE: pink to light brown, cream to white, light gray in part, firm to moderately hard, microcrystalline to cryptocrystalline, very trace pyrite, trace intercrystalline porosity, dull yellow fluorescence, yellow to green moderately streaming cut; SHALE: light blue green to gray, very calcareous, laminated, sample contaminated with lube	
16350-16400 DOLOMITE: pink to light brown, cream to white, light gray in part, firm to moderately hard, microcrystalline to cryptocrystalline, very trace pyrite, trace intercrystalline porosity, dull yellow fluorescence, yellow to green moderately streaming cut; trace SHALE: light blue green to gray, very calcareous, laminated, sample contaminated with lube	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
16400-16450 DOLOMITE: pink to light brown, cream to white, light to medium gray in part, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, scattered dull yellow diffuse cut; trace SHALE: light blue green to gray, very calcareous, laminated, sample contaminated with lube	
16450-16550 DOLOMITE: light gray to off white, pink to light brown, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, scattered very dull yellow fluorescence, very dull yellow slow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, very calcareous, laminated, sample contaminated with lube	
16550-16700 DOLOMITE: light brown, medium brown, tan, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous	
16700-16750 DOLOMITE: light brown, medium brown, tan, light gray, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous	
16750-16800 DOLOMITE: light brown, tan, light gray, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous	
16800-16900 DOLOMITE: light brown, off white, tan, cream, firm to moderately hard, microcrystalline to cryptocrystalline, laminated in part, trace intercrystalline porosity, pyrite, trace carbonaceous material, sample contaminated with lube, no cut taken; SHALE: blue to gray, light gray, laminated, fine grained, very calcareous, cryptic porosity, no cut taken, sample contaminated with lube	
16900-17000 DOLOMITE: light pink to cream, tan, off white, microcrystalline to cryptocrystalline, laminated in part, calcareous, intercrystalline porosity, pyrite, trace carbonaceous material, light yellow mineral fluorescence, yellow to cream blooming cut; SHALE: blue to gray, light gray, laminated, fine grained to crystalline, very calcareous, cryptic porosity	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
17000-17050 DOLOMITE: light pink to cream, off white, white, tan, microcrystalline to cryptocrystalline, laminated in part, calcareous, intercrystalline porosity, nodular pyrite, trace carbonaceous material, light yellow mineral fluorescence, light yellow to green flash cut; SHALE: blue to gray, light to gray, laminated, fine grained to crystalline, very calcareous, cryptic porosity	
17050-17150 DOLOMITE: light pink to cream, off white, white, tan, microcrystalline to cryptocrystalline, laminated in part, intercrystalline porosity, minor nodular pyrite, trace carbonaceous material, sample contaminated with lube to no cut performed; SHALE: blue to gray, light to gray, laminated, very fine grained to crystalline, very calcareous, intercrystalline porosity	
17150-17200 DOLOMITE: light pink to cream, off white, white, tan, microcrystalline to cryptocrystalline, laminated in part, intercrystalline porosity, minor nodular pyrite, trace carbonaceous material, very light yellow mineral fluorescence, light yellow slow cut; SHALE: blue to gray, light to gray, laminated, very fine grained to crystalline, very calcareous, intercrystalline porosity	
17200-17250 DOLOMITE: light pink to cream, off white, tan, microcrystalline to cryptocrystalline, intercrystalline porosity, minor nodular pyrite, light yellow mineral fluorescence, cream to blue flash cut; SHALE: blue to gray, light gray, laminated in part, very fine grained to crystalline, very calcareous, intercrystalline porosity	
17250-17300 DOLOMITE: light pink to cream, off white, tan, microcrystalline to cryptocrystalline, intercrystalline porosity, nodular pyrite, light yellow mineral fluorescence, cream to blue flash cut; SHALE: blue to gray, light to gray, laminated in part, very fine grained to crystalline, very calcareous, intercrystalline porosity	
17300-17400 DOLOMITE: light brown, medium brown, tan, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous	
17400-17550 DOLOMITE: pink to light brown, tan, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, scattered dull yellow fluorescence, dull yellow to green diffuse cut; trace SHALE: light green to gray, calcareous, laminated	

Formation tops Sample Interval (in feet)	SAMPLE DESCRIPTION
17550-17750 DOLOMITE:	light brown, tan, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, scattered dull yellow fluorescence, dull yellow to green diffuse cut; trace SHALE: light green to gray, calcareous
17750-17850 DOLOMITE:	light brown, medium brown, tan, off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light gray, off white to cream, dull light green to gray, calcareous
17850-17950 DOLOMITE:	light brown, medium brown, tan, trace off white, firm to moderately hard, microcrystalline to cryptocrystalline, trace intercrystalline porosity, dull yellow fluorescence, dull yellow diffuse cut; trace SHALE: light to medium gray, blue to green, off white to cream, dull light green to gray, calcareous
17950-18000 DOLOMITE:	cream, light to pink, off white, firm to moderately hard, calcareous, microcrystalline to cryptocrystalline, intercrystalline porosity, no mineral fluorescence, no cut; trace SHALE: light to gray, blue to gray, laminated in part, calcareous, cryptic porosity
18000-18400 DOLOMITE:	cream, light to pink, off white, firm to moderately hard, clean dolomite, microcrystalline to cryptocrystalline, intercrystalline porosity, no mineral fluorescence, no cut; trace SHALE: light to gray, blue to gray, laminated in part, calcareous, cryptic porosity
18400-18434 DOLOMITE:	cream, light to pink, off white, firm to moderately hard, clean dolomite, microcrystalline to cryptocrystalline, intercrystalline porosity, no mineral fluorescence, no cut; SHALE: light to gray, blue to gray, laminated in part, calcareous, cryptic porosity

GEOLOGICAL SUMMARY & CONCLUSIONS

Continental Resources, Inc drilled the south bearing Tallahassee 3-16H in Sections 16, and 21 of Township 153N, Range 101W into the First Bench of the Three Forks Member. Cyclone 4 spud the Tallahassee 3-16H Well on November 8th, 2013 from its surface hole location of 2585' FNL & 268' FEL Section 16, Township 153N, Range 101W.

The surface was pre-drilled with 9 inch surface casing set at 1975' MD. From there the 8 3/4" vertical portion was drilled to 10064' MD where the motor had failed. After TOOH for the curve assembly, the well bore rotated to the kick off point of 10137' MD. LEAM provided Directional Drilling as well as the Measurement While Drilling (MWD) services during the entire course of the Well. NorAm Wellsite Services provided both Mud Logging and Geosteering Services.

The curve portion of the Tallahassee 3-16H well bore began on November 12, 2013 5:30 hrs at a kick off point of 10137' MD. The three forks member was intercepted at 10748' MD, 10571' TVD, (-8583SS) and final landing point of 10863' MD, 10586' TVD placed the bit 15' into formation. The curve was completed in roughly 34.5 hrs ending at 10863' MD, 10586' TVD on November 13th, 2013 16:03 hrs.

The Lateral portion of the Tallahassee 3-16H well bore began at 1:57hrs on November 16, 2013 after intermediate 7 inch casing was set at 10829' MD. The Tallahassee 3-16H reached it's total depth (TD) of 18434' MD, 10573.62' TVD on November 21, 2013 at 18:35 hours. The entire lateral portion of the Tallahassee 3-16H well bore was completed in roughly 136.5 hrs with an overall dip of 90.1 degrees. Tallahassee 3-16H bottom hole location is 232' FSL & 1304' FEL Section 21, T153N, R101W. No trips were necessary in the Lateral.

NEWSCO

International Energy Services Inc.

Continental Resources
Company

33326
Job Number

8/17/2013
Date

Cyclone 4
Rig

Tallahassee 3-16H
Well Name

McKenzie Co., ND
County & State

Surveyed from depth of: Surface to 1937'

GL to KB: 20'

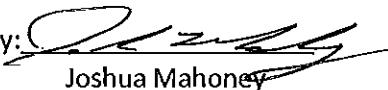
Type of Survey: Nvader/MWD

True North

Directional Supervisor/Surveyor: David Hopper

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Newsco International Energy Services Inc. This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature .

Certified by:



Joshua Mahoney

NEWS CO

Directional Services U.S.A.



Survey Certification Sheet

<u>Continental Resources</u> Company	<u>20131228D-ND</u> Job Number	<u>12/04/2013</u> Date
<u>Sec. 16-T153N-R101W</u> Lease	<u>Tallahassee 3-16H</u> Well Name	<u>McKenzie County/ ND</u> County & State

Enclosed, please find the survey performed on the referenced well by Leam Drilling Systems, LLC.
Other information required by your office is as follows:

Name & Title Of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Randy W. Rakowitz	OH	2,014'- 18,434'	11/08/2013-11/21/2013	MWD

The data and calculations for this survey have been checked and conform to the standards and procedures set forth by LEAM Drilling Systems, LLC. This report represents a true and correct Survey of this well, to the best of our knowledge, based on the original data obtained at the well site.



Nora Tucker
Well Planner

LLC 100% OWNED

Physical & Mailing: 2010 East Davis, Conroe, TX 77301

(936) 756-7577 • (936) 756-7595 Fax • 1 (800) 756-7504



LEAM
Drilling Systems LLC

LEAM Drilling Systems, Inc.
2027A Airport Rd.
Conroe, TX 77301
(936) 569-1315

Survey Certification Form

State of North Dakota
McKenzie County

I, Randy W. Rakowitz, an employee of LEAM Drilling Systems, Inc., hereby certify that on the dates beginning on 11/8/2013 and ending on 11/21/2013, I conducted or supervised the taking of an MWD Survey from a beginning depth of 2,014' ft. MD to an ending depth of 18,434' ft. MD; that the depth is true, correct, complete, and within the limitations of the tools as set forth by LEAM Drilling Systems, Inc., that I am authorized and qualified to make this report; that this survey was conducted in reference to True North with a declination of 8.52° with respect to the well Tallahassee 3-16H located in McKenzie County, North Dakota as requested by Continental Resources.

A handwritten signature in black ink, appearing to read "Randy W. Rakowitz". It is positioned above a solid horizontal line.

Randy W. Rakowitz
Sr. MWD Operations Coordinator

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Project	McKenzie County, ND		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	North Dakota Northern Zone		

Site	Tallahassee 3, Sec. 16 - T153N R-101W		
Site Position:		Northing:	408,123.52 usft
From:	Lat/Long	Easting:	1,193,773.27 usft
Position Uncertainty:	0.00 usft	Slot Radius:	0 "
			Latitude: 48° 4' 30.494 N
			Longitude: 103° 40' 12.019 W
			Grid Convergence: -2.36 °

Well	3-16H		
Well Position	+N/S +E/W	0.00 usft	Northing: 408,123.52 usft
			Easting: 1,193,773.27 usft
Position Uncertainty	0.00 usft		Wellhead Elevation: usft
			Latitude: 48° 4' 30.494 N
			Longitude: 103° 40' 12.019 W
			Ground Level: 1,920.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	10/11/13	8.52	72.97	56,411

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)
		0.00	0.00	0.00	187.73

Survey Program	Date	12/04/13	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
143.00	1,938.00	Survey #1 - NEWSCO (OH)	MWD-ISCWSA
2,014.00	18,385.00	Survey #2 (OH)	LEAM MWD-ADJ
18,434.00	18,434.00	Survey #3 (OH)	Project
Description			
MWD - Standard			
MWD - Standard			
Projection			

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,938.00	0.70	307.10	1,937.97	3.52	-3.92	-2.96	0.70	0.42	-62.08
2,014.00	0.80	280.20	2,013.97	3.89	-4.82	-3.21	0.48	0.13	-35.39
2,077.00	0.90	246.50	2,076.96	3.77	-5.70	-2.97	0.80	0.16	-53.49
2,170.00	1.10	238.70	2,169.95	3.02	-7.14	-2.03	0.26	0.22	-8.39
2,263.00	1.30	236.50	2,262.93	1.97	-8.78	-0.77	0.22	0.22	-2.37
2,357.00	1.80	235.80	2,356.89	0.55	-10.89	0.92	0.53	0.53	-0.74
2,450.00	2.40	199.00	2,449.83	-2.11	-12.73	3.80	1.55	0.65	-39.57
2,543.00	2.20	181.60	2,542.76	-5.74	-13.42	7.49	0.78	-0.22	-18.71
2,638.00	1.20	152.80	2,637.72	-8.44	-13.01	10.12	1.35	-1.05	-30.32

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,732.00	1.00	119.70	2,731.70	-9.72	-11.85	11.23	0.70	-0.21	-35.21	
2,825.00	1.20	134.30	2,824.68	-10.81	-10.45	12.11	0.37	0.22	15.70	
2,918.00	1.50	119.20	2,917.66	-12.08	-8.69	13.14	0.50	0.32	-16.24	
3,011.00	1.80	119.00	3,010.62	-13.38	-6.35	14.12	0.32	0.32	-0.22	
3,105.00	1.20	84.60	3,104.59	-14.01	-4.08	14.43	1.12	-0.64	-36.60	
3,198.00	1.50	66.70	3,197.56	-13.43	-1.99	13.58	0.55	0.32	-19.25	
3,291.00	1.10	90.20	3,290.54	-12.95	0.02	12.83	0.71	-0.43	25.27	
3,384.00	1.10	92.30	3,383.52	-12.99	1.81	12.63	0.04	0.00	2.26	
3,477.00	1.00	80.50	3,476.51	-12.90	3.50	12.31	0.26	-0.11	-12.69	
3,571.00	0.90	91.60	3,570.49	-12.78	5.05	11.99	0.22	-0.11	11.81	
3,664.00	0.70	94.10	3,663.48	-12.84	6.34	11.87	0.22	-0.22	2.69	
3,758.00	0.60	124.30	3,757.48	-13.16	7.32	12.06	0.37	-0.11	32.13	
3,851.00	0.50	138.60	3,850.47	-13.74	7.99	12.54	0.18	-0.11	15.38	
3,945.00	0.40	127.30	3,944.47	-14.25	8.52	12.97	0.14	-0.11	-12.02	
4,038.00	0.40	231.90	4,037.47	-14.64	8.53	13.36	0.68	0.00	112.47	
4,132.00	0.30	320.00	4,131.47	-14.66	8.11	13.43	0.52	-0.11	93.72	
4,225.00	0.10	245.80	4,224.47	-14.50	7.88	13.31	0.31	-0.22	-79.78	
4,319.00	0.10	344.60	4,318.47	-14.46	7.78	13.28	0.16	0.00	105.11	
4,412.00	0.30	254.00	4,411.47	-14.45	7.53	13.30	0.34	0.22	-97.42	
4,505.00	0.10	258.10	4,504.47	-14.53	7.21	13.43	0.22	-0.22	4.41	
4,599.00	0.40	231.50	4,598.47	-14.75	6.88	13.69	0.33	0.32	-28.30	
4,692.00	0.30	263.70	4,691.47	-14.98	6.38	13.99	0.23	-0.11	34.62	
4,785.00	0.30	351.80	4,784.46	-14.77	6.11	13.81	0.45	0.00	94.73	
4,879.00	0.50	40.30	4,878.46	-14.21	6.34	13.23	0.40	0.21	51.60	
4,972.00	0.40	63.10	4,971.46	-13.75	6.89	12.70	0.22	-0.11	24.52	
5,066.00	0.80	44.90	5,065.45	-13.14	7.64	11.99	0.47	0.43	-19.36	
5,159.00	1.10	55.80	5,158.44	-12.18	8.84	10.88	0.38	0.32	11.72	
5,253.00	1.10	62.60	5,252.42	-11.26	10.39	9.76	0.14	0.00	7.23	
5,347.00	0.90	60.30	5,346.41	-10.47	11.83	8.79	0.22	-0.21	-2.45	
5,440.00	1.10	68.10	5,439.40	-9.78	13.29	7.90	0.26	0.22	8.39	
5,533.00	1.20	62.80	5,532.38	-9.00	14.99	6.90	0.16	0.11	-5.70	
5,627.00	0.90	51.00	5,626.36	-8.09	16.44	5.80	0.39	-0.32	-12.55	
5,720.00	0.80	32.60	5,719.35	-7.08	17.35	4.68	0.31	-0.11	-19.78	
5,813.00	0.70	79.50	5,812.34	-6.43	18.26	3.92	0.65	-0.11	50.43	
5,907.00	1.10	100.90	5,906.33	-6.50	19.71	3.79	0.55	0.43	22.77	
6,000.00	0.40	110.60	5,999.32	-6.78	20.89	3.91	0.76	-0.75	10.43	
6,094.00	0.80	289.50	6,093.32	-6.68	20.58	3.85	1.28	0.43	190.32	
6,187.00	0.50	289.20	6,186.32	-6.33	19.59	3.63	0.32	-0.32	-0.32	
6,281.00	0.50	5.70	6,280.31	-5.78	19.24	3.14	0.66	0.00	81.38	
6,375.00	0.60	43.10	6,374.31	-5.02	19.62	2.33	0.39	0.11	39.79	
6,469.00	0.10	144.00	6,468.31	-4.72	20.00	1.99	0.67	-0.53	107.34	
6,562.00	1.10	255.60	6,561.30	-5.01	19.18	2.38	1.23	1.08	120.00	
6,655.00	1.00	255.60	6,654.29	-5.43	17.53	3.03	0.11	-0.11	0.00	

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
6,749.00	1.10	245.80	6,748.27	-6.01	15.92	3.81	0.22	0.11	-10.43	
6,843.00	1.10	247.20	6,842.25	-6.73	14.26	4.75	0.03	0.00	1.49	
6,936.00	1.20	254.60	6,935.23	-7.33	12.50	5.58	0.19	0.11	7.96	
7,030.00	1.20	239.50	7,029.21	-8.09	10.70	6.58	0.34	0.00	-16.06	
7,123.00	1.80	238.60	7,122.18	-9.35	8.62	8.10	0.65	0.65	-0.97	
7,216.00	1.80	246.30	7,215.14	-10.70	6.03	9.79	0.26	0.00	8.28	
7,309.00	1.10	286.60	7,308.11	-11.03	3.84	10.41	1.29	-0.75	43.33	
7,404.00	1.10	284.30	7,403.09	-10.54	2.08	10.17	0.05	0.00	-2.42	
7,497.00	1.10	286.70	7,496.07	-10.07	0.36	9.92	0.05	0.00	2.58	
7,590.00	1.50	292.50	7,589.05	-9.34	-1.62	9.48	0.45	0.43	6.24	
7,683.00	1.60	299.40	7,682.01	-8.24	-3.87	8.69	0.23	0.11	7.42	
7,777.00	1.30	305.50	7,775.98	-6.98	-5.89	7.70	0.36	-0.32	6.49	
7,870.00	1.40	288.80	7,868.96	-6.00	-7.82	6.99	0.43	0.11	-17.96	
7,963.00	1.10	285.20	7,961.94	-5.40	-9.76	6.66	0.33	-0.32	-3.87	
8,056.00	0.90	279.50	8,054.92	-5.04	-11.34	6.52	0.24	-0.22	-6.13	
8,149.00	0.90	270.00	8,147.91	-4.92	-12.79	6.60	0.16	0.00	-10.22	
8,243.00	1.00	268.30	8,241.90	-4.95	-14.35	6.83	0.11	0.11	-1.81	
8,336.00	1.00	272.10	8,334.88	-4.94	-15.97	7.04	0.07	0.00	4.09	
8,429.00	0.90	276.50	8,427.87	-4.83	-17.51	7.14	0.13	-0.11	4.73	
8,522.00	0.90	280.40	8,520.86	-4.61	-18.95	7.12	0.07	0.00	4.19	
8,616.00	1.00	257.40	8,614.85	-4.66	-20.48	7.37	0.42	0.11	-24.47	
8,709.00	1.10	267.20	8,707.83	-4.88	-22.16	7.82	0.22	0.11	10.54	
8,803.00	1.00	261.10	8,801.82	-5.05	-23.87	8.22	0.16	-0.11	-6.49	
8,896.00	0.90	264.20	8,894.80	-5.25	-25.40	8.62	0.12	-0.11	3.33	
8,990.00	0.40	334.00	8,988.80	-5.03	-26.28	8.52	0.90	-0.53	74.26	
9,083.00	0.80	47.70	9,081.79	-4.30	-25.94	7.75	0.85	0.43	79.25	
9,176.00	0.80	63.10	9,174.78	-3.57	-24.88	6.88	0.23	0.00	16.56	
9,270.00	0.80	59.10	9,268.78	-2.94	-23.73	6.10	0.06	0.00	-4.26	
9,363.00	0.50	49.80	9,361.77	-2.34	-22.87	5.40	0.34	-0.32	-10.00	
9,457.00	0.40	48.20	9,455.77	-1.86	-22.31	4.84	0.11	-0.11	-1.70	
9,550.00	0.40	48.60	9,548.76	-1.43	-21.82	4.35	0.00	0.00	0.43	
9,643.00	0.50	51.70	9,641.76	-0.96	-21.26	3.81	0.11	0.11	3.33	
9,737.00	0.40	12.90	9,735.76	-0.39	-20.87	3.19	0.33	-0.11	-41.28	
9,830.00	0.30	351.40	9,828.76	0.17	-20.83	2.63	0.18	-0.11	-23.12	
9,923.00	0.30	308.20	9,921.76	0.56	-21.06	2.28	0.24	0.00	-46.45	
10,019.00	0.30	299.40	10,017.75	0.84	-21.47	2.06	0.05	0.00	-9.17	
10,112.00	0.40	325.20	10,110.75	1.23	-21.87	1.73	0.20	0.11	27.74	
10,143.00	1.80	252.60	10,141.75	1.17	-22.40	1.85	5.56	4.52	-234.19	
10,174.00	5.70	242.60	10,172.68	0.32	-24.23	2.95	12.71	12.58	-32.26	
10,205.00	9.10	239.30	10,203.41	-1.65	-27.71	5.36	11.05	10.97	-10.65	
10,236.00	12.50	234.40	10,233.86	-4.85	-32.54	9.18	11.35	10.97	-15.81	
10,268.00	15.70	234.50	10,264.89	-9.38	-38.88	14.53	10.00	10.00	0.31	
10,299.00	20.40	232.60	10,294.36	-15.10	-46.60	21.23	15.28	15.16	-6.13	

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,330.00	25.70	233.30	10,322.87	-22.41	-56.28	29.77	17.12	17.10	2.26	
10,361.00	29.90	231.90	10,350.29	-31.19	-67.76	40.03	13.71	13.55	-4.52	
10,392.00	33.20	231.00	10,376.70	-41.31	-80.44	51.75	10.75	10.65	-2.90	
10,423.00	36.80	230.80	10,402.09	-52.52	-94.23	64.72	11.62	11.61	-0.65	
10,455.00	40.00	230.00	10,427.17	-65.19	-109.54	79.33	10.12	10.00	-2.50	
10,485.00	45.40	229.80	10,449.21	-78.29	-125.10	94.41	18.01	18.00	-0.67	
10,516.00	49.40	230.00	10,470.19	-92.99	-142.55	111.32	12.91	12.90	0.65	
10,548.00	55.00	230.00	10,489.79	-109.23	-161.91	130.02	17.50	17.50	0.00	
10,579.00	59.40	230.00	10,506.58	-125.98	-181.87	149.30	14.19	14.19	0.00	
10,610.00	61.30	229.80	10,521.92	-143.33	-202.48	169.26	6.15	6.13	-0.65	
10,641.00	64.30	229.10	10,536.08	-161.26	-223.42	189.84	9.88	9.68	-2.26	
10,672.00	68.90	227.80	10,548.39	-180.12	-244.70	211.40	15.33	14.85	-4.13	
10,703.00	72.10	227.70	10,558.74	-199.77	-266.33	233.78	10.33	10.32	-0.32	
10,735.00	73.90	227.50	10,568.09	-220.40	-288.93	257.26	5.66	5.63	-0.63	
10,766.00	77.20	227.10	10,575.83	-240.76	-310.99	280.40	10.72	10.65	-1.29	
10,797.00	82.50	226.10	10,581.29	-261.72	-333.15	304.15	17.39	17.10	-3.23	
10,807.00	84.20	225.90	10,582.45	-268.62	-340.29	311.95	17.12	17.00	-2.00	
10,889.00	88.00	222.60	10,588.03	-327.21	-397.36	377.68	6.13	4.63	-4.02	
10,920.00	89.50	221.30	10,588.70	-350.25	-418.07	403.30	6.40	4.84	-4.19	
11,015.00	90.90	218.70	10,588.37	-423.02	-479.13	483.62	3.11	1.47	-2.74	
11,110.00	91.80	214.70	10,586.13	-499.15	-535.88	566.69	4.31	0.95	-4.21	
11,205.00	89.20	213.60	10,585.30	-577.76	-589.20	651.76	2.97	-2.74	-1.16	
11,300.00	90.00	210.30	10,585.97	-658.35	-639.46	738.38	3.57	0.84	-3.47	
11,395.00	90.40	207.60	10,585.63	-741.47	-685.44	826.93	2.87	0.42	-2.84	
11,490.00	90.70	205.30	10,584.72	-826.52	-727.75	916.90	2.44	0.32	-2.42	
11,585.00	89.90	204.60	10,584.23	-912.65	-767.83	1,007.64	1.12	-0.84	-0.74	
11,680.00	89.70	204.50	10,584.56	-999.06	-807.30	1,098.57	0.24	-0.21	-0.11	
11,775.00	88.20	202.70	10,586.30	-1,086.10	-845.32	1,189.93	2.47	-1.58	-1.89	
11,870.00	89.10	201.50	10,588.54	-1,174.09	-881.05	1,281.93	1.58	0.95	-1.26	
11,965.00	90.10	199.40	10,589.20	-1,263.10	-914.24	1,374.59	2.45	1.05	-2.21	
12,060.00	89.10	197.60	10,589.86	-1,353.18	-944.38	1,467.91	2.17	-1.05	-1.89	
12,155.00	89.70	194.60	10,590.86	-1,444.44	-970.72	1,561.88	3.22	0.63	-3.16	
12,250.00	89.80	191.80	10,591.27	-1,536.92	-992.41	1,656.44	2.95	0.11	-2.95	
12,345.00	90.70	189.40	10,590.86	-1,630.29	-1,009.89	1,751.31	2.70	0.95	-2.53	
12,440.00	91.30	186.40	10,589.20	-1,724.36	-1,022.94	1,846.28	3.22	0.63	-3.16	
12,535.00	88.80	184.10	10,589.12	-1,818.95	-1,031.63	1,941.18	3.58	-2.63	-2.42	
12,630.00	89.00	181.60	10,590.94	-1,913.81	-1,036.35	2,035.81	2.64	0.21	-2.63	
12,725.00	90.40	181.80	10,591.44	-2,008.76	-1,039.17	2,130.28	1.49	1.47	0.21	
12,820.00	90.90	179.30	10,590.36	-2,103.74	-1,040.08	2,224.52	2.68	0.53	-2.63	
12,915.00	90.00	179.70	10,589.61	-2,198.73	-1,039.26	2,318.54	1.04	-0.95	0.42	
13,010.00	89.30	179.00	10,590.19	-2,293.72	-1,038.18	2,412.52	1.04	-0.74	-0.74	
13,104.00	88.80	180.40	10,591.75	-2,387.71	-1,037.69	2,505.58	1.58	-0.53	1.49	

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,199.00	89.50	180.90	10,593.16	-2,482.69	-1,038.76	2,599.85	0.91	0.74	0.53	
13,295.00	90.80	180.90	10,592.91	-2,578.68	-1,040.27	2,695.17	1.35	1.35	0.00	
13,389.00	91.50	179.50	10,591.02	-2,672.65	-1,040.60	2,788.33	1.66	0.74	-1.49	
13,484.00	91.80	180.20	10,588.29	-2,767.61	-1,040.35	2,882.40	0.80	0.32	0.74	
13,579.00	89.20	180.00	10,587.46	-2,862.60	-1,040.52	2,976.54	2.74	-2.74	-0.21	
13,674.00	89.00	180.00	10,588.95	-2,957.59	-1,040.52	3,070.67	0.21	-0.21	0.00	
13,769.00	90.50	179.00	10,589.37	-3,052.58	-1,039.69	3,164.69	1.90	1.58	-1.05	
13,864.00	89.70	180.40	10,589.20	-3,147.58	-1,039.19	3,258.75	1.70	-0.84	1.47	
13,959.00	89.10	180.70	10,590.20	-3,242.57	-1,040.10	3,353.00	0.71	-0.63	0.32	
14,054.00	89.60	179.70	10,591.27	-3,337.56	-1,040.43	3,447.17	1.18	0.53	-1.05	
14,149.00	89.70	179.70	10,591.85	-3,432.56	-1,039.94	3,541.24	0.11	0.11	0.00	
14,244.00	90.90	179.20	10,591.36	-3,527.55	-1,039.02	3,635.25	1.37	1.26	-0.53	
14,339.00	89.90	179.30	10,590.69	-3,622.54	-1,037.78	3,729.20	1.06	-1.05	0.11	
14,434.00	90.40	179.00	10,590.44	-3,717.52	-1,036.37	3,823.14	0.61	0.53	-0.32	
14,529.00	90.30	178.60	10,589.86	-3,812.50	-1,034.38	3,916.99	0.43	-0.11	-0.42	
14,624.00	91.50	178.30	10,588.37	-3,907.45	-1,031.81	4,010.73	1.30	1.26	-0.32	
14,719.00	90.90	177.40	10,586.38	-4,002.36	-1,028.25	4,104.30	1.14	-0.63	-0.95	
14,814.00	90.70	178.50	10,585.06	-4,097.29	-1,024.85	4,197.91	1.18	-0.21	1.16	
14,909.00	91.10	179.70	10,583.56	-4,192.27	-1,023.36	4,291.82	1.33	0.42	1.26	
15,004.00	91.10	179.70	10,581.74	-4,287.25	-1,022.86	4,385.87	0.00	0.00	0.00	
15,099.00	89.60	179.30	10,581.16	-4,382.24	-1,022.03	4,479.89	1.63	-1.58	-0.42	
15,193.00	89.60	180.20	10,581.82	-4,476.24	-1,021.62	4,572.97	0.96	0.00	0.96	
15,289.00	89.20	180.70	10,582.82	-4,572.23	-1,022.38	4,668.19	0.67	-0.42	0.52	
15,383.00	89.30	181.30	10,584.05	-4,666.20	-1,024.02	4,761.54	0.65	0.11	0.64	
15,479.00	90.80	180.20	10,583.97	-4,762.19	-1,025.27	4,856.82	1.94	1.56	-1.15	
15,574.00	89.90	181.60	10,583.39	-4,857.18	-1,026.77	4,951.14	1.75	-0.95	1.47	
15,668.00	88.80	182.50	10,584.45	-4,951.11	-1,030.13	5,044.67	1.51	-1.17	0.96	
15,763.00	90.40	182.70	10,585.12	-5,046.00	-1,034.44	5,139.29	1.70	1.68	0.21	
15,858.00	88.50	182.80	10,586.03	-5,140.89	-1,038.99	5,233.92	2.00	-2.00	0.11	
15,953.00	89.30	182.70	10,587.85	-5,235.76	-1,043.55	5,328.54	0.85	0.84	-0.11	
16,048.00	90.50	182.50	10,588.02	-5,330.66	-1,047.86	5,423.16	1.28	1.26	-0.21	
16,143.00	88.40	182.30	10,588.93	-5,425.57	-1,051.84	5,517.74	2.22	-2.21	-0.21	
16,238.00	89.40	182.50	10,590.75	-5,520.46	-1,055.82	5,612.31	1.07	1.05	0.21	
16,333.00	89.00	182.10	10,592.08	-5,615.38	-1,059.63	5,706.87	0.60	-0.42	-0.42	
16,428.00	89.00	181.80	10,593.74	-5,710.31	-1,062.86	5,801.38	0.32	0.00	-0.32	
16,523.00	92.90	181.30	10,592.16	-5,805.24	-1,065.43	5,895.79	4.14	4.11	-0.53	
16,618.00	91.00	180.90	10,588.93	-5,900.16	-1,067.25	5,990.10	2.04	-2.00	-0.42	
16,712.00	92.30	180.20	10,586.22	-5,994.12	-1,068.15	6,083.32	1.57	1.38	-0.74	
16,807.00	91.10	180.60	10,583.41	-6,089.07	-1,068.82	6,177.50	1.33	-1.26	0.42	
16,902.00	88.70	179.30	10,583.57	-6,184.06	-1,068.73	6,271.62	2.87	-2.53	-1.37	
16,997.00	92.10	179.50	10,582.91	-6,279.04	-1,067.74	6,365.60	3.59	3.58	0.21	
17,092.00	89.20	180.70	10,581.83	-6,374.02	-1,067.91	6,459.74	3.30	-3.05	1.26	
17,187.00	90.30	180.00	10,582.25	-6,469.02	-1,068.49	6,553.95	1.37	1.16	-0.74	

LEAM Drilling Systems LLC

Survey Report

Company:	Continental Resources	Local Co-ordinate Reference:	Well 3-16H
Project:	McKenzie County, ND	TVD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Site:	Tallahassee 3	MD Reference:	GL 1920+KB 20 @ 1940.00usft (Cyclone 4)
Well:	3-16H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User DB

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
17,282.00	90.10	179.20	10,581.91	-6,564.01	-1,067.82	6,647.99	0.87	-0.21	-0.84	
17,377.00	88.00	178.80	10,583.49	-6,658.98	-1,066.17	6,741.88	2.25	-2.21	-0.42	
17,472.00	88.80	179.70	10,586.14	-6,753.93	-1,064.92	6,835.80	1.27	0.84	0.95	
17,567.00	90.30	179.20	10,586.89	-6,848.92	-1,064.01	6,929.80	1.66	1.58	-0.53	
17,662.00	90.60	178.30	10,586.14	-6,943.90	-1,061.94	7,023.63	1.00	0.32	-0.95	
17,757.00	92.20	179.00	10,583.82	-7,038.84	-1,059.70	7,117.41	1.84	1.68	0.74	
17,852.00	90.40	179.00	10,581.67	-7,133.80	-1,058.04	7,211.28	1.89	-1.89	0.00	
17,947.00	91.00	178.60	10,580.50	-7,228.77	-1,056.05	7,305.12	0.76	0.63	-0.42	
18,042.00	89.50	177.80	10,580.09	-7,323.72	-1,053.07	7,398.81	1.79	-1.58	-0.84	
18,137.00	90.00	177.60	10,580.50	-7,418.64	-1,049.26	7,492.36	0.57	0.53	-0.21	
18,232.00	91.00	177.40	10,579.68	-7,513.54	-1,045.11	7,585.84	1.07	1.05	-0.21	
18,327.00	91.60	177.80	10,577.52	-7,608.44	-1,041.14	7,679.33	0.76	0.63	0.42	
18,385.00	92.30	177.60	10,575.55	-7,666.35	-1,038.81	7,736.41	1.26	1.21	-0.34	
18,434.00	92.30	177.60	10,573.58	-7,715.27	-1,036.76	7,784.61	0.00	0.00	0.00	
Projection to Bit										



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5748 (09-2006)

TH
Well File No.
25157

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date August 21, 2013
<input type="checkbox"/> Report of Work Done	Date Work Completed
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03. Approximate Start Date	

<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
<input checked="" type="checkbox"/> Other	Cement to surface

Well Name and Number Tallahassee 3-16H					
Footages	2585 F N L	268 F E L	Qtr-Qtr SENE	Section 16	Township 153 N Range 101 W
Field	Pool Bakken		County McKenzie		

24-HOUR PRODUCTION RATE			
Before		After	
Oil	Bbls	Oil	Bbls
Water	Bbls	Water	Bbls
Gas	MCF	Gas	MCF

Name of Contractor(s)			
Address		City	State Zip Code

DETAILS OF WORK

During the cement job on the Tallahassee 3-16H, we had returns the entire time until the last 9bbls. Cement was not returned to surface. A CBL was scheduled the morning of Monday, August 19th. Cement will be brought to surface on the intermediate casing string.

A 1" top job was performed. We got 1" pipe 200' deep. We got cement to surface and continued pumping and then staging to make sure the cement would not drop.

*The Operator is to maintain a pressure gauge on the 9-5/8" X 7" annulus for continuous monitoring and to report any pressure development or pressure management events.

Company Continental Resources, Inc.	Telephone Number (405) 234-9000	
Address P.O. Box 268870		
City Oklahoma City	State OK	Zip Code 73126
Signature 	Printed Name Becky Barnes	
Title Regulatory Compliance Specialist	Date August 22, 2013	
Email Address becky.barnes@clr.com		

FOR STATE USE ONLY	
<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 7-16-2013	
By 	
Title Richard A. Suggs Geologist	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5749 (03-2004)

File File No.
25157



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date October 14, 2013	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date	<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input checked="" type="checkbox"/> Other	Flow back exemption

Well Name and Number Tallahassee 3-16H					
Footages 2585 F N L	Qtr-Qtr 268 F E L	SENE	Section 16	Township 153 N	Range 101 W
Field Baker	Pool Bakken	County McKenzie			

24-HOUR PRODUCTION RATE			
Before		After	
Oil	Bbls	Oil	Bbls
Water	Bbls	Water	Bbls
Gas	MCF	Gas	MCF

Name of Contractor(s)			
Address	City	State	Zip Code

DETAILS OF WORK

Continental Resources, Inc. requests a waiver from the tubing/pkr requirement included in NDIC 43-02-03-21: Casing, Tubing, and Cementing Requirements during the completion period immediately following the upcoming fracture stimulation. The following assurances apply:

- 1) The well is equipped with 26#/ft P-110 7" casing at surface with an API burst rating of 9960 psig for the 26 #/ft casing.
- 2) The frac design will use a safety factor of 0.85 * API burst rating to determine the max pressure.
- 3) Damage to the casing during the frac would be detected immediately by monitoring equipment.
- 4) The casing is exposed to significantly lower rates and pressures during flow back than during the frac job.
- 5) The frac fluid and formation fluids have very low corrosion and erosion rates
- 6) Production equipment will be installed as soon as possible after the well ceases flowing.
- 7) A 300# gauge will be installed on surface casing during flowback period.

Company Continental Resources, Inc.	Telephone Number 405-234-9000
Address P.O. Box 269000	
City Oklahoma City	State OK
Signature 	Printed Name Jim Landrigan
Title Completion Engineer	Date August 29, 2013

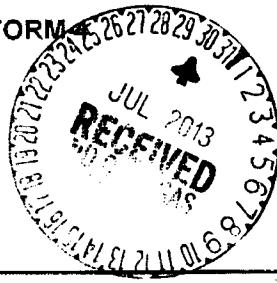
FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <i>September 4, 2013</i>	
By <i>J. Landrigan</i>	
Title PETROLEUM ENGINEER	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFSN 5749 (09-2006)

Well File No.
25157



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date August 14, 2013	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
Approximate Start Date		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input checked="" type="checkbox"/> Other	Spud with Small Rig

Well Name and Number
Tallahassee 3-16H

Footages	Qtr-Qtr	Section	Township	Range
2585 F N L	E L	SENE	16	153 N 101 W
Field Bakker	Pool Bakken	County McKenzie		

24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)
Advanced Energy Services, LLC

Address P.O. Box 85	City South Boardman	State Michigan	Zip Code 49680-0085
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DETAILS OF WORK

Continental Resources, Inc. requests permission for suspension of drilling for up to 90 days for the referenced well under NDAC 43-02-03-55. Continental Resources, Inc. intends to drill the surface hole with freshwater based drilling mud and set surface casing with a small drilling rig and move off within 3 to 5 days. The casing will be set at a depth pre-approved by the NDIC per the Application for Permit to Drill NDAC 43-02-03-21. No saltwater will be used in the drilling and cementing operations of the surface casing. Once the surface casing is cemented, a plug or mechanical seal will be placed at the top of the casing to prevent any foreign matter from getting into the well. A rig capable of drilling to TD will move onto the location within the 90 days previously outlined to complete the drilling and casing plan as per the APD. The undersigned states that this request for suspension of drilling operations in accordance with the Subsection 4 of Section 43-02-03-55 of the NDAC, is being requested to take advantage of the cost savings and time savings of using an initial rig that is smaller than the rig necessary to drill a well to total depth but is not intended to alter or extend the terms and conditions of, or suspend any obligation under, any oil and gas lease with acreage in or under the spacing or drilling unit for the above-referenced well. Continental Resources, Inc. understands NDAC 43-02-03-31 requirements regarding confidentiality pertaining to this permit. The drilling pit will be fenced immediately after construction if the well pad is located in a pasture (NDAC 43-02-03-19 & 19.1). Continental Resources, Inc. will plug and abandon the well and reclaim the well site if the well is not drilled by the larger rotary rig within 90 days after spudding the well with the smaller drilling rig.

(R7 mg 1 2013 Ex NDIC Inspector - Richard Burns 701-770-3854 with spud d70)

Company Continental Resources, Inc.	Telephone Number (405) 234-9000	
Address P.O. Box 268870		
City Oklahoma City	State OK	Zip Code 73126
Signature <i>Becky Barnes</i>	Printed Name Becky Barnes	
Title Regulatory Compliance Specialist	Date July 30, 2013	
Email Address becky.barnes@clr.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8-02-2013	
By <i>David Burns</i>	
Title David Burns	

Engineering Tech.



Oil and Gas Division

25157
JAS

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.dmr.nd.gov/oilgas

BECKY BARNES
CONTINENTAL RESOURCES, INC.
PO BOX 1032
ENID, OK 73702-1032 USA

Date: 3/18/2013

RE: CORES AND SAMPLES

Well Name: TALLAHASSEE 3-16H Well File No.: 25157
Location: SENE 16-153-101 County: MCKENZIE
Permit Type: Development - HORIZONTAL
Field: BAKER Target Horizon: THREE FORKS

Dear BECKY BARNES:

North Dakota Century Code (NDCC) Section 38-08-04 provides for the preservation of cores and samples and their shipment to the State Geologist when requested. The following is required on the above referenced well:

- 1) All cores, core chips and samples must be submitted to the State Geologist as provided for the NDCC Section 38-08-04 and North Dakota Administrative Code 43-02-03-38.1.
- 2) Samples shall include all cuttings from:

Base of the Last Charles Salt

Samples of cuttings shall be taken at 30' maximum intervals through all vertical, build and horizontal sections. Samples must be washed, dried, packed in sample envelopes in correct order with labels showing operator, well name, location and depth, and forwarded in standard boxes to the State Geologist within 30 days of the completion of drilling operations.

- 3) Cores: ALL CORES cut shall be preserved in correct order, properly boxed, and forwarded to the State Geologist within 90 days of completion of drilling operations. Any extension of time must have written approval from the State Geologist.
- 4) All cores, core chips, and samples must be shipped, prepaid, to the State Geologist at the following address:

ND Geological Survey Core Library
Campus Road and Cornell
Grand Forks, ND 58202

- 5) NDCC Section 38-08-16 allows for a civil penalty for any violation of Chapter 38 08 not to exceed \$12,500 for each offense, and each day's violation is a separate offense.

Sincerely

Richard A. Suggs
Geologist



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5749 (09-2006)



Well File No. **25157**

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input type="checkbox"/> Notice of Intent	Approximate Start Date	
<input type="checkbox"/> Report of Work Done	Date Work Completed	
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		
Approximate Start Date		<input type="checkbox"/> Drilling Prognosis <input type="checkbox"/> Spill Report <input type="checkbox"/> Redrilling or Repair <input type="checkbox"/> Shooting <input type="checkbox"/> Casing or Liner <input type="checkbox"/> Acidizing <input type="checkbox"/> Plug Well <input type="checkbox"/> Fracture Treatment <input type="checkbox"/> Supplemental History <input type="checkbox"/> Change Production Method <input type="checkbox"/> Temporarily Abandon <input type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Other Open Hole Log Waiver

Well Name and Number
Tallahassee 3-16H

Footages 2585 F N L	Qtr-Qtr 268 F E L	SENE	Section 16	Township 153 N	Range 101 W
Field	Pool Bakken		County McKenzie		

24-HOUR PRODUCTION RATE

Before		After	
Oil	Bbls	Oil	Bbls
Water	Bbls	Water	Bbls
Gas	MCF	Gas	MCF

Name of Contractor(s)

Address	City	State	Zip Code

DETAILS OF WORK

Requested variance to not run openhole logs. GR/CBL/CCL will be run from deepest point obtainable to base of surface casing.

Offset logs used will be the Nance Petroleum, Corps of Engineers 31-10, Sec 10-153N-101W, McKenzie County, ND.

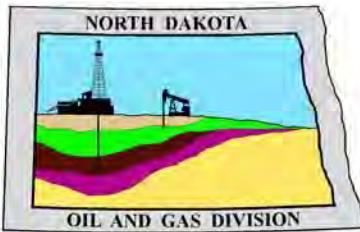
The Gamma Ray Log will be run all the way to surface and all mud logs will be submitted as one digital tiff formatted file and one digital LAS formatted file.

Approved per log run on # 10710 - Nov 4 1-9-3A.

Company Continental Resources, Inc.		Telephone Number 580-233-8955	
Address P.O. Box 1032			
City Enid		State OK	Zip Code 73702
Signature <i>Terry L. Olson</i>		Printed Name Terry L. Olson	
Title Regulatory Compliance Specialist	Date June 12, 2012		
Email Address Terry.Olson@clr.com			

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 3/11/2013	
By <i>Richard A. Suggs</i>	
Title Geologist	



Oil and Gas Division

Lynn D. Helms - Director Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.oilgas.nd.gov

March 11, 2013

Terry L. Olson
Regulatory Compliance Specialist
CONTINENTAL RESOURCES, INC.
P.O. Box 1032
Enid, OK 73702

**RE: HORIZONTAL WELL
TALLAHASSEE 3-16H
SENE Section 16-153N-101W
McKenzie County
Well File # 25157**

Dear Terry:

Pursuant to Commission Order No. 21551, approval to drill the above captioned well is hereby given. The approval is granted on the condition that all portions of the well bore not isolated by cement, be no closer than the **200' setback** from the north & south boundaries and **500' setback** from the east & west boundaries within the 2560 acre spacing unit consisting of Sections 4, 9, 16, & 21-T153N-R101W. **Tool error is not required pursuant to order.**

PERMIT STIPULATIONS: The mouse and rat hole must be cemented. A liner must be placed under the location. A spill contingency plan must be in place prior to spudding the wells. No Drilling Pit will be allowed. Due to surficial water adjacent to the well site, a dike is required surrounding the entire location. One horizontal well shall be drilled and completed in the standup 1280-acre spacing unit described as Sections 4 and 9, T153N-R101W, McKenzie County, north Dakota, prior to completing any horizontal well in the 2560-acre spacing unit described as Sections 4, 9, 16, and 21-T153N-R101W McKenzie County, North Dakota. Continental must drill the Columbus Federal 2-16H, 3-16H and Tallahassee 2-16H, 3-16H back to back. **CONTINENTAL RESOURCES must contact NDIC Field Inspector Richard Dunn at 701-770-3554 prior to location construction.**

Drilling pit

NDAC 43-02-03-19.4 states that "a pit may be utilized to bury drill cuttings and solids generated during well drilling and completion operations, providing the pit can be constructed, used and reclaimed in a manner that will prevent pollution of the land surface and freshwaters. Reserve and circulation of mud system through earthen pits are prohibited. All pits shall be inspected by an authorized representative of the director prior to lining and use. Drill cuttings and solids must be stabilized in a manner approved by the director prior to placement in a cuttings pit."

Form 1 Changes & Hard Lines

Any changes, shortening of casing point or lengthening at Total Depth must have prior approval by the NDIC. The proposed directional plan is at a legal location. The minimum legal coordinate from the well head at casing point is: 232' W. Also, based on the azimuth of the proposed lateral the maximum legal coordinate from the well head is: 7751' S and a minimum legal coordinate from the well head of 232' W.

Location Construction Commencement (Three Day Waiting Period)

Operators shall not commence operations on a drill site until the 3rd business day following publication of the approved drilling permit on the NDIC - OGD Daily Activity Report. If circumstances require operations to commence before the 3rd business day following publication on the Daily Activity Report, the waiting period may be waived by the Director. Application for a waiver must be by sworn affidavit providing the information necessary to evaluate the extenuating circumstances, the factors of NDAC 43-02-03-16.2 (1), (a)-(f), and any other information that would allow the Director to conclude that in the event another owner seeks revocation of the drilling permit, the applicant should retain the permit.

Permit Fee & Notification

Payment was received in the amount of \$100 via credit card. It is requested that notification be given immediately upon the spudding of the well. This information should be relayed to the Oil & Gas Division, Bismarck, via telephone. The following information must be included: Well name, legal location, permit number, drilling contractor, company representative, date and time of spudding. Office hours are 8:00 a.m. to 12:00 p.m. and 1:00 p.m. to 5:00 p.m. Central Time. Our telephone number is (701) 328-8020, leave a message if after hours or on the weekend.

Survey Requirements for Horizontal, Horizontal Re-entry, and Directional Wells

NDAC Section 43-02-03-25 (Deviation Tests and Directional Surveys) states in part (that) the survey contractor shall file a certified copy of all surveys with the director free of charge within thirty days of completion. Surveys must be submitted as one electronic copy, or in a form approved by the director. However, the director may require the directional survey to be filed immediately after completion if the survey is needed to conduct the operation of the director's office in a timely manner. Certified surveys must be submitted via email in one adobe document, with a certification cover page to certsurvey@nd.gov.

Survey points shall be of such frequency to accurately determine the entire location of the well bore.

Specifically, the Horizontal and Directional well survey frequency is 100 feet in the vertical, 30 feet in the curve (or when sliding) and 90 feet in the lateral.

Confidential status

Your request for confidential status of all information furnished to the Director, or his representatives, is hereby granted. Such information, except production runs, shall remain confidential for six months commencing on the date the well is spud.

Confidential status notwithstanding, the Director and his representatives shall have access to all well records wherever located. Your company personnel, or any person performing work for your company shall permit the Director and his representatives to come upon any lease, property, well, or drilling rig operated or controlled by them, complying with all safety rules, and to inspect the records and operation of such wells and to have access at all times to any and all records of wells. The Commission's field personnel periodically inspect producing and drilling wells. Any information regarding such wells shall be made available to them at any time upon request. The information so obtained by the field personnel shall be maintained in strict confidence and shall be available only to the Commission and its staff.

Surface casing cement

Tail cement utilized on surface casing must have a minimum compressive strength of 500 psi within 12 hours, and tail cement utilized on production casing must have a minimum compressive strength of 500 psi before drilling the plug or initiating tests.

Logs

NDAC Section 43-02-03-31 requires the running of (1) a suite of open hole logs from which formation tops and porosity zones can be determined, (2) a Gamma Ray Log run from total depth to ground level elevation of the well bore, and (3) a log from which the presence and quality of cement can be determined (Standard CBL or Ultrasonic cement evaluation log) in every well in which production or intermediate casing has been set, this log must be run prior to completing the well. All logs run must be submitted free of charge, as one digital TIFF (tagged image file format) copy and one digital LAS (log ASCII) formatted copy. Digital logs may be submitted on a standard CD, DVD, or attached to an email sent to digitallogs@nd.gov. Thank you for your cooperation.

Sincerely,

David Tabor
Engineering Technician IV



APPLICATION FOR PERMIT TO DRILL HORIZONTAL WELL - FORM 1H

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 54269 (08-2005)

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Type of Work New Location	Type of Well Oil & Gas	Approximate Date Work Will Start 6 / 16 / 2012	Confidential Status Yes
Operator CONTINENTAL RESOURCES, INC.		Telephone Number 580-233-8955	
Address P.O. Box 1032		City Enid	State OK Zip Code 73702

Notice has been provided to the owner of any permanently occupied dwelling within 1,320 feet.

This well is not located within five hundred feet of an occupied dwelling.

WELL INFORMATION (If more than one lateral proposed, enter data for additional laterals on page 2)

Well Name TALLAHASSEE				Well Number 3-16H			
Surface Footages 2585 F N L 268 F E L		Qtr-Qtr SENE	Section 16	Township 153 N	Range 101 W	County McKenzie	
Longstring Casing Point Footages 2676 F S L 598 F E L		Qtr-Qtr NESE	Section 16	Township 153 N	Range 101 W	County McKenzie	
Longstring Casing Point Coordinates From Well Head 290 S From WH 330 W From WH		Azimuth 229 °	Longstring Total Depth 10857 Feet MD 10607 Feet TVD				
Bottom Hole Footages From Nearest Section Line 204 F S L 1320 F E L		Qtr-Qtr SESE	Section 21	Township 153 N	Range 101 W	County McKenzie	
Bottom Hole Coordinates From Well Head 7747 S From WH 1052 W From WH		KOP Lateral 1 10166 Feet MD	Azimuth Lateral 1 180 °	Estimated Total Depth Lateral 1 18535 Feet MD 10632 Feet TVD			
Latitude of Well Head 48 ° 04 ' 30.49 "		Longitude of Well Head -103 ° 40 ' 12.02 "	NAD Reference NAD83	Description of Spacing Unit: (Subject to NDIC Approval) Sec 4, 9, 16, & 21 153 101			
Ground Elevation 1924 Feet Above S.L.	Acres in Spacing/Drilling Unit 2560		Spacing/Drilling Unit Setback Requirement 200 Feet N/S 500 Feet E/W		Industrial Commission Order 21551		
North Line of Spacing/Drilling Unit 5279 Feet		South Line of Spacing/Drilling Unit 5300 Feet		East Line of Spacing/Drilling Unit 20988 Feet		West Line of Spacing/Drilling Unit 20969 Feet	
Objective Horizons Three Forks						Pierre Shale Top 1841	
Proposed Surface Casing	Size 9 - 5/8 "	Weight 36 Lb./Ft.	Depth 1940 Feet	Cement Volume 732 Sacks	NOTE: Surface hole must be drilled with fresh water and surface casing must be cemented back to surface.		
Proposed Longstring Casing	Size 7 - "	Weight(s) 26-32 Lb./Ft.	Longstring Total Depth 10857 Feet MD 10607 Feet TVD		Cement Volume 859 Sacks	Cement Top 0 Feet	Top Dakota Sand 4826 Feet
Base Last Charles Salt (If Applicable) 9031 Feet		NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.					
Proposed Logs CBL/GR from deepest depth obtainable to ground surface/mud							
Drilling Mud Type (Vertical Hole - Below Surface Casing) Invert				Drilling Mud Type (Lateral) Brine			
Survey Type in Vertical Portion of Well MWD Every 100 Feet		Survey Frequency: Build Section 30 Feet		Survey Frequency: Lateral 90 Feet		Survey Contractor LEAM Drilling Services	

NOTE: A Gamma Ray log must be run to ground surface and a CBL must be run on intermediate or longstring casing string if set.

Surveys are required at least every 30 feet in the build section and every 90 feet in the lateral section of a horizontal well. Measurement inaccuracies are not considered when determining compliance with the spacing/drilling unit boundary setback requirement except in the following scenarios: 1) When the angle between the well bore and the respective boundary is 10 degrees or less; or 2) If Industry standard methods and equipment are not utilized. Consult the applicable field order for exceptions.

If measurement inaccuracies are required to be considered, a 2° MWD measurement inaccuracy will be applied to the horizontal portion of the well bore. This measurement inaccuracy is applied to the well bore from KOP to TD.

REQUIRED ATTACHMENTS: Certified surveyor's plat, horizontal section plat, estimated geological tops, proposed mud/cementing plan, directional plot/plan, \$100 fee.

See Page 2 for Comments section and signature block.

COMMENTS, ADDITIONAL INFORMATION, AND/OR LIST OF ATTACHMENTS

Lateral 2

KOP Lateral 2 Feet MD	Azimuth Lateral 2 °	Estimated Total Depth Lateral 2 Feet MD Feet TVD			KOP Coordinates From Well Head From WH From WH		
Formation Entry Point Coordinates From Well Head From WH			Bottom Hole Coordinates From Well Head From WH			From WH	
KOP Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				
Bottom Hole Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				

Lateral 3

KOP Lateral 3 Feet MD	Azimuth Lateral 3 °	Estimated Total Depth Lateral 3 Feet MD Feet TVD			KOP Coordinates From Well Head From WH From WH		
Formation Entry Point Coordinates From Well Head From WH			Bottom Hole Coordinates From Well Head From WH			From WH	
KOP Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				
Bottom Hole Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				

Lateral 4

KOP Lateral 4 Feet MD	Azimuth Lateral 4 °	Estimated Total Depth Lateral 4 Feet MD Feet TVD			KOP Coordinates From Well Head From WH From WH		
Formation Entry Point Coordinates From Well Head From WH			Bottom Hole Coordinates From Well Head From WH			From WH	
KOP Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				
Bottom Hole Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				

Lateral 5

KOP Lateral 5 Feet MD	Azimuth Lateral 5 °	Estimated Total Depth Lateral 5 Feet MD Feet TVD			KOP Coordinates From Well Head From WH From WH		
Formation Entry Point Coordinates From Well Head From WH			Bottom Hole Coordinates From Well Head From WH			From WH	
KOP Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				
Bottom Hole Footages From Nearest Section Line F L			Qtr-Qtr	Section	Township N	Range W	County
F	L	F	L				

I hereby swear or affirm the information provided is true, complete and correct as determined from all available records.

Date

6 / 12 / 2012

ePermit

Printed Name
Terry L. Olson

Title

Regulatory Compliance Specialist**FOR STATE USE ONLY**

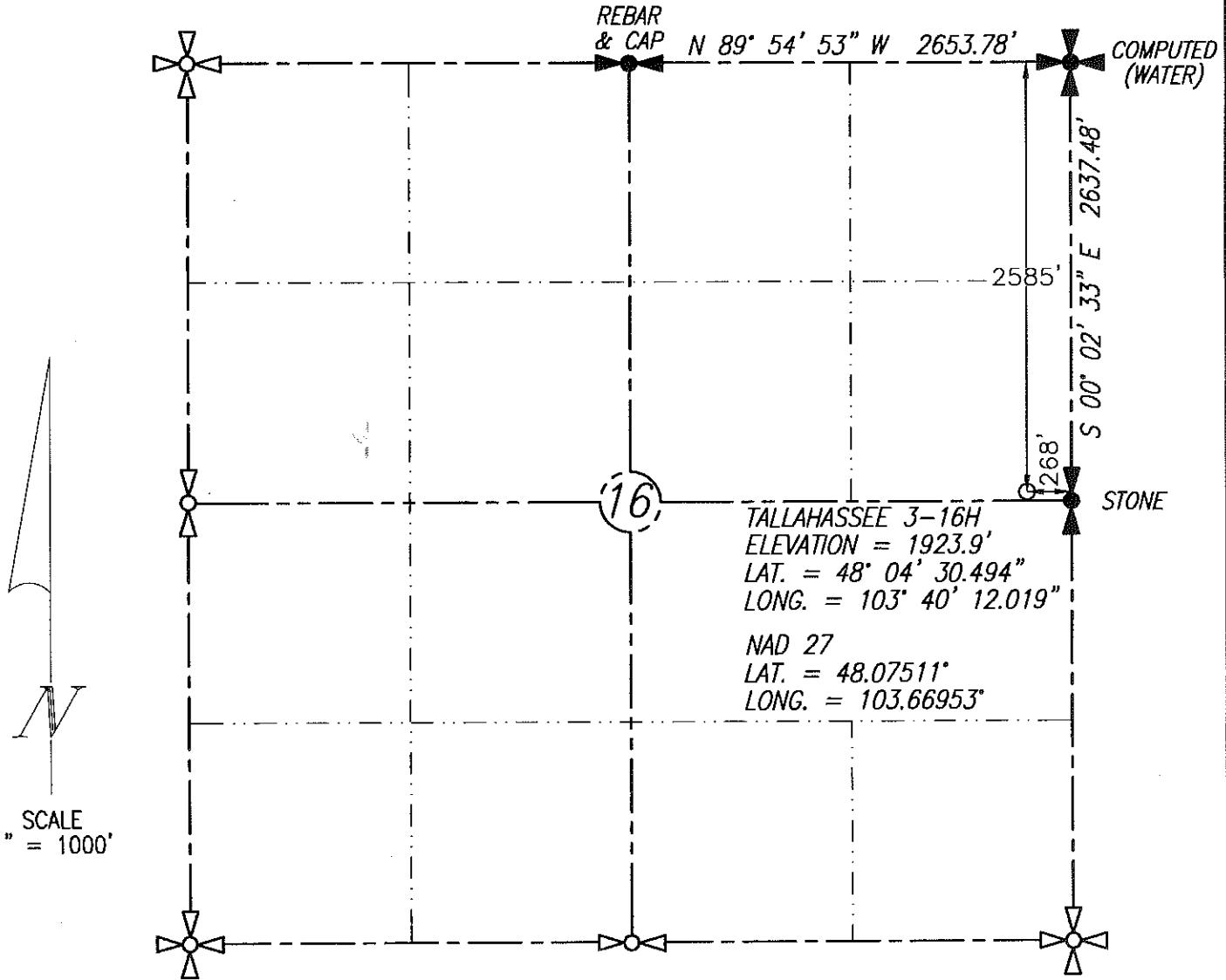
Permit and File Number 25157	API Number 33 - 053 - 04853
Field BAKER	
Pool BAKKEN	Permit Type DEVELOPMENT

FOR STATE USE ONLY

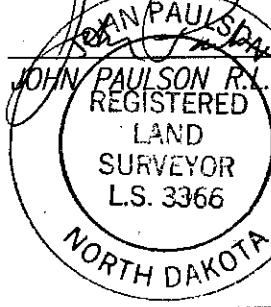
Date Approved 3 / 11 / 2013
By David Tabor
Title Engineering Technician IV

WELL LOCATION PLAT
CONTINENTAL RESOURCES INC.
TALLAHASSEE 3-16H
SECTION 16, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA
2585' FNL & 268' FEL

REVISED: 4-16-2012



I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS
WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE
CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF
MY KNOWLEDGE AND BELIEF



4-16-12

JOHN PAULSON
REGISTERED
LAND
SURVEYOR
L.S. 3366

DATE STAKED: 1-4-2012
BASIS OF VERTICAL DATUM:
NAVD 1988 GEODETIC 09

PERSON AUTHORIZING SURVEY;
CHAD NEWBY

EXPLANATION AREA: NAD83(CORS96)

BASIS OF BEARING: TRUE NORTH

BROSZ ENGINEERING INC.

BOX 357
BOWMAN, N.D. 58623
PHONE: 701-523-3340
FAX: 701-523-5243

PROJECT NO. 12-10

GEOLOGIC PROGNOSIS

Well Name: Tallahassee 3-16H **SHL:** 2585' FNL & 268' FEL
Rig: Cyclone 20 Sec. 16 - 153N - 101W
Prospect: Williston McKenzie , ND
Target: Three Forks
Spacing: 1280 **BHL:** 200' FSL & 1320' FEL
Sec. 21 - 153N - 101W
McKenzie , ND

Pre-Staked
 Staked

Rig Grade Elevation: 1920'
KB: 21'
RKB: 1941'

FORMATION	SUBSEA	TVD
Pierre Shale	100	1,841
Greenhorn	-2,484	4,425
Dakota Group (fka Mowry)	-2,885	4,826
Base of Dakota Sand	-3,764	5,705
Dunham Salt Top	-4,792	6,733
Dunham Salt Base	-4,852	6,793
Pine Salt Top	-5,162	7,103
Pine Salt Base	-5,218	7,159
Minnekahta	-5,244	7,185
Opeche Salt Top	NA	
Opeche Salt Base	NA	
Minnelusa Group	-5,530	7,471
Tyler	-5,686	7,627
Kibbey	-6,238	8,179
Top Charles	-6,392	8,333
Base Last Charles Salt	-7,090	9,031
Mission Canyon	-7,314	9,255
Lodgepole	-7,880	9,821
Upper Bakken Shale	-8,570	10,511
Middle Bakken Member	-8,587	10,528
Lower Bakken Shale	-8,629	10,570
Three Forks	-8,646	10,587
Three Forks Target	-8,666	10,607
End of Lateral	-8,691	10,632

==>

20' into 3forks

25' Higher

DRILLING PROGRAM

06/08/12

Lease and Well No.

Tallahassee 3-16H

MUD PROGRAM

Depth	Type	Weight	Remarks
0' - 1940'	Fresh water	8.4-8.8	Add Soap Sticks for Mud Rings
1940' - 6500'	Invert	9.3-9.5	35-50 sec, 10-30 cc's
6500' - 10857'	Invert	9.6-10.0	40-55 sec, 10-15 cc's O/W 70/30 to 80/20
10857' - 18535'	Brine	8.7-10.0	Cuttings pit

TUBULAR PROGRAM

String Type	Hole Size	Depth	Feet	Casing Diameter	Weight, Grade, Connection	ERW/ Seamless	Critical Inspection
Surf	13 1/2 "	1940'	1940'	9 5/8 "	9-5/8", 36 #, J-55, STC	ERW	BCI & Drift
Float shoe, shoe joint & float collar. Centralize bottom 3 its and every 4th jt to surface.							
Int	8 3/4 "	80'	80'	7 "	7", 32#, P-110 IC, LTC	ERW	BCI & Drift
		4000'	3920'	7 "	7", 26#, P-110 IC, LTC	ERW	BCI & Drift
		8130'	4130'	7 "	7", 29#, P-110 IC, LTC	ERW	BCI & Drift
		9230'	1100'	7 "	7", 32#, P-110 IC, LTC	ERW	BCI & Drift
		10857'	1627'	7 "	7", 29#, P-110 IC, LTC	ERW	BCI & Drift
Float shoe, shoe joint & float collar. Centralize bottom 3 joints. Centralize thru curve and across all salts.							
Liner	6 "	18535'	8369'	4 1/2 "	4-1/2", 11.6 #, P-110, BTC		
Tubing		10170'	10170'	2 7/8 "	2-7/8", 6.5 #, L-80, EUE		

Notes: Pipe to end up in hole from top to bottom as shown.

CEMENT PROGRAM

String Type	SHOE/DV Depth	Stage Lead/Tail	Cement Bottom	Cement Top	No Sacks	Cement System	Cement Yield	Cement Weight
		Lead	1360'	0'	431	35/65 Poz/Class "C", 3% CaCl, 12% gel	2.39	12
Surf	1940	Tail	1940'	1360'	301	Class "C", 2% CaCl	1.46	14.3
(Basis: Gauge hole + 55% excess, tail 30% of length, lead to surface.)								
Int	10857	Lead	7830'	0'	473	35/65 Poz/Class "C", 3% KCl, 5#/sk Silica	3.21	11.3
		Tail	10857'	7830'	386	Class "G", 3% KCl, 35% Silica	1.59	15.6
(Basis: Gauge hole + 35% excess, Tail to 500 ft above top of Charles Salt, Lead to Surface)								

BOP PROGRAM

Hole Size	Configuration	Pressure Rating	BOP Test Press	Casing Test Press
13 1/2 "	Circulate Conductor			
8 3/4 "	RRA	5M	5000	
6 "	RRA	5M	5000	
Utilize commercial testers every 30 days.				

LOGGING PROGRAM

FROM	TO	TOOLS
BLS	TD	2 man mud logger trailer, 30 ft samples
Surf csg	TD	MWD Surveys, 90 ft & 30 ft thru curve
KOP	TD	MWD Gamma Ray
Surface	DDO	CBL, CCL, Gr

Remarks: 4 1/2 inch Liner to be run. Liner Top @ KOP (10166 ft TVD) and 29 swell packers to be run with liner.
Liner top to be tested successfully to 4500 psi prior to rigging down.
Casing Caliper to be run to determine if a frac string is needed.

Prepared By:

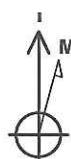
Pat McCollom

Date:

04/17/12

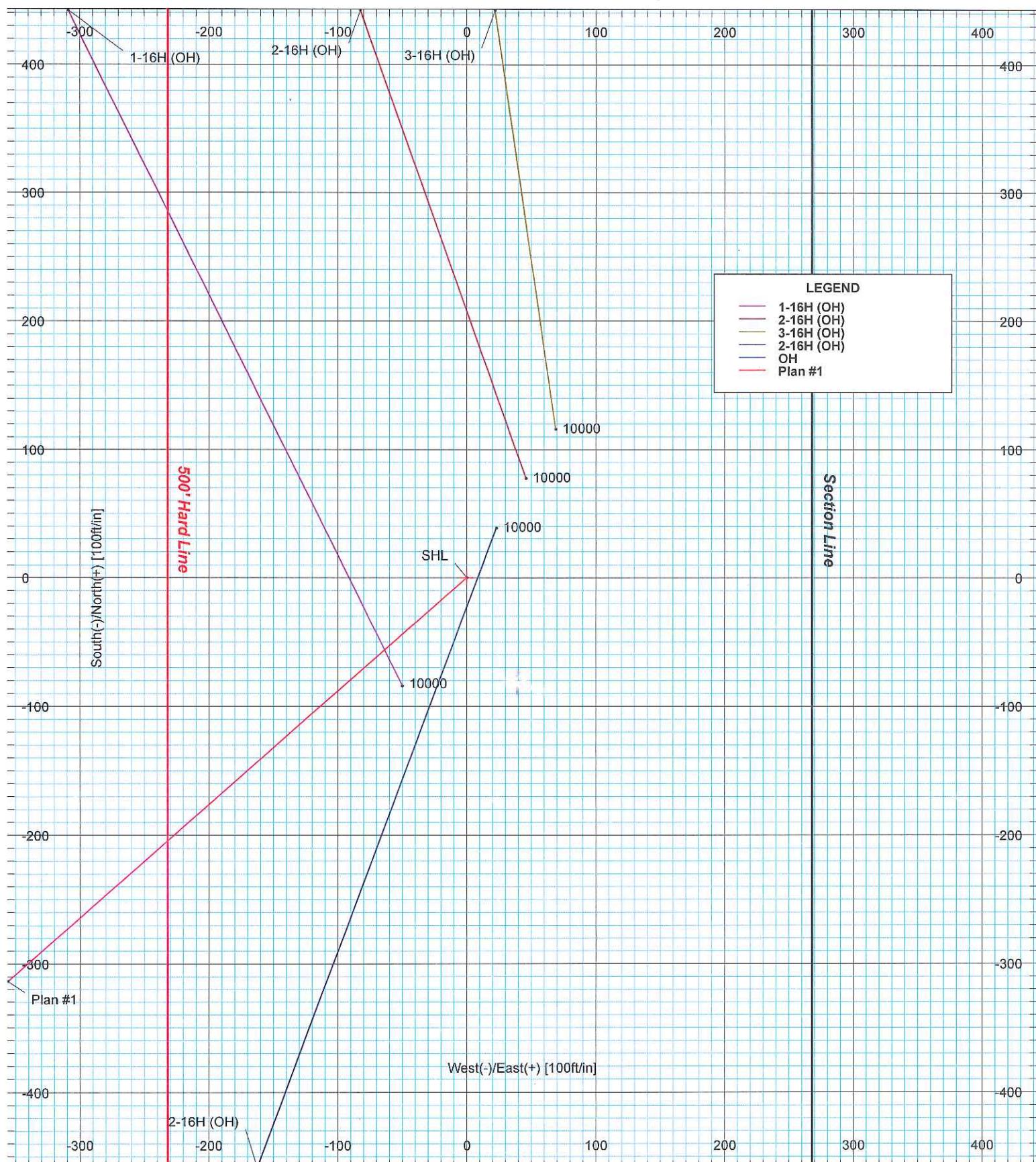
Continental Resources

Field: McKenzie County, ND
 Site: Tallahassee 3
 Well: 3-16H
 Wellpath: OH
 Plan: Plan #1



Azimuths to True North
 Magnetic North: 8.65°
 Magnetic Field
 Strength: 56675nT
 Dip Angle: 73.09°
 Date: 04/19/2012
 Model: IGRF2010


Continental
 RESOURCES



LEAM DRILLING SYSTEMS, INC.
 2010 East Davis Conroe, Texas 77301
 Phone: 936-756-7577 Fax: 936-756-7595

Created By: Justin Andoe Date: 04/23/2012
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____



To: Todd Holweger, NDIC
From: Shawn Svob
Date: 4/5/2012
Re: Continental Resources standard CCL, CBL, 4-1/2" liner running and testing procedures

Continental Resources' standard practice for running the cement bond log and casing caliper log is to run both logs immediately after coming out of the hole after TD, prior to running the 4-1/2" liner, to the deepest depth obtainable; however, if there are well control concerns that require us to run the liner sooner, only the CBL will be run and the CCL will be run after setting the liner.

Based on the CCL results, we determine the actual API minimum burst allowance for the 7" casing. If the downgraded API burst pressure is below our minimum required frac pressures, we will run a 4-1/2" frac string; if severe wear or holes are found in the casing, we will run a 5" cemented, to surface, tie back string.

The CBL log is run in order to determine the top of cement, as required by the NDIC. Our current 4-1/2" liner program for a 1280 unit is 30, evenly spaced, stages with 29 swellable packers. The liner shoe is set approximately 180 feet off bottom. The shoe stage below the last packer has 2 joints, a double valved float, one joint, and a ported guide shoe – appx 130 ft. The liner is run using a running tool on the end of 4" DP. The 7" packer/hanger is set about 40 ft above KOP between two casing collars but conditions occasionally occur that require setting higher, either through unexpected failure or in order to isolate casing wear close to KOP. Recently we have tried 40 stage liners and the trend to explore the optimum stage count will continue.. Once the liner is at depth, a ball is dropped through the DP, the ball is pressured up against the setting tool to approximately 2500 psi, and the 7" packer/hanger is set.

A push pull test is done to confirm the hanger has set. Then, a 4500 psi pressure test is completed on the back side of the 4" DP to confirm the packer has set. The setting tool is then backed off and the 4" DP/running tool is laid down.

Immediately after the rotary rig has been moved off the well location, the 7" csg and liner packer/ hanger are tested to the frac pressure. The testers will rig up and test the tubing head to 5000 psi. Next a test plug will be run and set, using wire line, in the top of the 7" packer/hanger. Testers will pressure up to our frac pressure, typically 8500 psi, to confirm the 7" is ready for completion.

Shawn Svob
Drilling Operations Coordinator

CONTINENTAL RESOURCES

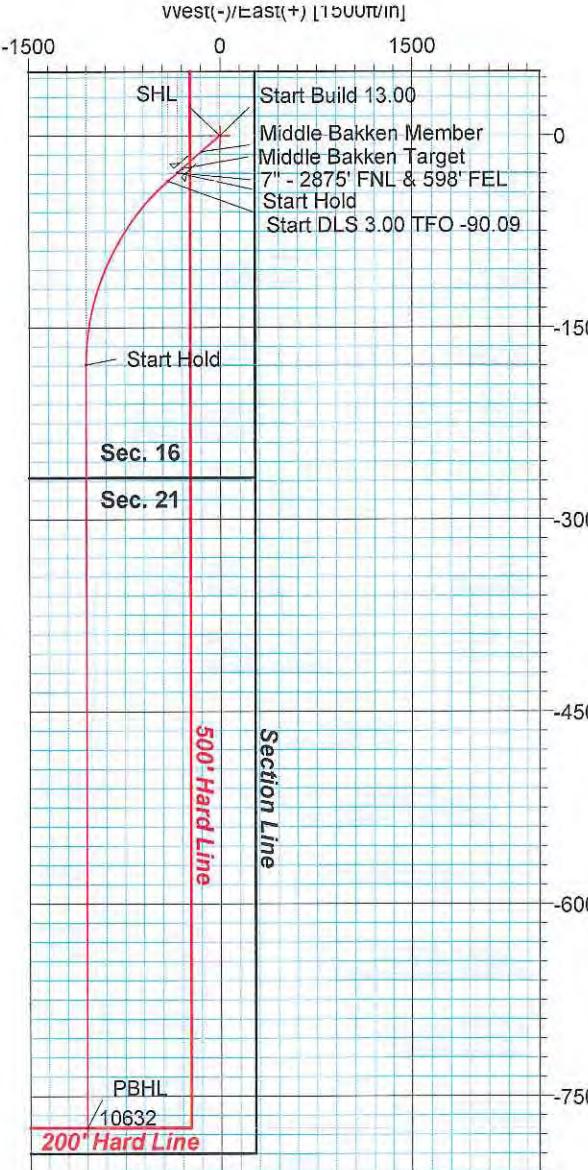
Field: McKenzie County, ND
 Site: Tallahassee 3
 Well: 3-16H
 Wellpath: OH
 Plan: Plan #1

SITE DETAILS

Tallahassee 3
 Sec. 16 - T153N R-101W
 SHL 2585' FNL & 268' FEL
 PBHL 200' FSL & 1320' FEL of Sec. 21
 Latitude: 48°04'30.494N
 Longitude: 103°40'12.019W
 Ground Level: 1920.00
 KB: 21.00



Azimuths to True North
 Magnetic North: 8.65°
 Magnetic Field Strength: 56675nT
 Dip Angle: 73.09°
 Date: 04/19/2012
 Model: IGRF2010



TARGET DETAILS

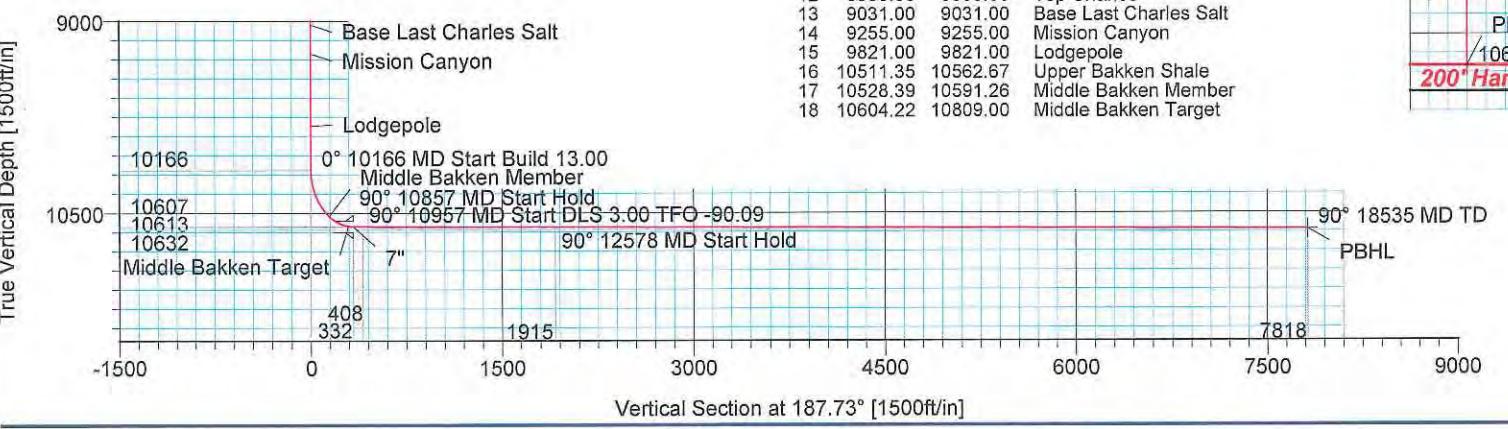
Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude	Shape
SHL	0.00	0.00	0.00	408124.35	1193775.66	48°04'30.494N	103°40'12.019W	Point
PBHL	10632.00	-7747.00	-1052.00	400427.21	1192405.69	48°03'14.039N	103°40'27.505W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	
2	10166.27	0.00	0.00	10166.27	0.00	0.00	0.00	0.00	-0.00	
3	10857.19	89.82	228.62	10607.00	-290.44	-329.66	13.00	228.62	332.14	
4	10957.19	89.82	228.62	10607.32	-356.55	-404.69	0.00	0.00	407.74	
5	12577.81	89.82	180.00	10612.81	-1789.55	-1052.00	3.00	-90.09	1914.79	
6	18535.29	89.82	180.00	10632.00	-7747.00	-1052.00	0.00	0.00	7818.10	PBHL

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	1841.00	1841.00	Pierre Shale
2	4425.00	4425.00	Greenhorn
3	4826.00	4826.00	Dakota Group
4	5705.00	5705.00	Base of Dakota Sand
5	6733.00	6733.00	Dunham Salt Top
6	6793.00	6793.00	Dunham Salt Base
7	7103.00	7103.00	Pine Salt Top
8	7159.00	7159.00	Pine Salt Base
9	7185.00	7185.00	Minnekahta
10	7471.00	7471.00	Minnelusa Group
11	8179.00	8179.00	Kibbey
12	8333.00	8333.00	Top Charles
13	9031.00	9031.00	Base Last Charles Salt
14	9255.00	9255.00	Mission Canyon
15	9821.00	9821.00	Lodgepole
16	10511.35	10562.67	Upper Bakken Shale
17	10528.39	10591.26	Middle Bakken Member
18	10604.22	10809.00	Middle Bakken Target



LEAM DRILLING SYSTEMS, INC.
 2010 East Davis, Conroe, Texas 77301
 Phone: 281 756 7577 Fax: 281 756 7505

Plan: Plan #1 (3-16H/OH)
 Created By: Justin Andos Date: 04/23/2012
 Checked: _____ Date: _____
 Reviewed: _____ Date: _____

LEAM Drilling Systems, Inc.

Planning Report

Company: Continental Resources
Field: McKenzie County, ND
Site: Tallahassee 3
Well: 3-16H
Wellpath: OH

Date: 04/23/2012 **Time:** 17:16:30 **Page:** 1
Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0
Section (VS) Reference: Well (0.00N,0.00E,187.73Az)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Field: McKenzie County, ND

Map System: US State Plane Coordinate System 1983
Geo Datum: GRS 1980
Sys Datum: Mean Sea Level

Map Zone: North Dakota, Northern Zone
Coordinate System: Well Centre
Geomagnetic Model: IGRF2010

Site: Tallahassee 3
Sec. 16 - T153N R-101W
2585' FNL & 268' FEI
Site Position: Northing: 408124.35 ft
From: Geographic Easting: 1193775.66 ft
Position Uncertainty: 0.00 ft
Ground Level: 1920.00 ft

Latitude: 48 4 30.494 N
Longitude: 103 40 12.019 W
North Reference: True
Grid Convergence: -2.36 deg

Well: 3-16H

Slot Name:

Well Position: +N/S 0.00 ft Northing: 408124.35 ft Latitude: 48 4 30.494 N
+E/-W 0.00 ft Easting: 1193775.66 ft Longitude: 103 40 12.019 W
Position Uncertainty: 0.00 ft

Wellpath: OH

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 8.65 deg
Mag Dip Angle: 73.09 deg
+E/-W ft **Direction** deg
ft

Current Datum: GL 1920+KB 41
Magnetic Data: 04/19/2012
Field Strength: 56675 nT
Vertical Section: Depth From (TVD)

Height 1941.00 ft
ft

0.00 0.00 187.73

Plan: Plan #1

Date Composed: 04/23/2012

Principal: Yes

Version: 1

Tied-to: User Defined

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/S ft	+E/W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10166.27	0.00	0.00	10166.27	0.00	0.00	0.00	0.00	0.00	0.00	
10857.19	89.82	228.62	10607.00	-290.44	-329.66	13.00	13.00	0.00	228.62	
10957.19	89.82	228.62	10607.32	-356.55	-404.69	0.00	0.00	0.00	0.00	
12577.81	89.82	180.00	10612.81	-1789.55	-1052.00	3.00	0.00	-3.00	-90.09	
18535.29	89.82	180.00	10632.00	-7747.00	-1052.00	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Comment
10166.27	0.00	0.00	10166.27	0.00	0.00	-0.00	0.00	0.00	0.00	
10175.00	1.13	228.62	10175.00	-0.06	-0.06	0.07	13.00	13.00	0.00	
10200.00	4.38	228.62	10199.97	-0.85	-0.97	0.98	13.00	13.00	0.00	
10225.00	7.63	228.62	10224.83	-2.58	-2.93	2.95	13.00	13.00	0.00	
10250.00	10.88	228.62	10249.50	-5.24	-5.95	5.99	13.00	13.00	0.00	
10275.00	14.13	228.62	10273.90	-8.82	-10.01	10.09	13.00	13.00	0.00	
10300.00	17.38	228.62	10297.96	-13.31	-15.11	15.22	13.00	13.00	0.00	
10325.00	20.63	228.62	10321.59	-18.69	-21.22	21.38	13.00	13.00	0.00	
10350.00	23.88	228.62	10344.72	-24.95	-28.32	28.53	13.00	13.00	0.00	
10375.00	27.13	228.62	10367.28	-32.07	-36.40	36.67	13.00	13.00	0.00	
10400.00	30.38	228.62	10389.20	-40.02	-45.42	45.76	13.00	13.00	0.00	
10425.00	33.63	228.62	10410.39	-48.78	-55.36	55.78	13.00	13.00	0.00	
10450.00	36.88	228.62	10430.80	-58.32	-66.19	66.69	13.00	13.00	0.00	
10475.00	40.13	228.62	10450.36	-68.61	-77.87	78.46	13.00	13.00	0.00	
10500.00	43.38	228.62	10469.01	-79.61	-90.36	91.04	13.00	13.00	0.00	

LEAM Drilling Systems, Inc.

Planning Report

Company: Continental Resources
Field: McKenzie County, ND
Site: Tallahassee 3
Well: 3-16H
Wellpath: OH

Date: 04/23/2012 **Time:** 17:16:30 **Page:** 2
Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0
Section (VS) Reference: Well (0.00N, 0.00E, 187.73Az)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Comment
10525.00	46.63	228.62	10486.68	-91.30	-103.63	104.41	13.00	13.00	0.00	
10550.00	49.88	228.62	10503.32	-103.63	-117.62	118.51	13.00	13.00	0.00	
10562.67	51.53	228.62	10511.35	-110.11	-124.98	125.92	13.00	13.00	0.00	Upper Bakken Shale
10575.00	53.13	228.62	10518.88	-116.56	-132.30	133.30	13.00	13.00	0.00	
10591.26	55.25	228.62	10528.39	-125.28	-142.19	143.27	13.00	13.00	0.00	Middle Bakken Member
10600.00	56.38	228.62	10533.30	-130.06	-147.62	148.73	13.00	13.00	0.00	
10625.00	59.63	228.62	10546.55	-144.07	-163.53	164.76	13.00	13.00	0.00	
10650.00	62.88	228.62	10558.57	-158.56	-179.97	181.33	13.00	13.00	0.00	
10675.00	66.13	228.62	10569.32	-173.48	-196.90	198.39	13.00	13.00	0.00	
10700.00	69.38	228.62	10578.78	-188.77	-214.26	215.88	13.00	13.00	0.00	
10725.00	72.63	228.62	10586.92	-204.40	-232.00	233.75	13.00	13.00	0.00	
10750.00	75.88	228.62	10593.70	-220.30	-250.05	251.93	13.00	13.00	0.00	
10775.00	79.13	228.62	10599.11	-236.44	-268.36	270.38	13.00	13.00	0.00	
10800.00	82.38	228.62	10603.12	-252.75	-286.87	289.04	13.00	13.00	0.00	
10809.00	83.55	228.62	10604.22	-258.65	-293.57	295.79	13.00	13.00	0.00	Middle Bakken Target
10825.00	85.63	228.62	10605.73	-269.18	-305.53	307.83	13.00	13.00	0.00	
10850.00	88.88	228.62	10606.92	-285.69	-324.26	326.71	13.00	13.00	0.00	
10857.19	89.82	228.62	10607.00	-290.44	-329.66	332.14	13.00	13.00	0.00	7" - 2875' FNL & 598
10900.00	89.82	228.62	10607.14	-318.74	-361.78	364.50	0.00	0.00	0.00	
10957.19	89.82	228.62	10607.32	-356.55	-404.69	407.74	0.00	0.00	0.00	
11000.00	89.82	227.33	10607.45	-385.20	-436.49	440.41	3.00	0.00	-3.00	
11100.00	89.81	224.33	10607.78	-454.87	-508.21	519.09	3.00	0.00	-3.00	
11200.00	89.81	221.33	10608.10	-528.19	-576.19	600.89	3.00	0.00	-3.00	
11300.00	89.81	218.33	10608.44	-604.97	-640.24	685.59	3.00	0.00	-3.00	
11400.00	89.80	215.33	10608.78	-685.00	-700.19	772.95	3.00	0.00	-3.00	
11500.00	89.80	212.33	10609.12	-768.05	-755.86	862.74	3.00	0.00	-3.00	
11600.00	89.80	209.33	10609.46	-853.91	-807.11	954.71	3.00	0.00	-3.00	
11700.00	89.80	206.33	10609.81	-942.33	-853.80	1048.61	3.00	0.00	-3.00	
11800.00	89.80	203.33	10610.16	-1033.07	-895.79	1144.17	3.00	0.00	-3.00	
11900.00	89.80	200.33	10610.51	-1125.89	-932.98	1241.15	3.00	0.00	-3.00	
12000.00	89.80	197.33	10610.86	-1220.52	-965.26	1339.26	3.00	0.00	-3.00	
12100.00	89.80	194.33	10611.20	-1316.71	-992.54	1438.25	3.00	0.00	-3.00	
12200.00	89.80	191.33	10611.55	-1414.20	-1014.75	1537.84	3.00	0.00	-3.00	
12300.00	89.81	188.33	10611.89	-1512.72	-1031.83	1637.76	3.00	0.00	-3.00	
12400.00	89.81	185.33	10612.23	-1612.00	-1043.73	1737.74	3.00	0.00	-3.00	
12500.00	89.81	182.33	10612.56	-1711.76	-1050.41	1837.50	3.00	0.00	-3.00	
12577.81	89.82	180.00	10612.81	-1789.55	-1052.00	1914.79	3.00	0.00	-3.00	
12600.00	89.82	180.00	10612.88	-1811.74	-1052.00	1936.78	0.00	0.00	0.00	
12700.00	89.82	180.00	10613.20	-1911.74	-1052.00	2035.87	0.00	0.00	0.00	
12800.00	89.82	180.00	10613.52	-2011.74	-1052.00	2134.96	0.00	0.00	0.00	
12900.00	89.82	180.00	10613.85	-2111.74	-1052.00	2234.05	0.00	0.00	0.00	
13000.00	89.82	180.00	10614.17	-2211.74	-1052.00	2333.14	0.00	0.00	0.00	
13100.00	89.82	180.00	10614.49	-2311.74	-1052.00	2432.23	0.00	0.00	0.00	
13200.00	89.82	180.00	10614.81	-2411.74	-1052.00	2531.32	0.00	0.00	0.00	
13300.00	89.82	180.00	10615.13	-2511.74	-1052.00	2630.41	0.00	0.00	0.00	
13400.00	89.82	180.00	10615.46	-2611.74	-1052.00	2729.50	0.00	0.00	0.00	
13500.00	89.82	180.00	10615.78	-2711.74	-1052.00	2828.60	0.00	0.00	0.00	
13600.00	89.82	180.00	10616.10	-2811.74	-1052.00	2927.69	0.00	0.00	0.00	
13700.00	89.82	180.00	10616.42	-2911.74	-1052.00	3026.78	0.00	0.00	0.00	
13800.00	89.82	180.00	10616.75	-3011.74	-1052.00	3125.87	0.00	0.00	0.00	
13900.00	89.82	180.00	10617.07	-3111.74	-1052.00	3224.96	0.00	0.00	0.00	
14000.00	89.82	180.00	10617.39	-3211.74	-1052.00	3324.05	0.00	0.00	0.00	
14100.00	89.82	180.00	10617.71	-3311.73	-1052.00	3423.14	0.00	0.00	0.00	

LEAM Drilling Systems, Inc.

Planning Report

Company: Continental Resources
Field: McKenzie County, ND
Site: Tallahassee 3
Well: 3-16H
Wellpath: OH

Date: 04/23/2012

Time: 17:16:30

Page:

3

Co-ordinate(NE) Reference: Well: 3-16H, True North
X: 11, Y: 17162, Z: 6

Vertical (TVD) Reference: GL 1920+KB 41 1941.0
Section (VS) Reference: Wall (0.00N 0.00E 127.3)

Section (VS) Reference: Well (0.00N,0.00E,187.73Azi)
Survey Calculation Method: Minimum Curvature Dih

Survey Calculation Method: Minimum Curvature

W **VS** **DLS** **Build** **Turn**

Comment

Survey

MD ft	Incl. deg	Azim. deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Comment
14200.00	89.82	180.00	10618.03	-3411.73	-1052.00	3522.23	0.00	0.00	0.00	
14300.00	89.82	180.00	10618.36	-3511.73	-1052.00	3621.32	0.00	0.00	0.00	
14400.00	89.82	180.00	10618.68	-3611.73	-1052.00	3720.41	0.00	0.00	0.00	
14500.00	89.82	180.00	10619.00	-3711.73	-1052.00	3819.50	0.00	0.00	0.00	
14600.00	89.82	180.00	10619.32	-3811.73	-1052.00	3918.59	0.00	0.00	0.00	
14700.00	89.82	180.00	10619.64	-3911.73	-1052.00	4017.68	0.00	0.00	0.00	
14800.00	89.82	180.00	10619.97	-4011.73	-1052.00	4116.78	0.00	0.00	0.00	
14900.00	89.82	180.00	10620.29	-4111.73	-1052.00	4215.87	0.00	0.00	0.00	
15000.00	89.82	180.00	10620.61	-4211.73	-1052.00	4314.96	0.00	0.00	0.00	
15100.00	89.82	180.00	10620.93	-4311.73	-1052.00	4414.05	0.00	0.00	0.00	
15200.00	89.82	180.00	10621.26	-4411.73	-1052.00	4513.14	0.00	0.00	0.00	
15300.00	89.82	180.00	10621.58	-4511.73	-1052.00	4612.23	0.00	0.00	0.00	
15400.00	89.82	180.00	10621.90	-4611.73	-1052.00	4711.32	0.00	0.00	0.00	
15500.00	89.82	180.00	10622.22	-4711.73	-1052.00	4810.41	0.00	0.00	0.00	
15600.00	89.82	180.00	10622.54	-4811.73	-1052.00	4909.50	0.00	0.00	0.00	
15700.00	89.82	180.00	10622.87	-4911.73	-1052.00	5008.59	0.00	0.00	0.00	
15800.00	89.82	180.00	10623.19	-5011.73	-1052.00	5107.68	0.00	0.00	0.00	
15900.00	89.82	180.00	10623.51	-5111.73	-1052.00	5206.77	0.00	0.00	0.00	
16000.00	89.82	180.00	10623.83	-5211.72	-1052.00	5305.86	0.00	0.00	0.00	
16100.00	89.82	180.00	10624.15	-5311.72	-1052.00	5404.96	0.00	0.00	0.00	
16200.00	89.82	180.00	10624.48	-5411.72	-1052.00	5504.05	0.00	0.00	0.00	
16300.00	89.82	180.00	10624.80	-5511.72	-1052.00	5603.14	0.00	0.00	0.00	
16400.00	89.82	180.00	10625.12	-5611.72	-1052.00	5702.23	0.00	0.00	0.00	
16500.00	89.82	180.00	10625.44	-5711.72	-1052.00	5801.32	0.00	0.00	0.00	
16600.00	89.82	180.00	10625.77	-5811.72	-1052.00	5900.41	0.00	0.00	0.00	
16700.00	89.82	180.00	10626.09	-5911.72	-1052.00	5999.50	0.00	0.00	0.00	
16800.00	89.82	180.00	10626.41	-6011.72	-1052.00	6098.59	0.00	0.00	0.00	
16900.00	89.82	180.00	10626.73	-6111.72	-1052.00	6197.68	0.00	0.00	0.00	
17000.00	89.82	180.00	10627.05	-6211.72	-1052.00	6296.77	0.00	0.00	0.00	
17100.00	89.82	180.00	10627.38	-6311.72	-1052.00	6395.86	0.00	0.00	0.00	
17200.00	89.82	180.00	10627.70	-6411.72	-1052.00	6494.95	0.00	0.00	0.00	
17300.00	89.82	180.00	10628.02	-6511.72	-1052.00	6594.04	0.00	0.00	0.00	
17400.00	89.82	180.00	10628.34	-6611.72	-1052.00	6693.14	0.00	0.00	0.00	
17500.00	89.82	180.00	10628.66	-6711.72	-1052.00	6792.23	0.00	0.00	0.00	
17600.00	89.82	180.00	10628.99	-6811.72	-1052.00	6891.32	0.00	0.00	0.00	
17700.00	89.82	180.00	10629.31	-6911.72	-1052.00	6990.41	0.00	0.00	0.00	
17800.00	89.82	180.00	10629.63	-7011.72	-1052.00	7089.50	0.00	0.00	0.00	
17900.00	89.82	180.00	10629.95	-7111.72	-1052.00	7188.59	0.00	0.00	0.00	
18000.00	89.82	180.00	10630.28	-7211.71	-1052.00	7287.68	0.00	0.00	0.00	
18100.00	89.82	180.00	10630.60	-7311.71	-1052.00	7386.77	0.00	0.00	0.00	
18200.00	89.82	180.00	10630.92	-7411.71	-1052.00	7485.86	0.00	0.00	0.00	
18300.00	89.82	180.00	10631.24	-7511.71	-1052.00	7584.95	0.00	0.00	0.00	
18400.00	89.82	180.00	10631.56	-7611.71	-1052.00	7684.04	0.00	0.00	0.00	
18500.00	89.82	180.00	10631.89	-7711.71	-1052.00	7783.13	0.00	0.00	0.00	
18535.29	89.82	180.00	10632.00	-7747.00	-1052.00	7818.10	0.00	0.00	0.00	

Targets

Name	Description	TVD	+N-S	+E-W	Map Northing	Map Easting	<---- Deg	Latitude Min	---->	<---- Deg	Longitude Min	---->
	Dip.	Dir.					Deg	Sec		Deg	Sec	

LEAM Drilling Systems, Inc.

Planning Report

Company: Continental Resources
Field: McKenzie County, ND
Site: Tallahassee 3
Well: 3-16H
Wellpath: OH

Date: 04/23/2012 **Time:** 17:16:30 **Page:** 4
Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0
Section (VS) Reference: Well (0.00N,0.00E,187.73Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
10857.19	10607.00	7.00	8.50	7"

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
1841.00	1841.00	Pierre Shale		0.00	0.00
4425.00	4425.00	Greenhorn		0.00	0.00
4826.00	4826.00	Dakota Group		0.00	0.00
5705.00	5705.00	Base of Dakota Sand		0.00	0.00
6733.00	6733.00	Dunham Salt Top		0.00	0.00
6793.00	6793.00	Dunham Salt Base		0.00	0.00
7103.00	7103.00	Pine Salt Top		0.00	0.00
7159.00	7159.00	Pine Salt Base		0.00	0.00
7185.00	7185.00	Minnekahta		0.00	0.00
7471.00	7471.00	Minnelusa Group		0.00	0.00
8179.00	8179.00	Kibbey		0.00	0.00
8333.00	8333.00	Top Charles		0.00	0.00
9031.00	9031.00	Base Last Charles Salt		0.18	180.00
9255.00	9255.00	Mission Canyon		0.18	180.00
9821.00	9821.00	Lodgepole		0.18	180.00
10562.67	10511.35	Upper Bakken Shale		0.18	180.00
10591.26	10528.39	Middle Bakken Member		0.18	180.00
10809.00	10604.22	Middle Bakken Target		0.18	180.00

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
 Field: McKenzie County, ND
 Reference Site: Tallahassee 3
 Reference Well: 3-16H
 Reference Wellpath: OH

Date: 04/23/2012 Time: 17:17:28 Page: 1
 Co-ordinate(NE) Reference: Well: 3-16H, True North
 Vertical (TVD) Reference: GL 1920+KB 41 1941.0
 Db: Adapt

NO GLOBAL SCAN: Using user defined selection & scan criteria
 Interpolation Method: MD + Stations Interval: 100.00 ft
 Depth Range: 0.00 to 18535.29 ft
 Maximum Radius: 10000.00 ft

Reference: Plan: Plan #1
 Error Model: ISCWSA Ellipse
 Scan Method: Closest Approach 3D
 Error Surface: Ellipse

Plan: Plan #1	Date Composed: 04/23/2012
Principal: Yes	Version: 1
	Tied-to: User Defined

Summary

Offset Wellpath			Reference	Offset	Ctr-Ctr	Edge	Separation	
Site	Well	Wellpath	MD	MD	Distance	Distance	Factor	Warning
Columbus Federal 1	1-16H	OH V3 Plan: Plan #2 V1	10350.00	10343.75	51.75	25.43	1.97	
Columbus Federal 2	2-16H	OH V3 Plan: Plan #1 V1	10166.27	10166.27	90.00	63.44	3.39	
Columbus Federal 3	3-16H	OH V1 Plan: Plan #1 V1	10100.00	10100.00	134.95	108.56	5.11	
Tallahassee 2	2-16H	OH V4 Plan: Plan #1 V1	10300.00	10312.48	22.68	-3.27	0.87	Level 1

Site: Columbus Federal 1

Well: 1-16H

Wellpath: OH V3 Plan: Plan #2 V1

Inter-Site Error: 0.00 ft

Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation				
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	Distance	Distance	Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	210.72	-84.00	-49.91	97.71	No Data
100.00	100.00	100.00	100.00	0.00	0.21	210.72	-84.00	-49.91	97.71	97.50 471.98
200.00	200.00	200.00	200.00	0.00	0.47	210.72	-84.00	-49.91	97.71	97.24 208.42
300.00	300.00	300.00	300.00	0.00	0.73	210.72	-84.00	-49.91	97.71	96.98 133.74
400.00	400.00	400.00	400.00	0.00	0.99	210.72	-84.00	-49.91	97.71	96.72 98.46
500.00	500.00	500.00	500.00	0.00	1.25	210.72	-84.00	-49.91	97.71	96.46 77.90
600.00	600.00	600.00	600.00	0.00	1.52	210.72	-84.00	-49.91	97.71	96.19 64.45
700.00	700.00	700.00	700.00	0.00	1.78	210.72	-84.00	-49.91	97.71	95.93 54.96
800.00	800.00	800.00	800.00	0.00	2.04	210.72	-84.00	-49.91	97.71	95.67 47.91
900.00	900.00	900.00	900.00	0.00	2.30	210.72	-84.00	-49.91	97.71	95.41 42.46
1000.00	1000.00	1000.00	1000.00	0.00	2.56	210.72	-84.00	-49.91	97.71	95.15 38.12
1100.00	1100.00	1100.00	1100.00	0.00	2.82	210.72	-84.00	-49.91	97.71	94.88 34.59
1200.00	1200.00	1200.00	1200.00	0.00	3.09	210.72	-84.00	-49.91	97.71	94.62 31.65
1300.00	1300.00	1300.00	1300.00	0.00	3.35	210.72	-84.00	-49.91	97.71	94.36 29.18
1400.00	1400.00	1400.00	1400.00	0.00	3.61	210.72	-84.00	-49.91	97.71	94.10 27.06
1500.00	1500.00	1500.00	1500.00	0.00	3.87	210.72	-84.00	-49.91	97.71	93.84 25.23
1600.00	1600.00	1600.00	1600.00	0.00	4.13	210.72	-84.00	-49.91	97.71	93.58 23.64
1700.00	1700.00	1700.00	1700.00	0.00	4.40	210.72	-84.00	-49.91	97.71	93.31 22.23
1800.00	1800.00	1800.00	1800.00	0.00	4.66	210.72	-84.00	-49.91	97.71	93.05 20.98
1900.00	1900.00	1900.00	1900.00	0.00	4.92	210.72	-84.00	-49.91	97.71	92.79 19.86
2000.00	2000.00	2000.00	2000.00	0.00	5.18	210.72	-84.00	-49.91	97.71	92.53 18.86
2100.00	2100.00	2100.00	2100.00	0.00	5.44	210.72	-84.00	-49.91	97.71	92.27 17.95
2200.00	2200.00	2200.00	2200.00	0.00	5.70	210.72	-84.00	-49.91	97.71	92.01 17.13
2300.00	2300.00	2300.00	2300.00	0.00	5.97	210.72	-84.00	-49.91	97.71	91.74 16.38
2400.00	2400.00	2400.00	2400.00	0.00	6.23	210.72	-84.00	-49.91	97.71	91.48 15.69
2500.00	2500.00	2500.00	2500.00	0.00	6.49	210.72	-84.00	-49.91	97.71	91.22 15.05
2600.00	2600.00	2600.00	2600.00	0.00	6.75	210.72	-84.00	-49.91	97.71	90.96 14.47
2700.00	2700.00	2700.00	2700.00	0.00	7.01	210.72	-84.00	-49.91	97.71	90.70 13.93
2800.00	2800.00	2800.00	2800.00	0.00	7.28	210.72	-84.00	-49.91	97.71	90.43 13.43
2900.00	2900.00	2900.00	2900.00	0.00	7.54	210.72	-84.00	-49.91	97.71	90.17 12.96
3000.00	3000.00	3000.00	3000.00	0.00	7.80	210.72	-84.00	-49.91	97.71	89.91 12.53
3100.00	3100.00	3100.00	3100.00	0.00	8.06	210.72	-84.00	-49.91	97.71	89.65 12.12
3200.00	3200.00	3200.00	3200.00	0.00	8.32	210.72	-84.00	-49.91	97.71	89.39 11.74
3300.00	3300.00	3300.00	3300.00	0.00	8.58	210.72	-84.00	-49.91	97.71	89.13 11.38
3400.00	3400.00	3400.00	3400.00	0.00	8.85	210.72	-84.00	-49.91	97.71	88.86 11.05

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources	Date:	04/23/2012	Time:	17:17:28	Page:	2					
Field:	McKenzie County, ND											
Reference Site:	Tallahassee 3											
Reference Well:	3-16H											
Reference Wellpath:	OH											
Site:	Columbus Federal 1											
Well:	1-16H											
Wellpath:	OH V3 Plan: Plan #2 V1											
						Inter-Site Error:	0.00 ft					
Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation						
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
3500.00	3500.00	3500.00	3500.00	0.00	9.11	210.72	-84.00	-49.91	97.71	88.60	10.73	
3600.00	3600.00	3600.00	3600.00	0.00	9.37	210.72	-84.00	-49.91	97.71	88.34	10.43	
3700.00	3700.00	3700.00	3700.00	0.00	9.63	210.72	-84.00	-49.91	97.71	88.08	10.14	
3800.00	3800.00	3800.00	3800.00	0.00	9.89	210.72	-84.00	-49.91	97.71	87.82	9.88	
3900.00	3900.00	3900.00	3900.00	0.00	10.16	210.72	-84.00	-49.91	97.71	87.55	9.62	
4000.00	4000.00	4000.00	4000.00	0.00	10.42	210.72	-84.00	-49.91	97.71	87.29	9.38	
4100.00	4100.00	4100.00	4100.00	0.00	10.68	210.72	-84.00	-49.91	97.71	87.03	9.15	
4200.00	4200.00	4200.00	4200.00	0.00	10.94	210.72	-84.00	-49.91	97.71	86.77	8.93	
4300.00	4300.00	4300.00	4300.00	0.00	11.20	210.72	-84.00	-49.91	97.71	86.51	8.72	
4400.00	4400.00	4400.00	4400.00	0.00	11.46	210.72	-84.00	-49.91	97.71	86.25	8.52	
4500.00	4500.00	4500.00	4500.00	0.00	11.73	210.72	-84.00	-49.91	97.71	85.98	8.33	
4600.00	4600.00	4600.00	4600.00	0.00	11.99	210.72	-84.00	-49.91	97.71	85.72	8.15	
4700.00	4700.00	4700.00	4700.00	0.00	12.25	210.72	-84.00	-49.91	97.71	85.46	7.98	
4800.00	4800.00	4800.00	4800.00	0.00	12.51	210.72	-84.00	-49.91	97.71	85.20	7.81	
4900.00	4900.00	4900.00	4900.00	0.00	12.77	210.72	-84.00	-49.91	97.71	84.94	7.65	
5000.00	5000.00	5000.00	5000.00	0.00	13.03	210.72	-84.00	-49.91	97.71	84.67	7.50	
5100.00	5100.00	5100.00	5100.00	0.00	13.30	210.72	-84.00	-49.91	97.71	84.41	7.35	
5200.00	5200.00	5200.00	5200.00	0.00	13.56	210.72	-84.00	-49.91	97.71	84.15	7.21	
5300.00	5300.00	5300.00	5300.00	0.00	13.82	210.72	-84.00	-49.91	97.71	83.89	7.07	
5400.00	5400.00	5400.00	5400.00	0.00	14.08	210.72	-84.00	-49.91	97.71	83.63	6.94	
5500.00	5500.00	5500.00	5500.00	0.00	14.34	210.72	-84.00	-49.91	97.71	83.37	6.81	
5600.00	5600.00	5600.00	5600.00	0.00	14.61	210.72	-84.00	-49.91	97.71	83.10	6.69	
5700.00	5700.00	5700.00	5700.00	0.00	14.87	210.72	-84.00	-49.91	97.71	82.84	6.57	
5800.00	5800.00	5800.00	5800.00	0.00	15.13	210.72	-84.00	-49.91	97.71	82.58	6.46	
5900.00	5900.00	5900.00	5900.00	0.00	15.39	210.72	-84.00	-49.91	97.71	82.32	6.35	
6000.00	6000.00	6000.00	6000.00	0.00	15.65	210.72	-84.00	-49.91	97.71	82.06	6.24	
6100.00	6100.00	6100.00	6100.00	0.00	15.91	210.72	-84.00	-49.91	97.71	81.79	6.14	
6200.00	6200.00	6200.00	6200.00	0.00	16.18	210.72	-84.00	-49.91	97.71	81.53	6.04	
6300.00	6300.00	6300.00	6300.00	0.00	16.44	210.72	-84.00	-49.91	97.71	81.27	5.94	
6400.00	6400.00	6400.00	6400.00	0.00	16.70	210.72	-84.00	-49.91	97.71	81.01	5.85	
6500.00	6500.00	6500.00	6500.00	0.00	16.96	210.72	-84.00	-49.91	97.71	80.75	5.76	
6600.00	6600.00	6600.00	6600.00	0.00	17.22	210.72	-84.00	-49.91	97.71	80.49	5.67	
6700.00	6700.00	6700.00	6700.00	0.00	17.49	210.72	-84.00	-49.91	97.71	80.22	5.59	
6800.00	6800.00	6800.00	6800.00	0.00	17.75	210.72	-84.00	-49.91	97.71	79.96	5.51	
6900.00	6900.00	6900.00	6900.00	0.00	18.01	210.72	-84.00	-49.91	97.71	79.70	5.43	
7000.00	7000.00	7000.00	7000.00	0.00	18.27	210.72	-84.00	-49.91	97.71	79.44	5.35	
7100.00	7100.00	7100.00	7100.00	0.00	18.53	210.72	-84.00	-49.91	97.71	79.18	5.27	
7200.00	7200.00	7200.00	7200.00	0.00	18.79	210.72	-84.00	-49.91	97.71	78.92	5.20	
7300.00	7300.00	7300.00	7300.00	0.00	19.06	210.72	-84.00	-49.91	97.71	78.65	5.13	
7400.00	7400.00	7400.00	7400.00	0.00	19.32	210.72	-84.00	-49.91	97.71	78.39	5.06	
7500.00	7500.00	7500.00	7500.00	0.00	19.58	210.72	-84.00	-49.91	97.71	78.13	4.99	
7600.00	7600.00	7600.00	7600.00	0.00	19.84	210.72	-84.00	-49.91	97.71	77.87	4.92	
7700.00	7700.00	7700.00	7700.00	0.00	20.10	210.72	-84.00	-49.91	97.71	77.61	4.86	
7800.00	7800.00	7800.00	7800.00	0.00	20.37	210.72	-84.00	-49.91	97.71	77.34	4.80	
7900.00	7900.00	7900.00	7900.00	0.00	20.63	210.72	-84.00	-49.91	97.71	77.08	4.74	
8000.00	8000.00	8000.00	8000.00	0.00	20.89	210.72	-84.00	-49.91	97.71	76.82	4.68	
8100.00	8100.00	8100.00	8100.00	0.00	21.15	210.72	-84.00	-49.91	97.71	76.56	4.62	
8200.00	8200.00	8200.00	8200.00	0.00	21.41	210.72	-84.00	-49.91	97.71	76.30	4.56	
8300.00	8300.00	8300.00	8300.00	0.00	21.67	210.72	-84.00	-49.91	97.71	76.04	4.51	
8400.00	8400.00	8400.00	8400.00	0.00	21.94	210.72	-84.00	-49.91	97.71	75.77	4.45	
8500.00	8500.00	8500.00	8500.00	0.00	22.20	210.72	-84.00	-49.91	97.71	75.51	4.40	

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012			Time:	17:17:28			Page:	3
Field:	McKenzie County, ND												
Reference Site:	Tallahassee 3												
Reference Well:	3-16H												
Reference Wellpath:	OH												
Site:	Columbus Federal 1												
Well:	1-16H												
Wellpath:	OH V3 Plan: Plan #2 V1												
Reference	Offset	Semi-Major Axis							Inter-Site Error:	0.00	ft		
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	Offset Location	Ctr-Ctr	Edge	Separation	Factor	Warning	
ft	ft	ft	ft	ft	ft	deg	ft	ft	Distance	ft	ft		
8600.00	8600.00	8600.00	8600.00	0.00	22.46	210.72	-84.00	-49.91	97.71	75.25	4.35		
8700.00	8700.00	8700.00	8700.00	0.00	22.72	210.72	-84.00	-49.91	97.71	74.99	4.30		
8800.00	8800.00	8800.00	8800.00	0.00	22.98	210.72	-84.00	-49.91	97.71	74.73	4.25		
8900.00	8900.00	8900.00	8900.00	0.00	23.25	210.72	-84.00	-49.91	97.71	74.46	4.20		
9000.00	9000.00	9000.00	9000.00	0.00	23.51	210.72	-84.00	-49.91	97.71	74.20	4.16		
9100.00	9100.00	9100.00	9100.00	0.00	23.77	210.72	-84.00	-49.91	97.71	73.94	4.11		
9200.00	9200.00	9200.00	9200.00	0.00	24.03	210.72	-84.00	-49.91	97.71	73.68	4.07		
9300.00	9300.00	9300.00	9300.00	0.00	24.29	210.72	-84.00	-49.91	97.71	73.42	4.02		
9400.00	9400.00	9400.00	9400.00	0.00	24.55	210.72	-84.00	-49.91	97.71	73.16	3.98		
9500.00	9500.00	9500.00	9500.00	0.00	24.82	210.72	-84.00	-49.91	97.71	72.89	3.94		
9600.00	9600.00	9600.00	9600.00	0.00	25.08	210.72	-84.00	-49.91	97.71	72.63	3.90		
9700.00	9700.00	9700.00	9700.00	0.00	25.34	210.72	-84.00	-49.91	97.71	72.37	3.86		
9800.00	9800.00	9800.00	9800.00	0.00	25.60	210.72	-84.00	-49.91	97.71	72.11	3.82		
9900.00	9900.00	9900.00	9900.00	0.00	25.86	210.72	-84.00	-49.91	97.71	71.85	3.78		
10000.00	10000.00	10000.00	10000.00	0.00	26.12	210.72	-84.00	-49.91	97.71	71.58	3.74		
10100.00	10100.00	10100.00	10100.00	0.00	26.39	210.72	-84.00	-49.91	97.71	71.32	3.70		
10166.27	10166.27	10174.42	10174.10	0.00	26.58	213.71	-78.71	-52.52	94.95	68.44	3.58		
10175.00	10175.00	10184.05	10183.58	0.00	26.61	345.94	-77.21	-53.26	94.11	67.59	3.55		
10200.00	10199.97	10211.05	10209.94	0.00	26.68	348.88	-72.02	-55.81	90.40	63.86	3.41		
10225.00	10224.83	10236.96	10234.87	0.00	26.75	352.80	-65.68	-58.94	84.96	58.38	3.20		
10250.00	10249.50	10261.54	10258.10	0.00	26.81	358.04	-58.46	-62.49	78.12	51.45	2.93		
10275.00	10273.90	10284.60	10279.44	0.00	26.87	5.04	-50.65	-66.34	70.38	43.58	2.63		
10300.00	10297.96	10306.02	10298.84	0.00	26.93	14.22	-42.50	-70.36	62.49	35.57	2.32		
10325.00	10321.59	10325.74	10316.28	0.00	26.98	25.68	-34.26	-74.42	55.69	28.81	2.07		
10350.00	10344.72	10343.75	10331.85	0.00	27.03	38.67	-26.12	-78.43	51.75	25.43	1.97		
10375.00	10367.28	10360.10	10345.64	0.00	27.07	51.49	-18.25	-82.30	52.60	27.52	2.10		
10400.00	10389.20	10374.82	10357.78	0.00	27.11	62.42	-10.78	-85.99	59.06	35.36	2.49		
10425.00	10410.39	10388.01	10368.40	0.00	27.15	70.64	-3.78	-89.43	70.35	47.59	3.09		
10450.00	10430.80	10399.74	10377.66	0.00	27.18	76.23	2.69	-92.62	85.11	62.78	3.81		
10475.00	10450.36	10410.10	10385.67	0.00	27.20	79.57	8.58	-95.52	102.25	80.03	4.60		
10500.00	10469.01	10419.19	10392.57	0.00	27.23	81.08	13.89	-98.14	121.02	98.76	5.44		
10525.00	10486.68	10427.09	10398.47	0.00	27.25	81.08	18.60	-100.46	140.96	118.57	6.30		
10550.00	10503.32	10433.88	10403.47	0.00	27.27	79.82	22.74	-102.50	161.77	139.22	7.17		
10575.00	10518.88	10439.65	10407.65	0.00	27.29	77.46	26.29	-104.25	183.21	160.48	8.06		
10600.00	10533.30	10444.45	10411.09	0.00	27.30	74.17	29.29	-105.73	205.14	182.21	8.95		
10625.00	10546.55	10448.35	10413.86	0.00	27.31	70.08	31.76	-106.94	227.43	204.29	9.83		
10650.00	10558.57	10451.41	10416.02	0.00	27.32	65.37	33.71	-107.90	249.96	226.61	10.71		
10675.00	10569.32	10453.68	10417.61	0.00	27.32	60.24	35.16	-108.62	272.66	249.10	11.57		
10700.00	10578.78	10455.19	10418.66	0.00	27.33	54.90	36.13	-109.10	295.43	271.66	12.43		
10725.00	10586.92	10455.99	10419.22	0.00	27.33	49.56	36.65	-109.35	318.23	294.25	13.27		
10750.00	10593.70	10456.12	10419.31	0.00	27.33	44.41	36.73	-109.39	340.97	316.78	14.10		
10775.00	10599.11	10455.58	10418.94	0.00	27.33	39.56	36.38	-109.22	363.62	339.23	14.91		
10800.00	10603.12	10454.42	10418.13	0.00	27.33	35.11	35.63	-108.85	386.11	361.52	15.70		
10825.00	10605.73	10452.65	10416.89	0.00	27.32	31.07	34.50	-108.29	408.39	383.61	16.48		
10850.00	10606.92	10450.28	10415.22	0.00	27.31	27.46	32.98	-107.54	430.42	405.46	17.24		
10857.19	10607.00	10449.49	10414.67	0.00	27.31	26.50	32.48	-107.30	436.71	411.69	17.45		
10900.00	10607.14	10444.69	10411.26	0.00	27.30	25.32	29.45	-105.80	474.47	449.17	18.76		
10957.19	10607.32	10438.45	10406.78	0.00	27.28	23.81	25.55	-103.88	526.02	500.44	20.56		
11000.00	10607.45	10433.71	10403.34	0.00	27.27	19.95	22.63	-102.44	565.31	539.56	21.95		
11100.00	10607.78	10421.68	10394.44	0.00	27.24	9.62	15.37	-98.87	658.94	632.91	25.32		
11200.00	10608.10	10408.60	10384.52	0.00	27.20	358.11	7.72	-95.10	754.08	727.90	28.80		

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
Field: McKenzie County, ND
Reference Site: Tallahassee 3
Reference Well: 3-16H
Reference Wellpath: OH

Date: 04/23/2012 **Time:** 17:17:28
Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Page: 4
Db: Adapti

Site: Columbus Federal 1
Well: 1-16H
Wellpath: OH V3 Plan: Plan #2 V1

Inter-Site Error: 0.00 ft

Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation						
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
11300.00	10608.44	10394.80	10373.79	0.00	27.16	346.56	-0.06	-91.27	849.92	823.63	32.33	
11400.00	10608.78	10380.60	10362.46	0.00	27.13	336.03	-7.75	-87.48	945.91	919.57	35.90	
11500.00	10609.12	10366.29	10350.77	0.00	27.09	327.07	-15.16	-83.83	1041.74	1015.36	39.49	
11600.00	10609.46	10352.11	10338.94	0.00	27.05	319.72	-22.16	-80.38	1137.16	1110.76	43.07	
11700.00	10609.81	10338.28	10327.16	0.00	27.01	313.78	-28.66	-77.18	1232.00	1205.59	46.65	
11800.00	10610.16	10325.00	10315.64	0.00	26.98	308.96	-34.58	-74.26	1326.14	1299.72	50.21	
11900.00	10610.51	10312.19	10304.34	0.00	26.94	305.02	-39.99	-71.59	1419.47	1393.06	53.74	
12000.00	10610.86	10300.00	10293.43	0.00	26.91	301.75	-44.87	-69.19	1511.90	1485.49	57.25	
12100.00	10611.20	10288.78	10283.26	0.00	26.88	298.99	-49.12	-67.09	1603.37	1576.96	60.73	
12200.00	10611.55	10275.00	10270.61	0.00	26.85	296.81	-54.02	-64.68	1693.80	1667.39	64.14	
12300.00	10611.89	10268.27	10264.37	0.00	26.83	294.61	-56.28	-63.57	1783.12	1756.72	67.56	
12400.00	10612.23	10259.08	10255.79	0.00	26.80	292.85	-59.24	-62.11	1871.28	1844.89	70.91	
12500.00	10612.56	10250.00	10247.25	0.00	26.78	291.32	-61.99	-60.75	1958.22	1931.83	74.21	
12577.81	10612.81	10250.00	10247.25	0.00	26.78	289.96	-61.99	-60.75	2025.00	1998.64	76.80	
12600.00	10612.88	10242.71	10240.34	0.00	26.76	290.29	-64.10	-59.72	2043.94	2017.55	77.48	
12700.00	10613.20	10235.57	10233.54	0.00	26.74	290.62	-66.05	-58.75	2130.08	2103.70	80.75	
12800.00	10613.52	10225.00	10223.42	0.00	26.71	291.10	-68.77	-57.42	2217.32	2190.93	84.02	
12900.00	10613.85	10225.00	10223.42	0.00	26.71	291.10	-68.77	-57.42	2305.51	2279.13	87.41	
13000.00	10614.17	10225.00	10223.42	0.00	26.71	291.10	-68.77	-57.42	2394.62	2368.26	90.83	
13100.00	10614.49	10212.96	10211.80	0.00	26.68	291.66	-71.59	-56.02	2484.43	2458.05	94.17	
13200.00	10614.81	10208.45	10207.43	0.00	26.67	291.86	-72.58	-55.54	2574.99	2548.60	97.60	
13300.00	10615.13	10200.00	10199.20	0.00	26.65	292.25	-74.32	-54.68	2666.21	2639.81	100.99	
13400.00	10615.46	10200.00	10199.20	0.00	26.65	292.25	-74.32	-54.68	2757.97	2731.58	104.50	
13500.00	10615.78	10200.00	10199.20	0.00	26.65	292.25	-74.32	-54.68	2850.29	2823.90	108.02	
13600.00	10616.10	10200.00	10199.20	0.00	26.65	292.25	-74.32	-54.68	2943.11	2916.73	111.56	
13700.00	10616.42	10190.47	10189.89	0.00	26.62	292.69	-76.11	-53.80	3036.30	3009.91	115.03	
13800.00	10616.75	10187.59	10187.05	0.00	26.62	292.83	-76.61	-53.55	3129.93	3103.53	118.57	
13900.00	10617.07	10184.88	10184.40	0.00	26.61	292.95	-77.07	-53.32	3223.93	3197.53	122.11	
14000.00	10617.39	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3318.32	3291.90	125.59	
14100.00	10617.71	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3412.94	3386.52	129.18	
14200.00	10618.03	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3507.86	3481.44	132.79	
14300.00	10618.36	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3603.05	3576.63	136.40	
14400.00	10618.68	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3698.49	3672.08	140.03	
14500.00	10619.00	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3794.17	3767.76	143.66	
14600.00	10619.32	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3890.07	3863.66	147.30	
14700.00	10619.64	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	3986.17	3959.77	150.95	
14800.00	10619.97	10175.00	10174.67	0.00	26.58	293.41	-78.63	-52.56	4082.46	4056.05	154.61	
14900.00	10620.29	10165.06	10164.85	0.00	26.56	293.86	-79.99	-51.89	4178.82	4152.40	158.18	
15000.00	10620.61	10163.60	10163.40	0.00	26.55	293.93	-80.18	-51.79	4275.42	4249.00	161.83	
15100.00	10620.93	10162.20	10162.01	0.00	26.55	294.00	-80.35	-51.71	4372.16	4345.74	165.49	
15200.00	10621.26	10160.87	10160.69	0.00	26.55	294.06	-80.51	-51.63	4469.04	4442.62	169.15	
15300.00	10621.58	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	4566.14	4539.71	172.72	
15400.00	10621.90	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	4663.26	4636.82	176.39	
15500.00	10622.22	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	4760.49	4734.06	180.07	
15600.00	10622.54	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	4857.84	4831.40	183.76	
15700.00	10622.87	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	4955.29	4928.85	187.45	
15800.00	10623.19	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5052.84	5026.41	191.14	
15900.00	10623.51	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5150.49	5124.05	194.84	
16000.00	10623.83	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5248.22	5221.79	198.54	
16100.00	10624.15	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5346.04	5319.61	202.25	
16200.00	10624.48	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5443.94	5417.50	205.95	

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources	Date:	04/23/2012	Time:	17:17:28	Page:	5
Field:	McKenzie County, ND						
Reference Site:	Tallahassee 3						
Reference Well:	3-16H						
Reference Wellpath:	OH						

Site: Columbus Federal 1

Well: 1-16H

Wellpath: OH V3 Plan: Plan #2 V1

Inter-Site Error: 0.00 ft

Reference MD ft	Offset TVD ft	Offset MD ft	Semi-Major Axis Ref Offset ft	Semi-Major Axis TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning	
16300.00	10624.80	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5541.91	5515.48	209.66
16400.00	10625.12	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5639.95	5613.52	213.37
16500.00	10625.44	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5738.06	5711.63	217.09
16600.00	10625.77	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5836.24	5809.81	220.81
16700.00	10626.09	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	5934.47	5908.04	224.53
16800.00	10626.41	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6032.77	6006.34	228.25
16900.00	10626.73	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6131.12	6104.69	231.97
17000.00	10627.05	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6229.52	6203.09	235.70
17100.00	10627.38	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6327.97	6301.54	239.43
17200.00	10627.70	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6426.47	6400.04	243.16
17300.00	10628.02	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6525.02	6498.59	246.89
17400.00	10628.34	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6623.61	6597.18	250.62
17500.00	10628.66	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6722.24	6695.81	254.35
17600.00	10628.99	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6820.91	6794.48	258.09
17700.00	10629.31	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	6919.61	6893.19	261.83
17800.00	10629.63	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	7018.36	6991.93	265.57
17900.00	10629.95	10150.00	10149.91	0.00	26.52	294.56	-81.68	-51.05	7117.14	7090.71	269.31
18000.00	10630.28	10138.59	10138.55	0.00	26.49	295.08	-82.66	-50.57	7215.82	7189.39	273.02
18100.00	10630.60	10138.11	10138.07	0.00	26.49	295.11	-82.69	-50.56	7314.66	7288.23	276.76
18200.00	10630.92	10137.64	10137.60	0.00	26.49	295.13	-82.73	-50.54	7413.52	7387.09	280.50
18300.00	10631.24	10137.19	10137.15	0.00	26.48	295.15	-82.76	-50.52	7512.42	7485.99	284.25
18400.00	10631.56	10136.75	10136.71	0.00	26.48	295.17	-82.79	-50.51	7611.34	7584.91	287.99
18500.00	10631.89	10136.32	10136.28	0.00	26.48	295.19	-82.82	-50.49	7710.29	7683.86	291.73
18535.29	10632.00	10136.17	10136.13	0.00	26.48	295.20	-82.83	-50.49	7745.22	7718.79	293.06

Site: Columbus Federal 2

Well: 2-16H

Wellpath: OH V3 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD ft	Offset TVD ft	Offset MD ft	Semi-Major Axis Ref Offset ft	Semi-Major Axis TFO-HS deg	Offset Location North ft	Offset Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	30.67	77.41	45.90	90.00		No Data
100.00	100.00	100.00	100.00	0.00	0.21	30.67	77.41	45.90	89.79	434.74
200.00	200.00	200.00	200.00	0.00	0.47	30.67	77.41	45.90	89.53	191.97
300.00	300.00	300.00	300.00	0.00	0.73	30.67	77.41	45.90	89.27	123.18
400.00	400.00	400.00	400.00	0.00	0.99	30.67	77.41	45.90	89.01	90.69
500.00	500.00	500.00	500.00	0.00	1.25	30.67	77.41	45.90	88.75	71.76
600.00	600.00	600.00	600.00	0.00	1.52	30.67	77.41	45.90	88.49	59.37
700.00	700.00	700.00	700.00	0.00	1.78	30.67	77.41	45.90	88.22	50.62
800.00	800.00	800.00	800.00	0.00	2.04	30.67	77.41	45.90	87.96	44.13
900.00	900.00	900.00	900.00	0.00	2.30	30.67	77.41	45.90	87.70	39.11
1000.00	1000.00	1000.00	1000.00	0.00	2.56	30.67	77.41	45.90	87.44	35.11
1100.00	1100.00	1100.00	1100.00	0.00	2.82	30.67	77.41	45.90	87.18	31.86
1200.00	1200.00	1200.00	1200.00	0.00	3.09	30.67	77.41	45.90	86.91	29.16
1300.00	1300.00	1300.00	1300.00	0.00	3.35	30.67	77.41	45.90	86.65	26.88
1400.00	1400.00	1400.00	1400.00	0.00	3.61	30.67	77.41	45.90	86.39	24.93
1500.00	1500.00	1500.00	1500.00	0.00	3.87	30.67	77.41	45.90	86.13	23.24
1600.00	1600.00	1600.00	1600.00	0.00	4.13	30.67	77.41	45.90	85.87	21.77
1700.00	1700.00	1700.00	1700.00	0.00	4.40	30.67	77.41	45.90	85.61	20.47
1800.00	1800.00	1800.00	1800.00	0.00	4.66	30.67	77.41	45.90	85.34	19.32
1900.00	1900.00	1900.00	1900.00	0.00	4.92	30.67	77.41	45.90	85.08	18.30

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources	Date:	04/23/2012	Time:	17:17:28	Page:	6				
Field:	McKenzie County, ND										
Reference Site:	Tallahassee 3										
Reference Well:	3-16H										
Reference Wellpath:	OH										
Site:	Columbus Federal 2										
Well:	2-16H										
Wellpath:	OH V3 Plan: Plan #1 V1										
Reference	Offset	Semi-Major Axis			Inter-Site Error:	0.00	ft				
MD	TVD	MD	TVD	Ref	North	East					
ft	ft	ft	ft	ft	ft	ft	ft				
				Offset							
				North	East						
				ft	ft						
2000.00	2000.00	2000.00	2000.00	0.00	5.18	30.67	77.41	45.90	90.00	84.82	17.37
2100.00	2100.00	2100.00	2100.00	0.00	5.44	30.67	77.41	45.90	90.00	84.56	16.54
2200.00	2200.00	2200.00	2200.00	0.00	5.70	30.67	77.41	45.90	90.00	84.30	15.78
2300.00	2300.00	2300.00	2300.00	0.00	5.97	30.67	77.41	45.90	90.00	84.03	15.08
2400.00	2400.00	2400.00	2400.00	0.00	6.23	30.67	77.41	45.90	90.00	83.77	14.45
2500.00	2500.00	2500.00	2500.00	0.00	6.49	30.67	77.41	45.90	90.00	83.51	13.87
2600.00	2600.00	2600.00	2600.00	0.00	6.75	30.67	77.41	45.90	90.00	83.25	13.33
2700.00	2700.00	2700.00	2700.00	0.00	7.01	30.67	77.41	45.90	90.00	82.99	12.83
2800.00	2800.00	2800.00	2800.00	0.00	7.28	30.67	77.41	45.90	90.00	82.73	12.37
2900.00	2900.00	2900.00	2900.00	0.00	7.54	30.67	77.41	45.90	90.00	82.46	11.94
3000.00	3000.00	3000.00	3000.00	0.00	7.80	30.67	77.41	45.90	90.00	82.20	11.54
3100.00	3100.00	3100.00	3100.00	0.00	8.06	30.67	77.41	45.90	90.00	81.94	11.16
3200.00	3200.00	3200.00	3200.00	0.00	8.32	30.67	77.41	45.90	90.00	81.68	10.81
3300.00	3300.00	3300.00	3300.00	0.00	8.58	30.67	77.41	45.90	90.00	81.42	10.48
3400.00	3400.00	3400.00	3400.00	0.00	8.85	30.67	77.41	45.90	90.00	81.15	10.17
3500.00	3500.00	3500.00	3500.00	0.00	9.11	30.67	77.41	45.90	90.00	80.89	9.88
3600.00	3600.00	3600.00	3600.00	0.00	9.37	30.67	77.41	45.90	90.00	80.63	9.61
3700.00	3700.00	3700.00	3700.00	0.00	9.63	30.67	77.41	45.90	90.00	80.37	9.34
3800.00	3800.00	3800.00	3800.00	0.00	9.89	30.67	77.41	45.90	90.00	80.11	9.10
3900.00	3900.00	3900.00	3900.00	0.00	10.16	30.67	77.41	45.90	90.00	79.85	8.86
4000.00	4000.00	4000.00	4000.00	0.00	10.42	30.67	77.41	45.90	90.00	79.58	8.64
4100.00	4100.00	4100.00	4100.00	0.00	10.68	30.67	77.41	45.90	90.00	79.32	8.43
4200.00	4200.00	4200.00	4200.00	0.00	10.94	30.67	77.41	45.90	90.00	79.06	8.23
4300.00	4300.00	4300.00	4300.00	0.00	11.20	30.67	77.41	45.90	90.00	78.80	8.03
4400.00	4400.00	4400.00	4400.00	0.00	11.46	30.67	77.41	45.90	90.00	78.54	7.85
4500.00	4500.00	4500.00	4500.00	0.00	11.73	30.67	77.41	45.90	90.00	78.27	7.68
4600.00	4600.00	4600.00	4600.00	0.00	11.99	30.67	77.41	45.90	90.00	78.01	7.51
4700.00	4700.00	4700.00	4700.00	0.00	12.25	30.67	77.41	45.90	90.00	77.75	7.35
4800.00	4800.00	4800.00	4800.00	0.00	12.51	30.67	77.41	45.90	90.00	77.49	7.19
4900.00	4900.00	4900.00	4900.00	0.00	12.77	30.67	77.41	45.90	90.00	77.23	7.05
5000.00	5000.00	5000.00	5000.00	0.00	13.03	30.67	77.41	45.90	90.00	76.97	6.90
5100.00	5100.00	5100.00	5100.00	0.00	13.30	30.67	77.41	45.90	90.00	76.70	6.77
5200.00	5200.00	5200.00	5200.00	0.00	13.56	30.67	77.41	45.90	90.00	76.44	6.64
5300.00	5300.00	5300.00	5300.00	0.00	13.82	30.67	77.41	45.90	90.00	76.18	6.51
5400.00	5400.00	5400.00	5400.00	0.00	14.08	30.67	77.41	45.90	90.00	75.92	6.39
5500.00	5500.00	5500.00	5500.00	0.00	14.34	30.67	77.41	45.90	90.00	75.66	6.27
5600.00	5600.00	5600.00	5600.00	0.00	14.61	30.67	77.41	45.90	90.00	75.40	6.16
5700.00	5700.00	5700.00	5700.00	0.00	14.87	30.67	77.41	45.90	90.00	75.13	6.05
5800.00	5800.00	5800.00	5800.00	0.00	15.13	30.67	77.41	45.90	90.00	74.87	5.95
5900.00	5900.00	5900.00	5900.00	0.00	15.39	30.67	77.41	45.90	90.00	74.61	5.85
6000.00	6000.00	6000.00	6000.00	0.00	15.65	30.67	77.41	45.90	90.00	74.35	5.75
6100.00	6100.00	6100.00	6100.00	0.00	15.91	30.67	77.41	45.90	90.00	74.09	5.66
6200.00	6200.00	6200.00	6200.00	0.00	16.18	30.67	77.41	45.90	90.00	73.82	5.56
6300.00	6300.00	6300.00	6300.00	0.00	16.44	30.67	77.41	45.90	90.00	73.56	5.47
6400.00	6400.00	6400.00	6400.00	0.00	16.70	30.67	77.41	45.90	90.00	73.30	5.39
6500.00	6500.00	6500.00	6500.00	0.00	16.96	30.67	77.41	45.90	90.00	73.04	5.31
6600.00	6600.00	6600.00	6600.00	0.00	17.22	30.67	77.41	45.90	90.00	72.78	5.23
6700.00	6700.00	6700.00	6700.00	0.00	17.49	30.67	77.41	45.90	90.00	72.52	5.15
6800.00	6800.00	6800.00	6800.00	0.00	17.75	30.67	77.41	45.90	90.00	72.25	5.07
6900.00	6900.00	6900.00	6900.00	0.00	18.01	30.67	77.41	45.90	90.00	71.99	5.00
7000.00	7000.00	7000.00	7000.00	0.00	18.27	30.67	77.41	45.90	90.00	71.73	4.93

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012	Time:	17:17:28	Page:	7		
Field:	McKenzie County, ND			Co-ordinate(NE) Reference:	Well: 3-16H, True North						
Reference Site:	Tallahassee 3			Vertical (TVD) Reference:	GL 1920+KB 41 1941.0						
Reference Well:	3-16H			Db:	Adapti						
Reference Wellpath:	OH										
Site:	Columbus Federal 2										
Well:	2-16H										
Wellpath:	OH V3 Plan: Plan #1 V1										
Reference	Offset	Semi-Major Axis	Offset Location	Inter-Site Error:	0.00	ft					
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Ctr-Ctr		
ft	ft	ft	ft	ft	ft	deg	ft	ft	Distance		
									Edge		
									Separation		
									Factor		
									Warning		
7100.00	7100.00	7100.00	7100.00	0.00	18.53	30.67	77.41	45.90	90.00	71.47	4.86
7200.00	7200.00	7200.00	7200.00	0.00	18.79	30.67	77.41	45.90	90.00	71.21	4.79
7300.00	7300.00	7300.00	7300.00	0.00	19.06	30.67	77.41	45.90	90.00	70.94	4.72
7400.00	7400.00	7400.00	7400.00	0.00	19.32	30.67	77.41	45.90	90.00	70.68	4.66
7500.00	7500.00	7500.00	7500.00	0.00	19.58	30.67	77.41	45.90	90.00	70.42	4.60
7600.00	7600.00	7600.00	7600.00	0.00	19.84	30.67	77.41	45.90	90.00	70.16	4.54
7700.00	7700.00	7700.00	7700.00	0.00	20.10	30.67	77.41	45.90	90.00	69.90	4.48
7800.00	7800.00	7800.00	7800.00	0.00	20.37	30.67	77.41	45.90	90.00	69.64	4.42
7900.00	7900.00	7900.00	7900.00	0.00	20.63	30.67	77.41	45.90	90.00	69.37	4.36
8000.00	8000.00	8000.00	8000.00	0.00	20.89	30.67	77.41	45.90	90.00	69.11	4.31
8100.00	8100.00	8100.00	8100.00	0.00	21.15	30.67	77.41	45.90	90.00	68.85	4.26
8200.00	8200.00	8200.00	8200.00	0.00	21.41	30.67	77.41	45.90	90.00	68.59	4.20
8300.00	8300.00	8300.00	8300.00	0.00	21.67	30.67	77.41	45.90	90.00	68.33	4.15
8400.00	8400.00	8400.00	8400.00	0.00	21.94	30.67	77.41	45.90	90.00	68.06	4.10
8500.00	8500.00	8500.00	8500.00	0.00	22.20	30.67	77.41	45.90	90.00	67.80	4.05
8600.00	8600.00	8600.00	8600.00	0.00	22.46	30.67	77.41	45.90	90.00	67.54	4.01
8700.00	8700.00	8700.00	8700.00	0.00	22.72	30.67	77.41	45.90	90.00	67.28	3.96
8800.00	8800.00	8800.00	8800.00	0.00	22.98	30.67	77.41	45.90	90.00	67.02	3.92
8900.00	8900.00	8900.00	8900.00	0.00	23.25	30.67	77.41	45.90	90.00	66.76	3.87
9000.00	9000.00	9000.00	9000.00	0.00	23.51	30.67	77.41	45.90	90.00	66.49	3.83
9100.00	9100.00	9100.00	9100.00	0.00	23.77	30.67	77.41	45.90	90.00	66.23	3.79
9200.00	9200.00	9200.00	9200.00	0.00	24.03	30.67	77.41	45.90	90.00	65.97	3.75
9300.00	9300.00	9300.00	9300.00	0.00	24.29	30.67	77.41	45.90	90.00	65.71	3.70
9400.00	9400.00	9400.00	9400.00	0.00	24.55	30.67	77.41	45.90	90.00	65.45	3.67
9500.00	9500.00	9500.00	9500.00	0.00	24.82	30.67	77.41	45.90	90.00	65.18	3.63
9600.00	9600.00	9600.00	9600.00	0.00	25.08	30.67	77.41	45.90	90.00	64.92	3.59
9700.00	9700.00	9700.00	9700.00	0.00	25.34	30.67	77.41	45.90	90.00	64.66	3.55
9800.00	9800.00	9800.00	9800.00	0.00	25.60	30.67	77.41	45.90	90.00	64.40	3.52
9900.00	9900.00	9900.00	9900.00	0.00	25.86	30.67	77.41	45.90	90.00	64.14	3.48
10000.00	10000.00	10000.00	10000.00	0.00	26.12	30.67	77.41	45.90	90.00	63.88	3.44
10100.00	10100.00	10100.00	10100.00	0.00	26.39	30.67	77.41	45.90	90.00	63.61	3.41
10166.27	10166.27	10166.27	10166.27	0.00	26.56	30.67	77.41	45.90	90.00	63.44	3.39
10175.00	10175.00	10173.99	10173.98	0.00	26.58	162.02	77.48	45.88	90.13	63.55	3.39
10200.00	10199.97	10195.99	10195.96	0.00	26.64	161.71	78.36	45.57	91.96	65.34	3.46
10225.00	10224.83	10217.65	10217.54	0.00	26.69	161.05	80.24	44.91	95.92	69.30	3.60
10250.00	10249.50	10238.76	10238.43	0.00	26.75	160.12	83.03	43.93	101.99	75.38	3.83
10275.00	10273.90	10259.09	10258.40	0.00	26.80	158.98	86.60	42.67	110.09	83.52	4.14
10300.00	10297.96	10278.47	10277.26	0.00	26.85	157.71	90.82	41.18	120.16	93.65	4.53
10325.00	10321.59	10296.78	10294.88	0.00	26.90	156.33	95.51	39.53	132.08	105.65	5.00
10350.00	10344.72	10313.91	10311.17	0.00	26.95	154.87	100.52	37.76	145.73	119.40	5.53
10375.00	10367.28	10329.80	10326.07	0.00	26.99	153.32	105.71	35.94	160.97	134.74	6.14
10400.00	10389.20	10344.41	10339.60	0.00	27.03	151.65	110.92	34.11	177.67	151.54	6.80
10425.00	10410.39	10357.74	10351.77	0.00	27.06	149.82	116.03	32.30	195.66	169.64	7.52
10450.00	10430.80	10369.80	10362.64	0.00	27.09	147.78	120.96	30.57	214.82	188.90	8.29
10475.00	10450.36	10380.62	10372.26	0.00	27.12	145.44	125.62	28.93	235.01	209.17	9.10
10500.00	10469.01	10390.23	10380.71	0.00	27.15	142.71	129.94	27.40	256.08	230.32	9.94
10525.00	10486.68	10398.69	10388.06	0.00	27.17	139.45	133.89	26.01	277.93	252.23	10.81
10550.00	10503.32	10406.04	10394.39	0.00	27.19	135.48	137.43	24.76	300.42	274.77	11.71
10575.00	10518.88	10412.35	10399.76	0.00	27.21	130.56	140.55	23.67	323.45	297.84	12.63
10600.00	10533.30	10417.66	10404.24	0.00	27.22	124.40	143.23	22.72	346.93	321.33	13.55
10625.00	10546.55	10422.02	10407.90	0.00	27.23	116.64	145.46	21.94	370.74	345.15	14.49

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012			Time:	17:17:28			Page:	8
Field:	McKenzie County, ND												
Reference Site:	Tallahassee 3								Co-ordinate(NE) Reference: Well: 3-16H, True North				
Reference Well:	3-16H								Vertical (TVD) Reference: GL 1920+KB 41 1941.0				
Reference Wellpath:	OH											Db:	Adapti
Site:	Columbus Federal 2												
Well:	2-16H												
Wellpath:	OH V3 Plan: Plan #1 V1								Inter-Site Error: 0.00 ft				
Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation							
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor		Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft			
10650.00	10558.57	10425.48	10410.79	0.00	27.24	106.98	147.27	21.30	394.82	369.22	15.42		
10675.00	10569.32	10428.09	10412.96	0.00	27.25	95.40	148.64	20.82	419.06	393.44	16.36		
10700.00	10578.78	10429.89	10414.45	0.00	27.25	82.47	149.59	20.48	443.40	417.76	17.29		
10725.00	10586.92	10430.92	10415.30	0.00	27.26	69.38	150.14	20.29	467.76	442.08	18.22		
10750.00	10593.70	10431.22	10415.54	0.00	27.26	57.40	150.30	20.23	492.08	466.35	19.13		
10775.00	10599.11	10430.81	10415.21	0.00	27.26	47.27	150.08	20.31	516.28	490.51	20.03		
10800.00	10603.12	10429.73	10414.31	0.00	27.25	39.10	149.50	20.51	540.32	514.49	20.92		
10825.00	10605.73	10428.00	10412.88	0.00	27.25	32.63	148.59	20.84	564.12	538.24	21.79		
10850.00	10606.92	10425.64	10410.93	0.00	27.24	27.50	147.35	21.27	587.65	561.70	22.65		
10857.19	10607.00	10424.86	10410.27	0.00	27.24	26.23	146.94	21.42	594.36	568.39	22.89		
10900.00	10607.14	10420.09	10406.29	0.00	27.23	25.21	144.47	22.29	634.36	608.30	24.34		
10957.19	10607.32	10413.96	10401.12	0.00	27.21	23.93	141.36	23.38	688.24	662.07	26.30		
11000.00	10607.45	10409.43	10397.28	0.00	27.20	19.42	139.10	24.18	728.89	702.65	27.78		
11100.00	10607.78	10398.54	10387.94	0.00	27.17	7.67	133.82	26.04	824.81	798.46	31.30		
11200.00	10608.10	10387.43	10378.27	0.00	27.14	355.03	128.67	27.85	921.50	895.08	34.88		
11300.00	10608.44	10375.00	10367.28	0.00	27.11	342.73	123.17	29.79	1018.48	992.00	38.47		
11400.00	10608.78	10365.36	10358.66	0.00	27.08	331.89	119.12	31.22	1115.40	1088.89	42.09		
11500.00	10609.12	10354.71	10349.02	0.00	27.05	322.84	114.84	32.72	1212.03	1185.50	45.69		
11600.00	10609.46	10344.46	10339.64	0.00	27.03	315.52	110.93	34.10	1308.19	1281.65	49.29		
11700.00	10609.81	10334.68	10330.61	0.00	27.00	309.66	107.40	35.34	1403.73	1377.18	52.88		
11800.00	10610.16	10325.00	10321.59	0.00	26.98	304.96	104.09	36.51	1498.53	1471.97	56.43		
11900.00	10610.51	10316.70	10313.80	0.00	26.95	301.09	101.40	37.46	1592.48	1565.93	59.97		
12000.00	10610.86	10308.54	10306.08	0.00	26.93	297.92	98.89	38.34	1685.51	1658.95	63.47		
12100.00	10611.20	10300.00	10297.96	0.00	26.91	295.34	96.41	39.22	1777.51	1750.95	66.92		
12200.00	10611.55	10293.82	10292.05	0.00	26.89	293.05	94.71	39.81	1868.42	1841.86	70.35		
12300.00	10611.89	10287.23	10285.72	0.00	26.88	291.14	92.98	40.42	1958.16	1931.60	73.73		
12400.00	10612.23	10275.00	10273.90	0.00	26.85	289.82	90.00	41.47	2046.69	2020.11	77.02		
12500.00	10612.56	10275.00	10273.90	0.00	26.85	288.10	90.00	41.47	2133.84	2107.28	80.34		
12577.81	10612.81	10275.00	10273.90	0.00	26.85	286.93	90.00	41.47	2200.74	2174.19	82.89		
12600.00	10612.88	10275.00	10273.90	0.00	26.85	286.93	90.00	41.47	2219.73	2193.19	83.62		
12700.00	10613.20	10265.45	10264.62	0.00	26.82	287.36	87.90	42.21	2305.94	2279.39	86.83		
12800.00	10613.52	10261.09	10260.36	0.00	26.81	287.56	87.00	42.53	2393.20	2366.65	90.12		
12900.00	10613.85	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2481.45	2454.87	93.36		
13000.00	10614.17	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2570.43	2543.86	96.74		
13100.00	10614.49	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2660.20	2633.64	100.14		
13200.00	10614.81	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2750.68	2724.12	103.57		
13300.00	10615.13	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2841.80	2815.24	107.02		
13400.00	10615.46	10250.00	10249.50	0.00	26.78	288.07	84.90	43.27	2933.49	2906.94	110.49		
13500.00	10615.78	10238.79	10238.47	0.00	26.75	288.58	83.03	43.93	3025.58	2999.01	113.88		
13600.00	10616.10	10236.44	10236.14	0.00	26.74	288.68	82.67	44.05	3118.22	3091.65	117.36		
13700.00	10616.42	10234.24	10233.97	0.00	26.74	288.78	82.35	44.17	3211.29	3184.72	120.85		
13800.00	10616.75	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3304.81	3278.22	124.28		
13900.00	10617.07	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3398.62	3372.03	127.82		
14000.00	10617.39	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3492.77	3466.18	131.37		
14100.00	10617.71	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3587.23	3560.65	134.93		
14200.00	10618.03	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3681.99	3655.41	138.50		
14300.00	10618.36	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3777.02	3750.44	142.08		
14400.00	10618.68	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3872.30	3845.72	145.68		
14500.00	10619.00	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	3967.81	3941.23	149.28		
14600.00	10619.32	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	4063.54	4036.96	152.88		
14700.00	10619.64	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	4159.46	4132.89	156.50		

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
Field: McKenzie County, ND
Reference Site: Tallahassee 3
Reference Well: 3-16H
Reference Wellpath: OH

Date: 04/23/2012

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Site: Columbus Federal 2
Well: 2-16H

Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Db: Adapti

Site: Columbus Federal 2
Well: 2-16H
Wellpath: OH V3 Plan; Plan #1 V1

Well: 2-16H

Db: Adapti

Wellpath: OH V3 Plan: Plan #1 VI										Inter-Site Error:			
Reference		Offset		Semi-Major Axis		Offset		Location		Ctr-Ctr	Edge	Separation	
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	deg	North	East	Distance	Distance	Factor	Warning
14800.00	10619.97	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	4255.58	4229.00	160.12		
14900.00	10620.29	10225.00	10224.83	0.00	26.71	289.20	81.10	44.61	4351.87	4325.29	163.75		
15000.00	10620.61	10214.65	10214.55	0.00	26.69	289.67	79.92	45.02	4448.21	4421.62	167.31		
15100.00	10620.93	10213.61	10213.52	0.00	26.68	289.72	79.81	45.06	4544.79	4518.21	170.94		
15200.00	10621.26	10212.61	10212.53	0.00	26.68	289.77	79.71	45.10	4641.52	4614.93	174.58		
15300.00	10621.58	10211.66	10211.58	0.00	26.68	289.81	79.62	45.13	4738.38	4711.79	178.22		
15400.00	10621.90	10210.75	10210.67	0.00	26.68	289.85	79.53	45.16	4835.37	4808.78	181.86		
15500.00	10622.22	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	4932.57	4905.97	185.43		
15600.00	10622.54	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5029.77	5003.17	189.08		
15700.00	10622.87	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5127.08	5100.48	192.74		
15800.00	10623.19	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5224.49	5197.89	196.41		
15900.00	10623.51	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5322.00	5295.40	200.07		
16000.00	10623.83	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5419.59	5392.99	203.74		
16100.00	10624.15	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5517.28	5490.68	207.42		
16200.00	10624.48	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5615.04	5588.44	211.10		
16300.00	10624.80	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5712.88	5686.28	214.78		
16400.00	10625.12	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5810.80	5784.20	218.46		
16500.00	10625.44	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	5908.78	5882.18	222.14		
16600.00	10625.77	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6006.83	5980.23	225.83		
16700.00	10626.09	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6104.95	6078.35	229.52		
16800.00	10626.41	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6203.12	6176.52	233.21		
16900.00	10626.73	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6301.35	6274.75	236.91		
17000.00	10627.05	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6399.64	6373.04	240.61		
17100.00	10627.38	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6497.98	6471.38	244.30		
17200.00	10627.70	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6596.37	6569.77	248.00		
17300.00	10628.02	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6694.80	6668.21	251.71		
17400.00	10628.34	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6793.29	6766.69	255.41		
17500.00	10628.66	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6891.81	6865.21	259.12		
17600.00	10628.99	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	6990.38	6963.78	262.82		
17700.00	10629.31	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7088.99	7062.39	266.53		
17800.00	10629.63	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7187.63	7161.04	270.24		
17900.00	10629.95	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7286.32	7259.72	273.95		
18000.00	10630.28	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7385.04	7358.44	277.67		
18100.00	10630.60	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7483.79	7457.19	281.38		
18200.00	10630.92	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7582.58	7555.98	285.10		
18300.00	10631.24	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7681.39	7654.80	288.81		
18400.00	10631.56	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7780.24	7753.64	292.53		
18500.00	10631.89	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7879.12	7852.52	296.25		
18535.29	10632.00	10200.00	10199.97	0.00	26.65	290.34	78.63	45.48	7914.01	7887.42	297.56		

Site: Columbus Federal 3
Well: 3-16H

Intra-Site Errors = 0.00 ft

Wellpath: OH VI Plan, Plan #1 VI								Inter-Site Error:			0.00 ft	
Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr	Edge	Separation	
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
0.00	0.00	0.00	0.00	0.00	0.00	30.71	116.02	68.92	134.95			No Data
100.00	100.00	100.00	100.00	0.00	0.21	30.71	116.02	68.92	134.95	134.74	651.86	
200.00	200.00	200.00	200.00	0.00	0.47	30.71	116.02	68.92	134.95	134.48	287.85	
300.00	300.00	300.00	300.00	0.00	0.73	30.71	116.02	68.92	134.95	134.22	184.70	
400.00	400.00	400.00	400.00	0.00	0.99	30.71	116.02	68.92	134.95	133.96	135.98	

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012			Time:	17:17:28			Page:	10
Field:	McKenzie County, ND												
Reference Site:	Tallahassee 3				Co-ordinate(NE) Reference:				Well: 3-16H, True North				
Reference Well:	3-16H				Vertical (TVD) Reference:				GL-1920+KB 41 1941.0				
Reference Wellpath:	OH								Db: Adapti				
Site:	Columbus Federal 3												
Well:	3-16H												
Wellpath:	OH V1 Plan: Plan #1 V1								Inter-Site Error: 0.00 ft				
Reference MD ft	Offset MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset Location North ft	East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor		Warning	
500.00	500.00	500.00	500.00	0.00	1.25	30.71	116.02	68.92	134.95	133.69	107.60		
600.00	600.00	600.00	600.00	0.00	1.52	30.71	116.02	68.92	134.95	133.43	89.02		
700.00	700.00	700.00	700.00	0.00	1.78	30.71	116.02	68.92	134.95	133.17	75.91		
800.00	800.00	800.00	800.00	0.00	2.04	30.71	116.02	68.92	134.95	132.91	66.16		
900.00	900.00	900.00	900.00	0.00	2.30	30.71	116.02	68.92	134.95	132.65	58.64		
1000.00	1000.00	1000.00	1000.00	0.00	2.56	30.71	116.02	68.92	134.95	132.39	52.65		
1100.00	1100.00	1100.00	1100.00	0.00	2.82	30.71	116.02	68.92	134.95	132.12	47.77		
1200.00	1200.00	1200.00	1200.00	0.00	3.09	30.71	116.02	68.92	134.95	131.86	43.72		
1300.00	1300.00	1300.00	1300.00	0.00	3.35	30.71	116.02	68.92	134.95	131.60	40.30		
1400.00	1400.00	1400.00	1400.00	0.00	3.61	30.71	116.02	68.92	134.95	131.34	37.38		
1500.00	1500.00	1500.00	1500.00	0.00	3.87	30.71	116.02	68.92	134.95	131.08	34.85		
1600.00	1600.00	1600.00	1600.00	0.00	4.13	30.71	116.02	68.92	134.95	130.82	32.64		
1700.00	1700.00	1700.00	1700.00	0.00	4.40	30.71	116.02	68.92	134.95	130.55	30.70		
1800.00	1800.00	1800.00	1800.00	0.00	4.66	30.71	116.02	68.92	134.95	130.29	28.97		
1900.00	1900.00	1900.00	1900.00	0.00	4.92	30.71	116.02	68.92	134.95	130.03	27.43		
2000.00	2000.00	2000.00	2000.00	0.00	5.18	30.71	116.02	68.92	134.95	129.77	26.05		
2100.00	2100.00	2100.00	2100.00	0.00	5.44	30.71	116.02	68.92	134.95	129.51	24.79		
2200.00	2200.00	2200.00	2200.00	0.00	5.70	30.71	116.02	68.92	134.95	129.24	23.66		
2300.00	2300.00	2300.00	2300.00	0.00	5.97	30.71	116.02	68.92	134.95	128.98	22.62		
2400.00	2400.00	2400.00	2400.00	0.00	6.23	30.71	116.02	68.92	134.95	128.72	21.67		
2500.00	2500.00	2500.00	2500.00	0.00	6.49	30.71	116.02	68.92	134.95	128.46	20.79		
2600.00	2600.00	2600.00	2600.00	0.00	6.75	30.71	116.02	68.92	134.95	128.20	19.99		
2700.00	2700.00	2700.00	2700.00	0.00	7.01	30.71	116.02	68.92	134.95	127.94	19.24		
2800.00	2800.00	2800.00	2800.00	0.00	7.28	30.71	116.02	68.92	134.95	127.67	18.55		
2900.00	2900.00	2900.00	2900.00	0.00	7.54	30.71	116.02	68.92	134.95	127.41	17.90		
3000.00	3000.00	3000.00	3000.00	0.00	7.80	30.71	116.02	68.92	134.95	127.15	17.30		
3100.00	3100.00	3100.00	3100.00	0.00	8.06	30.71	116.02	68.92	134.95	126.89	16.74		
3200.00	3200.00	3200.00	3200.00	0.00	8.32	30.71	116.02	68.92	134.95	126.63	16.21		
3300.00	3300.00	3300.00	3300.00	0.00	8.58	30.71	116.02	68.92	134.95	126.36	15.72		
3400.00	3400.00	3400.00	3400.00	0.00	8.85	30.71	116.02	68.92	134.95	126.10	15.25		
3500.00	3500.00	3500.00	3500.00	0.00	9.11	30.71	116.02	68.92	134.95	125.84	14.82		
3600.00	3600.00	3600.00	3600.00	0.00	9.37	30.71	116.02	68.92	134.95	125.58	14.40		
3700.00	3700.00	3700.00	3700.00	0.00	9.63	30.71	116.02	68.92	134.95	125.32	14.01		
3800.00	3800.00	3800.00	3800.00	0.00	9.89	30.71	116.02	68.92	134.95	125.06	13.64		
3900.00	3900.00	3900.00	3900.00	0.00	10.16	30.71	116.02	68.92	134.95	124.79	13.29		
4000.00	4000.00	4000.00	4000.00	0.00	10.42	30.71	116.02	68.92	134.95	124.53	12.95		
4100.00	4100.00	4100.00	4100.00	0.00	10.68	30.71	116.02	68.92	134.95	124.27	12.64		
4200.00	4200.00	4200.00	4200.00	0.00	10.94	30.71	116.02	68.92	134.95	124.01	12.33		
4300.00	4300.00	4300.00	4300.00	0.00	11.20	30.71	116.02	68.92	134.95	123.75	12.05		
4400.00	4400.00	4400.00	4400.00	0.00	11.46	30.71	116.02	68.92	134.95	123.48	11.77		
4500.00	4500.00	4500.00	4500.00	0.00	11.73	30.71	116.02	68.92	134.95	123.22	11.51		
4600.00	4600.00	4600.00	4600.00	0.00	11.99	30.71	116.02	68.92	134.95	122.96	11.26		
4700.00	4700.00	4700.00	4700.00	0.00	12.25	30.71	116.02	68.92	134.95	122.70	11.02		
4800.00	4800.00	4800.00	4800.00	0.00	12.51	30.71	116.02	68.92	134.95	122.44	10.79		
4900.00	4900.00	4900.00	4900.00	0.00	12.77	30.71	116.02	68.92	134.95	122.18	10.56		
5000.00	5000.00	5000.00	5000.00	0.00	13.03	30.71	116.02	68.92	134.95	121.91	10.35		
5100.00	5100.00	5100.00	5100.00	0.00	13.30	30.71	116.02	68.92	134.95	121.65	10.15		
5200.00	5200.00	5200.00	5200.00	0.00	13.56	30.71	116.02	68.92	134.95	121.39	9.95		
5300.00	5300.00	5300.00	5300.00	0.00	13.82	30.71	116.02	68.92	134.95	121.13	9.76		
5400.00	5400.00	5400.00	5400.00	0.00	14.08	30.71	116.02	68.92	134.95	120.87	9.58		
5500.00	5500.00	5500.00	5500.00	0.00	14.34	30.71	116.02	68.92	134.95	120.60	9.41		

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
Field: McKenzie County, ND
Reference Site: Tallahassee 3
Reference Well: 3-16H
Reference Wellpath: OH

Date: 04/23/2012 **Time:** 17:17:28 **Page:** 11

Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Db: Adapti

Site: Columbus Federal 3
Well: 3-16H
Wellpath: OH V1 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD	Offset TVD	Semi-Major Axis	Offset	Location	Ctr-Ctr Distance	Edge Distance	Separation Factor	Warning			
MD	TVD	Ref	Offset	TFO-HS deg	North ft	East ft					
ft	ft	ft	ft	deg	ft	ft					
5600.00	5600.00	5600.00	5600.00	0.00	14.61	30.71	116.02	68.92	134.95	120.34	9.24
5700.00	5700.00	5700.00	5700.00	0.00	14.87	30.71	116.02	68.92	134.95	120.08	9.08
5800.00	5800.00	5800.00	5800.00	0.00	15.13	30.71	116.02	68.92	134.95	119.82	8.92
5900.00	5900.00	5900.00	5900.00	0.00	15.39	30.71	116.02	68.92	134.95	119.56	8.77
6000.00	6000.00	6000.00	6000.00	0.00	15.65	30.71	116.02	68.92	134.95	119.30	8.62
6100.00	6100.00	6100.00	6100.00	0.00	15.91	30.71	116.02	68.92	134.95	119.03	8.48
6200.00	6200.00	6200.00	6200.00	0.00	16.18	30.71	116.02	68.92	134.95	118.77	8.34
6300.00	6300.00	6300.00	6300.00	0.00	16.44	30.71	116.02	68.92	134.95	118.51	8.21
6400.00	6400.00	6400.00	6400.00	0.00	16.70	30.71	116.02	68.92	134.95	118.25	8.08
6500.00	6500.00	6500.00	6500.00	0.00	16.96	30.71	116.02	68.92	134.95	117.99	7.96
6600.00	6600.00	6600.00	6600.00	0.00	17.22	30.71	116.02	68.92	134.95	117.73	7.83
6700.00	6700.00	6700.00	6700.00	0.00	17.49	30.71	116.02	68.92	134.95	117.46	7.72
6800.00	6800.00	6800.00	6800.00	0.00	17.75	30.71	116.02	68.92	134.95	117.20	7.60
6900.00	6900.00	6900.00	6900.00	0.00	18.01	30.71	116.02	68.92	134.95	116.94	7.49
7000.00	7000.00	7000.00	7000.00	0.00	18.27	30.71	116.02	68.92	134.95	116.68	7.39
7100.00	7100.00	7100.00	7100.00	0.00	18.53	30.71	116.02	68.92	134.95	116.42	7.28
7200.00	7200.00	7200.00	7200.00	0.00	18.79	30.71	116.02	68.92	134.95	116.15	7.18
7300.00	7300.00	7300.00	7300.00	0.00	19.06	30.71	116.02	68.92	134.95	115.89	7.08
7400.00	7400.00	7400.00	7400.00	0.00	19.32	30.71	116.02	68.92	134.95	115.63	6.99
7500.00	7500.00	7500.00	7500.00	0.00	19.58	30.71	116.02	68.92	134.95	115.37	6.89
7600.00	7600.00	7600.00	7600.00	0.00	19.84	30.71	116.02	68.92	134.95	115.11	6.80
7700.00	7700.00	7700.00	7700.00	0.00	20.10	30.71	116.02	68.92	134.95	114.85	6.71
7800.00	7800.00	7800.00	7800.00	0.00	20.37	30.71	116.02	68.92	134.95	114.58	6.63
7900.00	7900.00	7900.00	7900.00	0.00	20.63	30.71	116.02	68.92	134.95	114.32	6.54
8000.00	8000.00	8000.00	8000.00	0.00	20.89	30.71	116.02	68.92	134.95	114.06	6.46
8100.00	8100.00	8100.00	8100.00	0.00	21.15	30.71	116.02	68.92	134.95	113.80	6.38
8200.00	8200.00	8200.00	8200.00	0.00	21.41	30.71	116.02	68.92	134.95	113.54	6.30
8300.00	8300.00	8300.00	8300.00	0.00	21.67	30.71	116.02	68.92	134.95	113.27	6.23
8400.00	8400.00	8400.00	8400.00	0.00	21.94	30.71	116.02	68.92	134.95	113.01	6.15
8500.00	8500.00	8500.00	8500.00	0.00	22.20	30.71	116.02	68.92	134.95	112.75	6.08
8600.00	8600.00	8600.00	8600.00	0.00	22.46	30.71	116.02	68.92	134.95	112.49	6.01
8700.00	8700.00	8700.00	8700.00	0.00	22.72	30.71	116.02	68.92	134.95	112.23	5.94
8800.00	8800.00	8800.00	8800.00	0.00	22.98	30.71	116.02	68.92	134.95	111.97	5.87
8900.00	8900.00	8900.00	8900.00	0.00	23.25	30.71	116.02	68.92	134.95	111.70	5.81
9000.00	9000.00	9000.00	9000.00	0.00	23.51	30.71	116.02	68.92	134.95	111.44	5.74
9100.00	9100.00	9100.00	9100.00	0.00	23.77	30.71	116.02	68.92	134.95	111.18	5.68
9200.00	9200.00	9200.00	9200.00	0.00	24.03	30.71	116.02	68.92	134.95	110.92	5.62
9300.00	9300.00	9300.00	9300.00	0.00	24.29	30.71	116.02	68.92	134.95	110.66	5.56
9400.00	9400.00	9400.00	9400.00	0.00	24.55	30.71	116.02	68.92	134.95	110.39	5.50
9500.00	9500.00	9500.00	9500.00	0.00	24.82	30.71	116.02	68.92	134.95	110.13	5.44
9600.00	9600.00	9600.00	9600.00	0.00	25.08	30.71	116.02	68.92	134.95	109.87	5.38
9700.00	9700.00	9700.00	9700.00	0.00	25.34	30.71	116.02	68.92	134.95	109.61	5.33
9800.00	9800.00	9800.00	9800.00	0.00	25.60	30.71	116.02	68.92	134.95	109.35	5.27
9900.00	9900.00	9900.00	9900.00	0.00	25.86	30.71	116.02	68.92	134.95	109.09	5.22
10000.00	10000.00	10000.00	10000.00	0.00	26.12	30.71	116.02	68.92	134.95	108.82	5.17
10100.00	10100.00	10100.00	10100.00	0.00	26.39	30.71	116.02	68.92	134.95	108.56	5.11
10166.27	10166.27	10153.72	10153.60	0.00	26.53	29.93	118.99	68.50	137.88	111.45	5.22
10175.00	10175.00	10160.65	10160.48	0.00	26.55	161.06	119.84	68.37	138.82	112.40	5.25
10200.00	10199.97	10180.24	10179.84	0.00	26.60	160.24	122.83	67.94	143.01	116.64	5.42
10225.00	10224.83	10199.26	10198.48	0.00	26.65	159.31	126.54	67.41	149.38	123.09	5.68
10250.00	10249.50	10217.53	10216.22	0.00	26.69	158.28	130.85	66.79	157.86	131.68	6.03

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012			Time:	17:17:28			Page:	12
Field:	McKenzie County, ND			Co-ordinate(NE) Reference:	Well: 3-16H, True North			Vertical (TVD) Reference:	GL-1920+KB 41 1941.0				
Reference Site:	Tallahassee 3												
Reference Well:	3-16H												
Reference Wellpath:	OH												Db: Adapti
Site:	Columbus Federal 3												
Well:	3-16H												
Wellpath:	OH V1 Plan: Plan #1 V1								Inter-Site Error:			0.00	ft
Reference	Offset	Semi-Major Axis	Offset	Offset	TFO-HS	Offset	Location	Ctr-Ctr	Edge	Separation			
MD	MD	Ref	Offset	deg	North	East	Distance	Distance	Factor	Warning			
ft	ft	ft	ft	ft	ft	ft	ft	ft					
10275.00	10273.90	10234.89	10232.90	0.00	26.74	157.17	135.62	66.10	168.34	142.28	6.46		
10300.00	10297.96	10251.23	10248.41	0.00	26.78	155.99	140.70	65.37	180.70	154.78	6.97		
10325.00	10321.59	10266.46	10262.69	0.00	26.82	154.71	145.95	64.61	194.79	169.02	7.56		
10350.00	10344.72	10280.53	10275.71	0.00	26.86	153.32	151.22	63.85	210.47	184.85	8.22		
10375.00	10367.28	10293.40	10287.47	0.00	26.89	151.78	156.41	63.10	227.58	202.12	8.94		
10400.00	10389.20	10305.08	10298.00	0.00	26.92	150.03	161.40	62.38	245.99	220.67	9.71		
10425.00	10410.39	10315.58	10307.35	0.00	26.95	148.03	166.13	61.70	265.53	240.34	10.54		
10450.00	10430.80	10324.92	10315.57	0.00	26.98	145.67	170.52	61.07	286.08	261.00	11.41		
10475.00	10450.36	10333.15	10322.74	0.00	27.00	142.83	174.53	60.49	307.48	282.51	12.31		
10500.00	10469.01	10340.32	10328.91	0.00	27.02	139.37	178.12	59.98	329.63	304.74	13.24		
10525.00	10486.68	10346.46	10334.15	0.00	27.03	135.07	181.28	59.52	352.40	327.57	14.19		
10550.00	10503.32	10351.63	10338.54	0.00	27.05	129.62	184.00	59.13	375.67	350.89	15.16		
10575.00	10518.88	10355.89	10342.12	0.00	27.06	122.67	186.28	58.80	399.35	374.60	16.14		
10600.00	10533.30	10359.28	10344.95	0.00	27.07	113.82	188.12	58.54	423.33	398.60	17.12		
10625.00	10546.55	10361.85	10347.10	0.00	27.08	102.80	189.52	58.33	447.54	422.81	18.10		
10650.00	10558.57	10363.64	10348.59	0.00	27.08	89.85	190.51	58.19	471.87	447.14	19.07		
10675.00	10569.32	10364.71	10349.47	0.00	27.08	76.02	191.11	58.10	496.27	471.51	20.04		
10700.00	10578.78	10365.09	10349.79	0.00	27.08	62.85	191.32	58.07	520.65	495.85	21.00		
10725.00	10586.92	10364.82	10349.56	0.00	27.08	51.51	191.17	58.10	544.94	520.10	21.93		
10750.00	10593.70	10363.93	10348.82	0.00	27.08	42.33	190.67	58.17	569.09	544.19	22.86		
10775.00	10599.11	10362.45	10347.60	0.00	27.08	35.13	189.86	58.28	593.02	568.07	23.76		
10800.00	10603.12	10360.42	10345.91	0.00	27.07	29.51	188.74	58.45	616.70	591.67	24.64		
10825.00	10605.73	10357.85	10343.76	0.00	27.06	25.09	187.34	58.65	640.05	614.95	25.50		
10850.00	10606.92	10354.78	10341.19	0.00	27.06	21.57	185.68	58.89	663.03	637.85	26.34		
10857.19	10607.00	10353.81	10340.37	0.00	27.05	20.69	185.16	58.96	669.56	644.37	26.57		
10900.00	10607.14	10350.00	10337.16	0.00	27.04	20.14	183.14	59.25	708.55	683.24	28.00		
10957.19	10607.32	10340.64	10329.18	0.00	27.02	18.84	178.29	59.95	761.12	735.65	29.89		
11000.00	10607.45	10335.29	10324.58	0.00	27.00	15.09	175.59	60.34	800.84	775.28	31.34		
11100.00	10607.78	10325.00	10315.64	0.00	26.98	5.90	170.55	61.07	894.75	869.04	34.80		
11200.00	10608.10	10311.11	10303.38	0.00	26.94	355.83	164.09	62.00	989.64	963.80	38.29		
11300.00	10608.44	10300.00	10293.43	0.00	26.91	346.04	159.19	62.70	1085.04	1059.10	41.83		
11400.00	10608.78	10288.88	10283.35	0.00	26.88	336.87	154.55	63.37	1180.58	1154.57	45.40		
11500.00	10609.12	10275.00	10270.61	0.00	26.85	328.82	149.10	64.16	1276.00	1249.92	48.91		
11600.00	10609.46	10269.03	10265.08	0.00	26.83	321.58	146.88	64.48	1371.07	1344.97	52.52		
11700.00	10609.81	10260.04	10256.69	0.00	26.81	315.55	143.68	64.94	1465.66	1439.53	56.07		
11800.00	10610.16	10250.00	10247.25	0.00	26.78	310.58	140.30	65.43	1559.63	1533.45	59.57		
11900.00	10610.51	10250.00	10247.25	0.00	26.78	305.80	140.30	65.43	1652.87	1626.71	63.18		
12000.00	10610.86	10236.64	10234.57	0.00	26.74	302.58	136.14	66.03	1745.18	1718.97	66.58		
12100.00	10611.20	10225.00	10223.42	0.00	26.71	299.79	132.83	66.50	1836.60	1810.35	69.95		
12200.00	10611.55	10225.00	10223.42	0.00	26.71	296.82	132.83	66.50	1926.93	1900.69	73.44		
12300.00	10611.89	10225.00	10223.42	0.00	26.71	294.27	132.83	66.50	2016.20	1989.98	76.89		
12400.00	10612.23	10212.70	10211.55	0.00	26.68	292.68	129.64	66.96	2104.16	2077.90	80.11		
12500.00	10612.56	10200.00	10199.20	0.00	26.65	291.34	126.70	67.38	2190.96	2164.64	83.26		
12577.81	10612.81	10200.00	10199.20	0.00	26.65	290.00	126.70	67.38	2257.46	2231.15	85.82		
12600.00	10612.88	10200.00	10199.20	0.00	26.65	290.00	126.70	67.38	2276.34	2250.04	86.54		
12700.00	10613.20	10200.00	10199.20	0.00	26.65	290.00	126.70	67.38	2362.13	2335.84	89.84		
12800.00	10613.52	10200.00	10199.20	0.00	26.65	290.00	126.70	67.38	2449.01	2422.72	93.18		
12900.00	10613.85	10200.00	10199.20	0.00	26.65	290.00	126.70	67.38	2536.84	2510.57	96.56		
13000.00	10614.17	10188.43	10187.88	0.00	26.62	290.50	124.33	67.73	2625.40	2599.09	99.78		
13100.00	10614.49	10185.38	10184.89	0.00	26.61	290.64	123.75	67.81	2714.80	2688.48	103.14		
13200.00	10614.81	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	2804.97	2778.61	106.40		

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012		Time:	17:17:28		Page:	13	
Field:	McKenzie County, ND											
Reference Site:	Tallahassee 3											
Reference Well:	3-16H											
Reference Wellpath:	OH											
Site:	Columbus Federal 3											
Well:	3-16H											
Wellpath:	OH V1 Plan: Plan #1 V1											
										Inter-Site Error:	0.00 ft	
Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation						
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
13300.00	10615.13	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	2895.66	2869.31	109.86	
13400.00	10615.46	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	2986.95	2960.60	113.34	
13500.00	10615.78	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3078.78	3052.43	116.84	
13600.00	10616.10	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3171.11	3144.76	120.35	
13700.00	10616.42	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3263.88	3237.54	123.89	
13800.00	10616.75	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3357.08	3330.73	127.44	
13900.00	10617.07	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3450.65	3424.31	131.00	
14000.00	10617.39	10175.00	10174.67	0.00	26.58	291.09	121.95	68.07	3544.57	3518.23	134.58	
14100.00	10617.71	10163.70	10163.50	0.00	26.55	291.58	120.25	68.31	3638.67	3612.30	137.98	
14200.00	10618.03	10162.15	10161.96	0.00	26.55	291.65	120.04	68.34	3733.18	3706.80	141.55	
14300.00	10618.36	10160.67	10160.50	0.00	26.55	291.71	119.85	68.37	3827.95	3801.58	145.13	
14400.00	10618.68	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	3923.09	3896.68	148.55	
14500.00	10619.00	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4018.33	3991.92	152.16	
14600.00	10619.32	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4113.80	4087.39	155.78	
14700.00	10619.64	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4209.48	4183.07	159.41	
14800.00	10619.97	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4305.35	4278.94	163.04	
14900.00	10620.29	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4401.41	4375.00	166.68	
15000.00	10620.61	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4497.64	4471.23	170.33	
15100.00	10620.93	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4594.03	4567.63	173.99	
15200.00	10621.26	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4690.57	4664.17	177.65	
15300.00	10621.58	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4787.26	4760.85	181.31	
15400.00	10621.90	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4884.08	4857.67	184.98	
15500.00	10622.22	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	4981.02	4954.62	188.65	
15600.00	10622.54	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5078.08	5051.68	192.33	
15700.00	10622.87	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5175.26	5148.85	196.02	
15800.00	10623.19	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5272.54	5246.14	199.70	
15900.00	10623.51	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5369.92	5343.52	203.39	
16000.00	10623.83	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5467.39	5440.99	207.09	
16100.00	10624.15	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5564.96	5538.55	210.79	
16200.00	10624.48	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5662.60	5636.20	214.49	
16300.00	10624.80	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5760.33	5733.93	218.19	
16400.00	10625.12	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5858.14	5831.74	221.90	
16500.00	10625.44	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	5956.02	5929.62	225.61	
16600.00	10625.77	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	6053.97	6027.57	229.32	
16700.00	10626.09	10150.00	10149.91	0.00	26.52	292.18	118.58	68.56	6151.98	6125.58	233.04	
16800.00	10626.41	10138.58	10138.54	0.00	26.49	292.67	117.50	68.71	6249.91	6223.50	236.64	
16900.00	10626.73	10138.05	10138.01	0.00	26.49	292.69	117.46	68.72	6348.03	6321.62	240.35	
17000.00	10627.05	10137.53	10137.49	0.00	26.49	292.72	117.42	68.72	6446.21	6419.80	244.06	
17100.00	10627.38	10137.03	10136.99	0.00	26.48	292.74	117.38	68.73	6544.45	6518.03	247.78	
17200.00	10627.70	10136.54	10136.51	0.00	26.48	292.76	117.34	68.73	6642.73	6616.32	251.50	
17300.00	10628.02	10136.07	10136.03	0.00	26.48	292.78	117.30	68.74	6741.07	6714.66	255.22	
17400.00	10628.34	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	6839.58	6813.16	258.83	
17500.00	10628.66	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	6938.00	6911.58	262.55	
17600.00	10628.99	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7036.47	7010.04	266.28	
17700.00	10629.31	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7134.97	7108.55	270.01	
17800.00	10629.63	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7233.52	7207.10	273.74	
17900.00	10629.95	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7332.11	7305.68	277.47	
18000.00	10630.28	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7430.73	7404.31	281.20	
18100.00	10630.60	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7529.39	7502.97	284.94	
18200.00	10630.92	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7628.09	7601.67	288.67	
18300.00	10631.24	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7726.82	7700.39	292.41	

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
Field: McKenzie County, ND
Reference Site: Tallahassee 3
Reference Well: 3-16H
Reference Wellpath: OH

Date: 04/23/2012 **Time:** 17:17:28 **Page:** 14

Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Db: Adapt

Site: Columbus Federal 3
Well: 3-16H
Wellpath: OH V1 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD	Offset MD	Semi-Major Axis Ref	Offset	TFO-HS	Offset Location	Ctr-Ctr Distance	Edge Distance	Separation Factor	Warning
MD ft	TVD ft	MD ft	TVD ft	deg	North ft	East ft	ft	ft	
18400.00	10631.56	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7825.58 7799.16 296.15
18500.00	10631.89	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7924.37 7897.95 299.88
18535.29	10632.00	10125.00	10124.99	0.00	26.45	293.26	116.60	68.84	7959.24 7932.82 301.20

Site: Tallahassee 2
Well: 2-16H
Wellpath: OH V4 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference MD	Offset MD	Semi-Major Axis Ref	Offset	TFO-HS	Offset Location	Ctr-Ctr Distance	Edge Distance	Separation Factor	Warning
MD ft	TVD ft	MD ft	TVD ft	deg	North ft	East ft	ft	ft	
0.00	0.00	0.00	0.00	0.00	30.67	38.71	22.95	45.00	No Data
100.00	100.00	100.00	100.00	0.00	30.67	38.71	22.95	45.00	44.79 217.37
200.00	200.00	200.00	200.00	0.00	30.67	38.71	22.95	45.00	44.53 95.99
300.00	300.00	300.00	300.00	0.00	30.67	38.71	22.95	45.00	44.27 61.59
400.00	400.00	400.00	400.00	0.00	30.67	38.71	22.95	45.00	44.01 45.34
500.00	500.00	500.00	500.00	0.00	30.67	38.71	22.95	45.00	43.75 35.88
600.00	600.00	600.00	600.00	0.00	30.67	38.71	22.95	45.00	43.48 29.68
700.00	700.00	700.00	700.00	0.00	30.67	38.71	22.95	45.00	43.22 25.31
800.00	800.00	800.00	800.00	0.00	30.67	38.71	22.95	45.00	42.96 22.06
900.00	900.00	900.00	900.00	0.00	30.67	38.71	22.95	45.00	42.70 19.55
1000.00	1000.00	1000.00	1000.00	0.00	30.67	38.71	22.95	45.00	42.44 17.56
1100.00	1100.00	1100.00	1100.00	0.00	30.67	38.71	22.95	45.00	42.18 15.93
1200.00	1200.00	1200.00	1200.00	0.00	30.67	38.71	22.95	45.00	41.91 14.58
1300.00	1300.00	1300.00	1300.00	0.00	30.67	38.71	22.95	45.00	41.65 13.44
1400.00	1400.00	1400.00	1400.00	0.00	30.67	38.71	22.95	45.00	41.39 12.46
1500.00	1500.00	1500.00	1500.00	0.00	30.67	38.71	22.95	45.00	41.13 11.62
1600.00	1600.00	1600.00	1600.00	0.00	30.67	38.71	22.95	45.00	40.87 10.89
1700.00	1700.00	1700.00	1700.00	0.00	30.67	38.71	22.95	45.00	40.60 10.24
1800.00	1800.00	1800.00	1800.00	0.00	30.67	38.71	22.95	45.00	40.34 9.66
1900.00	1900.00	1900.00	1900.00	0.00	30.67	38.71	22.95	45.00	40.08 9.15
2000.00	2000.00	2000.00	2000.00	0.00	30.67	38.71	22.95	45.00	39.82 8.69
2100.00	2100.00	2100.00	2100.00	0.00	30.67	38.71	22.95	45.00	39.56 8.27
2200.00	2200.00	2200.00	2200.00	0.00	30.67	38.71	22.95	45.00	39.30 7.89
2300.00	2300.00	2300.00	2300.00	0.00	30.67	38.71	22.95	45.00	39.03 7.54
2400.00	2400.00	2400.00	2400.00	0.00	30.67	38.71	22.95	45.00	38.77 7.23
2500.00	2500.00	2500.00	2500.00	0.00	30.67	38.71	22.95	45.00	38.51 6.93
2600.00	2600.00	2600.00	2600.00	0.00	30.67	38.71	22.95	45.00	38.25 6.66
2700.00	2700.00	2700.00	2700.00	0.00	30.67	38.71	22.95	45.00	37.99 6.42
2800.00	2800.00	2800.00	2800.00	0.00	30.67	38.71	22.95	45.00	37.72 6.19
2900.00	2900.00	2900.00	2900.00	0.00	30.67	38.71	22.95	45.00	37.46 5.97
3000.00	3000.00	3000.00	3000.00	0.00	30.67	38.71	22.95	45.00	37.20 5.77
3100.00	3100.00	3100.00	3100.00	0.00	30.67	38.71	22.95	45.00	36.94 5.58
3200.00	3200.00	3200.00	3200.00	0.00	30.67	38.71	22.95	45.00	36.68 5.41
3300.00	3300.00	3300.00	3300.00	0.00	30.67	38.71	22.95	45.00	36.42 5.24
3400.00	3400.00	3400.00	3400.00	0.00	30.67	38.71	22.95	45.00	36.15 5.09
3500.00	3500.00	3500.00	3500.00	0.00	30.67	38.71	22.95	45.00	35.89 4.94
3600.00	3600.00	3600.00	3600.00	0.00	30.67	38.71	22.95	45.00	35.63 4.80
3700.00	3700.00	3700.00	3700.00	0.00	30.67	38.71	22.95	45.00	35.37 4.67
3800.00	3800.00	3800.00	3800.00	0.00	30.67	38.71	22.95	45.00	35.11 4.55
3900.00	3900.00	3900.00	3900.00	0.00	30.67	38.71	22.95	45.00	34.85 4.43
4000.00	4000.00	4000.00	4000.00	0.00	30.67	38.71	22.95	45.00	34.58 4.32

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources	Date:	04/23/2012	Time:	17:17:28	Page:	15
Field:	McKenzie County, ND						
Reference Site:	Tallahassee 3						
Reference Well:	3-16H						
Reference Wellpath:	OH						

Site: Tallahassee 2
 Well: 2-16H
 Wellpath: OH V4 Plan: Plan #1 V1

Co-ordinate(NE) Reference: Well: 3-16H, True North

Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Db: Adapti

Inter-Site Error: 0.00 ft											
Reference	Offset		Semi-Major Axis		Offset Location		Ctr-Ctr	Edge	Separation	Warning	
MD	MD	Offset	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	
ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
4100.00	4100.00	4100.00	4100.00	0.00	10.68	30.67	38.71	22.95	45.00	34.32	4.21
4200.00	4200.00	4200.00	4200.00	0.00	10.94	30.67	38.71	22.95	45.00	34.06	4.11
4300.00	4300.00	4300.00	4300.00	0.00	11.20	30.67	38.71	22.95	45.00	33.80	4.02
4400.00	4400.00	4400.00	4400.00	0.00	11.46	30.67	38.71	22.95	45.00	33.54	3.93
4500.00	4500.00	4500.00	4500.00	0.00	11.73	30.67	38.71	22.95	45.00	33.27	3.84
4600.00	4600.00	4600.00	4600.00	0.00	11.99	30.67	38.71	22.95	45.00	33.01	3.75
4700.00	4700.00	4700.00	4700.00	0.00	12.25	30.67	38.71	22.95	45.00	32.75	3.67
4800.00	4800.00	4800.00	4800.00	0.00	12.51	30.67	38.71	22.95	45.00	32.49	3.60
4900.00	4900.00	4900.00	4900.00	0.00	12.77	30.67	38.71	22.95	45.00	32.23	3.52
5000.00	5000.00	5000.00	5000.00	0.00	13.03	30.67	38.71	22.95	45.00	31.97	3.45
5100.00	5100.00	5100.00	5100.00	0.00	13.30	30.67	38.71	22.95	45.00	31.70	3.38
5200.00	5200.00	5200.00	5200.00	0.00	13.56	30.67	38.71	22.95	45.00	31.44	3.32
5300.00	5300.00	5300.00	5300.00	0.00	13.82	30.67	38.71	22.95	45.00	31.18	3.26
5400.00	5400.00	5400.00	5400.00	0.00	14.08	30.67	38.71	22.95	45.00	30.92	3.20
5500.00	5500.00	5500.00	5500.00	0.00	14.34	30.67	38.71	22.95	45.00	30.66	3.14
5600.00	5600.00	5600.00	5600.00	0.00	14.61	30.67	38.71	22.95	45.00	30.39	3.08
5700.00	5700.00	5700.00	5700.00	0.00	14.87	30.67	38.71	22.95	45.00	30.13	3.03
5800.00	5800.00	5800.00	5800.00	0.00	15.13	30.67	38.71	22.95	45.00	29.87	2.97
5900.00	5900.00	5900.00	5900.00	0.00	15.39	30.67	38.71	22.95	45.00	29.61	2.92
6000.00	6000.00	6000.00	6000.00	0.00	15.65	30.67	38.71	22.95	45.00	29.35	2.87
6100.00	6100.00	6100.00	6100.00	0.00	15.91	30.67	38.71	22.95	45.00	29.09	2.83
6200.00	6200.00	6200.00	6200.00	0.00	16.18	30.67	38.71	22.95	45.00	28.82	2.78
6300.00	6300.00	6300.00	6300.00	0.00	16.44	30.67	38.71	22.95	45.00	28.56	2.74
6400.00	6400.00	6400.00	6400.00	0.00	16.70	30.67	38.71	22.95	45.00	28.30	2.69
6500.00	6500.00	6500.00	6500.00	0.00	16.96	30.67	38.71	22.95	45.00	28.04	2.65
6600.00	6600.00	6600.00	6600.00	0.00	17.22	30.67	38.71	22.95	45.00	27.78	2.61
6700.00	6700.00	6700.00	6700.00	0.00	17.49	30.67	38.71	22.95	45.00	27.51	2.57
6800.00	6800.00	6800.00	6800.00	0.00	17.75	30.67	38.71	22.95	45.00	27.25	2.54
6900.00	6900.00	6900.00	6900.00	0.00	18.01	30.67	38.71	22.95	45.00	26.99	2.50
7000.00	7000.00	7000.00	7000.00	0.00	18.27	30.67	38.71	22.95	45.00	26.73	2.46
7100.00	7100.00	7100.00	7100.00	0.00	18.53	30.67	38.71	22.95	45.00	26.47	2.43
7200.00	7200.00	7200.00	7200.00	0.00	18.79	30.67	38.71	22.95	45.00	26.21	2.39
7300.00	7300.00	7300.00	7300.00	0.00	19.06	30.67	38.71	22.95	45.00	25.94	2.36
7400.00	7400.00	7400.00	7400.00	0.00	19.32	30.67	38.71	22.95	45.00	25.68	2.33
7500.00	7500.00	7500.00	7500.00	0.00	19.58	30.67	38.71	22.95	45.00	25.42	2.30
7600.00	7600.00	7600.00	7600.00	0.00	19.84	30.67	38.71	22.95	45.00	25.16	2.27
7700.00	7700.00	7700.00	7700.00	0.00	20.10	30.67	38.71	22.95	45.00	24.90	2.24
7800.00	7800.00	7800.00	7800.00	0.00	20.37	30.67	38.71	22.95	45.00	24.63	2.21
7900.00	7900.00	7900.00	7900.00	0.00	20.63	30.67	38.71	22.95	45.00	24.37	2.18
8000.00	8000.00	8000.00	8000.00	0.00	20.89	30.67	38.71	22.95	45.00	24.11	2.15
8100.00	8100.00	8100.00	8100.00	0.00	21.15	30.67	38.71	22.95	45.00	23.85	2.13
8200.00	8200.00	8200.00	8200.00	0.00	21.41	30.67	38.71	22.95	45.00	23.59	2.10
8300.00	8300.00	8300.00	8300.00	0.00	21.67	30.67	38.71	22.95	45.00	23.33	2.08
8400.00	8400.00	8400.00	8400.00	0.00	21.94	30.67	38.71	22.95	45.00	23.06	2.05
8500.00	8500.00	8500.00	8500.00	0.00	22.20	30.67	38.71	22.95	45.00	22.80	2.03
8600.00	8600.00	8600.00	8600.00	0.00	22.46	30.67	38.71	22.95	45.00	22.54	2.00
8700.00	8700.00	8700.00	8700.00	0.00	22.72	30.67	38.71	22.95	45.00	22.28	1.98
8800.00	8800.00	8800.00	8800.00	0.00	22.98	30.67	38.71	22.95	45.00	22.02	1.96
8900.00	8900.00	8900.00	8900.00	0.00	23.25	30.67	38.71	22.95	45.00	21.76	1.94
9000.00	9000.00	9000.00	9000.00	0.00	23.51	30.67	38.71	22.95	45.00	21.49	1.91
9100.00	9100.00	9100.00	9100.00	0.00	23.77	30.67	38.71	22.95	45.00	21.23	1.89

LEAM Drilling Systems, Inc.

Anticollision Report

Company:	Continental Resources			Date:	04/23/2012			Time:	17:17:28			Page:	16
Field:	McKenzie County, ND												
Reference Site:	Tallahassee 3			Co-ordinate(NE) Reference:			Well: 3-16H, True North						
Reference Well:	3-16H			Vertical (TVD) Reference:			GL 1920+KB 41 1941.0						
Reference Wellpath:	OH												Db: Adapti
Site:	Tallahassee 2			Inter-Site Error:	0.00 ft								
Well:	2-16H												
Wellpath:	OH V4 Plan: Plan #1 V1												
Reference	Offset	Semi-Major Axis	Offset Location	Ctr-Ctr	Edge	Separation							
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor		Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft			
9200.00	9200.00	9200.00	9200.00	0.00	24.03	30.67	38.71	22.95	45.00	20.97	1.87		
9300.00	9300.00	9300.00	9300.00	0.00	24.29	30.67	38.71	22.95	45.00	20.71	1.85		
9400.00	9400.00	9400.00	9400.00	0.00	24.55	30.67	38.71	22.95	45.00	20.45	1.83		
9500.00	9500.00	9500.00	9500.00	0.00	24.82	30.67	38.71	22.95	45.00	20.18	1.81		
9600.00	9600.00	9600.00	9600.00	0.00	25.08	30.67	38.71	22.95	45.00	19.92	1.79		
9700.00	9700.00	9700.00	9700.00	0.00	25.34	30.67	38.71	22.95	45.00	19.66	1.78		
9800.00	9800.00	9800.00	9800.00	0.00	25.60	30.67	38.71	22.95	45.00	19.40	1.76		
9900.00	9900.00	9900.00	9900.00	0.00	25.86	30.67	38.71	22.95	45.00	19.14	1.74		
10000.00	10000.00	10000.00	10000.00	0.00	26.12	30.67	38.71	22.95	45.00	18.88	1.72		
10100.00	10100.00	10100.00	10100.00	0.00	26.39	30.67	38.71	22.95	45.00	18.61	1.71		
10166.27	10166.27	10172.81	10172.51	0.00	26.58	32.12	33.43	20.98	39.96	13.66	1.52		
10175.00	10175.00	10182.25	10181.81	0.00	26.60	164.08	31.93	20.42	38.59	12.35	1.47	Level 3	
10200.00	10199.97	10209.05	10208.01	0.00	26.67	166.81	26.65	18.45	34.61	8.56	1.33	Level 3	
10225.00	10224.83	10235.50	10233.48	0.00	26.74	171.58	19.98	15.97	30.68	4.86	1.19	Level 2	
10250.00	10249.50	10261.56	10258.12	0.00	26.81	179.07	12.03	13.00	27.05	1.42	1.06	Level 2	
10275.00	10273.90	10287.23	10281.85	0.00	26.88	189.99	2.88	9.58	24.16	-1.46	0.94	Level 1	
10300.00	10297.96	10312.48	10304.60	0.00	26.94	204.32	-7.37	5.76	22.68	-3.27	0.87	Level 1	
10325.00	10321.59	10337.31	10326.32	0.00	27.01	220.30	-18.63	1.55	23.26	-3.28	0.88	Level 1	
10350.00	10344.72	10361.71	10346.99	0.00	27.07	235.05	-30.79	-2.98	26.10	-0.89	0.97	Level 1	
10375.00	10367.28	10385.69	10366.56	0.00	27.14	246.79	-43.77	-7.83	30.88	3.75	1.14	Level 2	
10400.00	10389.20	10409.25	10385.02	0.00	27.20	255.46	-57.47	-12.94	37.11	10.05	1.37	Level 3	
10425.00	10410.39	10432.40	10402.38	0.00	27.26	261.77	-71.81	-18.29	44.37	17.48	1.65		
10450.00	10430.80	10455.14	10418.63	0.00	27.33	266.42	-86.72	-23.86	52.41	25.70	1.96		
10475.00	10450.36	10477.50	10433.79	0.00	27.39	269.94	-102.12	-29.60	61.05	34.52	2.30		
10500.00	10469.01	10499.49	10447.86	0.00	27.45	272.67	-117.95	-35.51	70.18	43.79	2.66		
10525.00	10486.68	10521.13	10460.87	0.00	27.51	274.87	-134.15	-41.56	79.72	53.43	3.03		
10550.00	10503.32	10542.45	10472.83	0.00	27.57	276.69	-150.67	-47.72	89.60	63.38	3.42		
10575.00	10518.88	10563.45	10483.78	0.00	27.63	278.23	-167.46	-53.99	99.78	73.60	3.81		
10600.00	10533.30	10584.16	10493.73	0.00	27.68	279.58	-184.48	-60.34	110.21	84.03	4.21		
10625.00	10546.55	10604.62	10502.70	0.00	27.74	280.77	-201.70	-66.77	120.86	94.65	4.61		
10650.00	10558.57	10624.84	10510.72	0.00	27.80	281.85	-219.09	-73.25	131.69	105.43	5.02		
10675.00	10569.32	10644.84	10517.82	0.00	27.86	282.84	-236.61	-79.79	142.67	116.33	5.42		
10700.00	10578.78	10664.66	10524.00	0.00	27.92	283.76	-254.25	-86.38	153.77	127.34	5.82		
10725.00	10586.92	10684.32	10529.29	0.00	27.97	284.63	-271.99	-93.00	164.96	138.41	6.21		
10750.00	10593.70	10703.84	10533.70	0.00	28.03	285.44	-289.81	-99.64	176.22	149.54	6.61		
10775.00	10599.11	10723.26	10537.25	0.00	28.09	286.22	-307.69	-106.32	187.51	160.70	6.99		
10800.00	10603.12	10742.59	10539.94	0.00	28.15	286.96	-325.62	-113.01	198.82	171.86	7.37		
10825.00	10605.73	10761.87	10541.79	0.00	28.21	287.66	-343.60	-119.72	210.12	183.00	7.75		
10850.00	10606.92	10781.12	10542.80	0.00	28.26	288.33	-361.60	-126.44	221.38	194.10	8.11		
10857.19	10607.00	10786.65	10542.94	0.00	28.28	288.52	-366.79	-128.37	224.61	197.28	8.22		
10900.00	10607.14	10823.03	10542.91	0.00	28.39	287.11	-400.87	-141.09	244.07	216.49	8.85		
10957.19	10607.32	10873.45	10542.75	0.00	28.55	285.51	-448.11	-158.72	270.28	242.39	9.69		
11000.00	10607.45	10911.42	10542.62	0.00	28.67	284.36	-483.68	-172.00	289.58	261.49	10.31		
11100.00	10607.78	11001.76	10542.32	0.00	28.96	282.34	-568.32	-203.58	331.60	303.08	11.63		
11200.00	10608.10	11094.22	10542.01	0.00	29.27	280.96	-654.95	-235.91	369.09	340.18	12.77		
11300.00	10608.44	11188.55	10541.70	0.00	29.59	279.98	-743.32	-268.89	401.87	372.59	13.72		
11400.00	10608.78	11268.37	10541.43	0.00	29.87	279.33	-818.56	-295.51	431.44	401.85	14.58		
11500.00	10609.12	11346.19	10541.17	0.00	30.14	278.79	-892.92	-318.42	459.96	430.08	15.40		
11600.00	10609.46	11423.35	10540.91	0.00	30.41	278.34	-967.52	-338.14	487.38	457.23	16.16		
11700.00	10609.81	11500.00	10540.64	0.00	30.68	277.96	-1042.35	-354.72	513.68	483.24	16.88		
11800.00	10610.16	11575.91	10540.39	0.00	30.94	277.63	-1117.05	-368.17	538.80	508.09	17.55		

LEAM Drilling Systems, Inc.

Anticollision Report

Company: Continental Resources
Field: McKenzie County, ND
Reference Site: Tallahassee 3
Reference Well: 3-16H
Reference Wellpath: OH

Date: 04/23/2012

Time: 17:17:28

Page: 17

Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Db: Adapti

Site: Tallahassee 2
Well: 2-16H
Wellpath: OH V4 Plan: Plan #1 V1

Inter-Site Error: 0.00 ft

Reference Offset

Ctr-Ctr Edge Separation

MD TVD

Db: Adapti

Wellpath: OH V4 Plan: Plan #1 V1										Inter-Site Error: 0.00 ft			
Reference MD ft		Offset MD ft		Semi-Major Axis Ref ft		Offset TFO-HS deg		Offset North ft	Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
TVD ft	TVD ft	MD ft	TVD ft	Offset ft	deg	ft	ft	ft	ft	ft	ft		
11900.00	10610.51	11651.38	10540.13	0.00	31.21	277.34	-1191.80	-378.59	562.71	531.74	18.17		
12000.00	10610.86	11726.38	10539.87	0.00	31.47	277.10	-1266.42	-386.02	585.38	554.15	18.75		
12100.00	10611.20	11800.00	10539.62	0.00	31.73	276.89	-1339.90	-390.45	606.78	575.30	19.28		
12200.00	10611.55	11875.10	10539.37	0.00	31.99	276.70	-1414.97	-392.05	626.87	595.14	19.75		
12300.00	10611.89	11972.60	10539.04	0.00	32.36	276.54	-1512.48	-392.05	643.91	611.81	20.06		
12400.00	10612.23	12071.87	10538.70	0.00	32.74	276.45	-1611.75	-392.05	655.81	623.32	20.18		
12500.00	10612.56	12171.64	10538.37	0.00	33.12	276.43	-1711.51	-392.05	662.53	629.65	20.15		
12577.81	10612.81	12249.42	10538.11	0.00	33.43	276.46	-1789.30	-392.05	664.16	630.97	20.01		
12600.00	10612.88	12271.61	10538.03	0.00	33.52	276.47	-1811.49	-392.05	664.18	630.90	19.96		
12700.00	10613.20	12371.61	10537.69	0.00	33.92	276.53	-1911.49	-392.05	664.26	630.58	19.72		
12800.00	10613.52	12471.61	10537.36	0.00	34.33	276.58	-2011.48	-392.05	664.33	630.25	19.49		
12900.00	10613.85	12571.61	10537.02	0.00	34.74	276.64	-2111.48	-392.05	664.41	629.91	19.26		
13000.00	10614.17	12671.60	10536.68	0.00	35.16	276.70	-2211.48	-392.05	664.48	629.57	19.03		
13100.00	10614.49	12771.60	10536.34	0.00	35.58	276.75	-2311.48	-392.05	664.56	629.23	18.81		
13200.00	10614.81	12871.60	10536.01	0.00	36.01	276.81	-2411.47	-392.05	664.64	628.88	18.59		
13300.00	10615.13	12971.60	10535.67	0.00	36.44	276.87	-2511.47	-392.05	664.72	628.53	18.37		
13400.00	10615.46	13071.59	10535.33	0.00	36.88	276.92	-2611.47	-392.05	664.80	628.17	18.15		
13500.00	10615.78	13171.59	10534.99	0.00	37.32	276.98	-2711.46	-392.05	664.88	627.81	17.94		
13600.00	10616.10	13271.59	10534.66	0.00	37.77	277.04	-2811.46	-392.05	664.96	627.44	17.73		
13700.00	10616.42	13371.59	10534.32	0.00	38.22	277.09	-2911.46	-392.05	665.04	627.08	17.52		
13800.00	10616.75	13471.59	10533.98	0.00	38.68	277.15	-3011.46	-392.05	665.12	626.70	17.31		
13900.00	10617.07	13571.58	10533.64	0.00	39.14	277.20	-3111.45	-392.05	665.20	626.33	17.11		
14000.00	10617.39	13671.58	10533.31	0.00	39.60	277.26	-3211.45	-392.04	665.29	625.95	16.91		
14100.00	10617.71	13771.58	10532.97	0.00	40.06	277.32	-3311.45	-392.04	665.37	625.57	16.72		
14200.00	10618.03	13871.58	10532.63	0.00	40.53	277.37	-3411.45	-392.04	665.46	625.19	16.53		
14300.00	10618.36	13971.58	10532.29	0.00	41.01	277.43	-3511.44	-392.04	665.54	624.80	16.34		
14400.00	10618.68	14071.57	10531.96	0.00	41.48	277.49	-3611.44	-392.04	665.63	624.41	16.15		
14500.00	10619.00	14171.57	10531.62	0.00	41.96	277.54	-3711.44	-392.04	665.71	624.02	15.97		
14600.00	10619.32	14271.57	10531.28	0.00	42.45	277.60	-3811.43	-392.04	665.80	623.63	15.79		
14700.00	10619.64	14371.57	10530.94	0.00	42.93	277.65	-3911.43	-392.04	665.89	623.23	15.61		
14800.00	10619.97	14471.56	10530.61	0.00	43.42	277.71	-4011.43	-392.04	665.98	622.83	15.44		
14900.00	10620.29	14571.56	10530.27	0.00	43.91	277.77	-4111.43	-392.04	666.07	622.43	15.27		
15000.00	10620.61	14671.56	10529.93	0.00	44.40	277.82	-4211.42	-392.04	666.16	622.03	15.10		
15100.00	10620.93	14771.56	10529.59	0.00	44.90	277.88	-4311.42	-392.04	666.25	621.63	14.93		
15200.00	10621.26	14871.56	10529.26	0.00	45.40	277.94	-4411.42	-392.04	666.34	621.22	14.77		
15300.00	10621.58	14971.55	10528.92	0.00	45.90	277.99	-4511.41	-392.04	666.43	620.81	14.61		
15400.00	10621.90	15071.55	10528.58	0.00	46.41	278.05	-4611.41	-392.04	666.52	620.40	14.45		
15500.00	10622.22	15171.55	10528.24	0.00	46.91	278.10	-4711.41	-392.04	666.61	619.99	14.30		
15600.00	10622.54	15271.55	10527.91	0.00	47.42	278.16	-4811.41	-392.04	666.71	619.58	14.15		
15700.00	10622.87	15371.54	10527.57	0.00	47.93	278.22	-4911.40	-392.04	666.80	619.17	14.00		
15800.00	10623.19	15471.54	10527.23	0.00	48.44	278.27	-5011.40	-392.04	666.90	618.75	13.85		
15900.00	10623.51	15571.54	10526.89	0.00	48.96	278.33	-5111.40	-392.04	666.99	618.34	13.71		
16000.00	10623.83	15671.54	10526.56	0.00	49.47	278.38	-5211.40	-392.04	667.09	617.92	13.57		
16100.00	10624.15	15771.54	10526.22	0.00	49.99	278.44	-5311.39	-392.04	667.18	617.50	13.43		
16200.00	10624.48	15871.53	10525.88	0.00	50.51	278.50	-5411.39	-392.04	667.28	617.08	13.29		
16300.00	10624.80	15971.53	10525.54	0.00	51.03	278.55	-5511.39	-392.04	667.38	616.66	13.16		
16400.00	10625.12	16071.53	10525.21	0.00	51.56	278.61	-5611.38	-392.04	667.48	616.24	13.03		
16500.00	10625.44	16171.53	10524.87	0.00	52.08	278.66	-5711.38	-392.04	667.58	615.81	12.90		
16600.00	10625.77	16271.53	10524.53	0.00	52.61	278.72	-5811.38	-392.04	667.68	615.39	12.77		
16700.00	10626.09	16371.52	10524.19	0.00	53.14	278.78	-5911.38	-392.04	667.78	614.96	12.64		
16800.00	10626.41	16471.52	10523.86	0.00	53.67	278.83	-6011.37	-392.04	667.88	614.54	12.52		

LEAM Drilling Systems, Inc.
Anticollision Report

Company:	Continental Resources	Date:	04/23/2012	Time:	17:17:28	Page:	18
Field:	McKenzie County, ND						
Reference Site:	Tallahassee 3						
Reference Well:	3-16H						
Reference Wellpath:	OH						

Site: Tallahassee 2

Well: 2-16H

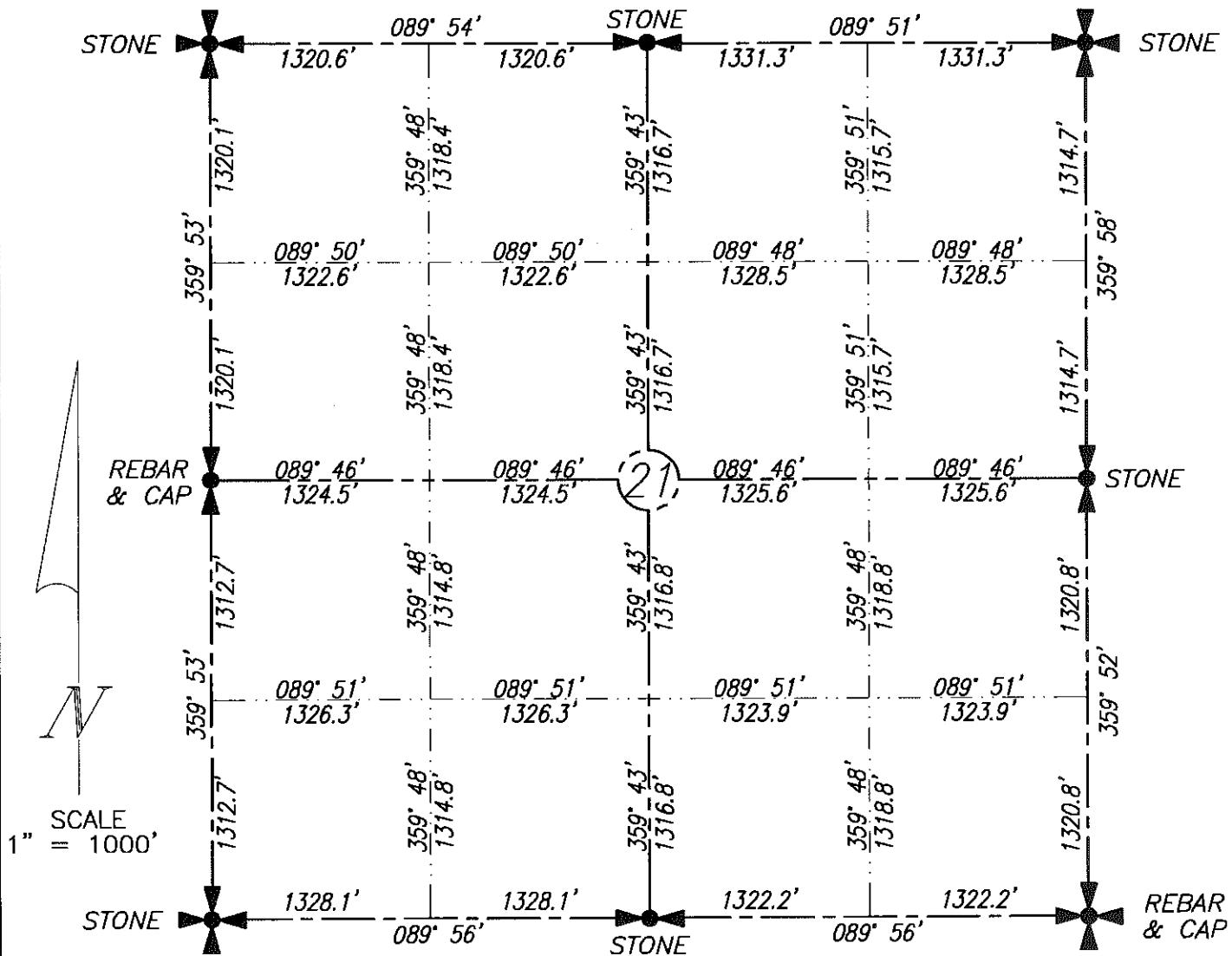
Wellpath: OH V4 Plan: Plan #1 V1

Co-ordinate(NE) Reference: Well: 3-16H, True North
Vertical (TVD) Reference: GL 1920+KB 41 1941.0

Dh: Adapti

Inter-Site Error: 0.00 ft												
Reference MD ft	Offset TVD ft	MD ft	Offset TVD ft	Semi-Major Axis Ref ft	Offset ft	TFO-HS deg	Offset North ft	Location East ft	Ctr-Ctr Distance ft	Edge Distance ft	Separation Factor	Warning
16900.00	10626.73	16571.52	10523.52	0.00	54.20	278.89 -6111.37	-392.04	667.98	614.11	12.40		
17000.00	10627.05	16671.52	10523.18	0.00	54.73	278.94 -6211.37	-392.04	668.08	613.69	12.28		
17100.00	10627.38	16771.51	10522.84	0.00	55.26	279.00 -6311.37	-392.04	668.19	613.26	12.16		
17200.00	10627.70	16871.51	10522.51	0.00	55.80	279.06 -6411.36	-392.04	668.29	612.83	12.05		
17300.00	10628.02	16971.51	10522.17	0.00	56.34	279.11 -6511.36	-392.04	668.39	612.40	11.94		
17400.00	10628.34	17071.51	10521.83	0.00	56.87	279.17 -6611.36	-392.04	668.50	611.97	11.83		
17500.00	10628.66	17171.51	10521.49	0.00	57.41	279.22 -6711.35	-392.04	668.61	611.54	11.72		
17600.00	10628.99	17271.50	10521.16	0.00	57.95	279.28 -6811.35	-392.04	668.71	611.11	11.61		
17700.00	10629.31	17371.50	10520.82	0.00	58.49	279.34 -6911.35	-392.04	668.82	610.68	11.50		
17800.00	10629.63	17471.50	10520.48	0.00	59.04	279.39 -7011.35	-392.04	668.93	610.25	11.40		
17900.00	10629.95	17571.50	10520.14	0.00	59.58	279.45 -7111.34	-392.04	669.03	609.82	11.30		
18000.00	10630.28	17671.49	10519.81	0.00	60.13	279.50 -7211.34	-392.04	669.14	609.38	11.20		
18100.00	10630.60	17771.49	10519.47	0.00	60.67	279.56 -7311.34	-392.04	669.25	608.95	11.10		
18200.00	10630.92	17871.49	10519.13	0.00	61.22	279.61 -7411.34	-392.04	669.36	608.52	11.00		
18300.00	10631.24	17971.49	10518.79	0.00	61.77	279.67 -7511.33	-392.04	669.47	608.08	10.91		
18400.00	10631.56	18071.49	10518.46	0.00	62.31	279.73 -7611.33	-392.04	669.58	607.65	10.81		
18500.00	10631.89	18171.48	10518.12	0.00	62.86	279.78 -7711.33	-392.04	669.70	607.22	10.72		
18535.29	10632.00	18206.77	10518.00	0.00	63.06	279.80 -7746.61	-392.04	669.74	607.06	10.69		

HORIZONTAL SECTION PLAT
 CONTINENTAL RESOURCES INC.
 TALLAHASSEE 3-16H
 SECTION 21, T153N, R101W
 MCKENZIE COUNTY, NORTH DAKOTA



ALL CORNERS SHOWN ON THIS PLAT WERE FOUND IN THE FIELD
 DISTANCES TO ALL OTHERS ARE CALCULATED.

ALL BEARINGS SHOWN ARE ASSUMED.

JOHN PAULSON
 CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS
 WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE
 CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF
 MY KNOWLEDGE AND BELIEF

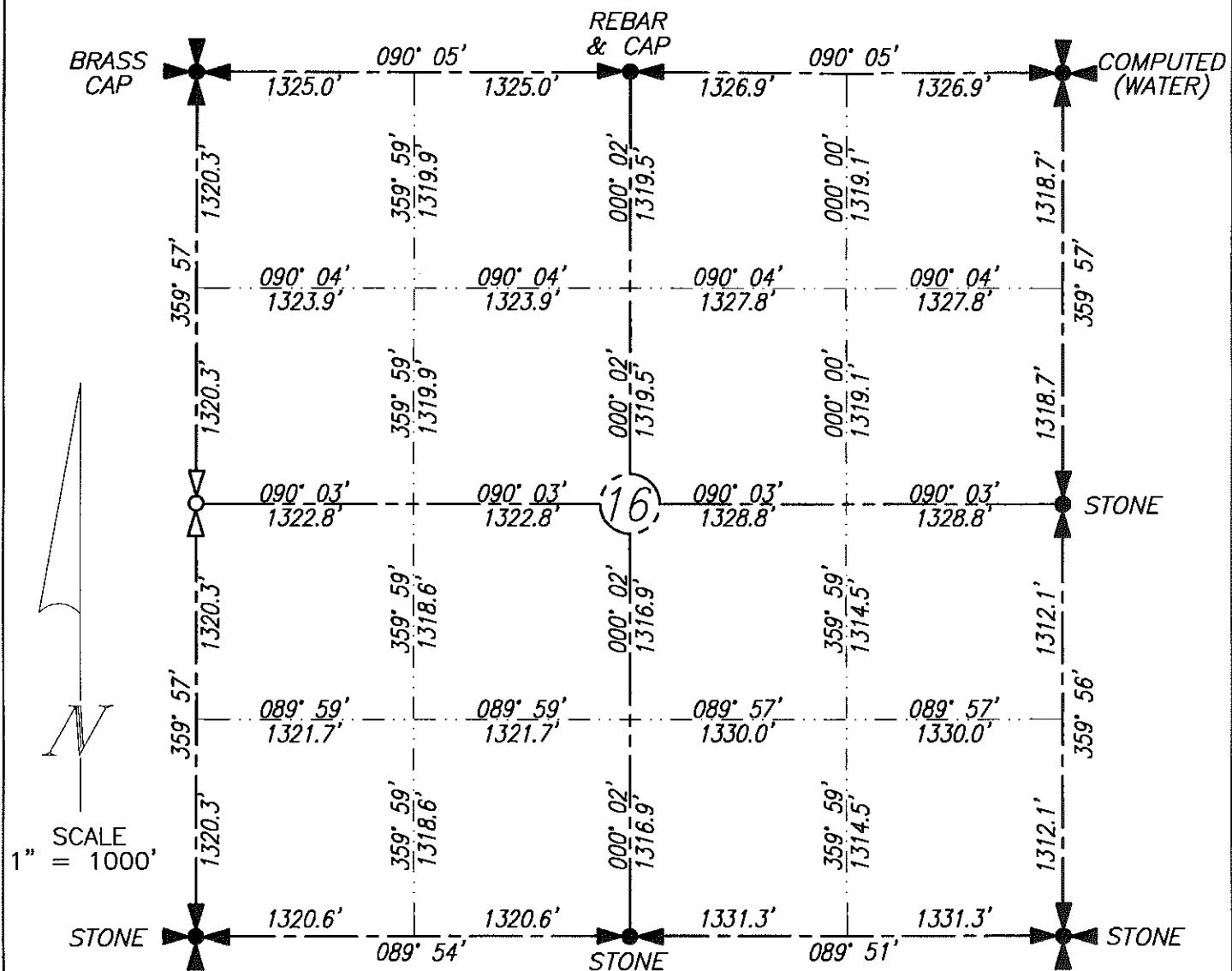
JOHN PAULSON R.L.S. 3366

BROSZ ENGINEERING INC.

BOX 357
 BOWMAN, N.D. 58623
 PHONE: 701-523-3340
 FAX: 701-523-5243

PROJECT NO. 12-10

HORIZONTAL SECTION PLAT
CONTINENTAL RESOURCES INC.
TALLAHASSEE 3-16H
SECTION 16, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA



ALL CORNERS SHOWN ON THIS PLAT WERE FOUND IN THE FIELD
DISTANCES TO ALL OTHERS ARE CALCULATED.
ALL BEARINGS SHOWN ARE ASSUMED.

I CERTIFY THIS PLAT CORRECTLY REPRESENTS
WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE
CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF
MY KNOWLEDGE AND BELIEF

~~JOHN PAULSON R.L.S.~~ 3366

BROSZ ENGINEERING INC.

BOX 357

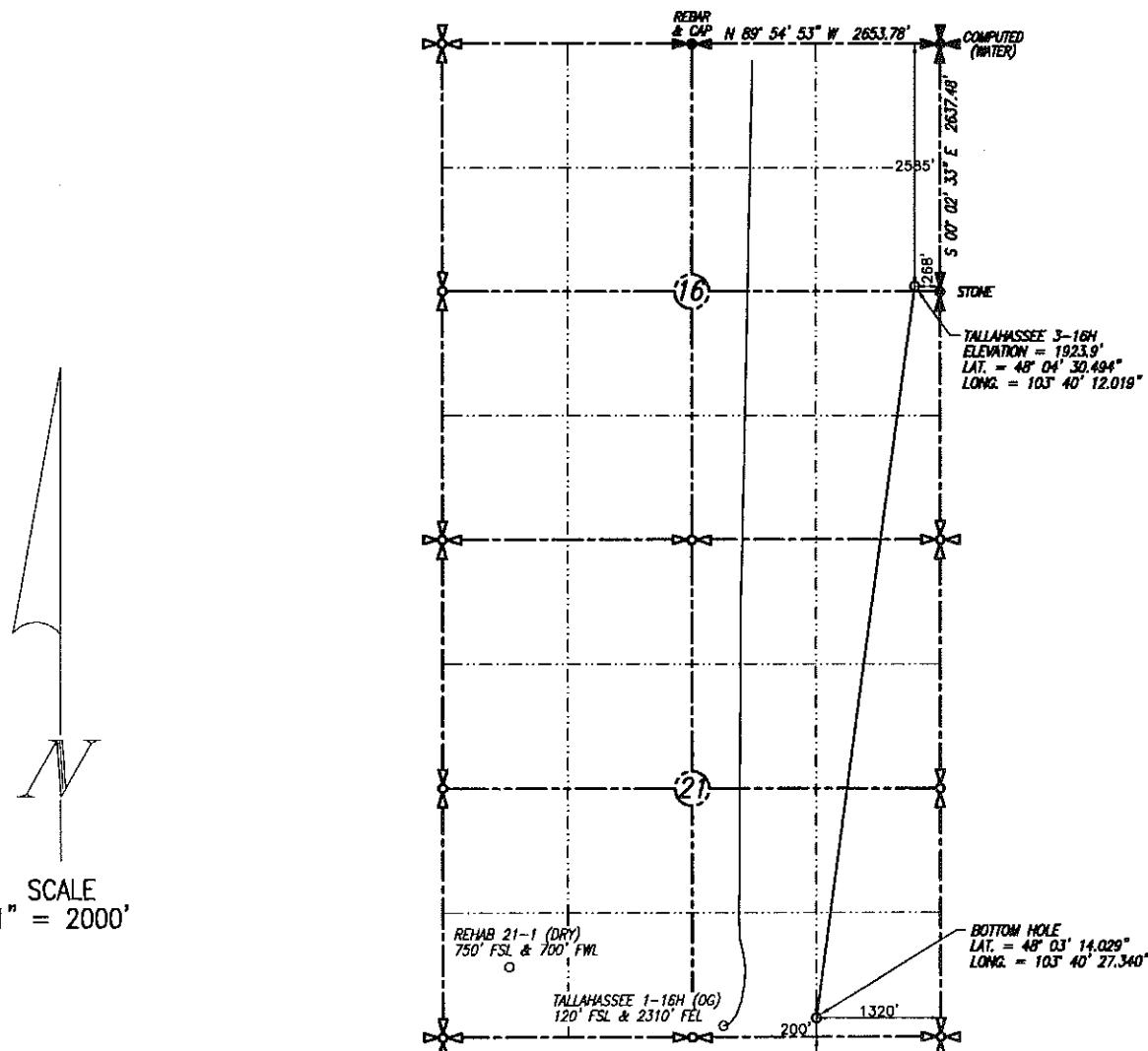
BOWMAN, N.D. 58623

PHONE: 701-523-3340

PROJECT NO 12-10

BOTTOM HOLE LOCATION PLAT
 CONTINENTAL RESOURCES INC.
 TALLAHASSEE 3-16H
 SECTION 16, T153N, R101W
 MCKENZIE COUNTY, NORTH DAKOTA
 2585' FNL & 268' FEL

REVISED: 4-16-2012



I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS
 WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE
 CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF
 MY KNOWLEDGE AND BELIEF

John Parsons 4-16-12

JOHN PARSONS PLS. #3366

LAND
SURVEYOR
L.S. 3366

DATE STAKED: 1-4-2012

NORTH DAKOTA

BASIS OF VERTICAL DATUM:
NAVD 1988 GEOD 09

PERSON AUTHORIZING SURVEY;
CHAD NEWBY

EXPLANATION AREA: NAD83(CORS96)

BASIS OF BEARING: TRUE NORTH

BROSZ ENGINEERING INC.

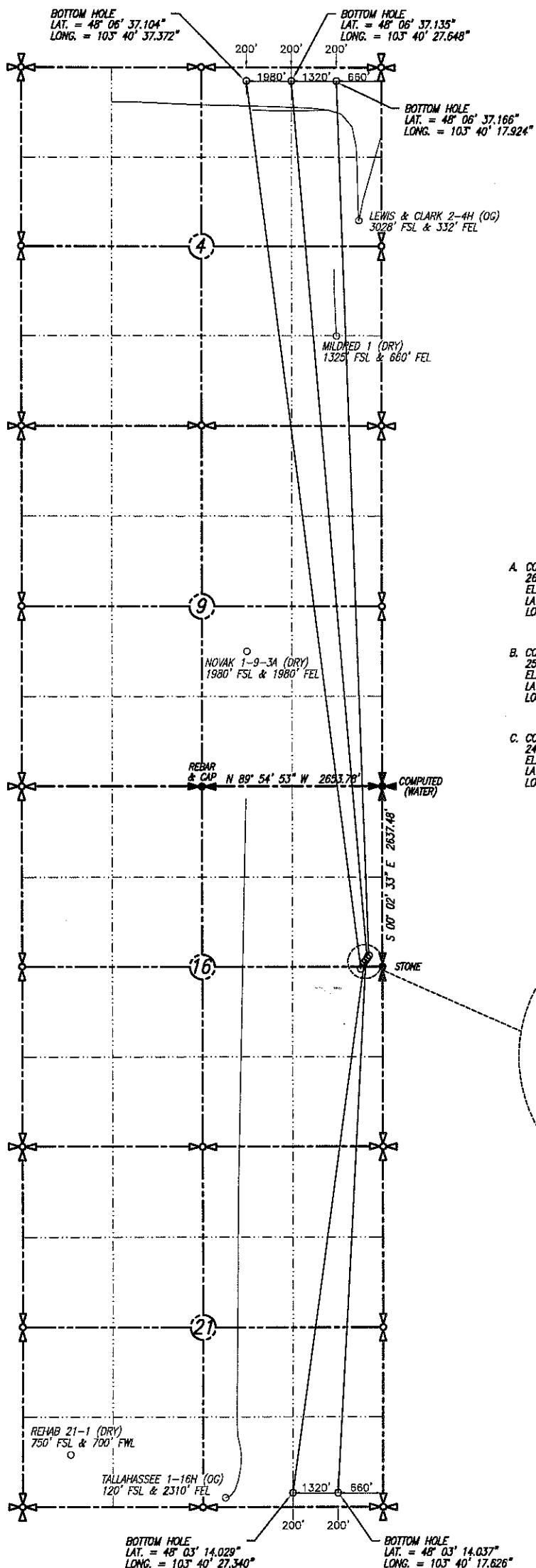
BOX 357
BOWMAN, N.D. 58623
PHONE: 701-523-3340
FAX: 701-523-5243

PROJECT NO. 12-10

BOTTOM HOLE LOCATION PLAT

REVISED: 4-16-2012

CONTINENTAL RESOURCES INC.

COLUMBUS FEDERAL 1, 2, & 3 – TALLAHASSEE 2 & 3 ECO PAD
SECTION 16, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA

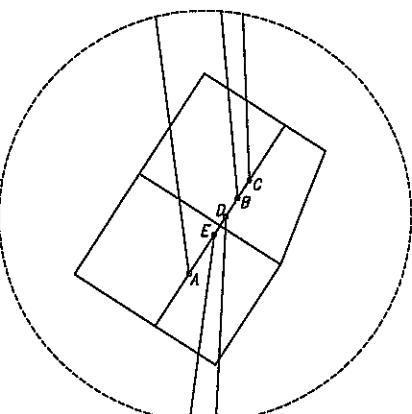
A. COLUMBUS FEDERAL 1-16H
2669' FNL & 318' FEL
ELEVATION = 1927.5'
LAT. = 48° 04' 29.665"
LONG. = 103° 40' 12.754"

D. TALLAHASSEE 2-16H
2547' FNL & 245' FEL
ELEVATION = 1921.7'
LAT. = 48° 04' 30.876"
LONG. = 103° 40' 11.681"

B. COLUMBUS FEDERAL 2-16H
2508' FNL & 222' FEL
ELEVATION = 1921.0'
LAT. = 48° 04' 31.256"
LONG. = 103° 40' 11.343"

E. TALLAHASSEE 3-16H
2589' FNL & 268' FEL
ELEVATION = 1923.9'
LAT. = 48° 04' 30.494"
LONG. = 103° 40' 12.019"

C. COLUMBUS FEDERAL 3-16H
2469' FNL & 199' FEL
ELEVATION = 1920.0'
LAT. = 48° 04' 31.639"
LONG. = 103° 40' 11.004"

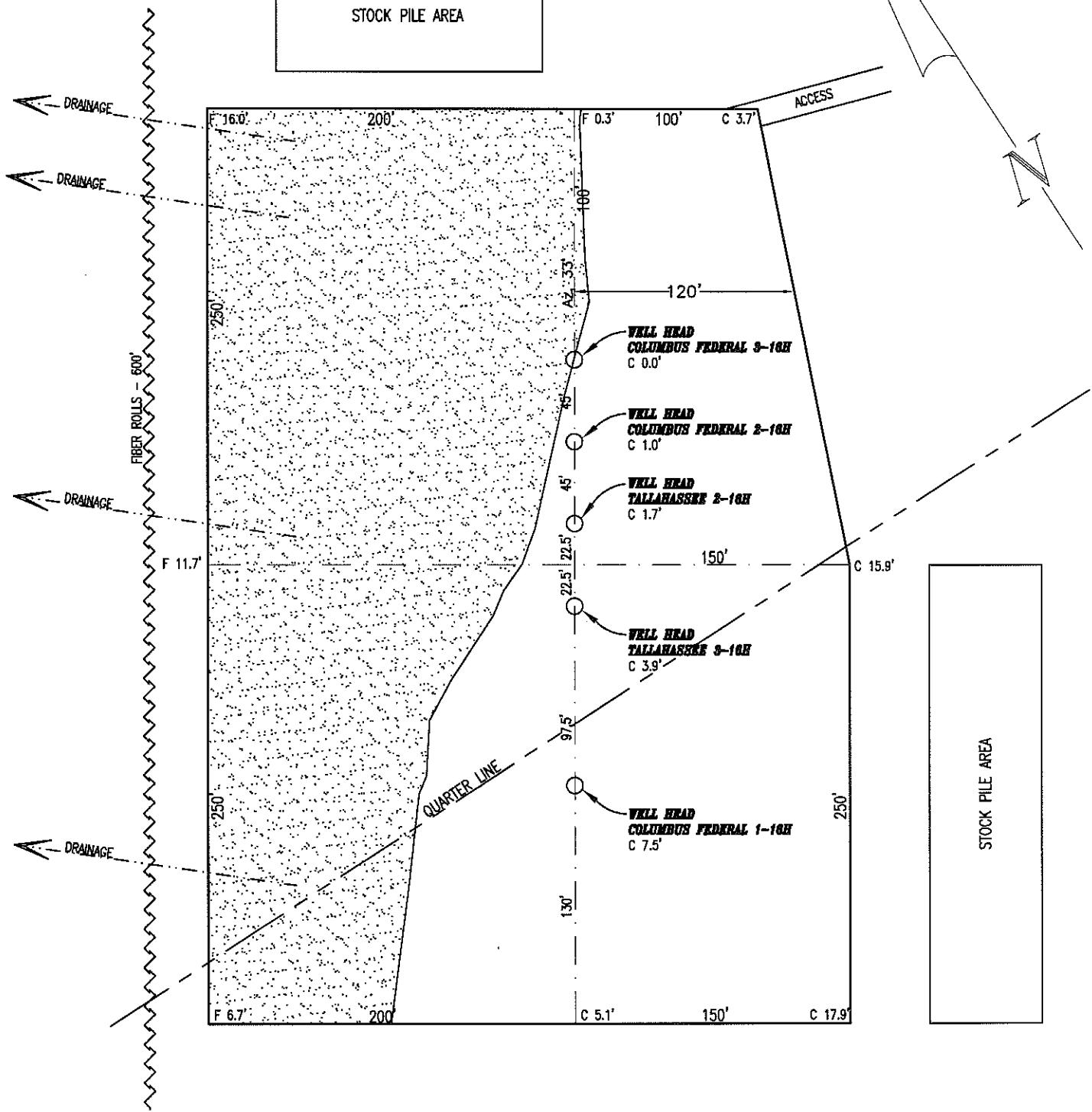


PERSON AUTHORIZING SURVEY;
CHAD NEWBY

EXPLANATION AREA: NAD83(CORS96)

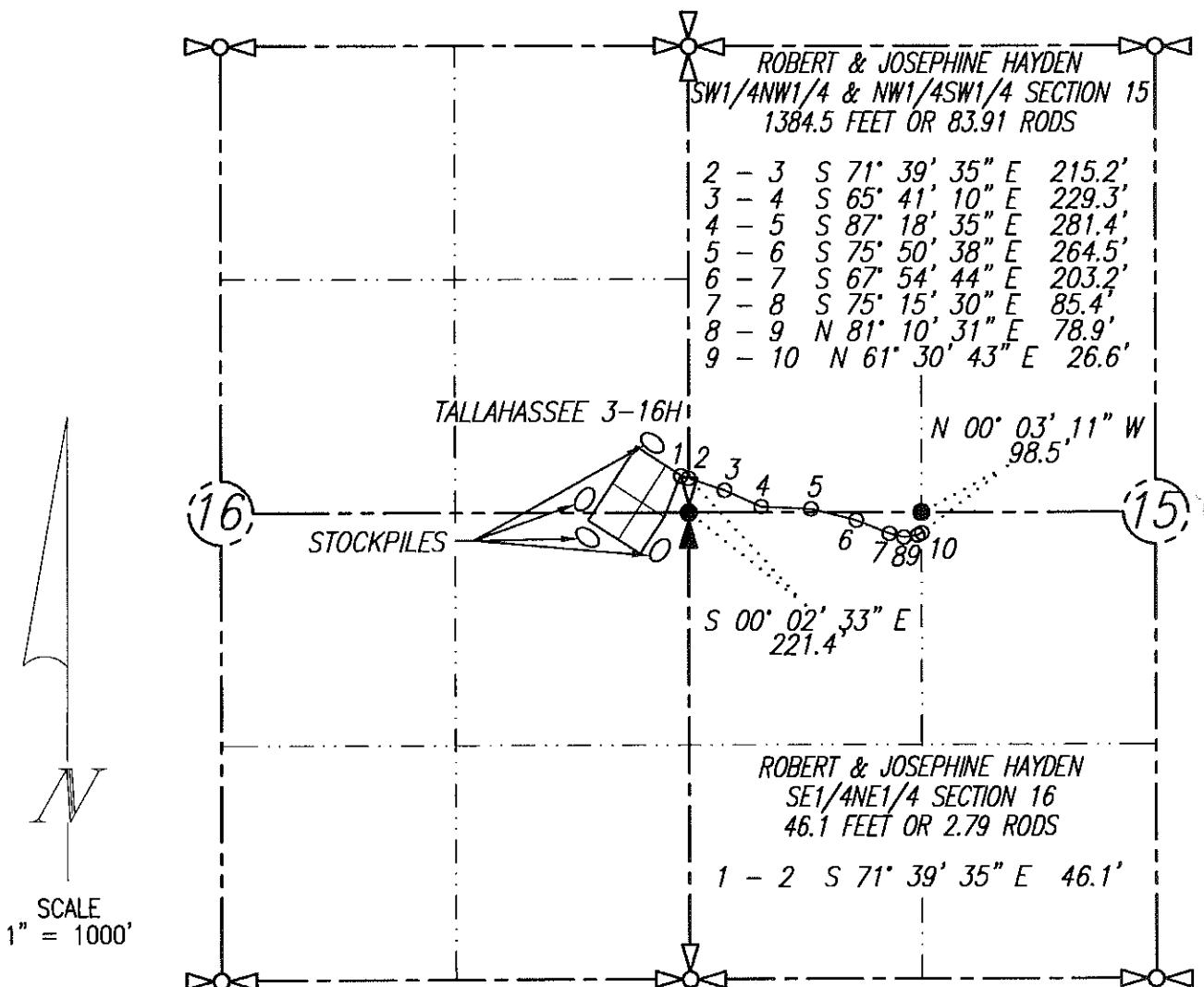
BASIS OF BEARING: TRUE NORTH

BROSZ ENGINEERING INC.
BOX 357
BOWMAN, N.D. 58623
PHONE: 701-523-3340
FAX: 701-523-5243
PROJECT NO. 12-10



CONTINENTAL RESOURCES INC. PO BOX 1032 ENID, OKLAHOMA 73702	ESTIMATED EARTH QUANTITIES	ALL INDICATED CUTS & FILLS ARE STAKED GRADE ELEVATIONS.
		BACKSLOPES ASSUMED AT 1 1/2 : 1 %
DRILLING RIG LAYOUT TALLAHASSEE 3-16H SECTION 16, T153N, R101W MCKENZIE COUNTY, NORTH DAKOTA	TOTAL CUT: 31,844 CUBIC YARDS	
	TOTAL FILL: 27,716 CUBIC YARDS	
Use excess materials in access road fill		
Ground Elevation at Well Head: 1923.9 ft. ASL		
Finished Rig Grade Elevation: 1920.0 ft. ASL		
DRAFT: HEDGE	SCALE 1" = 80'	DATE: 1-4-2012
		PROJECT NO. 12-10

DRILL SITE LOCATION & ROAD LOCATION PLAT
 CONTINENTAL RESOURCES INC.
 TALLAHASSEE 3-16H
 SECTIONS 15 & 16, T153N, R101W
 MCKENZIE COUNTY, NORTH DAKOTA



**NOTE: THERE IS A PIPELINE AND POWERLINE EASEMENT
 LYING ON BOTH SIDES OF THE WELL ROAD EASEMENT.**

I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS
 WORK PERFORMED BY ME OR UNDER MY RESPONSIBLE
 CHARGE, AND IS TRUE AND CORRECT TO THE BEST OF
 MY KNOWLEDGE AND BELIEF.



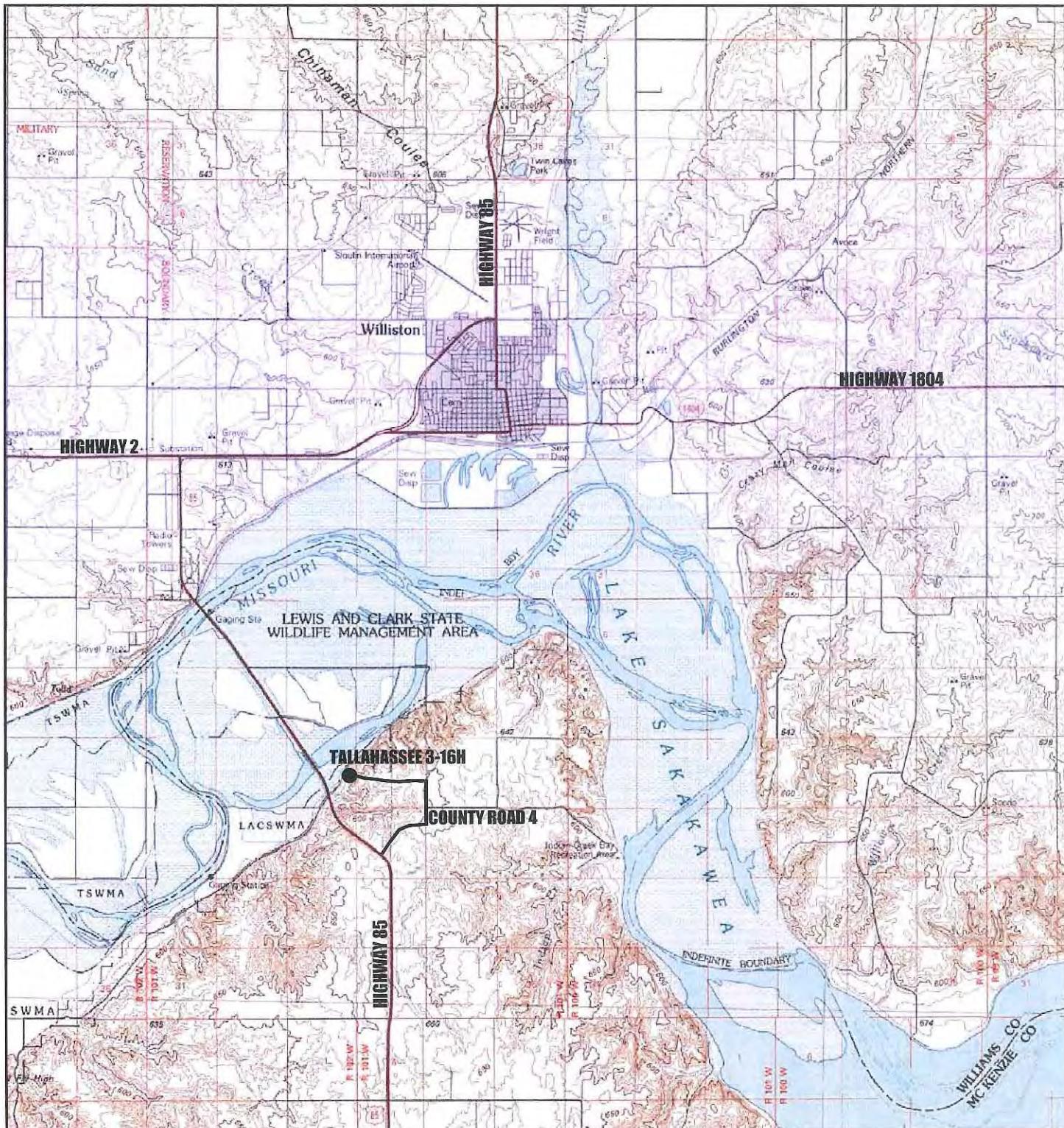
JOHN R. MILLER, R.L.S. #3366

DATE STAKED: 1-4-2012

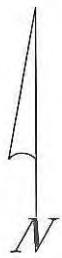
PERSON AUTHORIZING SURVEY;
CHAD NEWBY

BASIS OF BEARING: TRUE NORTH

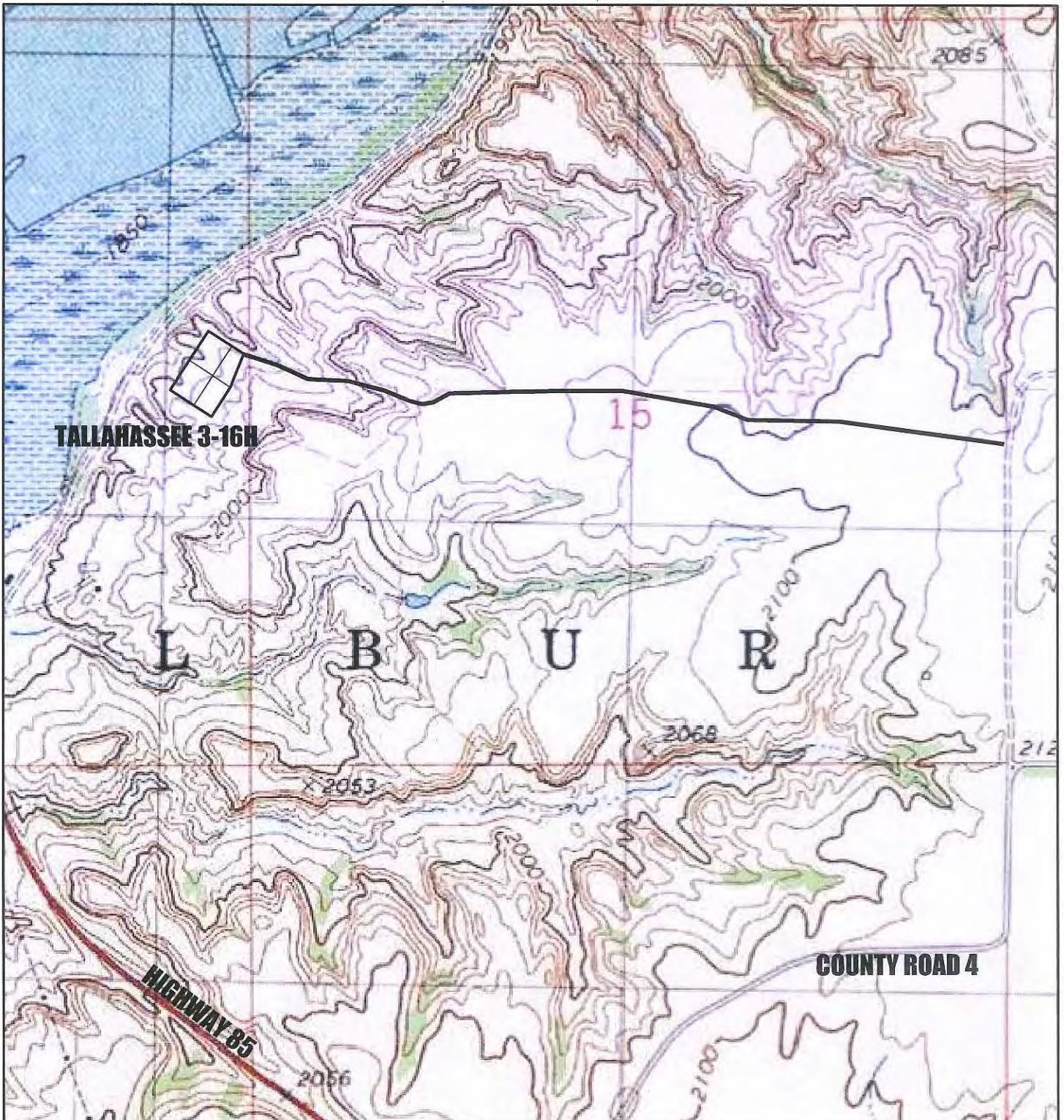
BROSZ ENGINEERING INC.
 BOX 357
 BOWMAN, N.D. 58623
 PHONE: 701-523-3340
 FAX: 701-523-5243
 PROJECT NO. 12-10



CONTINENTAL RESOURCES INC.
VICINITY MAP



TALLAHASSEE 3-16H
SECTION 16, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA



CONTINENTAL RESOURCES INC.
WELL LOCATION

TALLAHASSEE 3-16H
SECTION 16, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA



Tabor, David

From: Tabor, David
Sent: Wednesday, March 06, 2013 2:25 PM
To: Tabor, David
Subject: FW: Columbus Federal 3-16H and pad.

From: Robert Sandbo [<mailto:Robert.Sandbo@clr.com>]
Sent: Friday, March 01, 2013 4:48 PM
To: Tabor, David
Subject: RE: Columbus Federal 3-16H and pad.

Thanks David. I got the email. Here is our schedule for the pad as of right now:

Columbus Federal 1-16H to spud on 3/24/2013 (may spud with the small rig around one week earlier if possible). We had planned on drilling the Columbus 1-16H first and then come back in a year or so and drill the other 4 but if we get the permits for all and the order on the 1280 allows us to drill them all back to back, we will most likely go ahead and drill them all at once. We will take a look at the 1280 order that covers the Columbus 1-16H and see if we can batch drill them.

You should have everything on the 3-16H and the affidavit sometime Monday.

Thanks for the help,

Bob Sandbo
Regulatory Compliance Supervisor

Continental Resources, Inc.

20 N. Broadway
OKC, OK 73102

P: 405-234-9020

F: 405-234-9562

C: 405-708-0691

robert.sandbo@clr.com

www.clr.com



March 7, 2013

Industrial Commission of North Dakota
Oil & Gas Division
600 East Boulevard, Dept 405
Bismarck, North Dakota 58505

Continental Resources, Inc. (CRI) respectfully submits the following information concerning the drilling of the Columbus Federal 1-16H, 2-16H & 3-16H1, and the Tallahassee 2-21H & 3-21H1

Township 153N, Range 101W

Section 16, NE/4 SE/4 & SE/4 NE/4 McKenzie County, North Dakota.

The Columbus Federal and Tallahassee well(s) are located in an environmentally sensitive area in close proximity to the Missouri River. Therefore, Continental Resources Inc. would like to propose the following automatic shut down equipment and level sensing monitoring equipment be deployed on the site to aid in the prevention of any accidental release or safety issue. A schematic diagram and pictures of an existing tank battery with emergency shutdown equipment has been included with this affidavit.

- 1) Tank Side (oil & water tanks)
 - a. ABB Levelmaster dual float
 - b. High level switch as backup
 - c. Battery box with solar backup
- 2) Treater & Separator
 - a. Temperature device in each vessel
 - b. Pressure transducer in each vessel
 - c. Level switch in each vessel
 - d. Battery box with solar backup
- 3) Wellhead
 - a. TotalFlow Controller
 - b. Emergency Shutdown Valve Package
 - c. Battery box with solar backup
 - d. Pressure transducer on casing & tubing
- 4) Flare
 - a. Scrubber pot high level switch
 - b. Monitoring flare for low temp output – alarm if flare goes out

- 5) System Automation through the proposed equipment will provide an independent control system on all equipment on site which will be able to shut the well(s) in should any of the other equipment be incapacitated or functioning improperly.

Don Kennedy

Don Kennedy, Sr. Production Engineer
Continental Resources, Inc.

STATE OF OKLAHOMA)
)ss:
COUNTY OF OKLAHOMA)

On the 7th day of March, 2013, before me, a Notary Public in and for said County and State, personally appeared Don Kennedy, known to me to be the Sr. Production Engineer of Continental Resources, Inc., the Corporation that executed the within instrument, and acknowledged to me that such Corporation executed the same.

Becky Barnes
Notary Public

Oklahoma County, Oklahoma

My Commission Expires: 7/5/2015

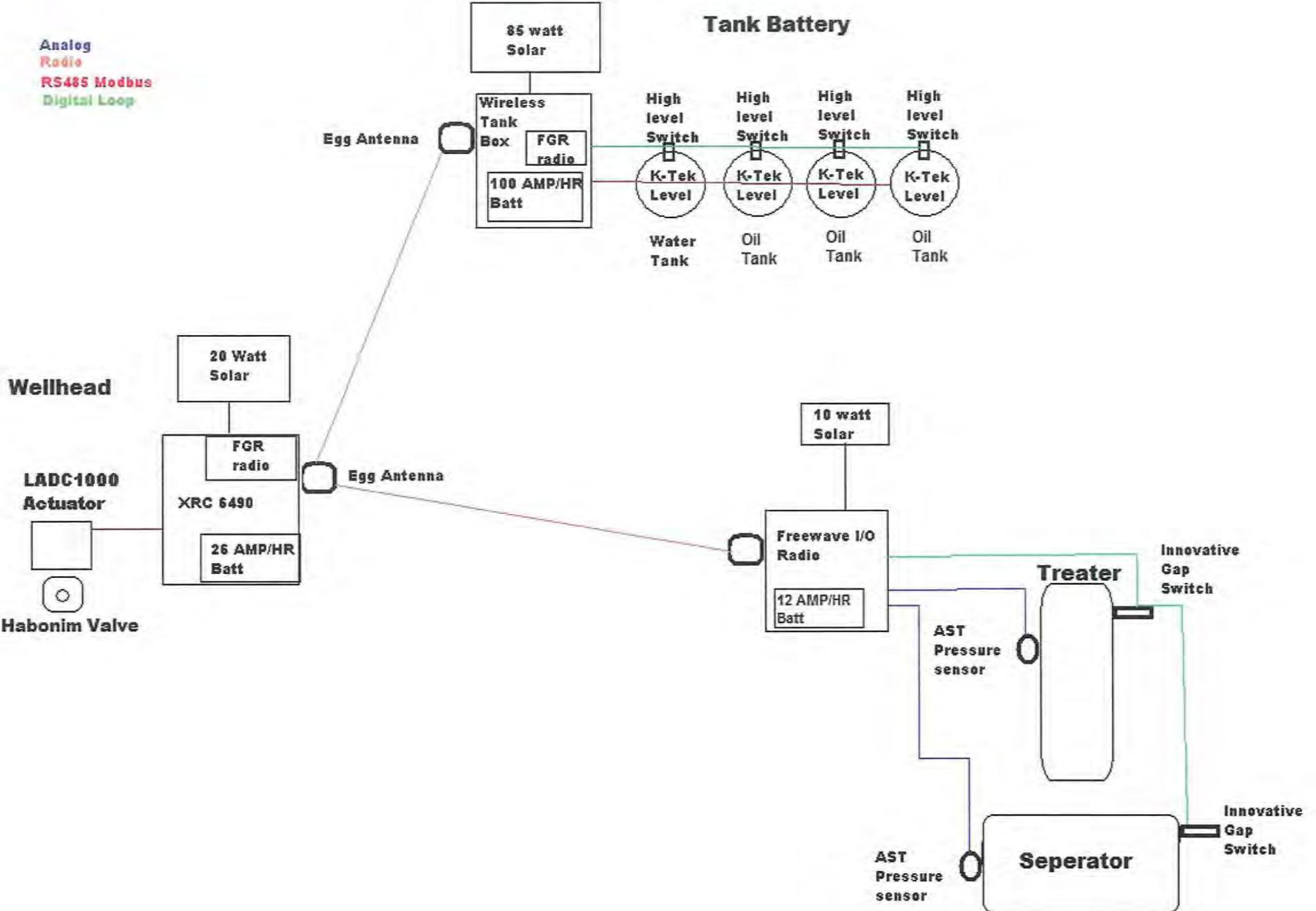
Commission No.: 11006023

Sincerely,

CONTINENTAL RESOURCES, INC.

Becky Barnes
Regulatory Compliance Specialist







U003 Gap Switch and AST 4600 Transducer monitor pressures and liquid content of Flare and Sales Lines, transmitted to XRC via FreeWave Radio.



ABB TotalFlow XRC 6490

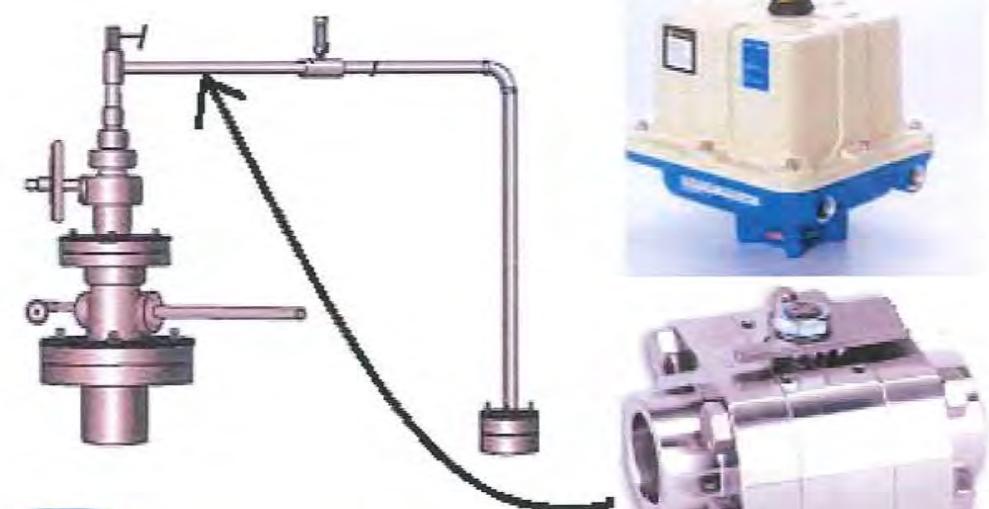


All well information is passed to your SCADA system via FreeWave Network (Future)

Winn-Marion's Well Head Kit with FGRIQ Radio and Power Supply



Tank Level information is passed from Tank Battery to XRC via FreeWave Radio



K-Tek MT5100
Guided Wave Radar



Z-Bend High Level Switch



ESD Valve Package
Standard Port Ball Valve rated to 6000 psi topped with a 12 VDC Actuator w/ Battery Backup



Winn-Marion, Inc.

Continental Resources, Inc. (CRI) respectfully submits the following information concerning the prevention of a wellbore collision while drilling the Columbus Federal 3-16H, SENE of Sec. 16, T153N, R101W, Dunn County, North Dakota.

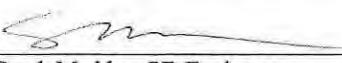
The Mildred 1, NDIC File No. 12306, is a plugged and abandoned, Red River formation, directional well with a SHL of 1325' FSL, 660' FEL of Sec. 4, T153N, R101W. The directional wellbore lies approximately 660' FEL of Sec. 4, T153N, R101W, terminating at a BHL 769' N. of SHL, 2094' FSL of Sec. 4, T153N, R101W. Bottom hole TVD of the existing directional well is 13451'. The deepest casing string is 8-5/8" set at a depth of 3035' TVD.

The proposed Columbus Federal 3-16H is a horizontal well targeting the Middle Bakken formation. Surface hole location for the Columbus Federal 3-16H is 2469' FSL and 199' FEL of Sec. 16, T153N, R101W. The majority of the Columbus Federal 3-16H lateral will lie 760' FEL in order to avoid the existing Mildred 1 wellbore by approximately 100'. The lateral will taper back to 660' FEL, at 10155' N. of SHL, after adequately clearing the segment of the Mildred 1 wellbore within this Baker-Bakken pool.

The Baker-Bakken pool, as defined by NDIC Order No. 21551, is the interval from 50 feet above the top of the Bakken Formation to above the top of the Birdbear Formation. CRI has assessed the geology of the area and has determined this Bakken interval to be approximately 10461' TVD to 10,771' TVD. On the surface planar, the Mildred 1 wellbore exist in this interval for approximately 38', from 1874' FSL to 1912' FSL of Sec. 4, T153N, R94W.

The completion of the Columbus Federal 3-16H will protect the integrity of the Mildred 1 wellbore. Stimulation plans will be made to include a buffer zone with swell packers of a minimum 500' from either side of the Mildred 1 wellbore existing within the Baker-Bakken pool. This zone will not be perforated or completed.

CRI believes adequate precautions have been taken to prevent the possibility of a wellbore collision and accepts all responsibility should such a collision occur.


Sarah Madden, PD Engineer
Continental Resources, Inc.

STATE OF OKLAHOMA)
)ss:
COUNTY OF OKLAHOMA)

On the 6th day of March 2013, before me, a Notary Public in and for said County and State, personally appeared Sarah Madden, known to me to be a PD Engineer of Continental Resources, Inc., the Corporation that executed the within instrument, and acknowledged to me that such Corporation executed the same.


Notary Public

Oklahoma County, Oklahoma

My Commission Expires: 7/5/2015

Commission No.: 11006023



CLR Spill Trailer Inventory

(To be Checked After Each Use)

Supplies	Quantity	Actual	Supplies	Quantity	Actual
Personal Protection			Miscellaneous		
Trauma/1st Aid Kit	1		EnviroClean (5-gal units of concentrate)	2	
Eye Wash	1		Duct Tape (Case)	3	
Hand Cleaner	2		Flashlights	6	
Nitrile Gloves (L & XL Case)	2		Flood Lights	2	
FRC Rain Coat - Extra Large	3		Extension Cord 50' 12-gauge	5	
FRC Rain Coat - Large	3		55-gal. Drums w/lids	2	
Rubber Safety Toed Boots - Size 10	2		Large Trash Cans	2	
Rubber Safety Toed Boots - Size 11	2		HD Drum Liners - boxes	2	
Rubber Safety Toed Boots - Size 12	2		Hoses - Kit (Blue & Green)	5	
FRC Tyvex Suits - Case XL	1		Plastic Buckets	5	
Neoprene Chest Waders - L	1		Propane Cylinders - 20-lb.	2	
Neoprene Chest Waders - L	1		Propane Weed Burner W/Hose	1	
Containment			Pump - Trash	2	
Absorbent (sphag)	10		Pump - 115V Water Transfer	2	
Absorbent Boom 3" x 10'	2		Gas Powered Generator (3-5K Watt)	1	
Absorbent Boom 5" x 10'	10		Misc. Ratchet Straps	6	
Absorbent Boom 8" x 10'	8		Rope 1/2" x 100'	2	
Containment Boom - Fast Water	3		Rope 1/4" x 50'	4	
Absorbent Pads (Hydrocarbon)	10		Rope 3/8" x 100'	2	
Absorbent Pads (Universal)	5		Shop Towels - box	2	
Absorbent Pillows 18" x 18" box	3		Caulking Gun	2	
Absorbent Pom Pom Cube	7		Silicon Tubes	10	
Absorbent Sweep - 16" x 100' - Bag	5		Metal Stakes/Spikes	8	
Miscellaneous			Metal T-Posts	6	
Antifreeze	2		Bungee Cords	3	
Push Broom	2		Wire - 25' roll - smooth	1	
Shovels	2		Fire Extinguisher	1	
Rake	5		Equipment Hooks	6	
Squeegees	2		Shelving	4	
Scoop	2		Drawers	1	
Spark Resistant Scoop	1		Misc. Building Supplies	1	

Continental Resources, Inc. (CRI) respectfully submits the following information concerning the drilling of the Columbus Federal 1-16H, 2-16H and 3-16H and the Tallahassee 2-16H and 3-16H, Sec. 16, T153N, R101W, Williams County, North Dakota.

CRI would like to propose the following safeguards and precautions to be taken while drilling the Columbus Federal-Tallahassee wells to prevent any contamination to freshwater sources during the drilling and completion of the wells:

- 1) During construction of the location, the entire location will be constructed per NDIC permit stipulations, ensuring any spills or runoff which occur on location do not penetrate the fresh ground water and are contained on the surface of the location. These modifications include, but are not limited to, the inclusion of a liner being placed under the location, and cementing of the rathole and mousehole.
- 2) Drainage will be re-routed to avoid the location, and erosion controls will be employed, as appropriate, around the site to reduce erosion and the resulting sediment contamination to freshwater runoff due to weather events.
- 3) The earthen berm, constructed to keep any freshwater runoff off the location, will also eliminate any spills from leaving the location
- 4) No reserve pit or dry cuttings pit will be utilized on location.
- 5) The conductor will be drilled to a depth of 80', and 20" pipe will be run to depth and cemented to surface.
- 6) During drilling operations, a freshwater protection string of 13-3/8" 48# H40 casing will be set to a depth of 500' and cemented to surface to protect the shallow freshwater zones. Standard 9-5/8" 36# J-55 surface casing will be set 100' into the Pierre Shale, to a depth of 1940', and cemented to surface.
- 7) A frac string will be used to protect the intermediate casing during hydraulic fracturing of the well.
- 8) CRI is submitting a comprehensive rig specific Spill Prevention Containment and Countermeasure Plan to prepare for any event which may occur during drilling and completion operations. A spill trailer will be located on location for spill response, if necessary.

CRI believes adequate planning and precautions are being taken to prevent any contamination to ground water and surface waters.


Sarah Madden, Project Development Engineer
Continental Resources, Inc.

STATE OF OKLAHOMA)
)ss:
COUNTY OF OKLAHOMA)

On the 7th day of March 2013, before me, a Notary Public in and for said County and State, personally appeared Sarah Madden, known to me to be a Project Development Engineer of Continental Resources, Inc., the Corporation that executed the within instrument, and acknowledged to me that such Corporation executed the same.


Notary Public

Oklahoma County, Oklahoma

My Commission Expires: 7/5/2015

Commission No.: 11006023



**SPILL PREVENTION CONTAINMENT
AND COUNTERMEASURE PLAN**

FOR

**CYCLONE DRILLING, INC.
P.O. BOX 908
GILLETTE, WYOMING 82717-908**

PREPARED BY;

**TOP LINE ENGINEERING, LLC
12635 HWY 200, P.O. BOX 884
SIDNEY, MONTANA 59270
PH; (701)570-2844**

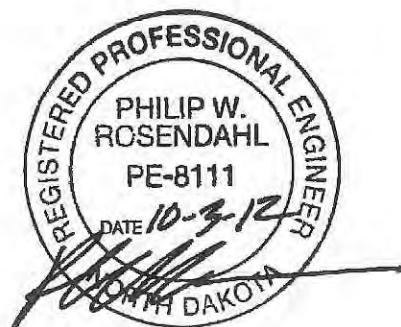


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APPENDIX
TYPICAL DRILL RIG LOCATION PLAN
DISCHARGE REPORTING FORM
DISCHARGE SOURCE INSPECTION RECORD

SPILL PREVENTION CONTAINMENT AND COUNTERMEASURE PLAN (SPCC)

PER 40 CFR 112.7 DATED: SEPTEMBER 14, 2012

This plan will follow the guidelines and format of 40 CFR part 112.7 and will replace the self-certified plan currently in affect.

112.7(a)(1) Discussion of facilities' conformance with the requirements listed in this part. The storage tanks on site store petroleum based drilling mud, diesel fuel, the invert tanks being the base for the drilling mud, salt water tanks, fresh water tanks, crude oil storage tanks and empty tanks for emergency storage. In addition to the storage tanks, other operations that can produce contaminants are the drilling operation itself and the cuttings drying operation. It is the purpose of this plan to define the prevention containment and countermeasure plan for discharges from any of these sources on the site. All the actions taken in this regard are per approved policies of this part of 40 CFR 112. Universally and in setting up the drilling operation on the site prevention measures are taken by grading the site to contain discharges, building in effective valves and other related operational and control mechanisms to prevent discharges. This equipment is installed and tested prior to beginning drilling operations. The tanks and equipment are installed within secondary containment berms and containment trenches and sumps are installed around the facilities prior to beginning drilling operations with capacity to contain with freeboard a rupture of the largest vessel associated with the containment. In the event of a discharge the sites are equipped with vacuums that are capable of picking up the spilled material and loading it into containers where it can be transferred to an approved disposal location. In the event of a discharge larger than can be handled by Cyclone and other manpower on location or that leaks offsite and potentially into navigable waters of the US, the operator, under his directions will arrange for trained contract personnel to immediately contain and clean-up the discharge.

112.7(a)(2) This plan will comply with all applicable items of this part. With no deviations anticipated.

112.7(a)(3) The attached sketch shows a typical layout of the drill rig sites depicting the location, size and contents of the tanks. There are no underground tanks nor are there any mobile or portable containers associated with these drilling locations. The site is prepared in advance of the drill rig coming onto the site. The sites are designed and constructed to contain spills and tank ruptures on the site. The drill rig and associated tanks and equipment are laid out in an efficient and effective manner to streamline the drilling operation. Frack tanks are located in such a manner that they have easy access to the mud tanks with valves located on both ends of transfer lines. The drilling mud tanks are plumbed to the drill rig with valves appropriately located to

stop flow from the tanks to the rig or from the rig to the tanks. The cuttings from the drilling operation are screened from the recycled drilling mud and directed to a container where they are dried using fly ash or some other equally effective absorbent material and are then transferred to the lined cuttings disposal pit onsite. The fuel tank is tied into the fuel lines providing fuel flow to the generators. Blowout preventers are placed over the drill hole casing and tested prior to beginning the drilling.

112.7(a)(3)(i) The type of oil in each fixed container and its storage capacity. No mobile or portable containers anticipated.

SOURCE	MAJOR TYPE OF FAILURE	TOTAL CAP. (BBLS.) (Type Fluid)	RATE (BBLS/MIN)	DIRECTION OF FLOW	SECONDARY CONTAINMENT
Diesel Fuel Tank	Leak or rupture	14,000 Maximum (Diesel)	Depends on size	Dams and/or Trenches	Site Perimeter Containment
Pumps & Engines	Leakage	½ - gal/hr. (lube oil)	½ - 1 gal/hr.	Drip Pans or Trenches	Site Perimeter Containment
Crude Oil Tanks	Rupture or Leak	400 BBLS	Depends on Type of Failure	Contained within Berm	Tank Battery Berm
Mud Tanks, Vibrator Rotary Hoses	Leak or rupture	450 BBLS Maximum per tank (Petroleum based drilling fluid)	Varies	Drip Pans for Hoses, Trench & Sump or Berms for Tanks	Site Perimeter Containment
Wellhead Blowout Preventer	Blowout or kicking well	Depends on severity (Well bore fluids)	Will vary	Away from well head to Trench and Sump	Site Perimeter Containment

112.7(a)(3)(ii) Discharge Prevention Measures including procedures for routine handling of products (loading, unloading and facility transfers, etc.); Before the drill rig moves on, the site is prepared for discharges associated with tank ruptures, as the site is graded to contain all discharges and storm runoff. When the rig is moved onto the site and set up additional discharge prevention and containment measures are taken. Equipment inspection records

are reviewed and the equipment is inspected following written procedures, the written procedures are attached in the appendix of the plan. A dated record of the inspection, signed by the appropriate supervisor or inspector is recorded and filed with time sheets or safety meeting minutes, when the drill rig changes locations and notes of deficiencies or acceptance are included. Operation and maintenance of equipment is designed to prevent discharges. Personnel are trained and made aware of the discharge prevention procedures and applicable pollution control laws, rules and regulations. The tool pusher in charge of the drill rig will have in his possession a copy of the Cyclone Drilling SPCC Plan and it is his responsibility to instruct the employees and make them aware of the discharge prevention measures contained in the plan. Scheduled briefings and refreshers are to be conducted with all the employees prior to and during rig up operations, such briefings are to be held during regularly scheduled safety meetings.

Employees are assigned to make routine inspections of valves, hose connections and other fluid connections for leaks. These inspections are made and documented on a monthly basis at a minimum. These leaks are provided drip pans and reported to the appropriate personnel for repair. If repairs cannot be readily made then regular emptying of the drip pans is required until the repairs can be made. Inspections of trenches and sumps are made on a regular basis to insure that they are free flowing and functional. The containment berms are also inspected periodically to insure their stability and function.

112.7(a)(3)(iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of the discharge; Containment berms are placed around the tanks containing crude oil, the invert drilling fluid, salt water tanks and the empty tanks to be used for emergency storage, as secondary containment. The containment berms are of adequate height to contain a rupture and total failure of the largest tank contained within it amounting to 400 BBLS requiring a containment capacity of 3,000 cu. ft. Similarly, berms are built around the crude oil storage tanks on the site and requiring the same containment volume. Berms or trenches and sumps are constructed around the drill rig itself, the drilling mud tanks and diesel fuel tank, the sumps and trenches are sized to contain the volume of the largest tank in the case of a rupture and complete failure. Additionally, drip pans are placed under leaking valves, hose joints and other sources of small leaks until the item can be replaced or repaired to not leak. Regular inspections of these facilities are made to insure that they will function per plan.

112.7(a)(3)(iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor); Regular inspections may reveal a discharge such as a leaking valve or hose joint. These instances can readily be cleaned up by employees of Cyclone Drilling using on site vacuums and containers. Larger spills up to and

beyond the reporting limits can also be handled by Cyclone Drilling employees. Spills that exceed the limitations of the onsite cleanup equipment or in the event of a spill migrating offsite, will require the tool pushers' notification of the operator/owner of the site and they will contact the clean-up contractor they have contracted with to contain and clean-up such events.

112.7(a)(3)(v) Methods of disposal of recovered materials in accordance with applicable legal requirements: When spills occur the fluids will be either soaked up with absorptive material and placed in a container for transporting to an approved disposal site or vacuumed up and placed in a storage container for transportation to an approved disposal site. It is understood by all Cyclone Drilling employees that there is not an approved disposal site on or around the drilling rig to dispose of these recovered materials or fluids, other than drying drilling cuttings and disposing of them in the cuttings pit.

112.7(a)(3)(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom operator has an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in the event of a discharge as described in § 112.1(b). Facility Response Coordinator for Cyclone Drilling HSE Dept. (Ph. 307-682-4161) is responsible for contacting the operators environmental group so they can contact the appropriate Federal, State and Local personnel in the event of a discharge as described in § 112.1(b).

112.7(a)(4) Information and procedures to enable a person reporting a discharge as described in § 112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge: a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted. In the event of a discharge as described in §112.1(b) it is the responsibility of the tool pusher to relate the above information to the operators environmental group so they can contact, any emergency organizations and provide the reporting necessary to the Federal, State and Local agencies that require reporting of such a discharge. The tool pusher on the rig is the person in charge and either he or the drilling superintendent have the responsibility of reporting the answers to the above questions. These questions are spelled out on a "Discharge Reporting Form" that each has at his disposal in the appendix of "Cyclone Drilling Oil Spill Contingency Plan". In reporting a discharge a list of all individuals and or organizations that received the report will be listed.

112.7(a)(5) Plan procedures to be used when a discharge occurs:

- 1) Immediately extinguish any heater or fire that may ignite the spill.
- 2) No smoking during spill control operations.
- 3) Close all associated valves.
- 4) Direct discharge to ditches or drains that will carry the discharge to a safe holding sump or reserve pit.
- 5) Distribute hill, fibertex, gel, barite, or any other absorptive material available as required to contain the discharge not entering the ditch, sump or reserve pit.
- 6) Inspect area to ensure that all of the discharge is contained in ditches, sums or reserve pits. Add ditches or diversion structures as required to contain the discharge onsite.
- 7) Start jet or sump pumps and transfer discharged material from sums to reserve pit or holding tanks.
- 8) After discharge is stopped, collect all used hulls, fibertex and similar absorptive material for disposal per instruction from the drilling superintendent or the tool pusher. No oil is to remain in the ditches or sums that may create a fire hazard.
- 9) Hold collected discharged material for hauling and disposal in an approved location.
- 10) If discharge migrates from the drill rig location Cyclone Drilling personnel will use these same procedures stop and recover the discharge. Additionally the tool pusher will notify the owners representative to notify the contract clean-up company for clean-up and mitigation of the offsite discharge migration.
- 11) Fill out Site Discharge Reporting Form and distribute to appropriate agencies and personnel. (Form included in Appendix of Plan)

112.7(a)(5)(b) Flow diagram of potential discharges from significant sources as a result of facilities failure: Flow diagrams and quantities included in appendix of the plan.

112.7(a)(5)(c) Site discharge containment system: The site discharge containment system for the Cyclone Drilling Rigs is a combination of containment berms, confinement trenches, sums and reserve pits. Drip pans will be used for small discharges until repairs are made or equipment replaced. (See typical site plan included in appendix.)

112.7(a)(5)(d) Not applicable as all measures spelled out in this part are practical as describe in each section.

112.7(a)(5)(e) Inspections, tests and records: Written procedures are provided on the "Discharge Source Inspection Record", these inspections are recorded at least on a monthly basis or whenever a leak or discharge is detected and reported, using the "Discharge Source Inspection Record" in the appendix. These records are signed by the tool pusher onsite and maintained by Cyclone Drilling for a period of 3 years.

112.7(a)(5)(f) Personnel Training and Discharge Prevention Procedures: The personnel working on the drilling crews are trained in the maintenance and operation of all the equipment to prevent discharges, the discharge procedures and general facility operations. They are also made aware of the contents of the SPCC Plan. The tool pusher on each crew is the person on the location who is accountable for discharge prevention and who reports to the Cyclone Drilling Management. The tool pusher is responsible for conducting discharge prevention briefings and assuring an adequate understanding of the Cyclone Drilling SPCC Plan for the facility and any recent developments of new precautionary measures due to failures or malfunctions are implemented.

112.7(a)(5)(g) Site Security: All persons entering the site are required to check in with the tool pusher of the on duty crew. Unauthorized persons are not allowed on the site. Unauthorized visitors are easily detected, questioned regarding there presents and appropriately escorted to take care of their business.

112.7(a)(5)(h) Facility Tank Truck Loading/Unloading: The tank truck loading and unloading areas on the Cyclone Drilling Sites are located adjacent to the frack tank or crude oil tank batteries the area adjacent to the tank battery, where tank trucks are loaded and unloaded will be graded to drain into the containment trenches and associated sump, surrounding the drill rig, mud tanks, fuel tank, etc. Wheel chocks are used to prevent the truck from moving while connected to the tanks during loading/unloading operations. Before departure the vehicle is inspected for leaks in the lowermost drains and outlets and if they are any detected the associated valves are tightened or adjusted to prevent discharge while in transit. All above ground containers are checked and evaluated for risk of discharge or failure and as necessary appropriate action shall be taken.

APPENDIX



June 12, 2012

Industrial Commission of North Dakota
Oil & Gas Division
600 East Boulevard, Dept 405
Bismarck, North Dakota 58505

Re: Tallahassee 3-16H

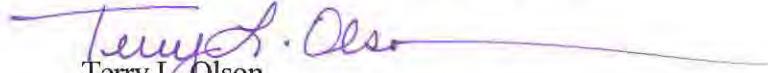
Continental Resources, Inc., would like to request all filings and information regarding the above captioned well be considered "Tight Hole".

Please charge the Continental Resources, Inc., credit card that is on file with your agency for the application fee of this well.

Thank you for your prompt attention to this matter. If you have any questions, you may contact me at 580-548-5139 or email the following Terry.Olson@clr.com.

Sincerely,

CONTINENTAL RESOURCES, INC.


Terry L. Olson
Regulatory Compliance Specialist