



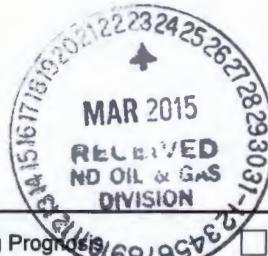
SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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.
25571

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 November 30, 2013
<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 Progress	<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	Well on pump

Well Name and Number
Colville 5301 44-12T

Footages	Qtr-Qtr	Section	Township	Range
250 F S L	950 F E L	SESE	12	153 N 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

Effective 11/30/2013 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 10166'

Pump: 2-1/2" x 2.0" x 24' insert pump @10105'

Company Oasis Petroleum North America LLC	Telephone Number 281 404-9652	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>VS-t</i>	Printed Name Victoria Siemieniewski	
Title Regulatory Specialist	Date March 19, 2015	
Email Address vsiemieniewski@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 4-1-2015	
By <i>Jared Thune</i>	
Title JARED THUNE	
Engineering Technician	



WELL COMPLETION OR RECOMPLETION REPORT FORM 6

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 2468 (04-2010)

A circular stamp with a double-lined border. The outer ring contains the numbers 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The inner circle contains the word 'RECEIVED' at the top, followed by 'NO OIL & GAS' and 'DIVISION' stacked vertically in the center, and the date 'OCT 2013' at the bottom.

Well File No.
25571

**PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
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Designate Type of Completion

- Oil Well EOR Well Recompletion Deepened Well Added Horizontal Leg Extended Horizontal Leg
 Gas Well SWD Well Water Supply Well Other:

Well Name and Number Colville 5301 44-12T		Spacing Unit Description T153N R101W Sec 13 & 24		
Operator Oasis Petroleum North America		Telephone Number (281) 404-9563	Field Baker	
Address 1001 Fannin, Suite 1500		Pool Bakken		
City Houston		State TX	Zip Code 77002	Permit Type <input checked="" type="checkbox"/> Wildcat <input type="checkbox"/> Development <input type="checkbox"/> Extension

LOCATION OF WELL

At Surface 250 F S L	950 F E L	Qtr-Qtr SESE	Section 12	Township 153 N	Range 101 W	County McKenzie
Spud Date July 11, 2013	Date TD Reached August 12, 2013	Drilling Contractor and Rig Number Nabors B22		KB Elevation (Ft) 2085	Graded Elevation (Ft) 2060	
Type of Electric and Other Logs Run (See Instructions)						

Type of Electric and Other Logs Run (See Instructions)

N/A

CASING & TUBULARS RECORD (Report all strings set in well)

PERFORATION & OPEN HOLE INTERVALS

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion Top and Bottom, (MD Ft) Lateral 1 -11,144 -21090								Name of Zone (If Different from Pool Name)	
Date Well Completed (SEE INSTRUCTIONS) September 22, 2013		Producing Method Flowing		Pumping-Size & Type of Pump				Well Status (Producing or Shut-In) Producing	
Date of Test 09/23/2013	Hours Tested 24	Choke Size 48 /64	Production for Test		Oil (Bbls) 1427	Gas (MCF) 810	Water (Bbls) 3189	Oil Gravity-API (Corr.) 41.0 °	Disposition of Gas Sold
Flowing Tubing Pressure (PSI)		Flowing Casing Pressure (PSI)		Calculated 24-Hour Rate	Oil (Bbls) 1427	Gas (MCF) 810	Water (Bbls) 3189	Gas-Oil Ratio 567	
658									

GEOLOGICAL MARKERS

PLUG BACK INFORMATION

CORES CUT

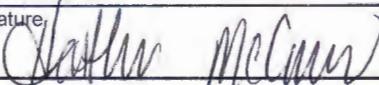
Top (Ft)	Bottom (Ft)	Formation	Top (Ft)	Bottom (Ft)	Formation

Drill Stem Test

Well Specific Stimulation

Date Stimulated 09/11/2013	Stimulated Formation Bakken		Top (Ft) 21090	Bottom (Ft) 36	Stimulation Stages	Volume 95801	Volume Units Barrels
Type Treatment Sand Frac	Acid %	Lbs Proppant 3826701	Maximum Treatment Pressure (PSI) 9406		Maximum Treatment Rate (BBLS/Min) 36.0		
Details 100 mesh: 127,379 40/70 White: 1,462,926 20/40 Ceramic: 2,236,396							
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 hmccowan@oasispetroleum.com	Date 10/28/2013
Signature 	Printed Name Heather McCowan	Title Regulatory Assistant

WELL COMPLETION OR RECOMPLETION REPORT - FORM 6
SFN 2468

1. This report shall be filed by the operator with the Commission immediately after the completion of a well in an unspaced pool or reservoir. Please refer to Section 43-02-03-31 of the North Dakota Administrative Code (NDAC).
2. This report shall be filed by the operator with the Commission within thirty (30) days after the completion of a well, or recompletion of a well in a different pool. Please refer to Section 43-02-03-31 NDAC.
3. The well file number, operator, well name and number, field, pool, permit type, well location(s), and any other pertinent data shall coincide with the official records on file with the Commission. If it does not, an explanation shall be given.
4. If a parasite string was used in the drilling of a well, the size, depth set, cement volume used to plug, and the date plugged shall be included. This information may be included in the "Additional Information" portion of the report or included as an attachment.
5. In the "Perforation & Open Hole Intervals" table, each borehole should be identified in the "Well Bore" column (vertical, sidetrack 1, lateral 1, etc.). On horizontal or directional wells, the following information shall be entered in the table if applicable: pilot hole total depth, kick-off point, casing windows, original lateral total depth, and all sidetracked interval starting and ending footages.
6. In the "Production" section, list all the current producing open hole or perforated intervals associated with the production rates reported. Oil, gas, and water rates and recoveries from perforations or laterals tested but not included in the completion should be included in the "Additional Information" portion of the report or included as an attachment.
7. In The "Date Well Completed" portion of the form please report the appropriate date as follows:
 - An oil well shall be considered completed when the first oil is produced through wellhead equipment into tanks from the ultimate producing interval after casing has been run.
 - A gas well shall be considered complete when the well is capable of producing gas through wellhead equipment from the ultimate producing zone after casing has been run.
 - For EOR or SWD wells, please report the date the well is capable of injection through tubing and packer into the permitted injection zone. Also, please report the packer type and depth and the tubing size, depth, and type. The packer and tubing type may be included in the "Additional Information" portion of the report.
8. The top of the Dakota Formation shall be included in the "Geological Markers."
9. Stimulations for laterals can be listed as a total for each lateral.
10. The operator shall file with the Commission two copies of all logs run. Logs shall be submitted as one digital TIFF (tagged image file format) copy and one digital LAS (log ASCII) formatted copy, or a format approved by the Director. In addition, operators shall file two copies of drill stem test reports and charts, formation water analyses, core analyses, geologic reports, and noninterpretive lithologic logs or sample descriptions if compiled by the operator.
11. A certified copy of any directional survey run shall be filed directly with the Commission by the survey contractor.
12. The original and one copy of this report shall be filed with the Industrial Commission of North Dakota, Oil and Gas Division, 600 East Boulevard, Dept. 405, Bismarck, ND 58505-0840.

Industrial Commission of North Dakota
Oil and Gas Division

Well or Facility No

TH
25571

Verbal Approval To Purchase and Transport Oil Tight Hole No

OPERATOR

Operator

OASIS PETROLEUM NORTH AMERICA LL

Representative

Cody Jeannotte

Rep Phone

(701) 580-7993

WELL INFORMATION

Well Name

COLVILLE 5301 44-12T

Inspector

Richard Dunn

Well Location QQ Sec Twp Rng
 SESE 12 153 N 101 W

County
MCKENZIE

Footages 250 Feet From the S Line
 950 Feet From the E Line

Field
BAKER

Date of First Production Through Permanent Wellhead

Pool
BAKKEN
This Is Not The First Sales

PURCHASER / TRANSPORTER

Purchaser

OASIS PETROLEUM MARKETING LLC

Transporter

HILAND CRUDE, LLC

TANK BATTERY

Single Well Tank Battery Number :

SALES INFORMATION This Is Not The First Sales

ESTIMATED BARRELS TO BE SOLD	ACTUAL BARRELS SOLD	DATE
15000	BBLS	
	BBLS	

DETAILS

Must E-Mail or Call Inspector at 701-770-3554/rsdunn@nd.gov on first date of sales and report amount sold, date sold, and first date of production through the permanent wellhead. Must also forward Forms 6 & 8 to State prior to reaching 15000 Bbl estimate or no later than required time frame for submitting those forms.

Start Date **9/10/2013**
Date Approved **9/12/2013**
Approved By **Richard Dunn**

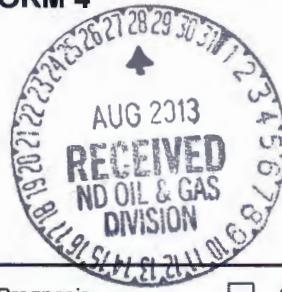


SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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.

25571



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

 Notice of Intent

Approximate Start Date

August 27, 2013

 Report of Work Done

Date Work Completed

 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

 Drilling Prognosis Spill Report Redrilling or Repair Shooting Casing or Liner Acidizing Plug Well Fracture Treatment Supplemental History Change Production Method Temporarily Abandon Reclamation Other**Waiver from tubing/packer requirement**

Well Name and Number

Colville 5301 44-12T

Footages

250

F

S

L

950

F

E

L

Qtr-Qtr SESE

Section 12

Township 153 N

Range 101 W

Field

Baker

Pool

Bakken

County

McKenzie

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

Address

City

State

Zip Code

DETAILS OF WORK

Oasis Petroleum North America LLC requests a waiver from the tubing/pkr requirement included in NDAC 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 new 29# & 32# casing at surface with an API burst rating of 11,220 psi
2. The frac design will use a safety factor of 0.85 API burst rating to determine the maximum 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 the surface casing during the flowback period.

Company Oasis Petroleum North America LLC		Telephone Number 281-404-9563
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Heather McCowan</i>		Printed Name Heather McCowan
Title Regulatory Assistant	Date August 27, 2013	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

 Received Approved

Date

September 3, 2013

By

J. Hamlin

Title

PETROLEUM ENGINEER

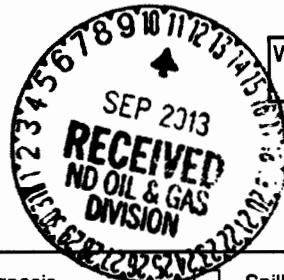


SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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.

25571



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date September 10, 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	Change well status to CONFIDENTIAL

Well Name and Number Colville 5301 44-12T				
Footages 250 F S L	Qtr-Qtr 950 F E L	Section SESE	Township 12	Range 153 N 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

Effective immediately, we request CONFIDENTIAL STATUS for the above referenced well.

OFF CONFIDENTIAL 3/11/14

Company Oasis Petroleum North America LLC		Telephone Number 281-404-9563
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Heather McCowan</i>	Printed Name Heather McCowan	
Title Regulatory Assistant	Date September 10, 2013	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 9/12/13	
By <i>Alice D. Webber</i>	
Title Engineering Technician	



Scientific
Drilling

Survey Certification

7327 West Barton Road
Casper, WY 82604
(307)-472-6621 Fax (307) 472-5439

Operator	Oasis Petroleum
Well Name & No.	Colville 5301 44-12T
County & State	McKenzie County, ND
SDI Job No.	410713K33365
Rig	Nabors B22
Survey Date	12-Jul-2013

I, Seth M. Burstad, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 0 feet to a measured depth of 2126.17 feet is true and correct as determined from all available records.

Signature

12-Aug-2013

Date

Seth M. Burstad
Rockies Region Well Planner
Scientific Drilling - Rocky Mountain District

Oasis Petroleum

McKenzie County, ND

Colville

Colville 5301 44-12T

OH

Design: OH

Standard Survey Report

08 August, 2013



www.scientificdrilling.com



Scientific Drilling International

Survey Report

Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	McKenzie County, ND	TVD Reference:	GL 2060' & KB 25' @ 2085.00ft (Nabors B22)
Site:	Colville	MD Reference:	GL 2060' & KB 25' @ 2085.00ft (Nabors B22)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

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	Colville		
Site Position:		Northing:	410,268.53 usft
From:	Lat/Long	Easting:	1,209,024.75 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
			Latitude: 48° 4' 57.780 N
			Longitude: 103° 36' 28.880 W
			Grid Convergence: -2.31 °

Well	Colville 5301 44-12T, 250' FSL 950' FEL SEC 13 T153 R101				
Well Position	+N/-S +E/-W	0.00 ft 0.00 ft	Northing: 410,268.52 usft Easting: 1,209,024.75 usft	Latitude: 48° 4' 57.780 N Longitude: 103° 36' 28.880 W	
Position Uncertainty		0.00 ft	Wellhead Elevation: ft	Ground Level: 2,060.00 ft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	8/13/2013	8.50	73.00	56,438

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
		25.00	0.00	0.00	208.70

Survey Program	Date	8/8/2013		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
125.00		2,126.17 Survey #1 Surface Gyros (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.00	1.55	220.79	124.98	-1.28	-1.10	1.65	1.24	1.24	0.00
First SDI Gyro Survey									
225.00	1.40	219.68	224.95	-3.24	-2.77	4.17	0.15	-0.15	-1.11
325.00	0.81	214.78	324.93	-4.76	-3.95	6.08	0.60	-0.59	-4.90
425.00	0.64	189.55	424.92	-5.90	-4.45	7.31	0.36	-0.17	-25.23
525.00	0.35	157.01	524.92	-6.73	-4.42	8.02	0.39	-0.29	-32.54
625.00	0.35	165.39	624.92	-7.30	-4.22	8.44	0.05	0.00	8.38
725.00	0.37	185.64	724.92	-7.92	-4.18	8.96	0.13	0.02	20.25
825.00	0.28	180.88	824.92	-8.49	-4.21	9.47	0.09	-0.09	-4.76
925.00	0.21	180.65	924.91	-8.91	-4.22	9.85	0.07	-0.07	-0.23

Scientific Drilling International

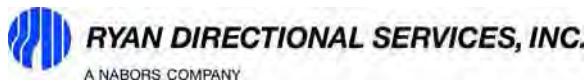
Survey Report

Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	McKenzie County, ND	TVD Reference:	GL 2060' & KB 25' @ 2085.00ft (Nabors B22)
Site:	Colville	MD Reference:	GL 2060' & KB 25' @ 2085.00ft (Nabors B22)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	Casper District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,025.00	0.19	83.35	1,024.91	-9.08	-4.06	9.91	0.30	-0.02	-97.30	
1,125.00	0.52	103.59	1,124.91	-9.17	-3.45	9.70	0.35	0.33	20.24	
1,225.00	0.45	118.50	1,224.91	-9.46	-2.67	9.58	0.14	-0.07	14.91	
1,325.00	0.32	170.92	1,324.91	-9.92	-2.28	9.80	0.36	-0.13	52.42	
1,425.00	0.51	223.26	1,424.90	-10.52	-2.54	10.45	0.40	0.19	52.34	
1,525.00	0.52	255.93	1,524.90	-10.96	-3.28	11.19	0.29	0.01	32.67	
1,625.00	0.28	239.01	1,624.90	-11.19	-3.93	11.71	0.26	-0.24	-16.92	
1,725.00	0.59	239.52	1,724.90	-11.58	-4.59	12.36	0.31	0.31	0.51	
1,825.00	0.04	276.46	1,824.89	-11.84	-5.06	12.82	0.56	-0.55	36.94	
1,925.00	0.62	338.06	1,924.89	-11.33	-5.30	12.49	0.60	0.58	61.60	
2,025.00	0.65	348.66	2,024.89	-10.27	-5.61	11.71	0.12	0.03	10.60	
2,125.00	0.82	52.73	2,124.88	-9.28	-5.16	10.62	0.79	0.17	64.07	
2,126.17	0.82	53.67	2,126.05	-9.27	-5.14	10.61	1.15	0.00	80.34	
Last SDI Gyro Survey										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/S (ft)	+E/W (ft)	Comment	
125.00	124.98	-1.28	-1.10	First SDI Gyro Survey	
2,126.17	2,126.05	-9.27	-5.14	Last SDI Gyro Survey	

Checked By: _____ Approved By: _____ Date: _____



19510 Oil Center Blvd
Houston, TX 77073
Bus 281.443.1414
Fax 281.443.1676

Wednesday, August 28, 2013

State of North Dakota

Subject: **Surveys**

Re: **Oasis**
Colville 5301 44-12T
McKenzie, ND

Enclosed, please find the original and one copy of the survey performed on the above-referenced well by Ryan Directional Services, Inc. (Operator #:). Other information required by your office is as follows:

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of Survey	<i>TD Straight Line Projection</i>
McCammond, Mike	MWD Operator	O.H.	2101'	21035'	07/24/13	08/12/13	MWD	21090'

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required please contact the undersigned at the letterhead address or phone number.

A handwritten signature in black ink that reads "Douglas Hudson".

Douglas Hudson
Well Planner



19510 Oil Center Blvd
Houston, TX 77073
Bus 281.443.1414
Fax 281.443.1676

Wednesday, August 28, 2013

State of North Dakota

Subject: **Survey Certification Letter**

Re: **Oasis**
Colville 5301 44-12T
McKenzie, ND

I, Mike McCommond, certify that; I am employed by Ryan Directional Services, Inc.; that I did on the conduct or supervise the taking of the following MWD surveys:

on the day(s) of 7/24/2013 thru 8/12/2013 from a depth of 2101' MD to a depth of 21035' MD and Straight line projection to TD 21090' MD;

that the data is true, correct, complete, and within the limitations of the tool as set forth by Ryan Directional Services, Inc.; that I am authorized and qualified to make this report; that this survey was conducted at the request of Oasis for the Colville 5301 44-12T; in McKenzie, ND.

Mike McCommond

Mike McCommond

MWD Operator

Ryan Directional Services, Inc.

Report #: **1**
Date: **24-Jul-13**



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

Ryan Job # **6436**
Kit # **9**

SURVEY REPORT

Customer: **Oasis Petroleum**
Well Name: **Colville 5301 44-12T**
Block or Section: **153N-101W-13/24**
Rig #: **Nabors B-22**
Calculation Method: **Minimun Curvature Calculation**

MWD Operator: **Mike McCommand**
Directional Drillers: **D Rakstad/D Bohn**
Survey Corrected To: **True North**
Vertical Section Direction: **181.85**
Survey Correction: **8.32**
Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
Tie in to Gyro Surveys									
Tie In	2101.17	0.82	53.67		2101.05	10.29	-9.03	-4.94	1.18
1	2165	0.80	78.40	95.00	2164.87	8.80	-8.67	-4.14	0.54
2	2258	0.90	103.70	96.00	2257.86	8.80	-8.71	-2.79	0.41
3	2352	1.10	104.50	96.00	2351.85	9.15	-9.11	-1.20	0.21
4	2445	2.50	146.10	102.00	2444.80	10.99	-11.02	0.80	1.97
5	2538	1.70	179.40	104.00	2537.74	14.01	-14.08	1.94	1.53
6	2632	0.80	238.90	107.00	2631.72	15.76	-15.82	1.39	1.56
7	2725	0.80	229.40	107.00	2724.72	16.55	-16.57	0.35	0.14
8	2818	0.50	221.20	109.00	2817.71	17.31	-17.30	-0.41	0.34
9	2912	0.50	209.40	111.00	2911.71	17.99	-17.97	-0.89	0.11
10	3005	0.50	226.20	111.00	3004.70	18.64	-18.60	-1.38	0.16
11	3098	0.80	198.90	111.00	3097.70	19.55	-19.50	-1.88	0.46
12	3192	1.00	202.30	113.00	3191.68	20.94	-20.88	2.40	0.22
13	3285	0.80	204.70	113.00	3284.67	22.30	-22.22	-2.98	0.22
14	3379	0.90	202.80	114.00	3378.66	23.60	-23.49	-3.54	0.11
15	3472	0.80	165.70	116.00	3471.65	24.90	-24.80	-3.67	0.59
16	3565	0.80	200.00	118.00	3564.64	26.14	-26.04	-3.73	0.51
17	3659	0.70	198.20	120.00	3658.64	27.32	-27.20	-4.13	0.11
18	3752	0.70	196.50	116.00	3751.63	28.41	-28.28	-4.47	0.02
19	3845	0.70	181.70	122.00	3844.62	29.53	-29.40	-4.65	0.19
20	3938	0.60	182.50	123.00	3937.62	30.59	-30.45	-4.69	0.11
21	4032	0.60	198.30	125.00	4031.61	31.55	-31.41	-4.86	0.18
22	4125	0.40	193.40	127.00	4124.61	32.33	-32.19	-5.09	0.22
23	4218	0.40	229.90	129.00	4217.61	32.87	-32.71	-5.42	0.27
24	4311	0.20	253.20	129.00	4310.60	33.14	-32.97	-5.82	0.25
25	4405	0.10	331.40	131.00	4404.60	33.12	-32.94	-6.02	0.22
26	4498	0.10	110.60	132.00	4497.60	33.08	-32.90	-5.98	0.20
27	4591	0.10	278.90	131.00	4590.60	33.09	-32.92	-5.98	0.21
28	4684	0.10	257.80	129.00	4683.60	33.10	-32.92	-6.14	0.04
29	4778	0.10	143.10	129.00	4777.60	33.19	-33.00	-6.17	0.18
30	4871	0.30	165.40	129.00	4870.60	33.48	-33.30	-6.06	0.23
31	4964	0.40	165.90	131.00	4963.60	34.03	-33.86	-5.92	0.11
32	5057	0.30	155.30	131.00	5056.60	34.56	-34.39	-5.74	0.13
33	5151	0.50	215.60	131.00	5150.60	35.12	-34.95	-5.88	0.47
34	5244	0.30	138.10	132.00	5243.60	35.63	-35.46	-5.95	0.56
35	5337	0.50	105.10	132.00	5336.59	35.90	-35.75	-5.40	0.32
36	5430	0.30	82.80	136.00	5429.59	35.96	-35.82	-4.76	0.27
37	5524	0.10	89.20	140.00	5523.59	35.91	-35.79	-4.44	0.21
38	5617	0.30	27.10	141.00	5616.59	35.69	-35.57	-4.24	0.29
39	5710	0.20	26.30	143.00	5709.59	35.32	-35.21	-4.06	0.11
40	5804	0.30	291.50	145.00	5803.59	35.09	-34.97	-4.22	0.40
41	5897	0.30	307.10	147.00	5896.59	34.87	-34.74	-4.64	0.09
42	5990	0.60	334.30	147.00	5989.59	34.30	-34.15	-5.04	0.39
43	6084	1.30	322.80	149.00	6083.57	33.03	-32.86	-5.90	0.77
44	6177	1.80	325.50	150.00	6176.54	31.04	-30.81	-7.37	0.54
45	6270	1.60	346.30	152.00	6269.50	28.61	-28.35	-8.50	0.69
46	6363	0.80	42.20	152.00	6362.48	26.86	-26.61	-8.37	1.43
47	6457	1.20	7.30	156.00	6456.47	25.38	-25.14	-7.81	0.76
48	6550	1.60	347.10	158.00	6549.44	23.16	-22.91	-7.97	0.68
49	6644	0.80	340.70	158.00	6643.42	21.28	-21.01	-8.48	0.86
50	6737	1.10	338.50	161.00	6736.40	19.85	-19.57	-9.03	0.32
51	6830	0.60	236.80	163.00	6829.40	19.31	-19.01	-9.76	1.46
52	6923	0.80	245.70	167.00	6922.39	19.88	-19.54	-10.76	0.24
53	7017	0.80	262.40	168.00	7016.38	20.27	-19.90	-12.01	0.25
54	7110	0.90	268.60	170.00	7109.37	20.42	-20.00	-13.38	0.15
55	7204	0.90	262.00	174.00	7203.36	20.59	-20.12	-14.85	0.11
56	7297	0.80	251.60	176.00	7296.35	20.94	-20.43	-16.19	0.20
57	7390	0.80	254.10	176.00	7389.34	21.36	-20.81	-17.43	0.04
58	7484	0.80	249.20	177.00	7483.33	21.82	-21.22	-18.68	0.07
59	7577	0.50	86.70	181.00	7576.33	22.03	-21.43	-18.88	1.38
60	7670	0.30	76.70	183.00	7669.33	21.93	-21.35	-18.24	0.23



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Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
61	7763	0.30	75.30	183.00	7762.32	21.80	-21.23	-17.76	0.01
62	7857	0.30	87.80	181.00	7856.32	21.71	-21.16	-17.28	0.07
63	7950	0.30	104.40	185.00	7949.32	21.74	-21.21	-16.80	0.09
64	8043	0.10	106.80	185.00	8042.32	21.82	-21.30	-16.49	0.22
65	8136	0.20	123.00	186.00	8135.32	21.92	-21.41	-16.27	0.12
66	8230	0.30	134.90	188.00	8229.32	22.18	-21.67	-15.96	0.12
67	8323	0.40	93.50	192.00	8322.32	22.35	-21.86	-15.46	0.28
68	8417	0.50	71.00	194.00	8416.32	22.21	-21.75	-14.75	0.21
69	8510	2.00	58.90	186.00	8509.29	21.19	-20.78	-12.98	1.63
70	8603	0.90	98.60	192.00	8602.26	20.39	-20.05	-10.86	1.54
71	8696	1.00	109.50	195.00	8695.25	20.72	-20.43	-9.38	0.22
72	8790	1.00	98.90	199.00	8789.24	21.07	-20.83	-7.79	0.20
73	8883	1.00	113.70	201.00	8882.22	21.47	-21.28	-6.25	0.28
74	8976	1.00	99.60	203.00	8975.21	21.88	-21.74	-4.70	0.26
75	9070	1.10	94.70	206.00	9069.19	22.04	-21.96	-3.00	0.14
76	9163	1.10	93.60	206.00	9162.17	22.11	-22.08	-1.22	0.02
77	9256	1.00	94.50	199.00	9255.16	22.18	-22.20	0.48	0.11
78	9350	2.20	150.20	206.00	9349.12	23.75	-23.83	2.20	1.95
79	9443	1.00	189.30	208.00	9442.09	26.08	-26.18	2.95	1.67
80	9536	1.00	197.80	210.00	9535.07	27.66	-27.76	2.58	0.16
81	9630	0.90	203.40	212.00	9629.06	29.14	-29.22	2.03	0.15
82	9723	0.80	202.90	210.00	9722.05	30.42	-30.48	1.49	0.11
83	9816	0.80	205.00	212.00	9815.04	31.62	-31.67	0.96	0.03
84	9910	0.60	204.30	213.00	9909.04	32.68	-32.71	0.48	0.21
85	10003	0.40	191.50	215.00	10002.03	33.45	-33.48	0.22	0.25
86	10096	0.40	218.80	215.00	10095.03	34.03	-34.05	-0.05	0.20
87	10189	0.50	240.30	217.00	10188.03	34.50	-34.50	-0.61	0.21
88	10251	0.30	253.40	217.00	10250.03	34.70	-34.68	-1.00	0.35
89	10284	0.40	240.80	192.00	10283.02	34.78	-34.76	-1.18	0.38
90	10315	0.80	213.50	194.00	10314.02	35.02	-35.00	-1.39	1.55
91	10347	4.80	202.00	194.00	10345.98	36.47	-36.42	-2.02	12.56
92	10378	9.20	198.80	195.00	10376.74	40.06	-39.97	-3.31	14.24
93	10409	14.50	196.10	197.00	10407.07	46.20	-46.05	-5.18	17.19
94	10440	18.10	196.90	197.00	10436.82	54.61	-54.39	-7.66	11.64
95	10471	19.10	196.70	197.00	10466.20	64.16	-63.86	-10.52	3.23
96	10502	22.90	197.10	197.00	10495.13	74.89	-74.48	-13.75	12.27
97	10533	27.10	202.30	197.00	10523.23	87.33	-86.79	-18.20	15.28
98	10564	30.80	206.00	197.00	10550.35	101.20	-100.46	-24.36	13.26
99	10595	33.80	208.10	199.00	10576.55	116.18	-115.21	-31.91	10.33
100	10626	36.40	207.10	199.00	10601.91	132.23	-131.00	-40.16	8.59
101	10657	39.50	204.20	201.00	10626.36	149.67	-148.19	-48.39	11.53
102	10689	43.70	201.30	201.00	10650.28	169.52	-167.78	-56.59	14.44
103	10720	47.60	199.20	201.00	10671.95	190.55	-188.58	-64.24	13.48
104	10751	52.30	198.40	201.00	10691.89	213.25	-211.04	-71.88	15.29
105	10782	55.60	197.60	203.00	10710.13	237.32	-234.87	-79.62	10.85
106	10813	58.10	196.10	203.00	10727.08	262.39	-259.71	-87.14	9.02
107	10844	61.30	195.00	203.00	10742.72	288.39	-285.49	-94.31	10.77
108	10875	64.90	194.60	203.00	10756.75	315.33	-312.22	-101.37	11.67
109	10906	68.70	196.70	203.00	10768.96	342.99	-339.64	-109.06	13.75
110	10937	70.90	200.60	203.00	10779.66	370.83	-367.20	-118.37	13.77
111	10969	73.90	204.60	203.00	10789.34	399.34	-395.35	-130.10	15.16
112	11000	78.20	205.60	203.00	10796.81	426.97	-422.58	-142.86	14.22
113	11031	82.20	204.00	204.00	10802.09	455.10	-450.31	-155.66	13.87
114	11062	84.60	202.50	204.00	10805.65	483.77	-478.60	-167.82	9.11
115	11093	87.90	201.10	208.00	10807.68	512.84	-507.32	-179.30	11.56
116	11124	89.10	201.00	208.00	10808.49	542.11	-536.24	-190.43	3.88
117	11200	90.40	198.40	212.00	10808.82	614.44	-607.78	-216.05	3.82
118	11231	91.40	197.90	210.00	10808.34	644.19	-637.23	-225.71	3.61
119	11263	91.50	197.70	206.00	10807.53	674.95	-667.69	-235.49	0.70
120	11294	90.30	197.90	208.00	10807.04	704.75	-697.20	-244.96	3.92

Report #: **1**
Date: **24-Jul-13**



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A NABORS COMPANY

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Kit # **9**

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Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
121	11328	89.80	198.00	208.00	10807.01	737.41	-729.55	-255.44	1.50
122	11359	90.00	196.90	206.00	10807.06	767.27	-759.12	-264.73	3.61
123	11389	90.00	195.40	206.00	10807.06	796.34	-787.94	-273.08	5.00
124	11420	89.80	194.80	208.00	10807.12	826.52	-817.87	-281.15	2.04
125	11451	89.10	195.00	206.00	10807.42	856.71	-847.82	-289.13	2.35
126	11483	88.90	193.90	206.00	10807.97	887.94	-878.80	-297.11	3.49
127	11514	88.70	192.30	208.00	10808.62	918.34	-908.99	-304.13	5.20
128	11545	88.50	191.90	206.00	10809.38	948.83	-939.29	-310.63	1.44
129	11575	88.70	191.30	206.00	10810.11	978.39	-968.67	-316.66	2.11
130	11606	89.50	189.70	208.00	10810.60	1009.03	-999.15	-322.31	5.77
131	11637	89.50	189.30	208.00	10810.87	1039.75	-1029.72	-327.42	1.29
132	11667	89.40	188.10	208.00	10811.16	1069.54	-1059.37	-331.96	4.01
133	11699	89.40	185.90	208.00	10811.49	1101.41	-1091.13	-335.86	6.87
134	11730	89.40	185.20	210.00	10811.82	1132.34	-1121.98	-338.86	2.26
135	11761	89.90	184.50	210.00	10812.01	1163.30	-1152.87	-341.48	2.77
136	11792	90.20	182.80	212.00	10811.98	1194.28	-1183.81	-343.45	5.57
137	11824	90.40	182.90	212.00	10811.81	1226.27	-1215.77	-345.04	0.70
138	11854	90.50	181.60	210.00	10811.58	1256.27	-1245.74	-346.22	4.35
139	11885	90.30	179.60	212.00	10811.36	1287.26	-1276.74	-346.55	6.48
140	11948	91.10	179.10	213.00	10810.59	1350.20	-1339.73	-345.83	1.50
141	12042	89.10	178.50	215.00	10810.43	1444.06	-1433.70	-343.86	2.22
142	12134	90.50	180.00	217.00	10810.75	1535.96	-1525.69	-342.66	2.23
143	12227	91.80	180.00	219.00	10808.88	1628.89	-1618.67	-342.66	1.40
144	12320	89.60	179.50	219.00	10807.75	1721.81	-1711.66	-342.25	2.43
145	12413	90.20	179.80	221.00	10807.91	1814.74	-1804.65	-341.69	0.72
146	12505	89.20	179.10	221.00	10808.39	1906.66	-1896.65	-340.80	1.33
147	12597	92.10	181.00	221.00	10807.35	1998.59	-1988.63	-340.88	3.77
148	12628	91.70	181.60	222.00	10806.32	2029.58	-2019.60	-341.59	2.33
149	12659	91.40	182.30	221.00	10805.48	2060.56	-2050.57	-342.64	2.46
150	12690	89.90	182.40	221.00	10805.13	2091.56	-2081.54	-343.91	4.85
151	12720	87.80	182.70	222.00	10805.73	2121.55	-2111.51	-345.25	7.07
152	12751	87.10	182.40	222.00	10807.11	2152.52	-2142.44	-346.62	2.46
153	12782	87.90	182.60	221.00	10808.46	2183.49	-2173.38	-347.97	2.66
154	12814	88.60	182.00	222.00	10809.44	2215.47	-2205.34	-349.26	2.88
155	12844	89.90	182.30	222.00	10809.83	2245.47	-2235.32	-350.38	4.45
156	12875	90.00	180.90	222.00	10809.86	2276.46	-2266.31	-351.25	4.53
157	12909	88.70	180.10	224.00	10810.25	2310.45	-2300.30	-351.55	4.49
158	12940	88.20	180.10	224.00	10811.08	2341.43	-2331.29	-351.60	1.61
159	12972	88.80	180.30	226.00	10811.92	2373.40	-2363.28	-351.71	1.98
160	13003	88.70	180.60	226.00	10812.60	2404.38	-2394.27	-351.95	1.02
161	13034	89.70	180.90	226.00	10813.03	2435.38	-2425.26	-352.36	3.37
162	13065	90.60	181.00	224.00	10812.95	2466.37	-2456.26	-352.87	2.92
163	13097	89.50	181.10	226.00	10812.92	2498.37	-2488.25	-353.46	3.45
164	13128	88.90	181.30	224.00	10813.35	2529.36	-2519.24	-354.11	2.04
165	13159	87.50	181.40	226.00	10814.33	2560.35	-2550.22	-354.84	4.53
166	13190	87.90	181.60	226.00	10815.57	2591.32	-2581.18	-355.65	1.44
167	13221	86.60	181.00	228.00	10817.06	2622.28	-2612.14	-356.35	4.62
168	13253	86.30	181.60	224.00	10819.04	2654.22	-2644.07	-357.08	2.09
169	13284	87.30	181.10	224.00	10820.77	2685.17	-2675.01	-357.81	3.61
170	13315	87.80	180.90	226.00	10822.10	2716.14	-2705.98	-358.35	1.74
171	13346	89.10	180.50	226.00	10822.93	2747.12	-2736.96	-358.73	4.39
172	13378	90.10	179.70	228.00	10823.16	2779.10	-2768.96	-358.78	4.00
173	13409	90.60	179.10	228.00	10822.97	2810.07	-2799.96	-358.46	2.52
174	13440	90.50	178.70	228.00	10822.67	2841.03	-2830.95	-357.86	1.33
175	13471	90.70	178.30	230.00	10822.35	2871.98	-2861.94	-357.05	1.44
176	13502	90.80	178.20	228.00	10821.94	2902.91	-2892.92	-356.10	0.46
177	13534	89.80	178.70	230.00	10821.77	2934.85	-2924.91	-355.24	3.49
178	13565	90.10	179.30	231.00	10821.80	2965.82	-2955.91	-354.70	2.16
179	13596	90.00	179.10	231.00	10821.77	2996.78	-2986.90	-354.26	0.72
180	13627	90.00	179.40	231.00	10821.77	3027.75	-3017.90	-353.86	0.97



SURVEY REPORT

Customer: **Oasis Petroleum**
Well Name: **Colville 5301 44-12T**
Block or Section: **153N-101W-13/24**
Rig #: **Nabors B-22**
Calculation Method: **Minimun Curvature Calculation**

MWD Operator: **Mike McCommand**
Directional Drillers: **D Rakstad/D Bohn**
Survey Corrected To: **True North**
Vertical Section Direction: **181.85**
Survey Correction: **8.32**
Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
181	13721	90.20	179.30	233.00	10821.61	3121.66	-3111.89	-352.79	0.24
182	13815	89.40	178.70	231.00	10821.94	3215.54	-3205.88	-351.15	1.06
183	13908	88.10	178.50	233.00	10823.97	3308.37	-3298.83	-348.88	1.41
184	14002	89.60	178.60	233.00	10825.85	3402.19	-3392.77	-346.50	1.60
185	14096	90.20	178.90	235.00	10826.02	3496.05	-3486.75	-344.45	0.71
186	14189	91.30	178.60	237.00	10824.80	3588.91	-3579.72	-342.42	1.23
187	14283	89.60	179.70	237.00	10824.06	3682.80	-3673.70	-341.03	2.15
188	14377	92.50	179.90	239.00	10822.34	3776.71	-3767.67	-340.70	3.09
189	14408	92.20	179.50	239.00	10821.07	3807.66	-3798.65	-340.54	1.61
190	14439	92.00	179.40	237.00	10819.93	3838.61	-3829.63	-340.24	0.72
191	14471	90.10	179.40	237.00	10819.35	3870.58	-3861.62	-339.91	5.94
192	14502	89.30	179.40	239.00	10819.51	3901.55	-3892.62	-339.58	2.58
193	14533	88.80	179.00	239.00	10820.02	3932.51	-3923.61	-339.15	2.07
194	14564	89.00	179.10	237.00	10820.62	3963.47	-3954.60	-338.64	0.72
195	14595	90.10	179.90	239.00	10820.86	3994.44	-3985.59	-338.36	4.39
196	14626	89.80	180.40	239.00	10820.89	4025.43	-4016.59	-338.45	1.88
197	14658	89.40	180.50	240.00	10821.11	4057.42	-4048.59	-338.70	1.29
198	14689	89.10	180.10	240.00	10821.52	4088.40	-4079.59	-338.86	1.61
199	14720	89.60	180.00	240.00	10821.87	4119.39	-4110.59	-338.89	1.64
200	14751	91.10	180.30	240.00	10821.68	4150.37	-4141.59	-338.97	4.93
201	14782	90.70	179.90	239.00	10821.19	4181.35	-4172.58	-339.02	1.82
202	14813	90.00	180.00	240.00	10821.00	4212.33	-4203.58	-338.99	2.28
203	14845	88.40	179.10	240.00	10821.45	4244.30	-4235.58	-338.74	5.74
204	14876	87.20	179.40	239.00	10822.64	4275.25	-4266.55	-338.34	3.99
205	14907	87.60	178.60	239.00	10824.05	4306.18	-4297.51	-337.80	2.88
206	14938	88.50	178.20	240.00	10825.10	4337.10	-4328.48	-336.93	3.18
207	14970	88.80	178.10	239.00	10825.85	4369.03	-4360.46	-335.90	0.99
208	15001	89.30	178.00	240.00	10826.37	4399.96	-4391.43	-334.84	1.64
209	15032	90.20	178.00	240.00	10826.50	4430.88	-4422.41	-333.76	2.90
210	15063	90.40	177.90	242.00	10826.34	4461.81	-4453.39	-332.65	0.72
211	15126	91.00	177.60	242.00	10825.57	4524.65	-4516.34	-330.18	1.06
212	15157	91.00	177.30	244.00	10825.03	4555.55	-4547.31	-328.80	0.97
213	15188	91.20	177.20	240.00	10824.44	4586.44	-4578.26	-327.31	0.72
214	15219	92.20	177.60	240.00	10823.52	4617.34	-4609.22	-325.91	3.47
215	15282	92.10	178.20	242.00	10821.15	4680.14	-4672.13	-323.60	0.96
216	15313	90.20	178.70	242.00	10820.53	4711.08	-4703.11	-322.76	6.34
217	15344	89.80	178.30	257.00	10820.53	4742.03	-4734.10	-321.95	1.82
218	15407	92.40	179.70	242.00	10819.32	4804.93	-4797.07	-320.85	4.69
219	15500	91.70	181.60	244.00	10815.99	4897.85	-4890.00	-321.91	2.18
220	15594	90.00	181.70	244.00	10814.60	4991.83	-4983.95	-324.61	1.81
221	15625	89.50	181.60	244.00	10814.73	5022.83	-5014.94	-325.51	1.64
222	15657	89.70	181.80	246.00	10814.96	5054.83	-5046.92	-326.46	0.88
223	15688	89.80	181.90	246.00	10815.09	5085.83	-5077.91	-327.46	0.48
224	15782	89.70	181.50	246.00	10815.50	5179.83	-5171.86	-330.25	0.44
225	15844	89.10	181.10	246.00	10816.15	5241.82	-5233.84	-331.65	1.16
226	15875	89.60	181.10	244.00	10816.50	5272.82	-5264.84	-332.25	1.61
227	15906	91.00	181.20	246.00	10816.34	5303.81	-5295.83	-332.87	4.53
228	15969	91.80	181.60	246.00	10814.80	5366.79	-5358.79	-334.41	1.42
229	16000	90.90	181.10	246.00	10814.07	5397.78	-5389.77	-335.14	3.32
230	16031	90.60	181.00	246.00	10813.67	5428.78	-5420.76	-335.71	1.02
231	16062	90.90	181.20	248.00	10813.26	5459.77	-5451.76	-336.30	1.16
232	16125	91.10	180.80	246.00	10812.16	5522.75	-5514.74	-337.40	0.71
233	16156	89.30	180.90	246.00	10812.05	5553.75	-5545.73	-337.86	5.82
234	16187	89.30	180.50	248.00	10812.43	5584.74	-5576.73	-338.24	1.29
235	16219	89.40	180.60	248.00	10812.79	5616.73	-5608.72	-338.55	0.44
236	16250	89.50	180.30	248.00	10813.09	5647.72	-5639.72	-338.79	1.02
237	16343	90.50	179.90	249.00	10813.09	5740.67	-5732.72	-338.95	1.16
238	16437	90.00	179.70	249.00	10812.68	5834.61	-5826.72	-338.62	0.57
239	16531	91.10	179.40	251.00	10811.78	5928.53	-5920.71	-337.89	1.21
240	16624	93.50	178.70	251.00	10808.05	6021.34	-6013.61	-336.35	2.69



SURVEY REPORT

Customer: **Oasis Petroleum**
Well Name: **Colville 5301 44-12T**
Block or Section: **153N-101W-13/24**
Rig #: **Nabors B-22**
Calculation Method: **Minimun Curvature Calculation**

MWD Operator: **Mike McCommand**
Directional Drillers: **D Rakstad/D Bohn**
Survey Corrected To: **True North**
Vertical Section Direction: **181.85**
Survey Correction: **8.32**
Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
241	16718	91.70	179.40	248.00	10803.78	6115.12	-6107.50	-334.79	2.05
242	16811	90.40	179.00	249.00	10802.08	6208.01	-6200.47	-333.49	1.46
243	16843	90.80	178.60	249.00	10801.74	6239.96	-6232.46	-332.82	1.77
244	16905	89.90	179.40	249.00	10801.37	6301.88	-6294.45	-331.74	1.94
245	16936	88.80	179.70	249.00	10801.72	6332.85	-6325.45	-331.50	3.68
246	16968	88.80	179.70	251.00	10802.39	6364.82	-6357.44	-331.33	0.00
247	16999	89.10	179.60	251.00	10802.96	6395.80	-6388.44	-331.14	1.02
248	17061	90.50	179.30	251.00	10803.17	6457.74	-6450.43	-330.54	2.31
249	17093	92.10	179.10	248.00	10802.45	6489.70	-6482.42	-330.10	5.04
250	17155	91.80	178.90	249.00	10800.34	6551.58	-6544.37	-329.02	0.58
251	17187	89.70	179.50	251.00	10799.92	6583.54	-6576.36	-328.57	6.83
252	17218	90.20	180.30	249.00	10799.94	6614.53	-6607.36	-328.51	3.04
253	17249	89.70	180.10	249.00	10799.97	6645.51	-6638.36	-328.62	1.74
254	17280	88.80	180.40	251.00	10800.38	6676.50	-6669.36	-328.76	3.06
255	17311	89.60	180.20	251.00	10800.81	6707.48	-6700.36	-328.92	2.66
256	17374	89.10	181.10	251.00	10801.53	6770.46	-6763.35	-329.63	1.63
257	17405	89.80	181.90	253.00	10801.82	6801.46	-6794.34	-330.45	3.43
258	17467	90.50	181.60	251.00	10801.66	6863.46	-6856.31	-332.34	1.23
259	17499	91.30	180.80	251.00	10801.16	6895.45	-6888.29	-333.01	3.54
260	17561	91.10	180.10	251.00	10799.86	6957.42	-6950.28	-333.50	1.17
261	17592	90.90	179.90	251.00	10799.32	6988.40	-6981.27	-333.50	0.91
262	17655	91.20	180.10	251.00	10798.16	7051.36	-7044.26	-333.50	0.57
263	17717	89.40	180.30	251.00	10797.84	7113.33	-7106.26	-333.71	2.92
264	17748	87.50	180.90	152.00	10798.68	7144.31	-7137.24	-334.04	6.43
265	17780	87.80	180.60	253.00	10799.99	7176.28	-7169.21	-334.46	1.33
266	17811	87.30	180.30	253.00	10801.31	7207.24	-7200.19	-334.70	1.88
267	17842	87.40	180.10	251.00	10802.75	7238.19	-7231.15	-334.81	0.72
268	17873	88.40	180.00	253.00	10803.88	7269.16	-7262.13	-334.83	3.24
269	17905	88.60	180.10	251.00	10804.72	7301.13	-7294.12	-334.86	0.70
270	17936	90.00	180.00	251.00	10805.10	7332.11	-7325.12	-334.89	4.53
271	17967	91.30	180.10	253.00	10804.75	7363.09	-7356.11	-334.92	4.21
272	17998	91.90	180.50	253.00	10803.88	7394.07	-7387.10	-335.08	2.33
273	18030	92.40	180.50	253.00	10802.68	7426.04	-7419.08	-335.36	1.56
274	18061	92.80	180.10	253.00	10801.28	7456.99	-7450.05	-335.52	1.82
275	18092	93.10	180.00	251.00	10799.68	7487.94	-7481.00	-335.55	1.02
276	18123	92.30	180.10	251.00	10798.22	7518.89	-7511.97	-335.57	2.60
277	18155	91.00	180.70	251.00	10797.30	7550.86	-7543.95	-335.80	4.47
278	18186	91.20	180.60	251.00	10796.70	7581.85	-7574.95	-336.15	0.72
279	18217	92.20	180.10	251.00	10795.78	7612.83	-7605.93	-336.34	3.61
280	18248	91.30	180.30	251.00	10794.84	7643.80	-7636.92	-336.45	2.97
281	18279	91.50	180.40	251.00	10794.08	7674.78	-7667.91	-336.64	0.72
282	18311	90.70	180.70	253.00	10793.47	7706.76	-7699.90	-336.94	2.67
283	18373	90.20	181.40	253.00	10792.98	7768.75	-7761.89	-338.08	1.39
284	18405	90.20	181.40	255.00	10792.87	7800.75	-7793.88	-338.86	0.00
285	18436	89.80	181.00	255.00	10792.87	7831.75	-7824.87	-339.51	1.82
286	18498	89.80	180.40	255.00	10793.08	7893.74	-7886.86	-340.27	0.97
287	18529	89.60	180.70	255.00	10793.25	7924.73	-7917.86	-340.56	1.16
288	18592	89.90	180.20	255.00	10793.52	7987.71	-7980.86	-341.06	0.93
289	18623	89.90	180.40	255.00	10793.58	8018.70	-8011.86	-341.22	0.65
290	18686	91.10	181.20	255.00	10793.03	8081.68	-8074.85	-342.10	2.29
291	18717	92.10	181.80	255.00	10792.16	8112.67	-8105.83	-342.91	3.76
292	18748	92.20	181.60	255.00	10791.00	8143.65	-8136.79	-343.83	0.72
293	18779	92.40	181.30	255.00	10789.75	8174.62	-8167.76	-344.62	1.16
294	18811	91.80	181.60	255.00	10788.58	8206.60	-8199.72	-345.42	2.10
295	18842	91.60	181.80	257.00	10787.66	8237.59	-8230.70	-346.34	0.91
296	18873	91.10	182.20	257.00	10786.93	8268.58	-8261.67	-347.43	2.07
297	18904	91.10	182.30	253.00	10786.34	8299.57	-8292.64	-348.64	0.32
298	18936	91.90	182.30	255.00	10785.50	8331.56	-8324.60	-349.93	2.50
299	18967	92.50	182.00	255.00	10784.31	8362.54	-8355.56	-351.09	2.16
300	18998	92.60	181.50	255.00	10782.93	8393.51	-8386.51	-352.03	1.64

**SURVEY REPORT**

Customer: **Oasis Petroleum**
 Well Name: **Colville 5301 44-12T**
 Block or Section: **153N-101W-13/24**
 Rig #: **Nabors B-22**
 Calculation Method: **Minimun Curvature Calculation**

MWD Operator: **Mike McCommand**
 Directional Drillers: **D Rakstad/D Bohn**
 Survey Corrected To: **True North**
 Vertical Section Direction: **181.85**
 Survey Correction: **8.32**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
301	19029	92.40	181.20	255.00	10781.58	8424.47	-8417.47	-352.76	1.16
302	19061	92.10	181.30	257.00	10780.32	8456.45	-8449.44	-353.46	0.99
303	19092	92.40	181.20	257.00	10779.10	8487.42	-8480.41	-354.14	1.02
304	19123	93.10	181.00	257.00	10777.62	8518.38	-8511.37	-354.73	2.35
305	19154	93.50	180.80	255.00	10775.83	8549.33	-8542.31	-355.22	1.44
306	19185	92.50	181.00	255.00	10774.21	8580.28	-8573.27	-355.70	3.29
307	19217	92.70	180.80	257.00	10772.76	8612.24	-8605.23	-356.21	0.88
308	19248	93.10	180.10	257.00	10771.19	8643.19	-8636.19	-356.45	2.60
309	19279	92.90	179.80	257.00	10769.57	8674.13	-8667.15	-356.42	1.16
310	19341	91.50	180.20	255.00	10767.19	8736.06	-8729.10	-356.42	2.35
311	19373	91.80	180.30	255.00	10766.26	8768.03	-8761.09	-356.56	0.99
312	19435	90.20	180.70	257.00	10765.18	8830.00	-8823.07	-357.10	2.66
313	19466	90.60	180.70	257.00	10764.97	8860.99	-8854.07	-357.48	1.29
314	19522	90.60	179.40	255.00	10764.38	8916.96	-8910.06	-357.53	2.32
315	19553	90.50	179.40	257.00	10764.08	8947.93	-8941.06	-357.21	0.32
316	19584	90.60	179.10	257.00	10763.78	8978.90	-8972.06	-356.80	1.02
317	19615	90.60	179.20	257.00	10763.46	9009.86	-9003.05	-356.34	0.32
318	19647	90.40	179.30	257.00	10763.18	9041.83	-9035.05	-355.92	0.70
319	19678	90.00	179.40	257.00	10763.07	9072.80	-9066.05	-355.57	1.33
320	19709	89.80	178.90	257.00	10763.13	9103.76	-9097.04	-355.11	1.74
321	19740	89.80	178.70	251.00	10763.23	9134.72	-9128.03	-354.46	0.65
322	19802	90.80	178.60	257.00	10762.91	9196.62	-9190.02	-353.00	1.62
323	19834	91.10	178.50	257.00	10762.38	9228.56	-9222.00	-352.19	0.99
324	19865	91.60	178.30	257.00	10761.65	9259.50	-9252.98	-351.32	1.74
325	19896	91.40	177.80	257.00	10760.84	9290.42	-9283.95	-350.27	1.74
326	19927	91.20	178.00	257.00	10760.13	9321.34	-9314.92	-349.13	0.91
327	19959	91.50	178.30	258.00	10759.38	9353.26	-9346.90	-348.10	1.33
328	19990	91.40	177.90	258.00	10758.60	9384.19	-9377.87	-347.07	1.33
329	20021	91.70	177.60	258.00	10757.76	9415.10	-9408.83	-345.86	1.37
330	20052	91.80	177.20	255.00	10756.81	9445.99	-9439.79	-344.45	1.33
331	20084	92.10	177.00	255.00	10755.72	9477.86	-9471.73	-342.83	1.13
332	20146	92.30	177.10	255.00	10753.34	9539.60	-9533.60	-339.65	0.36
333	20177	92.00	178.40	257.00	10752.18	9570.49	-9564.55	-338.43	4.30
334	20240	91.80	178.60	255.00	10750.09	9633.35	-9627.50	-336.78	0.45
335	20271	91.30	180.10	257.00	10749.25	9664.31	-9658.48	-336.43	5.10
336	20302	91.80	180.90	257.00	10748.41	9695.29	-9689.47	-336.70	3.04
337	20333	91.70	180.30	257.00	10747.47	9726.27	-9720.45	-337.02	1.96
338	20365	91.10	179.70	257.00	10746.68	9758.24	-9752.44	-337.02	2.65
339	20396	92.20	179.10	257.00	10745.79	9789.20	-9783.43	-336.70	4.04
340	20458	91.70	179.50	257.00	10743.68	9851.10	-9845.39	-335.94	1.03
341	20490	91.30	180.20	257.00	10742.84	9883.07	-9877.38	-335.86	2.52
342	20552	90.90	180.20	257.00	10741.65	9945.03	-9939.37	-336.08	0.65
343	20583	90.30	180.40	258.00	10741.33	9976.02	-9970.36	-336.24	2.04
344	20615	90.20	179.50	258.00	10741.19	10008.00	-10002.36	-336.21	2.83
345	20646	90.20	179.50	258.00	10741.08	10038.98	-10033.36	-335.94	0.00
346	20677	90.20	179.60	258.00	10740.97	10069.95	-10064.36	-335.70	0.32
347	20708	90.20	179.40	258.00	10740.87	10100.93	-10095.36	-335.43	0.65
348	20740	90.10	179.40	258.00	10740.78	10132.90	-10127.36	-335.09	0.31
349	20770	90.70	179.40	258.00	10740.57	10162.87	-10157.35	-334.78	2.00
350	20801	90.20	179.40	258.00	10740.33	10193.84	-10188.35	-334.45	1.61
351	20833	90.00	179.40	258.00	10740.27	10225.81	-10220.35	-334.12	0.63
352	20926	89.80	178.60	260.00	10740.44	10318.69	-10313.33	-332.49	0.89
353	21020	89.60	178.20	260.00	10740.93	10412.52	-10407.30	-329.87	0.48
354	21035	89.80	178.20	258.00	10741.01	10427.49	-10422.29	-329.40	1.33
Projection	21090	89.80	178.20		10741.20	10482.38	-10477.26	-327.67	0.00



Oasis Petroleum North America, LLC

Colville 5301 44-12T

250' FSL & 950' FEL

SE SE Section 12, T153N, R101W

Baker Field / Three Forks

McKenzie County, North Dakota

BOTTOM HOLE LOCATION:

10,477.26' S & 327.67' W, of surface location or approx.

301.26' FSL & 1,277.67' FEL, SE SE Sec. 24, T153N, R101W

Prepared for:

Brian Cornette
Oasis Petroleum North America, LLC
1001 Fannin Suite 1500
Houston, TX 77002

Prepared by:

G. Wayne Peterson, Michelle Baker
PO Box 51297; Billings, MT 59105
2150 Harnish Blvd., Billings, MT 59101
(406) 259-4124
geology@sunburstconsulting.com
www.sunburstconsulting.com

WELL EVALUATION



Figure 1. Nabors B22 drilling the Oasis Petroleum North America, LLC - Colville 5301 44-12T during July and August, 2013 in the Baker Field, McKenzie County, North Dakota.
(G. Wayne Peterson, Sunburst Consulting)

INTRODUCTION

Oasis Petroleum North America, LLC. Colville 5301 44-12T [SE SE Sec. 12-T153N-R101W] is located approximately 3 miles south of Williston in McKenzie County, North Dakota. The Colville 5301 44-12T is a horizontal Three Forks development well in part of Oasis Petroleum's Camp prospect within the Williston Basin. The vertical hole was planned to be drilled to approximately 10,333'. The curve would be built at 12 degrees per 100' to land within the Three Forks. This well is a two section lateral which originates in the southeast quarter of section 12, then drilled south across section 13, to the southeast quarter of section 24 (**Figure 2**). Directional drilling technologies and geo-steering techniques were used to land in the upper Three Forks reservoir and maintain exposure to the ideal target rock.

OFFSET WELLS

The primary offset wells used for depth correlation during curve operations were the Gulf Oil Exploration and Production, Lindvig 1-11-3C; and the Oasis Petroleum North America, LLC Ash Federal 5300 11-18T. The Gulf Oil Exploration and Production, Lindvig 1-11-3C [SE SE Sec. 11, T153N, R101W] is located approximately $\frac{1}{2}$ of a mile west of the Colville 5301 44-12T. This well was completed in March of 1982 reached a total depth of 13,800' true vertical depth (TVD). The Oasis Petroleum North America, LLC Ash Federal 5300 11-18T [Lot 1 Section 18,

T153N, R100W] is located approximately east north east of the Colville 5301 44-12T. This well was drilled to the Three Forks landing of 10,794' MD in August and September of 2012. The formation thicknesses expressed by gamma signatures in these wells, and the Oasis Petroleum North America, LLC Larry 5301 44-12B [SE NE Section 12, T153N, R101W] were used to assist in landing the curve. This was accomplished by comparing gamma signatures from the offset wells to gamma data collected during drilling operations. The casing target landing was periodically updated to ensure accurate landing of the curve. Data used in this evaluation are included as an appendix to this report.

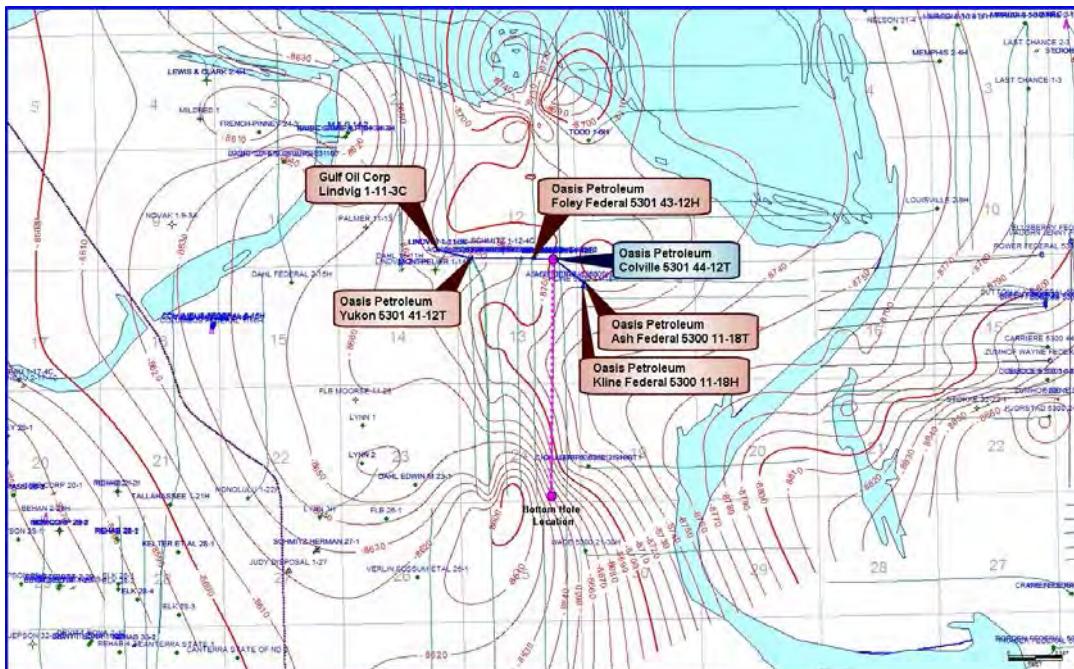


Figure 2. Structure map of the Three Forks Top (subsea) with annotated offset wells (Oasis Petroleum).

GEOLOGY

Lithology

The Ratcliffe interval [Charles Formation] was drilled at 9,228' MD 9,227' TVD (-7,142') SS. The top of this interval was observed as faster penetration rates were encountered, as the well bore transitioned from anhydrite to limestone. This limestone was tan to gray tan, light brown gray, occasional light brown, rare off white lime mudstone. This facies was microcrystalline, firm, with an earthy to crystalline texture, as well as contained traces of disseminated pyrite. Also noted in certain areas was a trace *light brown oil stain*; possible earthy to intercrystalline porosity may have been present

The Mission Canyon Formation [Mississippian Madison Group] was logged at 9,420' MD 9,419' TVD (-7,334') SS. The Mission Canyon Formation consisted of lime mudstone that was described as light brown, light gray brown to brown, occasional cream, rare light gray, trace off white to white in color. The Mission Canyon was predominately friable to firm, dense with an earthy to crystalline texture. Some intervals were trace siliceous with traces of disseminated

pyrite. Fossil fragments, along with black, dark brown algal laminations and a trace of stylolites were visible in some samples throughout the Mission Canyon Formation. Following connections or periods of non-circulation, gas shows of 39 to 46 units were noted and a trace to rare *spotty light to medium brown spotty oil stain* was occasionally observed while logging the Mission Canyon Formation.



Figure 3. Limestone with spotty light to medium brown staining from the Mission Canyon Formation.

The Upper Bakken Shale Member [Mississippian-Bakken Formation] was drilled at 10,762' MD 10,699' TVD (-8,614') SS. Entry into this member was characterized by high gamma, elevated background gas and increased rates of penetration. The black carbonaceous and *petroliferous* shale was sub blocky and firm with an earthy texture. Trace minerals were observed to include disseminated pyrite and calcite fracture fill. Hydrocarbons evaluated in this interval reached a maximum of 305 units.

The Bakken Middle Member [Mississippian-Devonian] was reached at 10,792' MD 10,715' TVD (-8,630') SS. This formation was predominantly siltstone and silty sandstone noted by the decreasing penetration rates, gamma API counts, and recorded gas levels, relative to the overlying source rock. The siltstone was light gray, sub-platy to sub-blocky, with an earthy texture. It was moderately calcite cemented, with traces of disseminated pyrite. Also present was silty sandstone which was light gray, light gray tan, rare buff, firm, very fine grained, well sorted, friable, sub-angular to sub-round, and contained possible intergranular porosity. It was moderately calcite cemented. Trace minerals included disseminated and nodular pyrite. Drilling gas in this interval reached a maximum of 145 units, with a connection gas of 256 units. Also observed was *spotty light brown spotty oil stain*.

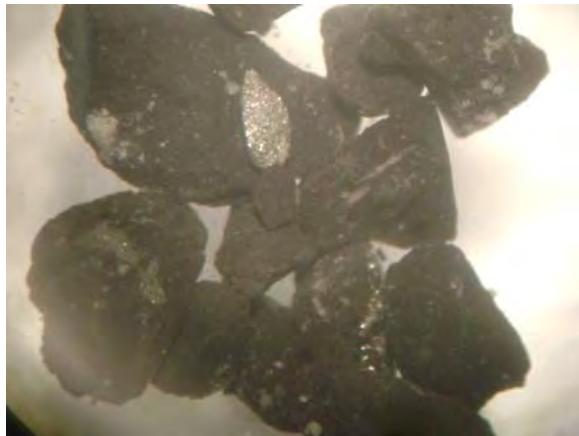


Figure 4. Sample from the Lower Bakken Shale Member

The Lower Bakken Shale Member [Devonian] was reached at 10,878' MD 10,758' TVD (-8,673') SS. This was 19' low to the Lindvig 1-11-3C. Entry into this interval was characterized by high gamma, elevated background gas and increased rates of penetration. The carbonaceous black, black gray shale is *petroliferous*, with a blocky texture and exhibits possible fracture porosity. Trace minerals included disseminated pyrite. Drilling gas in this interval reached a maximum of 312 units with a connection gas of 311 units.

The Pronghorn Member [Devonian-Bakken Formation] was reached at 10,906' MD 10,769' TVD (-8,684') SS. Entry into this interval was characterized by lower gamma, and slightly slower penetration rates. Samples from the Pronghorn were described as siltstone which was medium to dark gray, gray brown, friable, sub-platy to sub-blocky, with an earthy texture. This siltstone was moderately dolomite cemented and included disseminated and nodular pyrite. Drilling gas in this interval reached a maximum of 196 units with a connection gas of 278 units.

The Three Forks Formation [Devonian] was reached at 10,949' MD 10,783 TVD (-8,698') SS. The target zone of the Three Forks was to be drilled in a predominatly dolomite eight foot zone beginning 16 feet into the Three Forks Formation.

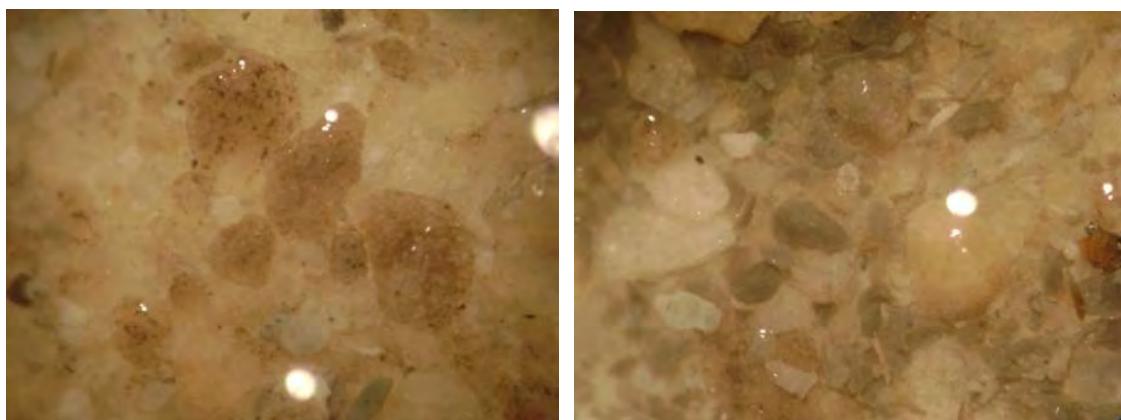


Figure 5 & 6. Sample of the predominately dolomitic facies in the preferred drilling zone of the Three Forks formation on left; sample from a brief contact with underlying claystone on the right.

Samples in the Three Forks were commonly dolomite which is tan, cream, occasional light brown, rare light gray tan, trace light gray. Additionally this facies was friable and dense with an earthy texture. It also contained a trace of disseminated and nodular pyrite. Possible intercrystalline porosity was observed, as was a *rare to a trace of light brown spotty oil stain*. Present in varying amounts was light gray to off white, rare light green shale which was friable to firm, sub-blocky with an earthy texture. Trace of nodular and disseminated pyrite was noted in the shale which contained no visible porosity.

Gas Show

Gas monitoring and fluid gains provided evidence of a hydrocarbon saturated reservoir during the drilling of the Yukon 5301 41-12T. Oil and gas shows at the shakers and in samples were continuously monitored. In the closed mud system, hydrostatic conditions were maintained near balance, this allowed for gas and fluid gains from the well to be evaluated. Gas on the Colville 5301 44-12T varied according to stratigraphic position and penetration rates which may have reflected increased porosity. Background concentrations ranged from 300 to 600 units, and connection peaks of 1,000 to 1,200 units were observed in the middle of the target zone. A trip at 19,527' MD, yielded a trip gas of 1,545 units. Chromatography of gas revealed typical concentrations of methane, ethane, propane and butane characteristic of Bakken and Three Forks gas (Figure 7).



Figure 7. Gas chromatography of 1,400 unit connection gas peaks. Note the measurable concentrations of C₃ and C₄ at 2.7 and 4.2 minutes.

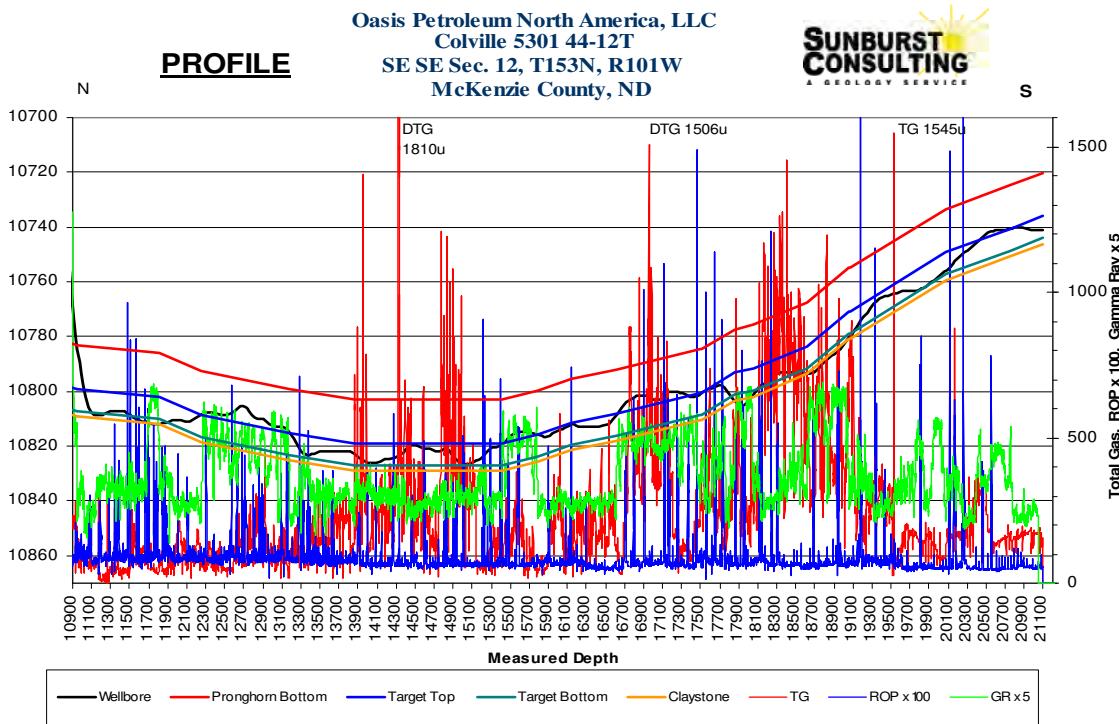


Figure 8. Profile displaying total gas, gamma ray and rate of penetration.

Geo-steering

Ryan Energy Technologies provided personnel and equipment for measurement-while-drilling (MWD) services. The RPM directional drillers MWD and Sunburst Consulting personnel worked closely together throughout the project to evaluate data and make steering decisions to maximize the amount of borehole in the targeted zones and increase rate of penetration (ROP) of the formation.

The 873' curve was drilled in 24 hours with bit #2 a Security FXD55D, attached to a 2.38 degree fixed NOV 7/8 5 stage mud motor and MWD tools. The curve was successfully landed at 11,173' MD, approximately 25' into the Three Forks Formation. Seven inch diameter 32# HCP-110 casing was set to 11,144' MD.

Geologic structure maps of the Colville 5301 44-12T and surrounding control wells, estimated formation dip to move down at approximately -0.3° initially, then reverse due to a plunging syncline at about 2,500', reversing to an estimated 0.5° to 1.0° until total depth (TD) was reached. The Colville 5301 44-12T preferred drilling interval consisted of an eight foot zone located approximately sixteen feet into the Three Forks Formation. Stratigraphic position in the target zone was based on penetration rates, gas shows, gamma ray data and sample observations. The projected target landing was to be sixteen feet into the Three Forks and was successfully reached prior to casing operations. Using offsets provided by Oasis representatives, projected porosity zones were identified as the preferred drilling areas (Figure 9).



Figure 9. Type log gamma profile from the Lindvig 1-11-3C, with target points.

Steering decisions were made by using the higher gamma, of the underlying claystone, the low gamma located in the middle to higher portion of the drilling zone, and the fluctuating high to medium gamma located at the top of the drilling zone.

The TD of 21,090' MD was achieved at 1720 hours CDT on August 12, 2013. The well site team worked well together maintaining the well bore in the desired target interval for 76% of the lateral, opening 10,141' of potentially productive reservoir rock. The hole was then circulated and reamed for completion.

SUMMARY

The Colville 5301 44-12T is a successful well in Oasis Petroleum's horizontal Three Forks development program in Baker Field. The project was drilled from surface casing to TD in 21 days. The TD of 21,090' MD was achieved at 1720 hours CDT August 12, 2013. The well site team worked well together maintaining the well bore in the desired target interval for 76% of the lateral, opening 10,141' of potentially productive reservoir rock.

Diesel invert drilling fluid 9.5-10.1 ppg for the vertical hole and 10.15-10.4 ppg for curve operations were used to maintain stable hole conditions, minimize washout through the salt intervals and permit adequate analysis of mud gas concentrations.

Samples in the Three Forks were commonly dolomite which is tan, cream, occasional light brown, rare light gray tan, trace light gray. Additionally this facies was friable and dense with an earthy texture. It also contained a trace of disseminated and nodular pyrite. Possible intercrystalline porosity was observed, as was a *rare to a trace of light brown spotty oil stain*. Present in varying amounts was light gray to off white, rare light green shale which was friable to firm, sub-blocky with an earthy texture. Trace of nodular and disseminated pyrite was noted, and the shale contained no visible porosity.

Gas on the Colville 5301 44-12T varied according to penetration rates and stratigraphic position of the well bore. Observed concentrations of background gas ranged from 300 to 600 units, and connection peaks of 1,000 to 1,200 units were observed in the middle portion of formation while drilling in the lateral where shows were the best. A trip at 19,527' MD, yielded a trip gas of 1,545 units

The Oasis Petroleum North America, LLC. Colville 5301 44-12T awaits completion operations to determine its ultimate production potential.

Respectfully submitted,

G. Wayne Peterson
Sunburst Consulting, Inc.
13 August, 2013

WELL DATA SUMMARY

OPERATOR: Oasis Petroleum North America, LLC

ADDRESS: 1001 Fannin Suite 1500
Houston, TX 77002

WELL NAME: Colville 5301 44-12T

API #: 33-053-04981

WELL FILE #: 25571

SURFACE LOCATION: 250' FSL & 950' FEL
SE SE Section 12, T153N, R101W

FIELD/ PROSPECT: Baker Field / Three Forks

COUNTY, STATE McKenzie County, North Dakota

BASIN: Williston

WELL TYPE: Three Forks Horizontal

ELEVATION: GL: 2,060'
KB: 2,085'

SPUD/ RE-ENTRY DATE: July 23, 2013

BOTTOM HOLE LOCATION 10,477.26' S & 327.67' W, of surface location or approx.
301.26' FSL & 1,277.67' FEL, SE SE Sec. 24, T153N, R101W

CLOSURE COORDINATE Closure Azimuth: 181.79°
Closure Distance: 10,482.38'

TOTAL DEPTH / DATE: 21,090' on August 12, 2013
76% within target interval

TOTAL DRILLING DAYS: 21 days

CONTRACTOR: Nabors #B22

PUMPS: H&H Triplex (stroke length - 12")

<u>TOOLPUSHERS:</u>	Jessie Tibbets, Chase Erdman
<u>FIELD SUPERVISORS:</u>	Dominic Bohn, Doug Rakstad
<u>CHEMICAL COMPANY:</u>	NOV
<u>MUD ENGINEER:</u>	Larry Langenfeld, Joe Standar
<u>MUD TYPE:</u>	Fresh water in surface hole Diesel invert in curve; Salt water in lateral
<u>MUD LOSSES:</u>	Invert Mud: 450 bbls, Salt Water: 0 bbls
<u>PROSPECT GEOLOGIST:</u>	Brian Cornette
<u>WELLSITE GEOLOGISTS:</u>	G. Wayne Peterson, Michelle Baker
<u>GEOSTEERING SYSTEM:</u>	Sunburst Digital Wellsite Geological System
<u>ROCK SAMPLING:</u>	30' from 8,240' - 10,940' 10' from 10,940' - 11,173' 30' from 11,173' - 21,090' (TD)
<u>SAMPLE EXAMINATION:</u>	Binocular microscope & fluoroscope
<u>SAMPLE CUTS:</u>	Trichloroethylene (Carbo-Sol)
<u>GAS DETECTION:</u>	MSI (Mudlogging Systems, Inc.) TGC - total gas with chromatograph Serial Number(s): ML-382
<u>ELECTRIC LOGS:</u>	n/a
<u>DRILL STEM TESTS:</u>	n/a
<u>DIRECTIONAL DRILLERS:</u>	RPM, Inc. Dominic Bohn, Doug Rakstad, Rick Bansemer, Travis Baker
<u>MWD:</u>	Ryan Mike McCommond, Todd Fink, Sam Hayman

CASING:

Surface: 9 5/8" 36# J-55 set to 2,098'
Intermediate: 7" 32# P-110 set to 11,144'

KEY OFFSET WELLS:

Gulf Oil

Lindvig 1-11-3C

SE SE Sec. 11, T153N, R101W
McKenzie County, ND

Oasis Petroleum North America LLC.

Larry 5301 44-12B

SE NE Section 12, T153N, R101W
McKenzie County, ND

Oasis Petroleum North America LLC.

Ash Federal 5300 11-18T

Lot 1 Section 18, T153N, R100W
McKenzie County, ND

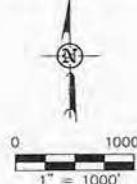
WELL LOCATION PLAT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "COLVILLE 5301 44-12T"
 250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
 SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

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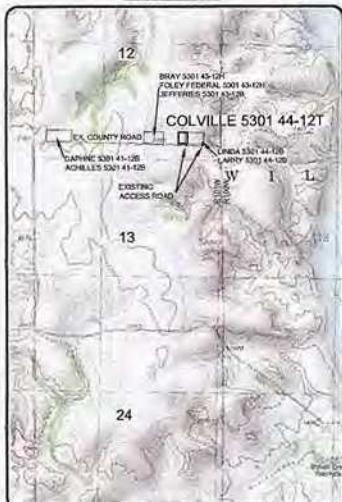
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FOUND STONE
 W/ 2" AC
 LS 2884

VICINITY MAP



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 Other offices in Montana, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
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Drawn By: B.J.H. Project No.: 513-09-056
 Checked By: D.D.K. Date: MARCH 2013

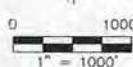
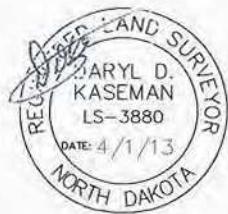
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*COLVILLE 5301 44-12T

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTIONS 13 & 24, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

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OBSERVATIONS. THE ORIGINAL SURVEY OF THIS
AREA FOR THE GENERAL LAND OFFICE (G.L.O.)
WAS 1900. THE CORNERS FOUND ARE AS
INDICATED AND ALL OTHERS ARE COMPUTED FROM
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DATA. THE MAPPING ANGLE FOR THIS AREA IS
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Other offices in Minnesota, North Dakota and South Dakota

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SECTIONS 13 & 24, T153N, R101W
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Date Printed: 4/1/2013 5:12 PM (EST)
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PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
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250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
"COLVILLE 5301 44-12T"
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

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Topsoil Stockpile



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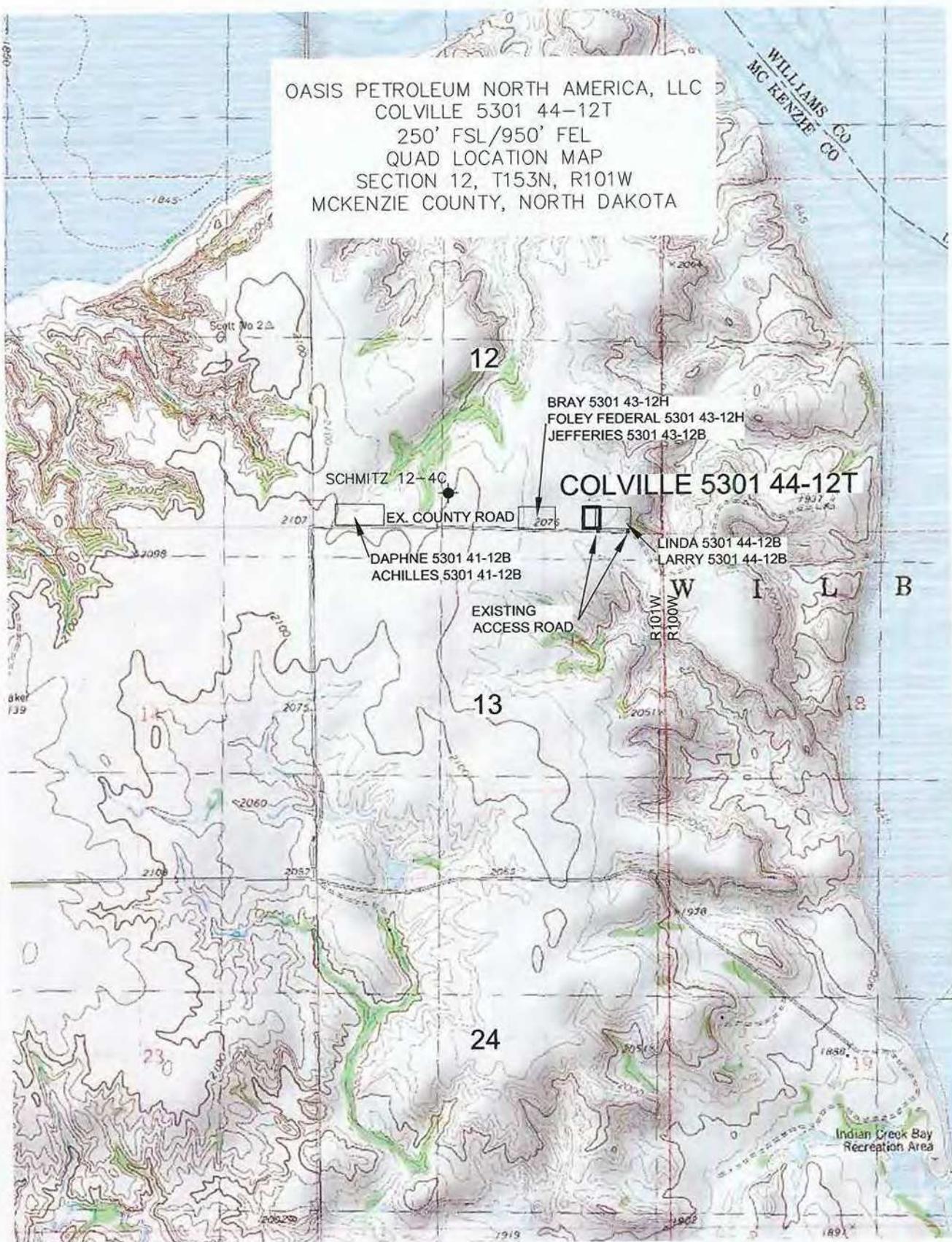


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PAD LAYOUT
SECTION 12, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: B.H.H. Project No.: S13-09-053
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OASIS PETROLEUM NORTH AMERICA, LLC
COLVILLE 5301 44-12T
250' FSL/950' FEL
QUAD LOCATION MAP
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MCKENZIE COUNTY, NORTH DAKOTA



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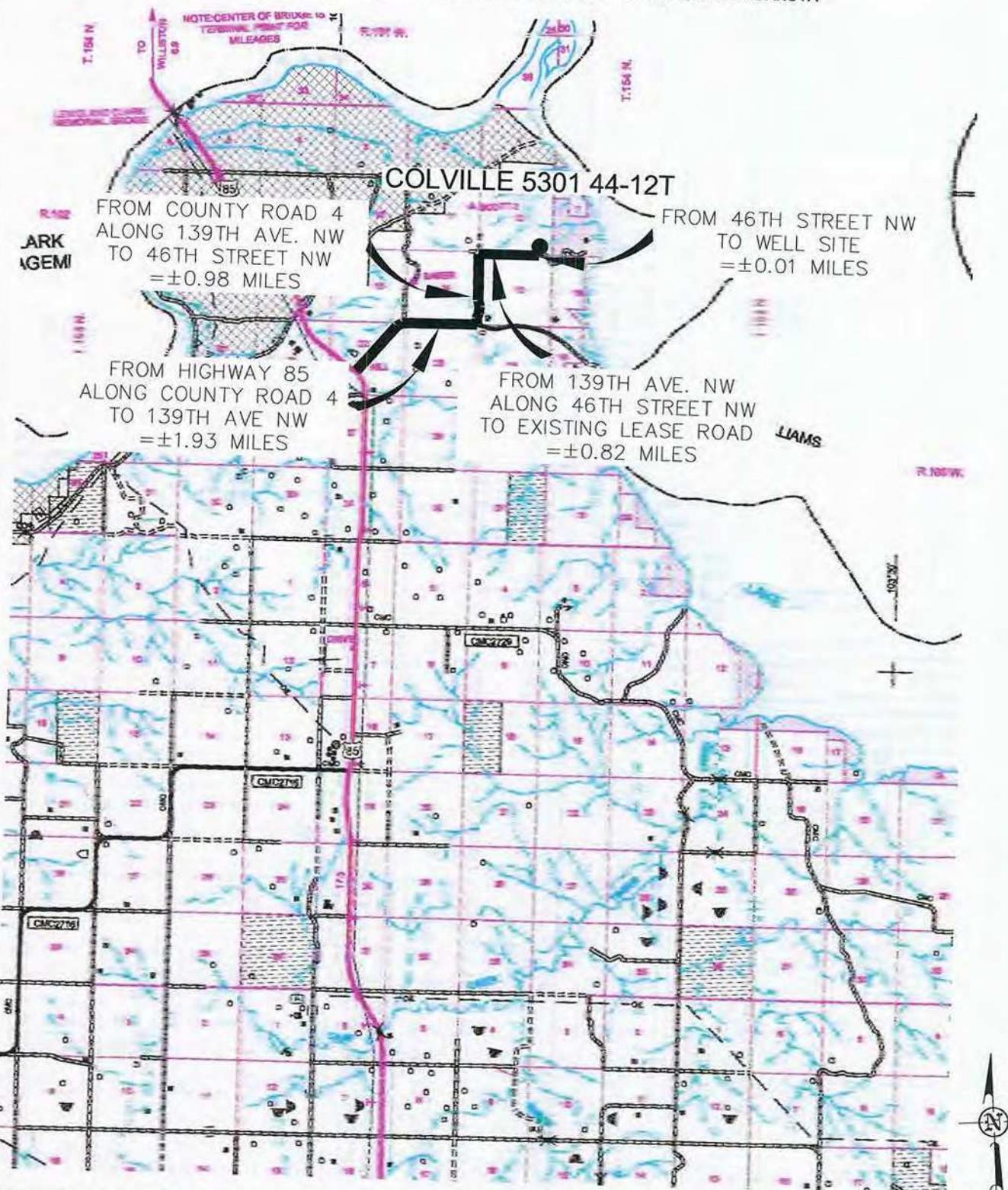
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COUNTY ROAD MAP

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"COLVILLE 5301 44-12T"
250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

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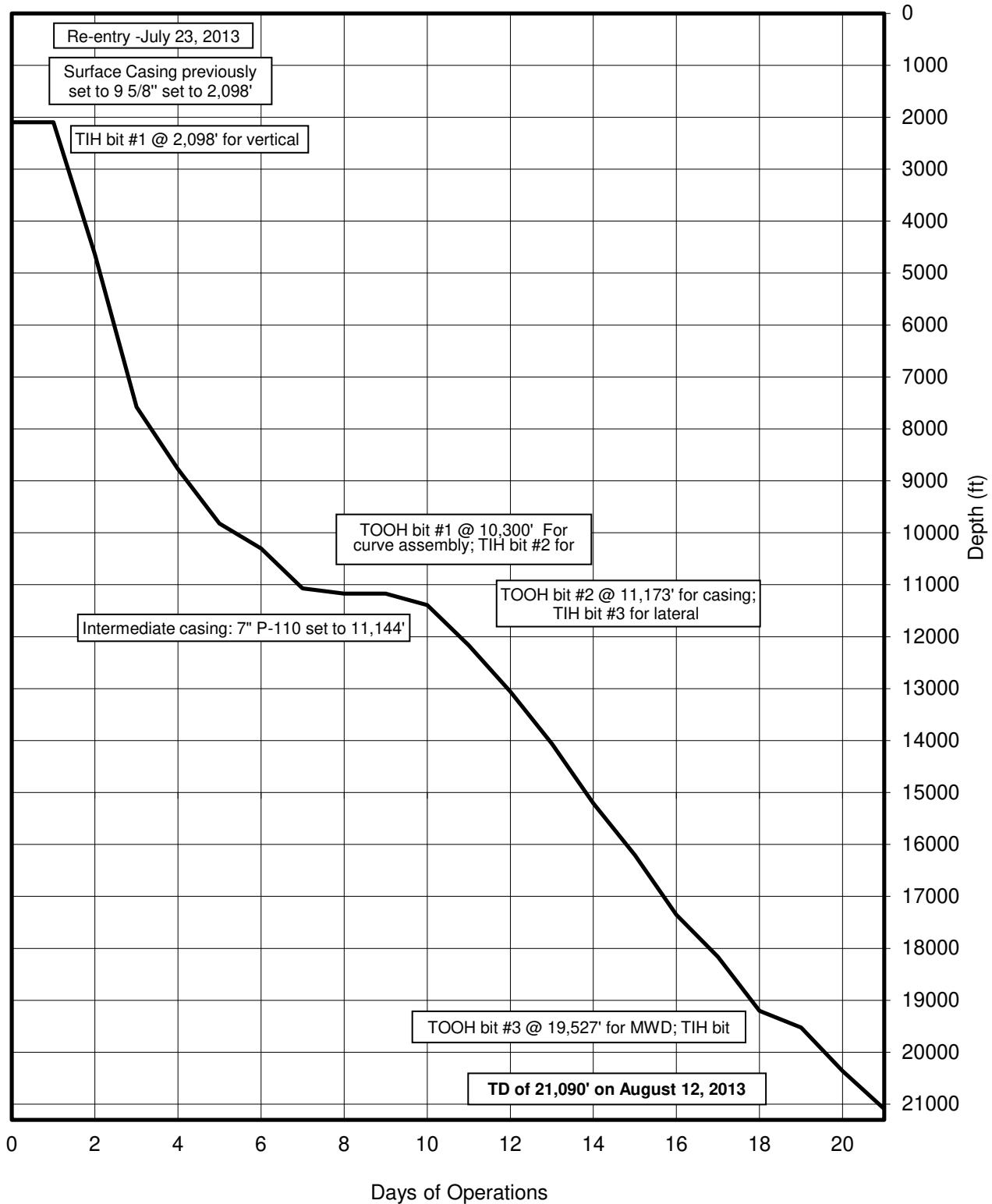
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REV 1	4/1/13	BHJ	REVISED PAD

TIME VS DEPTH

Oasis Petroleum North America, LLC

Colville 5301 44-12T



DAILY DRILLING SUMMARY

Day	Date 2013	Depth (0600 Hrs)	24 Hr Footage	Bit #	WOB (Klbs) RT	WOB (Klbs) MM	RPM (MM)	RPM (RT)	24 Hr Activity			Formation	
									PP	SPM 1	SPM 2		
0	7/23	2,098'	-	-	-	-	-	-	-	-	-	Pierre	
1	7/24	2,098'	0	-	-	-	-	-	-	-	-	Pierre	
2	7/25	4,640'	2,542	1	30	-	60	2900	71	71	500	Nipple up BOPS. Center BOP Install wear bushing. Pick up BHA directional tools. Pick up drill pipe, collars, heavy weight drill pipe. Cut drilling line. Install rotating head. Drill cement, float @ 2,064', shoe @ 2,098'. Service rig. Drill 2,100' to 4,640'	
3	7/26	7,577'	2,937	1	20	-	60	122	3300	72	72	507	Drill vertical hole from 4,640'-6,598'. Rig service. Drill vertical hole from 7,439'-7,577'.
4	7/27	8,773'	1,196	1	25	10	60	122	3400	72	72	507	Drill vertical hole from 7,577'-7,905'. Rig service. Drill vertical hole from 8,279'-8,773'.
5	7/28	9,820'	1,047	1	35	30	60	122	3600	72	72	507	Drill vertical hole from 8,773'-9,119'. Rig service. Drill vertical hole from 9,119'-9,305'. Rig service. Drill vertical hole from 9,305'-9,820'.
6	7/29	10,300'	480	1	50	-	60	120	3600	71	71	500	Drill vertical hole from 9,820'-10,145'. Rig service. Drill vertical hole from 10,145'-10,300'. Reach KOP. Circulate and condition mud, pump pill. TOOH. Remove rotating head and install trip nipple. TOOH. Lay down BHA. Pick up new BHA. Test MWD tool. TIH Log BLS. TIH
7	7/30	11,068'	768	2	50	50	30	143	3300	70	70	493	TOOH. Build curve and survey from 10,300'-10,645'. Rig service. Drill and survey curve from 10,645'-11,068'. Rig service.
8	7/31	11,173'	105	2	-	-	-	0	-	-	-	0	Drill 11,067' to 11,173' Ream/washing 11,173' to 10,326'. Lay down drill pipe, drill collars, HWDP. Lay down BHA Remove wear bushing. Rig up to run casing. Pre-job safety meeting. Run casing.
9	8/1	11,173'	0	2	-	-	-	0	-	-	-	0	Run casing. Verify landing. Rig down casing crew. Circulate bottoms up. Rig up cementers. Safety meeting. Cement. Rig down cementers. Prep top drive for 4" drill pipe. Strap and log 4" drill pipe and BHA. Fill mud tanks with salt water. Pick up BHA. Surface test tool. Pick up drill pipe. Install pack off tool.
10	8/2	11,393'	220	3	60	50	20	138	2100	80	-	282	Install pack off. Rig down Weatherford tools. Install wear bushing. Pick up drill pipe. Cut drilling line. Pressure test casing/shoe. Drill cement, tagged FLT @ 11,047', shoe @ 11,195'. Fit test @ 11,195'. Drill 11,195' to 11,393'.
11	8/3	12,167'	774	3	20	35	20	138	2800	-	80	282	Drill and survey lateral from 11,393'-11,715'. Rig service. Drill and survey from 11,715'-12,152'. Rig service. Drill and survey lateral from 12,152'-12,167'.

DAILY DRILLING SUMMARY

Day	Date 2013	Depth (0600 Hrs)	24 Hr Footage	Bit #	WOB (Klbs) RT	WOB (Klbs) MM	RPM (RT)	RPM (MM)	PP	SPM 1	SPM 2	GPM	24 Hr Activity		Formation
12	8/4	13,060'	893	3	20	30	20	138	3000	80	-	282	Drill and survey lateral from 12,152'-12,660'. Rig service. Drill and survey lateral from 12,660'-13,020'. Rig service. Drill and survey lateral from 13,020'-13,060'.		Three Forks
13	8/5	14,060'	1,000	3	25	30	20	138	3200	80	-	282	Drill and survey lateral from 13,519'-14,060'. Rig service.		Three Forks
14	8/6	15,205'	1,145	3	25	60	20	138	3200	-	80	282	Drill and survey lateral from 14,060'-14,643'. Rig service. Drill and survey lateral from 14,643'-15,205'. Rig service.		Three Forks
15	8/7	16,204'	999	3	25	70	30	138	3200	-	80	282	Drill and survey lateral from 15,205'-15,585'. Rig service. Drill and survey lateral from 15,585'-16,204'. Rig service.		Three Forks
16	8/8	17,354'	1,150	3	25	70	30	138	3200	-	80	282	Drill and survey lateral from 16,204'-16,893'. Rig service. Drill and survey lateral from 16,893'-17,354'. Rig service.		Three Forks
17	8/9	18,166'	812	3	25	50	30	138	3700	-	80	282	Drill and survey lateral from 17,354'-17,770'. Rig service. Drill and survey lateral from 17,770'-17,866'. Rig service.		Three Forks
18	8/10	19,204'	1,038	3	25	50	30	138	3400	-	80	282	Drill and survey lateral from 18,166'-18,734'. Rig service. Drill and survey lateral from 18,734'-19,204'. Rig service.		Three Forks
19	8/11	19,527'	323	4	25	70	30	138	3700	-	80	282	Drill and survey lateral from 19,204'-19,527'. Circulate and condition. Trouble shoot MWD. Rig service. TOOH for MWD. Pull wear bushing. Lay down BHA. Pick up new BHA. Surface tool. TIH. Install wear bushing. Install rotating rubber. Slip and cut drill line.		Three Forks
20	8/12	20,359'	832	4	25	75	30	127	3400	-	74	260	Cut drill line. TIH. Drill and survey lateral from 19,527'-19,835'. Rig service. Drill and survey from 18,835'-20,359'. Rig service.		Three Forks
21	8/13	21,090'	731	4	28	50	30	138	3900	80	-	282	Drill and survey lateral from 20,359'-20,795'. Rig service. Drill and survey from 20,795'-21,090'. Circulate and condition		Three Forks

DAILY MUD SUMMARY

Day	Date 2013	Mud Depth	Mud WT (ppg)	Vis (sec/qt)	PV (cP)	YP (lbs/100 ft2)	Gels (lbs/100 ft2)	600/300	NAP/H2O (ratio)	NAP/H2O (% by vol)	Cake (API/HTHP)	Cor. Solids (%)	Oil/H2O (%)	pH	Excess Lime (lb/bbl)	Cl- (mg/L)	HGS/LGS (%)	Salinity (ppm)	Electrical Stability	Gain/Loss (bbls)
0	07/23	2098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	07/24	2,098'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	07/25	2,098'	9.5	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	07/26	5,196'	9.7	52	18	9	8/12	45/27	75.6/24.4	65/21	3	13.2	65/21	1.1	-	1.4	12k	6.6/6.7	264,320	696
4	07/27	7,745'	9.95	53	9	5	7/10	35/20	81.6/18.4	71/16	3	12.1	71/16	1.2	-	1.6	14k	9.3/2.8	126,027	782
5	07/28	9,140'	9.8	52	13	8	7/10	34/21	85.1/14.9	74/13	3	11.7	74/13	1.7	-	2.2	21k	8.5/3.2	210,245	856
6	07/29	10,003'	10.1	45	15	8	7/11	38/23	82.4/17.6	70/15	3	13.3	70/15	1.7	-	2.2	28k	8.3/5.0	235,256	847
7	07/30	10,331'	10.15	50	16	10	8/13	42/26	81.2/18.8	69/16	3	13.0	69/16	2.0	-	2.6	33k	9.1/3.9	264,320	905
8	07/31	11,170'	10.4	44	16	12	10/17	44/28	82.4/17.6	70/15	3	13.0	70/15	1.9	-	2.5	32k	10.7/2.3	247,894	-110
9	08/01	11,173'	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	08/02	11,173'	9.7	28	1	1	1/1/-	3/2	-	1/89/8	-	-	-	-	-	8.5	-	136k	0.5/0.7	-
11	08/03	11,558'	9.7	28	1	1	1/1/-	3/2	-	1/89/8	-	-	-	-	-	8.5	-	136k	0.5/0.7	-
12	08/04	13,269'	9.65	27	1	1	1/1/-	3/2	-	0/90.7	-	-	-	-	-	8	-	154k	-0.3	-
13	08/05	13,269'	9.65	27	1	1	1/1/-	3/2	-	0/90.7	-	-	-	-	-	8	-	154k	-0.3	-
14	08/06	13,269'	9.65	27	1	1	1/1/-	3/2	-	0/90.7	-	-	-	-	-	8	-	154k	-0.3	-
15	08/07	15,330'	9.75	28	1	1	1/1/-	3/2	-	0/89.8	-	-	-	-	-	8.5	-	178k	-0.2	-
16	08/08	15,330'	9.75	28	1	1	1/1/-	3/2	-	0/89.8	-	-	-	-	-	8.5	-	178k	-0/2	-
17	08/09	17,488'	9.8	28	1	1	1/1/-	3/2	-	0/90	-	-	-	-	-	8.5	-	164k	0.1/0.1	-
18	08/10	17,488'	9.8	28	1	1	1/1/-	3/2	-	0/90	-	-	-	-	-	8.5	-	164k	0.1/0.1	-
19	08/11	19,525'	9.65	27	1	1	1/1/-	3/2	-	0/90.9	-	-	-	-	-	8	-	146k	0.0/0.3	-
20	08/12	19,525'	9.65	27	1	1	1/1/-	3/2	-	0/90.9	-	-	-	-	-	8	-	146k	0.0/0.3	-
21	08/13	20,417'	9.7	28	1	1	1/1/-	3/2	-	0/90.2	-	-	-	-	-	9.8	-	166k	-0.4	-

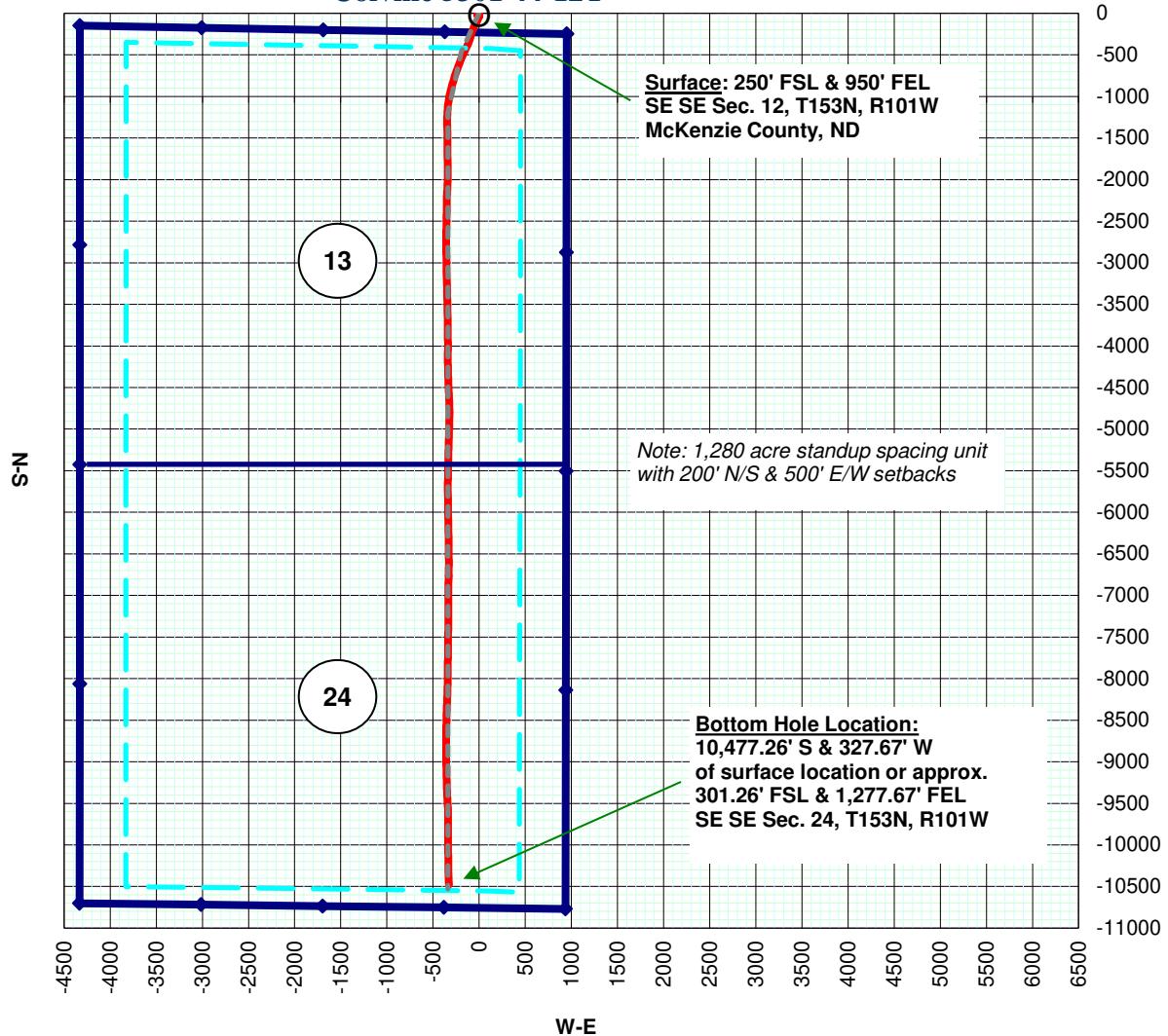
Change from Invert to Saltwater gel

BOTTOM HOLE ASSEMBLY RECORD

BHA Run	Depth In	Depth Out	Footage	Hours	Accum. Hours	Vert. Dev.	Bit Data						Motor Data							
							Bit #	Size (in.)	Type	Make	Model	Serial #	Jets	Hours	Motor #	Make	Model			
1	2,098'	10,300'	8,202'	88	88.00	Vertical	1	8 3/4	PDC	Security	FX55D	12216327	5x14	88	1	Hunting	7/8 5.7	1.00°	88	0.22
2	10,300'	11,173'	873'	24	112.00	Curve	2	8 3/4	PDC	Security	FXD55D	12249673	5x20	24	2	NOV	7/8 5.0	2.38°	24	0.29
3	11,173'	19,527'	8,354'	22.5	134.50	Lateral	3	6	PDC	NOV	SKH1613M	A177287	6x18	194.5	3	Baker	XL/XL	1.50°	194.5	0.49
4	19,527'	21,090'	1,563'	28.5	163.00	Lateral	4	6	PDC	Security	MMD64D	1223845	6x18	28.5	4	Baker	XL/XL	1.50°	28.5	0.49

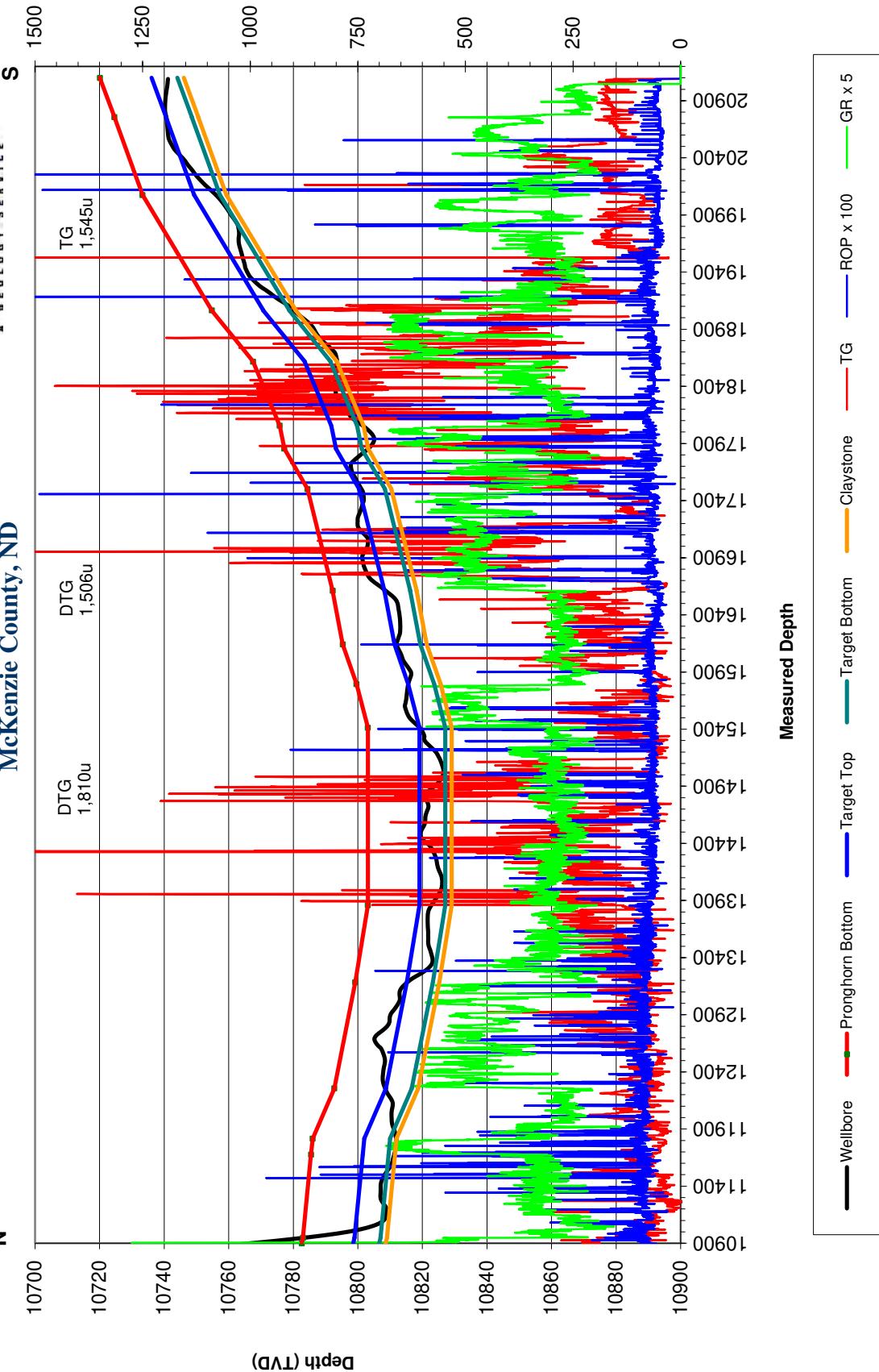
PLAN VIEW

Oasis Petroleum North America, LLC
Colville 5301 44-12T



Oasis Petroleum North America, LLC
 Colville 5301 44-12T
 SE SE Sec. 12, T153N, R101W
 McKenzie County, ND

PROFILE



FORMATION MARKERS & DIP ESTIMATES

Oasis Petroleum North America, LLC - Colville 5301 44-12T

Dip Change Points	MD	TVD	TVD diff.	MD diff.	Dip	Dipping up/down	Type of Marker
Marker							
Three Forks entry	10,949	10,799.00					Gamma
Claystone	11,675'	10,801.50	2.50	726.00	-0.20	Down	Gamma
Claystone	11,815'	10,802.00	0.50	140.00	-0.20	Down	Gamma
Target top	12,256'	10,808.70	6.70	441.00	-0.87	Down	Gamma
Target top	13,185'	10,815.20	6.50	929.00	-0.40	Down	Gamma
Cool gamma #1	13,859'	10,819.10	3.90	674.00	-0.33	Down	Gamma
Target top	15,413'	10,819.10	0.00	1554.00	0.00	Flat	Gamma
Target top	15,795'	10,815.60	-3.50	382.00	0.52	Up	Gamma
Cool gamma #2	16,142'	10,811.30	-4.30	347.00	0.71	Up	Gamma
Target top	16,611'	10,808.20	-3.10	469.00	0.38	Up	Gamma
Target top	17,500'	10,800.40	-7.80	889.00	0.50	Up	Gamma
Target bottom	17,855'	10,793.22	-7.18	355.00	1.16	Up	Gamma
Target bottom	18,050'	10,791.78	-1.44	195.00	0.42	Up	Gamma
Target bottom	18,615'	10,783.56	-8.22	565.00	0.83	Up	Gamma
Target bottom	19,065'	10,770.73	-12.83	450.00	1.63	Up	Gamma
Target bottom	20,075'	10,749.30	-21.43	1010.00	1.22	Up	Gamma
Target top	20,756'	10,741.20	-8.10	681.00	0.68	Up	Gamma
TD	21,100'	10,737.10	-4.10	344.00	0.68	Up	Gamma
Gross Dip							
Initial Target Contact	10,949'	10,799.00					
Projected Final Target Contact	21,100'	10,737.10	-61.90	10151.00	0.35	Up	Projection

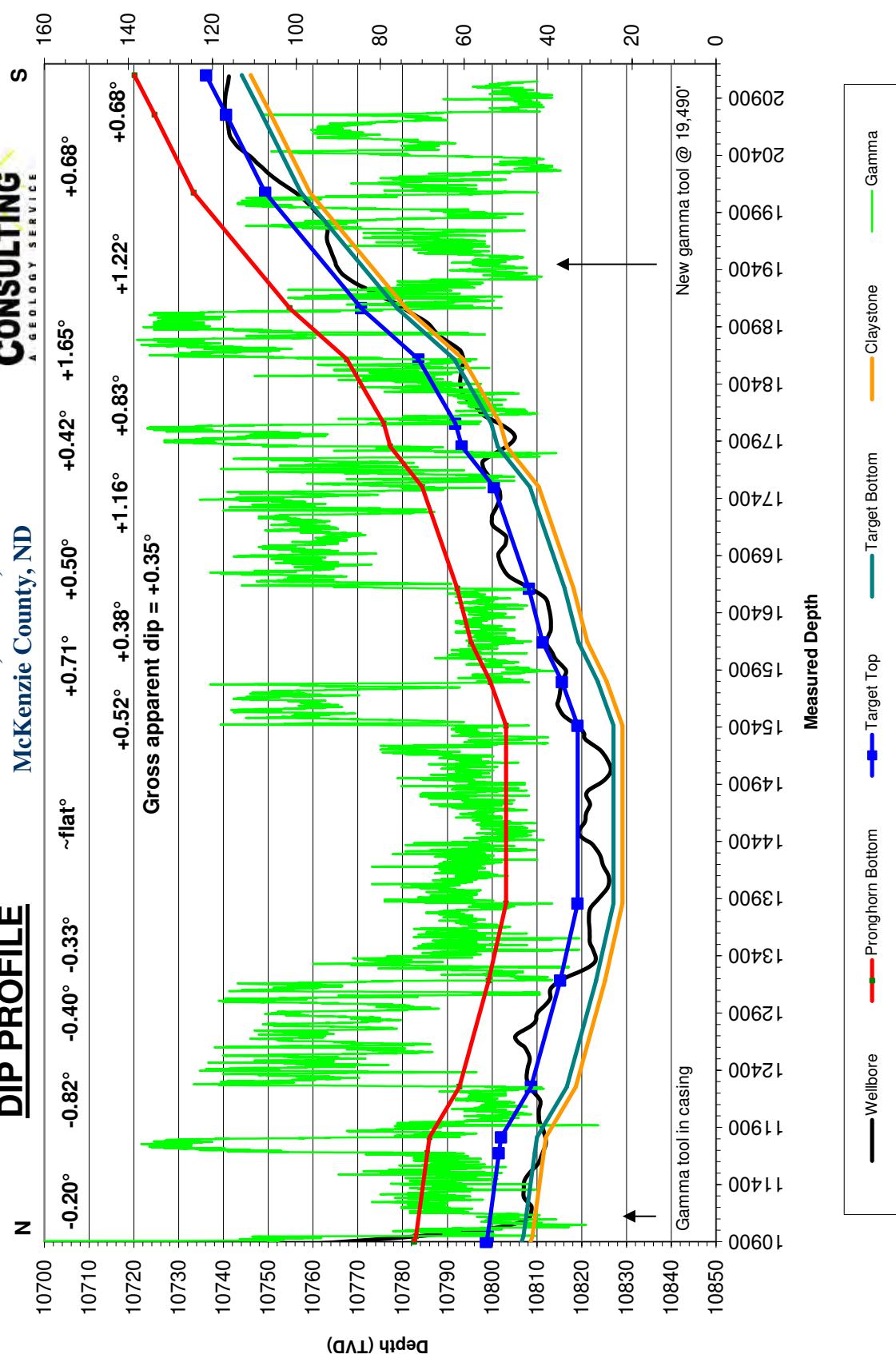
* = GR / electric log confirmation

Other markers based on natural deflections & drill rate changes

Oasis Petroleum North America, LLC
 Colville 5301 44-12T
 SE SE Sec. 12, T153N, R101W
 McKenzie County, ND



DIP PROFILE



< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE			N-S	E-W	SECT	DLS/ 100
			AZM	TVD					
Tie	2101.17	0.82	53.67	2101.05		-9.03	-4.94	10.29	1.18
1	2165.00	0.80	78.40	2164.87		-8.67	-4.14	8.80	0.54
2	2258.00	0.90	103.70	2257.86		-8.71	-2.79	8.80	0.41
3	2352.00	1.10	104.50	2351.85		-9.11	-1.20	9.15	0.21
4	2445.00	2.50	146.10	2444.80		-11.02	0.80	10.99	1.97
5	2538.00	1.70	179.40	2537.74		-14.08	1.94	14.01	1.53
6	2632.00	0.80	238.90	2631.72		-15.82	1.39	15.76	1.56
7	2725.00	0.80	229.40	2724.72		-16.57	0.35	16.55	0.14
8	2818.00	0.50	221.20	2817.71		-17.30	-0.41	17.31	0.34
9	2912.00	0.50	209.40	2911.71		-17.97	-0.89	17.99	0.11
10	3005.00	0.50	226.20	3004.70		-18.60	-1.38	18.64	0.16
11	3098.00	0.80	198.90	3097.70		-19.50	-1.88	19.55	0.46
12	3192.00	1.00	202.30	3191.68		-20.88	-2.40	20.94	0.22
13	3285.00	0.80	204.70	3284.67		-22.22	-2.98	22.30	0.22
14	3379.00	0.90	202.80	3378.66		-23.49	-3.54	23.60	0.11
15	3472.00	0.80	165.70	3471.65		-24.80	-3.67	24.90	0.59
16	3565.00	0.80	200.00	3564.64		-26.04	-3.73	26.14	0.51
17	3659.00	0.70	198.20	3658.64		-27.20	-4.13	27.32	0.11
18	3752.00	0.70	196.50	3751.63		-28.28	-4.47	28.41	0.02
19	3845.00	0.70	181.70	3844.62		-29.40	-4.65	29.53	0.19
20	3938.00	0.60	182.50	3937.62		-30.45	-4.69	30.59	0.11
21	4032.00	0.60	198.30	4031.61		-31.41	-4.86	31.55	0.18
22	4125.00	0.40	193.40	4124.61		-32.19	-5.09	32.33	0.22
23	4218.00	0.40	229.90	4217.61		-32.71	-5.42	32.87	0.27
24	4311.00	0.20	253.20	4310.60		-32.97	-5.82	33.14	0.25
25	4405.00	0.10	331.40	4404.60		-32.94	-6.02	33.12	0.22
26	4498.00	0.10	110.60	4497.60		-32.90	-5.98	33.08	0.20
27	4591.00	0.10	278.90	4590.60		-32.92	-5.98	33.09	0.21
28	4684.00	0.10	257.80	4683.60		-32.92	-6.14	33.10	0.04
29	4778.00	0.10	143.10	4777.60		-33.00	-6.17	33.19	0.18
30	4871.00	0.30	165.40	4870.60		-33.30	-6.06	33.48	0.23
31	4964.00	0.40	165.90	4963.60		-33.86	-5.92	34.03	0.11
32	5057.00	0.30	155.30	5056.60		-34.39	-5.74	34.56	0.13
33	5151.00	0.50	215.60	5150.60		-34.95	-5.88	35.12	0.47
34	5244.00	0.30	138.10	5243.60		-35.46	-5.95	35.63	0.56
35	5337.00	0.50	105.10	5336.59		-35.75	-5.40	35.90	0.32
36	5430.00	0.30	82.80	5429.59		-35.82	-4.76	35.96	0.27
37	5524.00	0.10	89.20	5523.59		-35.79	-4.44	35.91	0.21
38	5617.00	0.30	27.10	5616.59		-35.57	-4.24	35.69	0.29
39	5710.00	0.20	26.30	5709.59		-35.21	-4.06	35.32	0.11
40	5804.00	0.30	291.50	5803.59		-34.97	-4.22	35.09	0.40
41	5897.00	0.30	307.10	5896.59		-34.74	-4.64	34.87	0.09
42	5990.00	0.60	334.30	5989.59		-34.15	-5.04	34.30	0.39
43	6084.00	1.30	322.80	6083.57		-32.86	-5.90	33.03	0.77
44	6177.00	1.80	325.50	6176.54		-30.81	-7.37	31.04	0.54
45	6270.00	1.60	346.30	6269.50		-28.35	-8.50	28.61	0.69

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
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Minimum Curvature Method (SPE-3362)

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No.	MD	INC	TRUE			N-S	E-W	SECT	DLS/ 100
			AZM	TVD					
46	6363.00	0.80	42.20	6362.48	-26.61	-8.37	26.86	1.43	
47	6457.00	1.20	7.30	6456.47	-25.14	-7.81	25.38	0.76	
48	6550.00	1.60	347.10	6549.44	-22.91	-7.97	23.16	0.68	
49	6644.00	0.80	340.70	6643.42	-21.01	-8.48	21.28	0.86	
50	6737.00	1.10	338.50	6736.40	-19.57	-9.03	19.85	0.32	
51	6830.00	0.60	236.80	6829.40	-19.01	-9.76	19.31	1.46	
52	6923.00	0.80	245.70	6922.39	-19.54	-10.76	19.88	0.24	
53	7017.00	0.80	262.40	7016.38	-19.90	-12.01	20.27	0.25	
54	7110.00	0.90	268.60	7109.37	-20.00	-13.38	20.42	0.15	
55	7204.00	0.90	262.00	7203.36	-20.12	-14.85	20.59	0.11	
56	7297.00	0.80	251.60	7296.35	-20.43	-16.19	20.94	0.20	
57	7390.00	0.80	254.10	7389.34	-20.81	-17.43	21.36	0.04	
58	7484.00	0.80	249.20	7483.33	-21.22	-18.68	21.82	0.07	
59	7577.00	0.50	86.70	7576.33	-21.43	-18.88	22.03	1.38	
60	7670.00	0.30	76.70	7669.33	-21.35	-18.24	21.93	0.23	
61	7763.00	0.30	75.30	7762.32	-21.23	-17.76	21.80	0.01	
62	7857.00	0.30	87.80	7856.32	-21.16	-17.28	21.71	0.07	
63	7950.00	0.30	104.40	7949.32	-21.21	-16.80	21.74	0.09	
64	8043.00	0.10	106.80	8042.32	-21.30	-16.49	21.82	0.22	
65	8136.00	0.20	123.00	8135.32	-21.41	-16.27	21.92	0.12	
66	8230.00	0.30	134.90	8229.32	-21.67	-15.96	22.18	0.12	
67	8323.00	0.40	93.50	8322.32	-21.86	-15.46	22.35	0.28	
68	8417.00	0.50	71.00	8416.32	-21.75	-14.75	22.21	0.21	
69	8510.00	2.00	58.90	8509.29	-20.78	-12.98	21.19	1.63	
70	8603.00	0.90	98.60	8602.26	-20.05	-10.86	20.39	1.54	
71	8696.00	1.00	109.50	8695.25	-20.43	-9.38	20.72	0.22	
72	8790.00	1.00	98.90	8789.24	-20.83	-7.79	21.07	0.20	
73	8883.00	1.00	113.70	8882.22	-21.28	-6.25	21.47	0.28	
74	8976.00	1.00	99.60	8975.21	-21.74	-4.70	21.88	0.26	
75	9070.00	1.10	94.70	9069.19	-21.96	-3.00	22.04	0.14	
76	9163.00	1.10	93.60	9162.17	-22.08	-1.22	22.11	0.02	
77	9256.00	1.00	94.50	9255.16	-22.20	0.48	22.18	0.11	
78	9350.00	2.20	150.20	9349.12	-23.83	2.20	23.75	1.95	
79	9443.00	1.00	189.30	9442.09	-26.18	2.95	26.08	1.67	
80	9536.00	1.00	197.80	9535.07	-27.76	2.58	27.66	0.16	
81	9630.00	0.90	203.40	9629.06	-29.22	2.03	29.14	0.15	
82	9723.00	0.80	202.90	9722.05	-30.48	1.49	30.42	0.11	
83	9816.00	0.80	205.00	9815.04	-31.67	0.96	31.62	0.03	
84	9910.00	0.60	204.30	9909.04	-32.71	0.48	32.68	0.21	
85	10003.00	0.40	191.50	10002.03	-33.48	0.22	33.45	0.25	
86	10096.00	0.40	218.80	10095.03	-34.05	-0.05	34.03	0.20	
87	10189.00	0.50	240.30	10188.03	-34.50	-0.61	34.50	0.21	
88	10251.00	0.30	253.40	10250.03	-34.68	-1.00	34.70	0.35	
89	10284.00	0.40	240.80	10283.02	-34.76	-1.18	34.78	0.38	
90	10315.00	0.80	213.50	10314.02	-35.00	-1.39	35.02	1.55	
91	10347.00	4.80	202.00	10345.98	-36.42	-2.02	36.47	12.56	

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE			N-S	E-W	SECT	DLS/ 100
			AZM	TVD					
92	10378.00	9.20	198.80	10376.74	-39.97	-3.31	40.06	14.24	
93	10409.00	14.50	196.10	10407.07	-46.05	-5.18	46.20	17.19	
94	10440.00	18.10	196.90	10436.82	-54.39	-7.66	54.61	11.64	
95	10471.00	19.10	196.70	10466.20	-63.86	-10.52	64.16	3.23	
96	10502.00	22.90	197.10	10495.13	-74.48	-13.75	74.89	12.27	
97	10533.00	27.10	202.30	10523.23	-86.79	-18.20	87.33	15.28	
98	10564.00	30.80	206.00	10550.35	-100.46	-24.36	101.20	13.26	
99	10595.00	33.80	208.10	10576.55	-115.21	-31.91	116.18	10.33	
100	10626.00	36.40	207.10	10601.91	-131.00	-40.16	132.23	8.59	
101	10657.00	39.50	204.20	10626.36	-148.19	-48.39	149.67	11.53	
102	10689.00	43.70	201.30	10650.28	-167.78	-56.59	169.52	14.44	
103	10720.00	47.60	199.20	10671.95	-188.58	-64.24	190.55	13.48	
104	10751.00	52.30	198.40	10691.89	-211.04	-71.88	213.25	15.29	
105	10782.00	55.60	197.60	10710.13	-234.87	-79.62	237.32	10.85	
106	10813.00	58.10	196.10	10727.08	-259.71	-87.14	262.39	9.02	
107	10844.00	61.30	195.00	10742.72	-285.49	-94.31	288.39	10.77	
108	10875.00	64.90	194.60	10756.75	-312.22	-101.37	315.33	11.67	
109	10906.00	68.70	196.70	10768.96	-339.64	-109.06	342.99	13.75	
110	10937.00	70.90	200.60	10779.66	-367.20	-118.37	370.83	13.77	
111	10969.00	73.90	204.60	10789.34	-395.35	-130.10	399.34	15.16	
112	11000.00	78.20	205.60	10796.81	-422.58	-142.86	426.97	14.22	
113	11031.00	82.20	204.00	10802.09	-450.31	-155.66	455.10	13.87	
114	11062.00	84.60	202.50	10805.65	-478.60	-167.82	483.77	9.11	
115	11093.00	87.90	201.10	10807.68	-507.32	-179.30	512.84	11.56	
116	11124.00	89.10	201.00	10808.49	-536.24	-190.43	542.11	3.88	
117	11200.00	90.40	198.40	10808.82	-607.78	-216.05	614.44	3.82	
118	11231.00	91.40	197.90	10808.34	-637.23	-225.71	644.19	3.61	
119	11263.00	91.50	197.70	10807.53	-667.69	-235.49	674.95	0.70	
120	11294.00	90.30	197.90	10807.04	-697.20	-244.96	704.75	3.92	
121	11328.00	89.80	198.00	10807.01	-729.55	-255.44	737.41	1.50	
122	11359.00	90.00	196.90	10807.06	-759.12	-264.73	767.27	3.61	
123	11389.00	90.00	195.40	10807.06	-787.94	-273.08	796.34	5.00	
124	11420.00	89.80	194.80	10807.12	-817.87	-281.15	826.52	2.04	
125	11451.00	89.10	195.00	10807.42	-847.82	-289.13	856.71	2.35	
126	11483.00	88.90	193.90	10807.97	-878.80	-297.11	887.94	3.49	
127	11514.00	88.70	192.30	10808.62	-908.99	-304.13	918.34	5.20	
128	11545.00	88.50	191.90	10809.38	-939.29	-310.63	948.83	1.44	
129	11575.00	88.70	191.30	10810.11	-968.67	-316.66	978.39	2.11	
130	11606.00	89.50	189.70	10810.60	-999.15	-322.31	1009.03	5.77	
131	11637.00	89.50	189.30	10810.87	-1029.72	-327.42	1039.75	1.29	
132	11667.00	89.40	188.10	10811.16	-1059.37	-331.96	1069.54	4.01	
133	11699.00	89.40	185.90	10811.49	-1091.13	-335.86	1101.41	6.87	
134	11730.00	89.40	185.20	10811.82	-1121.98	-338.86	1132.34	2.26	
135	11761.00	89.90	184.50	10812.01	-1152.87	-341.48	1163.30	2.77	
136	11792.00	90.20	182.80	10811.98	-1183.81	-343.45	1194.28	5.57	
137	11824.00	90.40	182.90	10811.81	-1215.77	-345.04	1226.27	0.70	

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
138	11854.00	90.50	181.60	10811.58	-1245.74	-346.22	1256.27	4.35
139	11885.00	90.30	179.60	10811.36	-1276.74	-346.55	1287.26	6.48
140	11948.00	91.10	179.10	10810.59	-1339.73	-345.83	1350.20	1.50
141	12042.00	89.10	178.50	10810.43	-1433.70	-343.86	1444.06	2.22
142	12134.00	90.50	180.00	10810.75	-1525.69	-342.66	1535.96	2.23
143	12227.00	91.80	180.00	10808.88	-1618.67	-342.66	1628.89	1.40
144	12320.00	89.60	179.50	10807.75	-1711.66	-342.25	1721.81	2.43
145	12413.00	90.20	179.80	10807.91	-1804.65	-341.69	1814.74	0.72
146	12505.00	89.20	179.10	10808.39	-1896.65	-340.80	1906.66	1.33
147	12597.00	92.10	181.00	10807.35	-1988.63	-340.88	1998.59	3.77
148	12628.00	91.70	181.60	10806.32	-2019.60	-341.59	2029.58	2.33
149	12659.00	91.40	182.30	10805.48	-2050.57	-342.64	2060.56	2.46
150	12690.00	89.90	182.40	10805.13	-2081.54	-343.91	2091.56	4.85
151	12720.00	87.80	182.70	10805.73	-2111.51	-345.25	2121.55	7.07
152	12751.00	87.10	182.40	10807.11	-2142.44	-346.62	2152.52	2.46
153	12782.00	87.90	182.60	10808.46	-2173.38	-347.97	2183.49	2.66
154	12814.00	88.60	182.00	10809.44	-2205.34	-349.26	2215.47	2.88
155	12844.00	89.90	182.30	10809.83	-2235.32	-350.38	2245.47	4.45
156	12875.00	90.00	180.90	10809.86	-2266.31	-351.25	2276.46	4.53
157	12909.00	88.70	180.10	10810.25	-2300.30	-351.55	2310.45	4.49
158	12940.00	88.20	180.10	10811.08	-2331.29	-351.60	2341.43	1.61
159	12972.00	88.80	180.30	10811.92	-2363.28	-351.71	2373.40	1.98
160	13003.00	88.70	180.60	10812.60	-2394.27	-351.95	2404.38	1.02
161	13034.00	89.70	180.90	10813.03	-2425.26	-352.36	2435.38	3.37
162	13065.00	90.60	181.00	10812.95	-2456.26	-352.87	2466.37	2.92
163	13097.00	89.50	181.10	10812.92	-2488.25	-353.46	2498.37	3.45
164	13128.00	88.90	181.30	10813.35	-2519.24	-354.11	2529.36	2.04
165	13159.00	87.50	181.40	10814.33	-2550.22	-354.84	2560.35	4.53
166	13190.00	87.90	181.60	10815.57	-2581.18	-355.65	2591.32	1.44
167	13221.00	86.60	181.00	10817.06	-2612.14	-356.35	2622.28	4.62
168	13253.00	86.30	181.60	10819.04	-2644.07	-357.08	2654.22	2.09
169	13284.00	87.30	181.10	10820.77	-2675.01	-357.81	2685.17	3.61
170	13315.00	87.80	180.90	10822.10	-2705.98	-358.35	2716.14	1.74
171	13346.00	89.10	180.50	10822.93	-2736.96	-358.73	2747.12	4.39
172	13378.00	90.10	179.70	10823.16	-2768.96	-358.78	2779.10	4.00
173	13409.00	90.60	179.10	10822.97	-2799.96	-358.46	2810.07	2.52
174	13440.00	90.50	178.70	10822.67	-2830.95	-357.86	2841.03	1.33
175	13471.00	90.70	178.30	10822.35	-2861.94	-357.05	2871.98	1.44
176	13502.00	90.80	178.20	10821.94	-2892.92	-356.10	2902.91	0.46
177	13534.00	89.80	178.70	10821.77	-2924.91	-355.24	2934.85	3.49
178	13565.00	90.10	179.30	10821.80	-2955.91	-354.70	2965.82	2.16
179	13596.00	90.00	179.10	10821.77	-2986.90	-354.26	2996.78	0.72
180	13627.00	90.00	179.40	10821.77	-3017.90	-353.86	3027.75	0.97
181	13721.00	90.20	179.30	10821.61	-3111.89	-352.79	3121.66	0.24
182	13815.00	89.40	178.70	10821.94	-3205.88	-351.15	3215.54	1.06
183	13908.00	88.10	178.50	10823.97	-3298.83	-348.88	3308.37	1.41

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
184	14002.00	89.60	178.60	10825.85	-3392.77	-346.50	3402.19	1.60
185	14096.00	90.20	178.90	10826.02	-3486.75	-344.45	3496.05	0.71
186	14189.00	91.30	178.60	10824.80	-3579.72	-342.42	3588.91	1.23
187	14283.00	89.60	179.70	10824.06	-3673.70	-341.03	3682.80	2.15
188	14377.00	92.50	179.90	10822.34	-3767.67	-340.70	3776.71	3.09
189	14408.00	92.20	179.50	10821.07	-3798.65	-340.54	3807.66	1.61
190	14439.00	92.00	179.40	10819.93	-3829.63	-340.24	3838.61	0.72
191	14471.00	90.10	179.40	10819.35	-3861.62	-339.91	3870.58	5.94
192	14502.00	89.30	179.40	10819.51	-3892.62	-339.58	3901.55	2.58
193	14533.00	88.80	179.00	10820.02	-3923.61	-339.15	3932.51	2.07
194	14564.00	89.00	179.10	10820.62	-3954.60	-338.64	3963.47	0.72
195	14595.00	90.10	179.90	10820.86	-3985.59	-338.36	3994.44	4.39
196	14626.00	89.80	180.40	10820.89	-4016.59	-338.45	4025.43	1.88
197	14658.00	89.40	180.50	10821.11	-4048.59	-338.70	4057.42	1.29
198	14689.00	89.10	180.10	10821.52	-4079.59	-338.86	4088.40	1.61
199	14720.00	89.60	180.00	10821.87	-4110.59	-338.89	4119.39	1.64
200	14751.00	91.10	180.30	10821.68	-4141.59	-338.97	4150.37	4.93
201	14782.00	90.70	179.90	10821.19	-4172.58	-339.02	4181.35	1.82
202	14813.00	90.00	180.00	10821.00	-4203.58	-338.99	4212.33	2.28
203	14845.00	88.40	179.10	10821.45	-4235.58	-338.74	4244.30	5.74
204	14876.00	87.20	179.40	10822.64	-4266.55	-338.34	4275.25	3.99
205	14907.00	87.60	178.60	10824.05	-4297.51	-337.80	4306.18	2.88
206	14938.00	88.50	178.20	10825.10	-4328.48	-336.93	4337.10	3.18
207	14970.00	88.80	178.10	10825.85	-4360.46	-335.90	4369.03	0.99
208	15001.00	89.30	178.00	10826.37	-4391.43	-334.84	4399.96	1.64
209	15032.00	90.20	178.00	10826.50	-4422.41	-333.76	4430.88	2.90
210	15063.00	90.40	177.90	10826.34	-4453.39	-332.65	4461.81	0.72
211	15126.00	91.00	177.60	10825.57	-4516.34	-330.18	4524.65	1.06
212	15157.00	91.00	177.30	10825.03	-4547.31	-328.80	4555.55	0.97
213	15188.00	91.20	177.20	10824.44	-4578.26	-327.31	4586.44	0.72
214	15219.00	92.20	177.60	10823.52	-4609.22	-325.91	4617.34	3.47
215	15282.00	92.10	178.20	10821.15	-4672.13	-323.60	4680.14	0.96
216	15313.00	90.20	178.70	10820.53	-4703.11	-322.76	4711.08	6.34
217	15344.00	89.80	178.30	10820.53	-4734.10	-321.95	4742.03	1.82
218	15407.00	92.40	179.70	10819.32	-4797.07	-320.85	4804.93	4.69
219	15500.00	91.70	181.60	10815.99	-4890.00	-321.91	4897.85	2.18
220	15594.00	90.00	181.70	10814.60	-4983.95	-324.61	4991.83	1.81
221	15625.00	89.50	181.60	10814.73	-5014.94	-325.51	5022.83	1.64
222	15657.00	89.70	181.80	10814.96	-5046.92	-326.46	5054.83	0.88
223	15688.00	89.80	181.90	10815.09	-5077.91	-327.46	5085.83	0.46
224	15782.00	89.70	181.50	10815.50	-5171.86	-330.25	5179.83	0.44
225	15844.00	89.10	181.10	10816.15	-5233.84	-331.65	5241.82	1.16
226	15875.00	89.60	181.10	10816.50	-5264.84	-332.25	5272.82	1.61
227	15906.00	91.00	181.20	10816.34	-5295.83	-332.87	5303.81	4.53
228	15969.00	91.80	181.60	10814.80	-5358.79	-334.41	5366.79	1.42
229	16000.00	90.90	181.10	10814.07	-5389.77	-335.14	5397.78	3.32

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
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Township:	153	N/S:	N
Range:	101	E/W:	W
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Kick-off:	7/29/2013
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Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
230	16031.00	90.60	181.00	10813.67	-5420.76	-335.71	5428.78	1.02
231	16062.00	90.90	181.20	10813.26	-5451.76	-336.30	5459.77	1.16
232	16125.00	91.10	180.80	10812.16	-5514.74	-337.40	5522.75	0.71
233	16156.00	89.30	180.90	10812.05	-5545.73	-337.86	5553.75	5.82
234	16187.00	89.30	180.50	10812.43	-5576.73	-338.24	5584.74	1.29
235	16219.00	89.40	180.60	10812.79	-5608.72	-338.55	5616.73	0.44
236	16250.00	89.50	180.30	10813.09	-5639.72	-338.79	5647.72	1.02
237	16343.00	90.50	179.90	10813.09	-5732.72	-338.95	5740.67	1.16
238	16437.00	90.00	179.70	10812.68	-5826.72	-338.62	5834.61	0.57
239	16531.00	91.10	179.40	10811.78	-5920.71	-337.89	5928.53	1.21
240	16624.00	93.50	178.70	10808.05	-6013.61	-336.35	6021.34	2.69
241	16718.00	91.70	179.40	10803.78	-6107.50	-334.79	6115.12	2.05
242	16811.00	90.40	179.00	10802.08	-6200.47	-333.49	6208.01	1.46
243	16843.00	90.80	178.60	10801.74	-6232.46	-332.82	6239.96	1.77
244	16905.00	89.90	179.40	10801.37	-6294.45	-331.74	6301.88	1.94
245	16936.00	88.80	179.70	10801.72	-6325.45	-331.50	6332.85	3.68
246	16968.00	88.80	179.70	10802.39	-6357.44	-331.33	6364.82	0.00
247	16999.00	89.10	179.60	10802.96	-6388.44	-331.14	6395.80	1.02
248	17061.00	90.50	179.30	10803.17	-6450.43	-330.54	6457.74	2.31
249	17093.00	92.10	179.10	10802.45	-6482.42	-330.10	6489.70	5.04
250	17155.00	91.80	178.90	10800.34	-6544.37	-329.02	6551.58	0.58
251	17187.00	89.70	179.50	10799.92	-6576.36	-328.57	6583.54	6.83
252	17218.00	90.20	180.30	10799.94	-6607.36	-328.51	6614.53	3.04
253	17249.00	89.70	180.10	10799.97	-6638.36	-328.62	6645.51	1.74
254	17280.00	88.80	180.40	10800.38	-6669.36	-328.76	6676.50	3.06
255	17311.00	89.60	180.20	10800.81	-6700.36	-328.92	6707.48	2.66
256	17374.00	89.10	181.10	10801.53	-6763.35	-329.63	6770.46	1.63
257	17405.00	89.80	181.90	10801.82	-6794.34	-330.45	6801.46	3.43
258	17467.00	90.50	181.60	10801.66	-6856.31	-332.34	6863.46	1.23
259	17499.00	91.30	180.80	10801.16	-6888.29	-333.01	6895.45	3.54
260	17561.00	91.10	180.10	10799.86	-6950.28	-333.50	6957.42	1.17
261	17592.00	90.90	179.90	10799.32	-6981.27	-333.50	6988.40	0.91
262	17655.00	91.20	180.10	10798.16	-7044.26	-333.50	7051.36	0.57
263	17717.00	89.40	180.30	10797.84	-7106.26	-333.71	7113.33	2.92
264	17748.00	87.50	180.90	10798.68	-7137.24	-334.04	7144.31	6.43
265	17780.00	87.80	180.60	10799.99	-7169.21	-334.46	7176.28	1.33
266	17811.00	87.30	180.30	10801.31	-7200.19	-334.70	7207.24	1.88
267	17842.00	87.40	180.10	10802.75	-7231.15	-334.81	7238.19	0.72
268	17873.00	88.40	180.00	10803.88	-7262.13	-334.83	7269.16	3.24
269	17905.00	88.60	180.10	10804.72	-7294.12	-334.86	7301.13	0.70
270	17936.00	90.00	180.00	10805.10	-7325.12	-334.89	7332.11	4.53
271	17967.00	91.30	180.10	10804.75	-7356.11	-334.92	7363.09	4.21
272	17998.00	91.90	180.50	10803.88	-7387.10	-335.08	7394.07	2.33
273	18030.00	92.40	180.50	10802.68	-7419.08	-335.36	7426.04	1.56
274	18061.00	92.80	180.10	10801.28	-7450.05	-335.52	7456.99	1.82
275	18092.00	93.10	180.00	10799.68	-7481.00	-335.55	7487.94	1.02

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
276	18123.00	92.30	180.10	10798.22	-7511.97	-335.57	7518.89	2.60
277	18155.00	91.00	180.70	10797.30	-7543.95	-335.80	7550.86	4.47
278	18186.00	91.20	180.60	10796.70	-7574.95	-336.15	7581.85	0.72
279	18217.00	92.20	180.10	10795.78	-7605.93	-336.34	7612.83	3.61
280	18248.00	91.30	180.30	10794.84	-7636.92	-336.45	7643.80	2.97
281	18279.00	91.50	180.40	10794.08	-7667.91	-336.64	7674.78	0.72
282	18311.00	90.70	180.70	10793.47	-7699.90	-336.94	7706.76	2.67
283	18373.00	90.20	181.40	10792.98	-7761.89	-338.08	7768.75	1.39
284	18405.00	90.20	181.40	10792.87	-7793.88	-338.86	7800.75	0.00
285	18436.00	89.80	181.00	10792.87	-7824.87	-339.51	7831.75	1.82
286	18498.00	89.80	180.40	10793.08	-7886.86	-340.27	7893.74	0.97
287	18529.00	89.60	180.70	10793.25	-7917.86	-340.56	7924.73	1.16
288	18592.00	89.90	180.20	10793.52	-7980.86	-341.06	7987.71	0.93
289	18623.00	89.90	180.40	10793.58	-8011.86	-341.22	8018.70	0.65
290	18686.00	91.10	181.20	10793.03	-8074.85	-342.10	8081.68	2.29
291	18717.00	92.10	181.80	10792.16	-8105.83	-342.91	8112.67	3.76
292	18748.00	92.20	181.60	10791.00	-8136.79	-343.83	8143.65	0.72
293	18779.00	92.40	181.30	10789.75	-8167.76	-344.62	8174.62	1.16
294	18811.00	91.80	181.60	10788.58	-8199.72	-345.42	8206.60	2.10
295	18842.00	91.60	181.80	10787.66	-8230.70	-346.34	8237.59	0.91
296	18873.00	91.10	182.20	10786.93	-8261.67	-347.43	8268.58	2.07
297	18904.00	91.10	182.30	10786.34	-8292.64	-348.64	8299.57	0.32
298	18936.00	91.90	182.30	10785.50	-8324.60	-349.93	8331.56	2.50
299	18967.00	92.50	182.00	10784.31	-8355.56	-351.09	8362.54	2.16
300	18998.00	92.60	181.50	10782.93	-8386.51	-352.03	8393.51	1.64
301	19029.00	92.40	181.20	10781.58	-8417.47	-352.76	8424.47	1.16
302	19061.00	92.10	181.30	10780.32	-8449.44	-353.46	8456.45	0.99
303	19092.00	92.40	181.20	10779.10	-8480.41	-354.14	8487.42	1.02
304	19123.00	93.10	181.00	10777.62	-8511.37	-354.73	8518.38	2.35
305	19154.00	93.50	180.80	10775.83	-8542.31	-355.22	8549.33	1.44
306	19185.00	92.50	181.00	10774.21	-8573.27	-355.70	8580.28	3.29
307	19217.00	92.70	180.80	10772.76	-8605.23	-356.21	8612.24	0.88
308	19248.00	93.10	180.10	10771.19	-8636.19	-356.45	8643.19	2.60
309	19279.00	92.90	179.80	10769.57	-8667.15	-356.42	8674.13	1.16
310	19341.00	91.50	180.20	10767.19	-8729.10	-356.42	8736.06	2.35
311	19373.00	91.80	180.30	10766.26	-8761.09	-356.56	8768.03	0.99
312	19435.00	90.20	180.70	10765.18	-8823.07	-357.10	8830.00	2.66
313	19466.00	90.60	180.70	10764.97	-8854.07	-357.48	8860.99	1.29
314	19522.00	90.60	179.40	10764.38	-8910.06	-357.53	8916.96	2.32
315	19553.00	90.50	179.40	10764.08	-8941.06	-357.21	8947.93	0.32
316	19584.00	90.60	179.10	10763.78	-8972.06	-356.80	8978.90	1.02
317	19615.00	90.60	179.20	10763.46	-9003.05	-356.34	9009.86	0.32
318	19647.00	90.40	179.30	10763.18	-9035.05	-355.92	9041.83	0.70
319	19678.00	90.00	179.40	10763.07	-9066.05	-355.57	9072.80	1.33
320	19709.00	89.80	178.90	10763.13	-9097.04	-355.11	9103.76	1.74
321	19740.00	89.80	178.70	10763.23	-9128.03	-354.46	9134.72	0.65

< **SUNBURST CONSULTING, INC.** >

Operator:	Oasis Petroleum North America, LLC		
Well :	Colville 5301 44-12T		
County:	McKenzie	State:	ND
QQ:	SE SE	Section:	12
Township:	153	N/S:	N
Range:	101	E/W:	W
Footages:	250	FN/SL:	S
	950	FE/WL:	E

Kick-off:	7/29/2013
Finish:	8/12/2013
Directional Supervision:	Ryan Directional Services

Date: 8/20/2013
 Time: 15:33
F9 to re-calculate

Proposed dir: 181.85

Minimum Curvature Method (SPE-3362)

[North and East are positive and South and West are negative, relative to surface location]

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
322	19802.00	90.80	178.60	10762.91	-9190.02	-353.00	9196.62	1.62
323	19834.00	91.10	178.50	10762.38	-9222.00	-352.19	9228.56	0.99
324	19865.00	91.60	178.30	10761.65	-9252.98	-351.32	9259.50	1.74
325	19896.00	91.40	177.80	10760.84	-9283.95	-350.27	9290.42	1.74
326	19927.00	91.20	178.00	10760.13	-9314.92	-349.13	9321.34	0.91
327	19959.00	91.50	178.30	10759.38	-9346.90	-348.10	9353.26	1.33
328	19990.00	91.40	177.90	10758.60	-9377.87	-347.07	9384.19	1.33
329	20021.00	91.70	177.60	10757.76	-9408.83	-345.86	9415.10	1.37
330	20052.00	91.80	177.20	10756.81	-9439.79	-344.45	9445.99	1.33
331	20084.00	92.10	177.00	10755.72	-9471.73	-342.83	9477.86	1.13
332	20146.00	92.30	177.10	10753.34	-9533.60	-339.65	9539.60	0.36
333	20177.00	92.00	178.40	10752.18	-9564.55	-338.43	9570.49	4.30
334	20240.00	91.80	178.60	10750.09	-9627.50	-336.78	9633.35	0.45
335	20271.00	91.30	180.10	10749.25	-9658.48	-336.43	9664.31	5.10
336	20302.00	91.80	180.90	10748.41	-9689.47	-336.70	9695.29	3.04
337	20333.00	91.70	180.30	10747.47	-9720.45	-337.02	9726.27	1.96
338	20365.00	91.10	179.70	10746.68	-9752.44	-337.02	9758.24	2.65
339	20396.00	92.20	179.10	10745.79	-9783.43	-336.70	9789.20	4.04
340	20458.00	91.70	179.50	10743.68	-9845.39	-335.94	9851.10	1.03
341	20490.00	91.30	180.20	10742.84	-9877.38	-335.86	9883.07	2.52
342	20552.00	90.90	180.20	10741.65	-9939.37	-336.08	9945.03	0.65
343	20583.00	90.30	180.40	10741.33	-9970.36	-336.24	9976.02	2.04
344	20615.00	90.20	179.50	10741.19	-10002.36	-336.21	10008.00	2.83
345	20646.00	90.20	179.50	10741.08	-10033.36	-335.94	10038.98	0.00
346	20677.00	90.20	179.60	10740.97	-10064.36	-335.70	10069.95	0.32
347	20708.00	90.20	179.40	10740.87	-10095.36	-335.43	10100.93	0.65
348	20740.00	90.10	179.40	10740.78	-10127.36	-335.09	10132.90	0.31
349	20770.00	90.70	179.40	10740.57	-10157.35	-334.78	10162.87	2.00
350	20801.00	90.20	179.40	10740.33	-10188.35	-334.45	10193.84	1.61
351	20833.00	90.00	179.40	10740.27	-10220.35	-334.12	10225.81	0.63
352	20926.00	89.80	178.60	10740.44	-10313.33	-332.49	10318.69	0.89
353	21020.00	89.60	178.20	10740.93	-10407.30	-329.87	10412.52	0.48
354	21035.00	89.80	178.20	10741.01	-10422.29	-329.40	10427.49	1.33
355	21090.00	89.80	178.20	10741.20	-10477.26	-327.67	10482.38	0.00

DEVIATION SURVEYS

Depth	Inclination	Azimuth
100	1.55	220.79
200	1.40	219.68
300	0.81	214.78
400	0.64	189.55
500	0.35	157.01
600	0.35	165.39
700	0.37	185.64
800	0.28	180.88
900	0.21	180.65
1000	0.19	83.35
1100	0.52	103.59
1200	0.45	118.50
1300	0.32	170.92
1400	0.51	223.26
1500	0.52	255.93
1600	0.28	239.01
1700	0.59	239.52
1800	0.04	276.46
1900	0.62	338.06
2000	0.65	348.66
2100	0.82	52.73
2101	0.82	53.67

FORMATION TOPS & STRUCTURAL RELATIONSHIPS

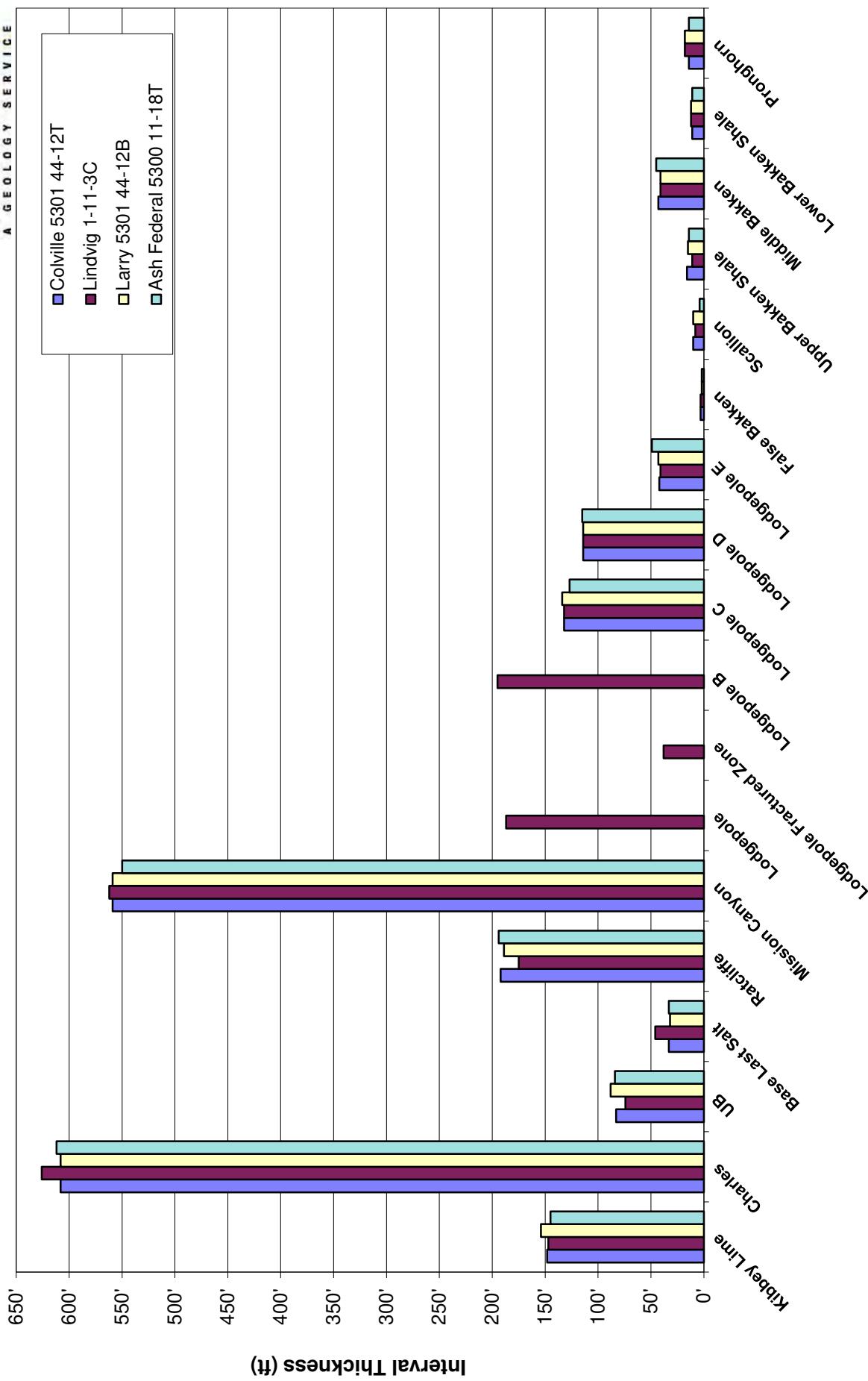
CONTROL DATA

Operator:	Gulf Oil			Oasis Petroleum North America LLC.			Oasis Petroleum North America LLC.		
Well Name:	Lindvig 11-11-3C			Larry 5301 44-12B			Ash Federal 5300 11-18T		
Location:	SE SE Sec. 11, T153N, R101W McKenzie County, ND			SE NE Section 12, T153N, R100W McKenzie County, ND			Lot 1 Section 18, T153N, R100W McKenzie County, ND		
Elevation:	1/2 Mile W of Colville 5301 41-12T KB: 2,108'			3/4 of a Mile E of Colville 5301 41-12T KB: 2,083'			1 Mile ENE of Colville 5301 41-12T KB: 2,078'		
Formation/ Zone	E-Log Top	Datum (MSL)	Interval Thickness	E-Log Top	Datum (MSL)	Interval Thickness	E-Log Top	Datum (MSL)	Interval Thickness
Kibbey Lime	8,362'	-6,254'	147'	2,454'	8,348'	-6,265'	154'	2,465'	8,346'
Charles	8,509'	-6,401'	626'	2,307'	8,502'	-6,419'	608'	2,311'	8,491'
UB	9,135'	-7,027'	74'	1,681'	9,110'	-7,027'	88'	1,703'	9,103'
Base Last Salt	9,209'	-7,101'	46'	1,607'	9,198'	-7,115'	32'	1,615'	9,187'
Ratclife	9,255'	-7,147'	175'	1,561'	9,230'	-7,147'	189'	1,583'	9,220'
Mission Canyon	9,430'	-7,322'	562'	1,386'	9,419'	-7,336'	559'	1,394'	9,414'
Lodgepole	9,992'	-7,884'	187'	824'	9,978'	-7,895'	-	835'	9,964'
Lodgepole Fractured Zone	10,179'	-8,071'	38'	637'	-	-	-	-	-
Lodgepole B	10,217'	-8,109'	195'	599'	-	-	-	-	-
Lodgepole C	10,412'	-8,304'	132'	404'	10,400'	-8,317'	134'	413'	10,398'
Lodgepole D	10,544'	-8,436'	114'	272'	10,534'	-8,451'	114'	279'	10,525'
Lodgepole E	10,658'	-8,550'	41'	158'	10,648'	-8,565'	43'	165'	10,640'
False Bakken	10,699'	-8,591'	3'	117'	10,691'	-8,608'	2'	122'	10,689'
Scallion	10,702'	-8,594'	8'	114'	10,693'	-8,610'	10'	120'	10,691'
Upper Bakken Shale	10,710'	-8,602'	11'	106'	10,703'	-8,620'	15'	110'	10,695'
Middle Bakken	10,721'	-8,613'	41'	95'	10,718'	-8,635'	41'	95'	10,709'
Lower Bakken Shale	10,762'	-8,654'	12'	54'	10,759'	-8,676'	12'	54'	10,754'
Pronghorn	10,774'	-8,666'	18'	42'	10,771'	-8,688'	18'	42'	10,765'
Three Forks	10,792'	-8,684'	16'	24'	10,789'	-8,706'	16'	24'	10,779'
Three Forks Target Top	10,808'	-8,700'	8'	8'	10,805'	-8,722'	8'	8'	10,795'
Three Forks Target Landing	10,816'	-8,708'	1'	0'	10,813'	-8,730'	1'	0'	10,803'
Three Forks Target Base	10,817'	-8,709'	2'	-	10,814'	-8,731'	2'	-	10,804'
Claystone	10,819'	-8,711'	-	-	10,816'	-8,733'	-	-	-



INTERVAL THICKNESS

Oasis Petroleum North America, LLC - Colville 5301 44-12T



LANDING PROJECTION

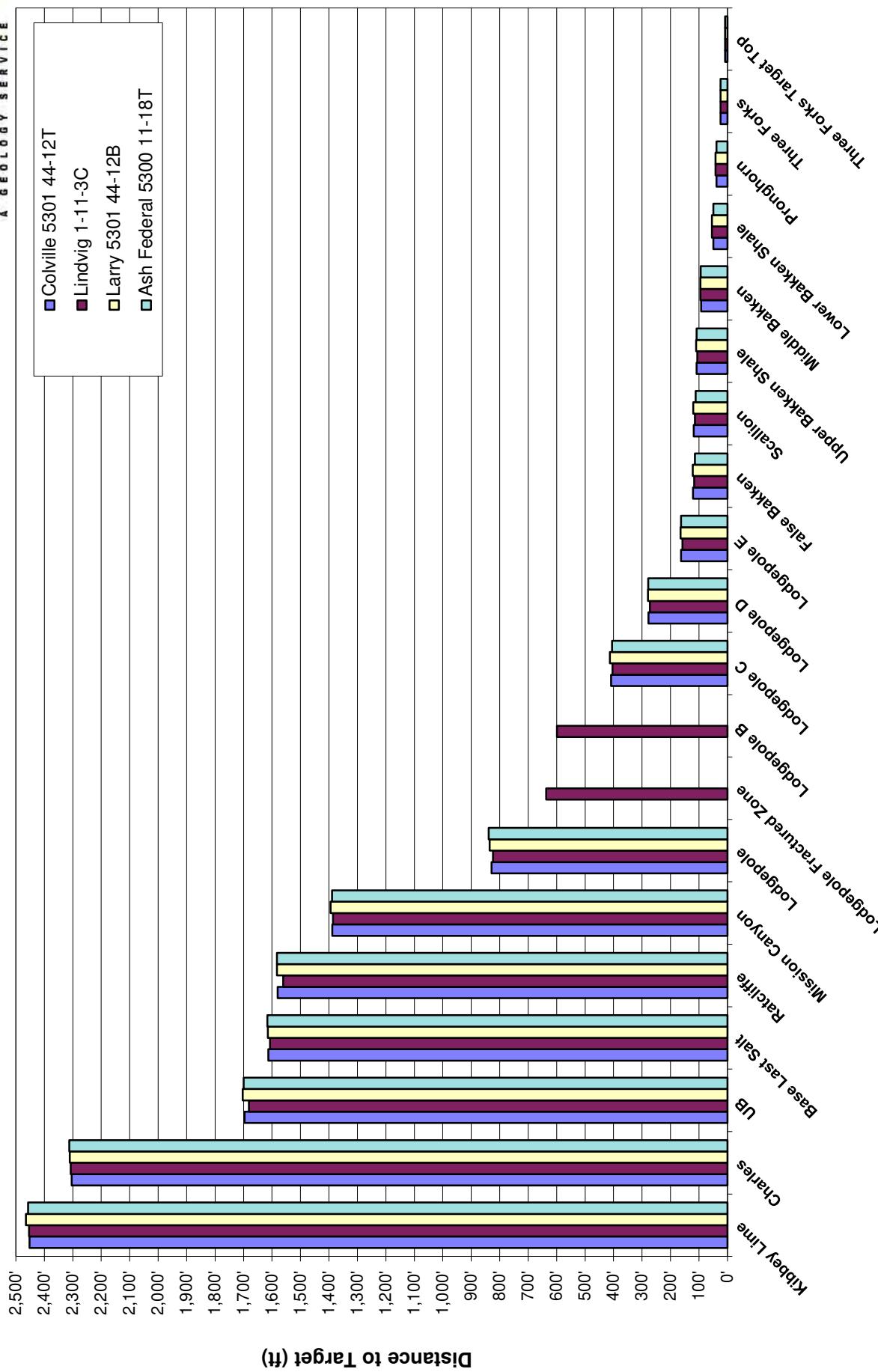
Formation/Zone:	Proposed Top of Target From:			Average of Offset Wells
	Lindvig 1-11-3C	Larry 5301 44-12B	Ash Federal 5300 11-18T	
Kibbey Lime	10,809'	10,820'	10,812'	10,814'
Charles	10,810'	10,814'	10,815'	10,813'
UB	10,792'	10,814'	10,811'	10,806'
Base Last Salt	10,801'	10,809'	10,810'	10,807'
Ratcliff	10,788'	10,810'	10,810'	10,803'
Mission Canyon	10,805'	10,813'	10,808'	10,809'
Lodgepole	10,802'	10,813'	10,817'	10,811'
Lodgepole Fractured Zone	-	-	-	-
Lodgepole B	-	-	-	-
Lodgepole C	10,802'	10,811'	10,803'	10,805'
Lodgepole D	10,802'	10,809'	10,808'	10,806'
Lodgepole E	10,802'	10,809'	10,807'	10,806'
False Bakken	10,803'	10,808'	10,800'	10,804'
Scallion	-	-	-	-
Upper Bakken Shale	10,805'	10,809'	10,807'	10,807'
Middle Bakken	10,810'	10,810'	10,809'	10,810'
Lower Bakken Shale	10,812'	10,812'	10,807'	10,810'
Pronghorn	10,811'	10,811'	10,807'	10,810'
Three Forks	10,807'	10,807'	10,807'	10,807'
Three Forks Target Top	10,807'	10,807'	10,807'	10,807'
Three Forks Target Landing	10,807'	10,807'	10,807'	10,807'

Current Landing Target (24' below the base of the Pronghorn): **10,807'**



ISOPACH TO TARGET

Oasis Petroleum North America, LLC - Colville 5301 44-12T



LITHOLOGY

Rig crews caught lagged samples, under the supervision of Sunburst geologists, in 30' intervals from 8,240' to 10,940', 10' intervals from 10,940' to 11,170' and then 30' intervals from 11,170' to the TD of 21,090'. Sample or gamma ray marker tops have been inserted in the sample descriptions below for reference. Samples were examined wet and dry under a binocular microscope.

Drilling in Kibbey Formation

8240-8270 SILTSTONE: orange, red to orange, red brown, friable, blocky, moderately calcite cemented; trace ANHYDRITE: off white to white, microcrystalline, soft, massive, amorphous

8270-8300 SILTSTONE: red to orange, red brown, light orange to off white, trace light brown, trace light gray to medium gray, friable, blocky, moderately calcite cemented; trace ANHYDRITE: off white, cream, microcrystalline, soft, massive, amorphous

8300-8330 SILTSTONE: red to orange, red brown, light orange to off white, trace dark gray, friable, blocky, moderately calcite cemented; ANHYDRITE: off white, microcrystalline, soft, massive, amorphous

Kibbey "Lime": **8,356' MD 8,355' TVD (-6,270')**

8330-8360 ANHYDRITE: off white, microcrystalline, soft, massive, amorphous; SILTSTONE: red to orange, red brown, light orange to off white, trace light brown, friable, blocky, calcareous cement moderately cemented

8360-8390 LIMESTONE: mudstone, off white, light gray, light gray brown, microcrystalline, friable, dense, earthy, no visible porosity, no visible oil stain; rare ANHYDRITE: as above

8390-8420 SILTSTONE: orange, red orange, dark orange, red brown, light orange to off white, trace light brown, friable, blocky, calcareous cement moderately cemented; trace ANHYDRITE: off white, microcrystalline, soft, massive, amorphous; trace: LIMESTONE: as above

8420-8450 SILTSTONE: red to orange, red brown, light orange to off white, trace light brown, friable, blocky, calcareous cement moderately cemented; trace ANHYDRITE: off white, microcrystalline, soft, massive, amorphous

8450-8480 SILTSTONE: red to orange, red brown, light orange to off white, trace light brown, friable, blocky, calcareous cement moderately cemented; trace ANHYDRITE: off white, microcrystalline, soft, massive, amorphous

Charles: **8,504' MD 8,503' TVD (-6,418')**

8480-8510 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ANHYDRITE: off white, microcrystalline, soft, massive, amorphous; trace ARGILLACEOUS LIMESTONE: mudstone, light brown, gray brown, microcrystalline, firm, dense, earthy to crystalline texture

8510-8540 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; trace ANHYDRITE: off white, microcrystalline, soft, massive, amorphous; trace ARGILLACEOUS LIMESTONE: mudstone, light brown, gray brown, microcrystalline, firm, dense, earthy to crystalline texture

8540-8570 SALT: frosted, translucent, rare clear, crystalline, hard, anhedral to subhedral, crystalline texture

8570-8600 SALT: frosted, translucent, rare clear, crystalline, hard, anhedral to subhedral, crystalline texture

8600-8630 SALT: frosted, translucent, rare clear, crystalline, hard, anhedral to subhedral, crystalline texture

8630-8660 SALT: frosted, translucent, rare clear, crystalline, hard, anhedral to subhedral, crystalline texture

8660-8690 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; trace LIMESTONE: mudstone, light brown, gray brown, microcrystalline, firm, dense, earthy to crystalline texture

8690-8720 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ARGILLACEOUS LIMESTONE: mudstone, light brown, gray brown, microcrystalline, firm, dense, earthy to crystalline texture; trace ANHYDRITE: off white, microcrystalline, soft, massive, amorphous

8720-8750 ARGILLACEOUS ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, gray brown, microcrystalline, firm, dense, earthy to crystalline texture; rare SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture

8750-8780 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture

8780-8810 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture; trace ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

8810-8840 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture; ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

8840-8870 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; trace ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture; trace ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

8870-8900 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; trace ARGILLACEOUS LIMESTONE: mudstone, light brown, light to dark gray, light to dark gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace disseminated pyrite; trace ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

8900-8930 ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, light gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace spotty light brown oil stain; ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous; trace SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture

8930-8960 ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, light gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace spotty light brown oil stain

8960-8990 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; trace ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

8990-9020 LIMESTONE: mudstone, light brown, light gray, light gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace spotty light brown oil stain; ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous; trace SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture

9020-9050 LIMESTONE: mudstone, light brown, light gray, light gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace spotty light brown oil stain; ANHYDRITE: off white to light gray, microcrystalline, soft, massive, amorphous

9050-9080 ANHYDRITE: light gray, rare off white, microcrystalline, soft, massive, amorphous; ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray, light gray brown, microcrystalline, firm, dense, earthy trace crystalline texture

9080-9110 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, light brown, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace disseminated pyrite; rare ANHYDRITE: light gray, rare off white, microcrystalline, soft, massive, amorphous

Upper Berenton:

9,112' MD 9,111' TVD (-7,026')

9110-9140 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, light brown, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace disseminated pyrite; rare ANHYDRITE: light gray, rare off white, microcrystalline, soft, massive, amorphous

9140-9170 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, light brown, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace disseminated pyrite; rare ANHYDRITE: light gray, rare off white, microcrystalline, soft, massive, amorphous

9170-9200 SALT: frosted, translucent, crystalline, hard, anhedral to subhedral, crystalline texture; ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, light brown, gray brown, microcrystalline, firm, dense, earthy trace crystalline texture, trace disseminated pyrite; rare ANHYDRITE: light gray, rare off white, microcrystalline, soft, massive, amorphous

Base Last Salt:

9,195' MD 9,194' TVD (-7,109')

9200-9230 ARGILLACEOUS LIMESTONE: mudstone, light to gray, light gray tan to gray brown, occasional off white, rare cream, trace tan, microcrystalline, firm, earthy texture, trace disseminated pyrite, no visible porosity; LIMESTONE: tan to gray tan, rare light brown, trace cream, microcrystalline, firm, crystalline texture, possible intercrystalline porosity, no visible oil stain, trace ANHYDRITE: cream to off white, microcrystalline, soft, euhedral, earthy

Ratcliffe:

9,228' MD 9,227' TVD (-7,142')

9230-9260 LIMESTONE: mudstone, tan to light brown, occasional light gray tan, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, possible intercrystalline porosity, no visible oil stain; trace ANHYDRITE: as above

9260-9290 LIMESTONE: mudstone, tan to light brown, occasional light gray tan, rare off white, microcrystalline, firm, earthy to crystalline texture, dolomitic in part, trace disseminated pyrite, possible intercrystalline porosity, trace light brown oil stain; trace ANHYDRITE: as above

9290-9320 LIMESTONE: mudstone, tan to light brown, occasional light gray tan, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, possible intercrystalline porosity, trace light brown oil stain; trace ANHYDRITE: as above

9320-9350 LIMESTONE: mudstone, tan to gray tan, light brown gray, occasional light brown, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, possible intercrystalline porosity, no visible oil stain; trace ANHYDRITE: as above

9350-9380 LIMESTONE: mudstone, tan, light brown gray, rare cream to buff, rare off white, rare light gray brown to light gray, microcrystalline, firm, earthy texture, trace disseminated pyrite, no visible porosity, no oil stain

9380-9410 LIMESTONE: mudstone, tan, light brown, occasional cream to buff, rare off white, rare light gray brown to light gray, microcrystalline, firm, earthy texture, trace disseminated pyrite, no visible porosity, no oil stain

9410-9420 LIMESTONE: mudstone, tan, light brown, light brown gray, tan gray, common cream to buff, trace light to medium gray, microcrystalline, firm, earthy texture, argillaceous in part, rare disseminated pyrite, trace fossil fragments, no visible porosity, no oil stain

Mission Canyon:**9,420' MD 9,419' TVD (-7,334')**

9410-9440 LIMESTONE: mudstone, tan, light brown, light brown gray, tan gray, common cream to buff, trace light to medium gray, microcrystalline, firm, earthy texture, argillaceous in part, rare disseminated pyrite, trace fossil fragments, no visible porosity, no oil stain

9440-9470 LIMESTONE: mudstone, tan, light brown, light brown gray, tan gray, common cream to buff, trace light to medium gray, microcrystalline, firm, earthy texture, trace disseminated pyrite, trace fossil fragment, trace ooids, trace stylolite, possible intercrystalline porosity, trace spotty light brown oil stain

9470-9500 LIMESTONE: mudstone, tan, light brown, light brown gray, tan gray, common cream to buff, trace light to medium gray, microcrystalline, firm, earthy texture, trace disseminated pyrite, trace fossil fragment, possible intercrystalline porosity, trace spotty light brown stain

9500-9530 LIMESTONE: mudstone, tan, light brown to light gray brown, tan gray, occasional dark cream to buff, trace light gray, microcrystalline, firm, earthy texture, trace disseminated pyrite, trace fossil fragment, no visible porosity, no oil stain

9530-9560 LIMESTONE: mudstone, light brown, common tan, dark cream, occasional light gray brown, rare brown, trace light gray, microcrystalline, firm, earthy, occasional crystalline texture, trace disseminated pyrite, trace fossil fragment, trace stylolite, trace spotty light brown oil stain, possible intercrystalline porosity

9560-9590 LIMESTONE: mudstone, light brown, light gray brown to brown, occasional cream, rare light gray, trace off white to white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, rare fossil fragment, trace spotty light brown oil stain

9590-9620 LIMESTONE: mudstone, light brown to brown, gray brown, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, rare fossil fragment, trace spotty light brown oil stain

9620-9650 LIMESTONE: mudstone, light brown to brown, gray brown, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, rare fossil fragment, trace spotty light brown oil stain

9650-9680 LIMESTONE: mudstone, light brown to brown, dark tan, light brown gray to brown gray, rare off white, microcrystalline, firm, earthy to crystalline texture, trace disseminated pyrite, rare fossil fragment, possible intercrystalline porosity, trace spotty light brown oil stain

9680-9710 LIMESTONE: mudstone, cream, off white, rare tan, trace light to medium brown, microcrystalline, firm, crystalline texture, rare earthy texture, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, rare light to medium brown spotty oil stain

9710-9740 LIMESTONE: mudstone, cream, off white, rare tan, trace light to medium brown, microcrystalline, firm, crystalline texture, rare earthy texture, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, rare light to medium brown spotty oil stain

9740-9770 LIMESTONE: mudstone, cream, off white, rare tan, trace light to medium brown, microcrystalline, firm, crystalline texture, rare earthy texture, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, rare light to medium brown spotty oil stain

9770-9800 LIMESTONE: mudstone, cream, off white, rare tan, trace light to medium brown, microcrystalline, firm, crystalline texture, rare earthy texture, trace dark brown alga material, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, rare light to medium brown spotty oil stain

9800-9830 LIMESTONE: mudstone, cream, off white, rare tan, trace light to medium brown, microcrystalline, firm, crystalline texture, rare earthy texture, trace dark brown alga material, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, rare light to medium brown spotty oil stain

9830-9860 LIMESTONE: mudstone, light to dark brown, trace off white, mottled appearance, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, common light to medium brown spotty to even oil stain

9860-9890 LIMESTONE: mudstone, light to dark brown, trace off white, mottled appearance, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, trace clear to milky white calcite, no visible porosity, common light to medium brown spotty to even oil stain

9890-9920 LIMESTONE: mudstone, off white to cream, light brown, light gray, microcrystalline, friable to firm, crystalline to earthy texture, no visible porosity, trace disseminated pyrite, rare light to medium brown spotty to even oil stain

9920-9950 LIMESTONE: mudstone, light gray, light gray brown, light brown, trace gray, microcrystalline, friable to firm, crystalline to earthy texture, no visible porosity, trace disseminated pyrite, rare light to medium brown spotty to even oil stain

Lodgepole: **9,979' MD 9,978' TVD (-7,893')**

9950-9980 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray brown, light brown, trace gray, microcrystalline, friable to firm, crystalline to earthy texture, no visible porosity, trace disseminated pyrite, trace fossil fragments, rare light to medium brown spotty to even oil stain

9980-10010 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10010-10040 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10040-10070 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, trace off white, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10070-10100 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, trace off white, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10100-10130 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, trace off white, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10130-10160 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10160-10190 ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline to earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10190-10220 LIMESTONE: mudstone, light brown to brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10220-10250 LIMESTONE: mudstone, light brown to brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10250-10300 LIMESTONE: mudstone, light brown to brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10300-10330 LIMESTONE: mudstone, light brown to brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10330-10370 LIMESTONE: mudstone, light brown to brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10370-10400 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, light brown, trace off white, microcrystalline, friable to firm, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10400-10430 ARGILLACEOUS LIMESTONE: mudstone, light gray to gray, gray brown, light brown, trace off white, microcrystalline, friable to firm, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10430-10460 ARGILLACEOUS LIMESTONE: mudstone, light brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10460-10490 LIMESTONE: mudstone, light brown, light brown gray, light gray, trace off white, trace dark gray, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10490-10520 LIMESTONE: mudstone, light brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10520-10550 LIMESTONE: mudstone, light brown, gray brown, light gray, trace off white, microcrystalline, friable to firm, crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10550-10580 LIMESTONE: mudstone, light gray to light brown gray, occasional medium gray, trace tan to light brown, trace off white, microcrystalline, firm, earthy to rare crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10580-10610 LIMESTONE: mudstone, light gray to light brown gray, occasional medium gray, trace tan to light brown, trace off white, microcrystalline, firm, earthy to rare crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10610-10640 LIMESTONE: mudstone, light gray to medium gray, gray, rare light gray tan to light gray brown, trace off white, microcrystalline, firm, earthy to rare crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10640-10670 LIMESTONE: mudstone, light gray to medium gray, gray, rare light gray tan to light gray brown, trace off white, microcrystalline, firm, earthy to rare crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10670-10700 ARGILLACEOUS LIMESTONE: mudstone, light gray brown, common medium gray brown, occasional light gray, rare dark gray, trace black gray, trace light brown, firm, earthy, common disseminated pyrite, no visible porosity, no visible oil stain

10700-10730 LIMESTONE: mudstone, light gray, light gray brown, gray, trace off white, firm, earthy, common disseminated pyrite, no visible porosity, no visible oil stain

False Bakken: **10,744' MD 10,686' TVD (-8,601')**

10730-10760 LIMESTONE: mudstone, light gray, light gray brown, gray, trace off white, firm, earthy, common disseminated pyrite, no visible porosity, no visible oil stain; SHALE: dark gray, gray black, hard, subblocky, earthy, pyritic, petroliferous, carbonaceous

Scallion: **10,747' MD 10,689' TVD (-8,604')**

10730-10760 LIMESTONE: mudstone, light gray, light gray brown, gray, trace off white, firm, earthy, common disseminated pyrite, no visible porosity, no visible oil stain; SHALE: dark gray, gray black, hard, subblocky, earthy, pyritic, petroliferous, carbonaceous

Upper Bakken Shale: **10,762' MD 10,699' TVD (-8,614')**

10760-10790 SHALE: black, hard, subblocky, firm, earthy, pyritic, petroliferous, carbonaceous, fracture porosity

Middle Bakken: **10,792' MD 10,715' TVD (-8,630')**

10790-1820 SILTY SANDSTONE: light gray, light gray tan, very fine grained, friable, subangular to sub rounded, well sorted, calcareous cement, moderately cemented, trace disseminated and nodular pyrite, possible intergranular porosity, occasional medium brown spotty oil stain; rare SILTSTONE: light gray, friable, sub platy to sub blocky, earthy texture, calcareous cement, moderately cemented, trace disseminated pyrite, possible intergranular porosity, occasional medium to dark brown spotty oil stain

10820-10850 SILTY SANDSTONE: light gray, light gray brown, rare buff, very fine grained, friable, subangular to sub rounded, well sorted, calcareous and dolomitic cement, moderately cemented, trace disseminated and nodular pyrite, fair intergranular porosity, occasional medium to dark brown spotty oil stain

10850-10880 SILTY SANDSTONE: light gray, very fine grained, friable, subangular to sub rounded, well sorted, calcareous cement, moderately cemented, trace disseminated and nodular pyrite, possible intergranular porosity, occasional dark brown spotty oil stain

Lower Bakken Shale: **10,878' MD 10,758' TVD (-8,673')**

10880-10910 SHALE: black, black gray, hard, subblocky, earthy, pyritic, petroliferous, carbonaceous, fracture porosity

10880-10910 SHALE: black, black gray, hard, subblocky, earthy, pyritic, petroliferous, carbonaceous, fracture porosity

Pronghorn: **10,906' MD 10,769' TVD (-8,684')**

10910-10940 SILTSTONE: medium to dark gray, gray brown, friable, sub platy to sub blocky, earthy texture, dolomite cement, moderately cemented, trace disseminated and nodular pyrite, possible intergranular porosity, trace light brown spotty oil stain

11940-11950 SILTSTONE: as above

Three Forks: **10,949' MD 10,783' TVD (-8,698')**

10950-10960 SHALE: light green, trace gray, friable, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, tan, pink, friable, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain

10960-10970 SHALE: light green, trace gray, friable, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, tan, pink, friable, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain

10970-10980 SHALE: light green, trace gray, friable, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, tan, pink, friable, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain

11480-11510 DOLOMITE: mudstone, tan, cream, occasional light brown, rare light gray tan, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: light gray, off white, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11510-11540 DOLOMITE: mudstone, tan, cream, occasional light brown, rare light gray tan, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: light gray, off white, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11540-11570 DOLOMITE: mudstone, tan, cream, occasional light brown, rare light gray tan, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: light gray, off white, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11570-11600 DOLOMITE: mudstone, tan, cream, occasional light brown, rare light gray tan, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: light gray, off white, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11600-11630 DOLOMITE: mudstone, tan, cream, occasional light brown, rare light gray tan, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: off white, light gray, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11630-11660 DOLOMITE: mudstone, cream to off white, occasional tan rare light brown and light gray tan to brown, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: off white, light gray, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11660-11690 DOLOMITE: mudstone, cream to off white, occasional tan rare light brown and light gray tan to brown, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: off white, light gray, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

11690-11720 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain; rare DOLOMITE: as above, slightly white diffuse cut fluorescence, dull yellow residual ring

11720-11750 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

11750-11780 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

11780-11810 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

11810-11840 DOLOMITE: mudstone, cream to off white, occasional tan rare light brown and light gray tan to brown, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; rare SHALE: off white, light gray, trace light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12560-12590 DOLOMITE: mudstone, tan to tan pink, cream to off white, rare light brown, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; SHALE: light gray, light green, off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12590-12620 SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; occasional DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12620-12650 DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12650-12680 SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; occasional DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12680-12710 SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; occasional DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12710-12740 DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12740-12770 DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; SHALE: light gray to off white, rare light green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12770-12800 DOLOMITE: mudstone, tan to tan pink, cream to off white, rare light brown, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; SHALE: light gray, light green, off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12800-12830 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual ring

12830-12860 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual ring

12860-12890 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12890-12920 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

12920-12950 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual ring

12950-12980 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual ring

12980-13010 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual ring

13010-13040 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty v brown oil stain; rare SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual

13040-13070 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual

13070-13100 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual

13100-13130 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

13130-13160 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

13160-13190 DOLOMITE: mudstone, tan to light brown, common cream, rare off white, rare light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain; common SHALE: light gray green to light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, bright green yellow residual

14690-14720 DOLOMITE: mudstone, light brown to tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14720-14750 DOLOMITE: mudstone, light brown, common tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, moderate blue white diffuse cut fluorescence, yellow residual ring

14750-14780 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green gray to light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14780-14810 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14810-14840 DOLOMITE: mudstone, tan to light brown, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable to firm, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14840-14870 DOLOMITE: mudstone, tan to light brown, rare cream to off white, trace light gray brown, trace white to buff, trace light gray, microcrystalline, friable to firm, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green, occasional light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15870-14900 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14900-14930 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14930-14960 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white to dark buff, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, trace medium gray, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

14960-14990 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15290-15320 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15320-15350 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15350-15380 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15380-15410 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

15410-15440 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15440-15470 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15440-15500 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15500-15530 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15530-15560 SHALE: light gray green to light green, occasional off white, rare light gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15560-15590 SHALE: light gray green to light green, occasional off white, rare light gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15590-15620 SHALE: light gray green to light green, occasional off white, rare light gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15620-15650 SHALE: light gray green to light green, occasional off white, rare light gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15650-15680 SHALE: light gray green to light green, occasional off white, rare light gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15680-15710 SHALE: light green to gray green, occasional off white, rare light gray, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; common DOLOMITE: mudstone, white to off white, cream to tan. rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

15710-15740 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, slightly blue white streaming cut fluorescence, yellow residual ring

15740-15770 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, slightly blue white streaming cut fluorescence, yellow residual ring

15770-15800 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

15800-15830 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

15830-15860 DOLOMITE: mudstone, tan to cream, common light brown, off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; rare SHALE: light green to light gray green, rare light gray, trace light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

15860-15890 DOLOMITE: mudstone, tan to cream, common light brown, off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; rare SHALE: light green to light gray green, rare light gray, trace light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

17720-17750 SHALE: light gray to light gray green, occasional off white, rare light green, trace medium gray, trace blue green, firm, subblocky, earthy texture, trace disseminated pyrite, no visible porosity; rare DOLOMITE: mudstone, white to off white, cream to tan, rare tan to tan pink, rare light gray, trace light brown, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, trace spotty light brown oil stain, moderate blue white streaming cut fluorescence, bright green yellow residual ring

17750-17780 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty and even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

17780-17810 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty and even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

17810-17840 DOLOMITE: mudstone, light brown, tan, rare cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty and even light brown oil stain; occasional SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

17840-17870 DOLOMITE: mudstone, tan to light gray brown, rare cream to off white, rare light brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty and even light brown oil stain; common SHALE: light green to light gray green, common light gray, rare light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, fast blue white streaming cut fluorescence, yellow residual ring

17870-17900 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

17900-17930 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

17930-17960 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

17960-17990 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

17990-17820 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

17820-17850 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18050-18080 DOLOMITE: mudstone, tan to cream, common light brown, off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; rare SHALE: light green to light gray green, rare light gray, trace light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

18710-18740 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18740-18770 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18770-18800 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18800-18830 CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18830-18860 DOLOMITE: as above; occasional CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18860-18890 CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18890-18920 CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18920-18950 CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18950-18980 CLAYSTONE: light gray to off, white, rare light gray tan, trace medium gray, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

18980-19010 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

19010-19040 CLAYSTONE: light gray, off white to white, trace light gray tan, firm, subblocky, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain, slightly white diffuse cut fluorescence, dull yellow residual ring

19040-19070 DOLOMITE: mudstone, tan to cream, common light brown, off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, rare light gray, trace light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, no visible porosity, moderate blue white streaming cut fluorescence, yellow residual ring

19070-19100 DOLOMITE: mudstone, tan to light brown, occasional cream to off white, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, trace disseminated pyrite, intercrystalline porosity, common spotty to even light brown oil stain; occasional SHALE: light green to light gray green, rare light gray, trace light green blue, rare off white, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence, yellow residual ring

20900-20930 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence

20930-20960 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence

20960-20990 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence

20990-21020 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence

21020-21050 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence

21050-21090 DOLOMITE: mudstone, light brown to tan, occasional cream to off white, rare medium brown, trace light gray brown, trace white, trace light gray, microcrystalline, friable, dense, earthy texture, rare disseminated pyrite, intercrystalline porosity, common spotty to even light to medium brown oil stain; occasional SHALE: light green to light gray green, rare light green blue, trace light off white to light gray, firm, subblocky, earthy texture, rare disseminated pyrite, contaminated cut fluorescence



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.
25571



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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date July 17, 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 checked="" type="checkbox"/> Reclamation |
| <input checked="" type="checkbox"/> Other | Intent to reclaim reserve pit |

Well Name and Number Colville 5301 44-12T					
Footages 250 F S L	950 F E L	Qtr-Qtr SESE	Section 12	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) Neu Construction	Address 204 S. Ellery Avenue P.O. Box 461	City Fairview	State MT	Zip Code 59221
--	---	-------------------------	--------------------	--------------------------

DETAILS OF WORK

Oasis Petroleum North America LLC plans to reclaim the reserve pit for the above referenced wells as follows:
The NDIC field inspector, Rick Dunn and the surface owners, were notified on 07/11/2013.
Surface owners: Larry Hee, 14075 41st Street NW, Alexander, ND 58831
Spread material out in pit, cut top edge of liner and fold cuttings, cover entire pit with liner, backfill with clay slope and contour wellsite to ensure proper drainage.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9591	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Chelsea Covington</i>	Printed Name Chelsea Covington	
Title Regulatory Assistant	Date July 11, 2013	
Email Address Ccovington@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 7-15-13	
By <i>Covington</i>	
Title <i>Regulatory Assistant</i>	



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.
222100-01



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 1, 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	Central production facility-commingle prod

**Well Name and Number
(see details)**

Footages	F	L	F	L	Qtr-Qtr	Section	Township	Range
						12	153 N	101 W
Field	Pool Bakken					County	McKenzie	
Baker								

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

Oasis Petroleum North America LLC requests permission to add the following wells to CTB # 222100-01.

Well File #22740 Larry 5301 44-12B SESE 12-153-101 API 33-053-04981

Well File #22099 Yukon 5301 41-12T SWSW 12-153-101 API 33-053-03911

Well File #25571 Colville 5301 44-12T SESE 12-153-101 API 33-053-04981

Well File #22221 Innoko 5301 43-12T SWSE 12-153-101 API 33-053-03937

The following wells are currently being commingled in the subject CTB:

Well File #22100 Achilles 5301 41-12B SWSW 12-153-101 API 33-053-03912

Well File #22220 Jefferies 5301 43-12B SWSE 12-153-101 API 33-053-03936

Well File #20864 Bray 5301 43-12H SWSE 12-153-101 API 33-053-03609

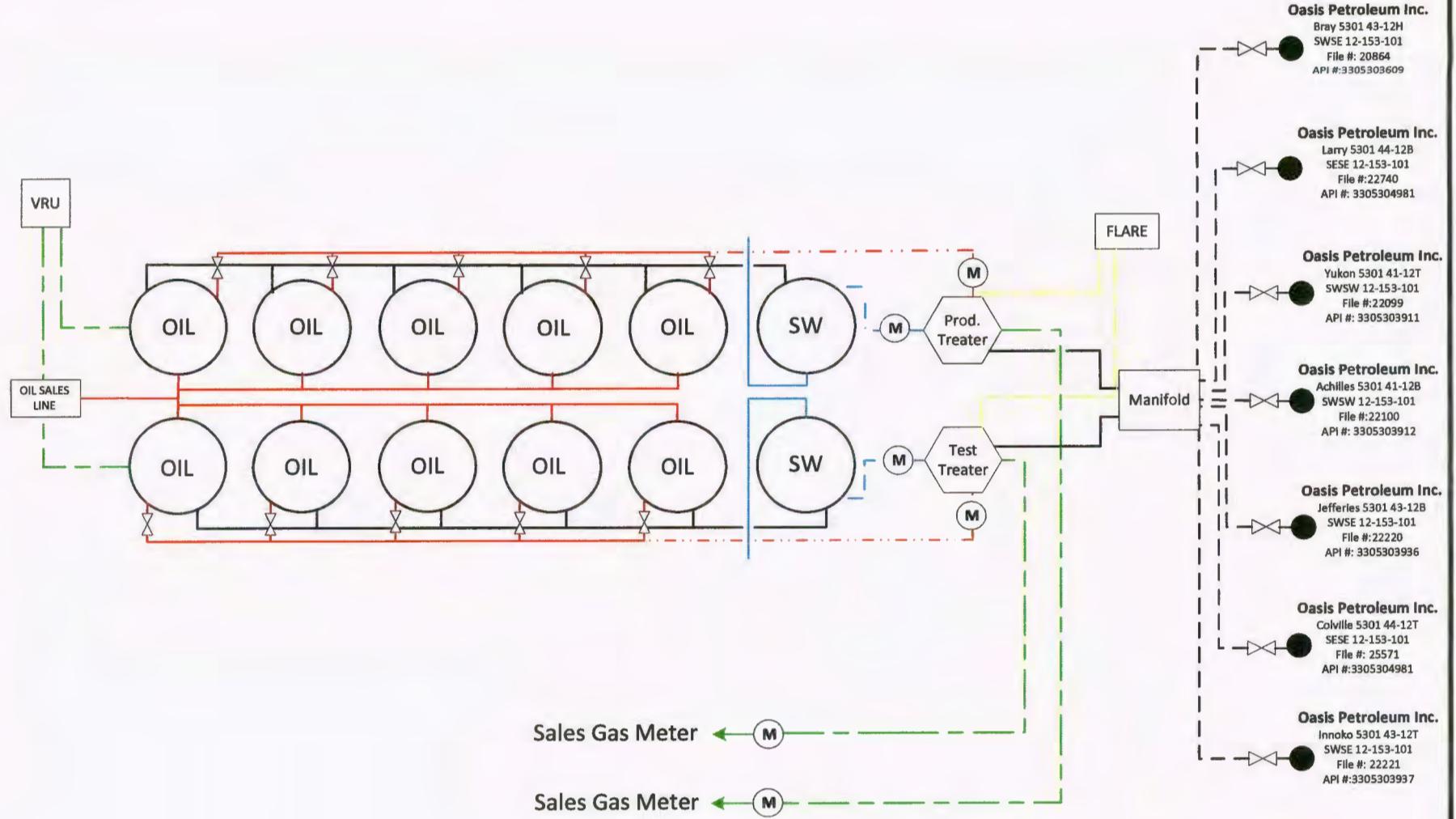
Well File #22740 Larry 5301 44-12B SESE 12-153-101 API 33-053-04071

Please find the following attachments: 1. A schematic drawing of the facility which diagrams the testing, treating, routing, and transferring of production. 2. A plat showing the location of the central facility 3. Affidavit of title indicating common ownership.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9491	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Brandi Terry	
Title Regulatory Specialist	Date July 24, 2013	
Email Address bterry@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 7-30-13	
By ORIGINAL SIGNED BY DARYL GRONFUR Title METER SPECIALIST	



OASIS PETROLEUM					
5301 13-24 ACHILLES CENTRAL TANK BATTERY					
DATE	REV.	BY	APPR.	SCALE	
JULY 23, 2013	0	LEE		NA	
LOCATION	FIELD				
NORTH DAKOTA	BAKER				

COMMINGLING AFFIDAVIT

STATE OF NORTH DAKOTA)
) ss.
COUNTY OF MCKENZIE)

Tom F. Hawkins, being duly sworn, states as follows:

1. I am the Vice President - Land and Contracts employed by Oasis Petroleum North America LLC with responsibilities in the State of North Dakota and I have personal knowledge of the matters set forth in this affidavit.

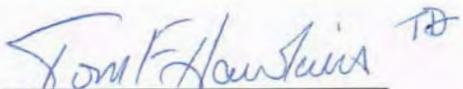
2. Sections 13 and 24, Township 153 North, Range 101 West, 5th P.M., McKenzie County, North Dakota constitute a spacing unit in accordance with the applicable orders of the North Dakota Industrial Commission for the Bakken pool.

3. Four wells have been drilled in the spacing unit, which are the Bray 5301 43-12H, Achilles 5301 41-12B, Jefferies 5301 43-12B, Larry 5301 44-12B; and three wells have been permitted in the spacing unit, which are the Colville 5301 44-12T, Innoko 5301 43-12T and Yukon 5301 41-12T.

4. By Declaration of Pooled Unit dated August 26, 2011, filed in McKenzie County, North Dakota, document number 422312, all oil and gas interests within the aforementioned spacing unit were pooled.

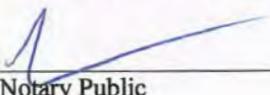
5. All Working Interests, Royalty Interests and Overriding Royalty Interests in the Bray 5301 43-12H, Achilles 5301 41-12B, Jefferies 5301 43-12B, Colville 5301 44-12T, Innoko 5301 43-12T and Yukon 5301 41-12 wells are common.

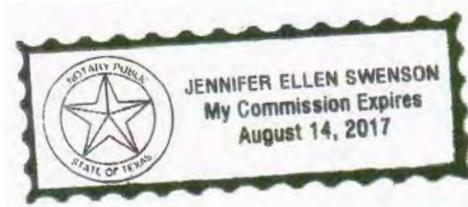
Dated this 9th day of July, 2013.


Tom F. Hawkins
Vice President-Land and Contracts

STATE OF TEXAS)
) ss.
COUNTY OF HARRIS)

Subscribed to and sworn before me this 9th day of July, 2013.


Notary Public
State of Texas
My Commission Expires: August 14, 2017



BATTERY LOCATION PLAT
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 202 HOUSTON, TX 77002
"5301 13-24 CTB"

SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

"5301 13-24 CTB"

CALCULATED FROM
WITNESS CORNER

AZ 90°34'49"

2691.29'

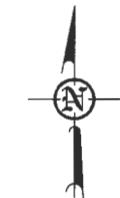
CALCULATED
FROM WITNESS
CORNER

573.48

CALCULATED
FROM WITNESS
CORNER

FOUND
STONE

THIS DOCUMENT WAS ORIGINALLY
ISSUED AND SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION
NUMBER 3880 ON 7/10/13 AND
THE ORIGINAL DOCUMENTS ARE
STORED AT THE OFFICES OF
INTERSTATE ENGINEERING, INC.



AZ 0°00'47" 30 495| 44'

THIS DOCUMENT WAS ORIGINALLY
ISSUED AND SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION
NUMBER 3880 ON 7/10/13 AND
THE ORIGINAL DOCUMENTS ARE
STORED AT THE OFFICES OF
INTERSTATE ENGINEERING, INC.

12

5301 41-12T
ACHILLIES
5301 41-12E

5301 13-24 CTB

VICINITY MAP

- MONUMENT - RECOVERED

 - MONUMENT - NOT RECOVERED

STAKED ON 3/08/12
VERTICAL CONTROL DATUM WAS BASED UPON
CONTROL POINT 13 WITH AN ELEVATION OF 2090.8

THIS SURVEY AND PLAT IS BEING PROVIDED AT THE
REQUEST OF FABIAN KJORSTAD OF OASIS PETROLEUM.
I CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS
WORK PERFORMED BY ME OR UNDER MY
SUPERVISION AND IS TRUE AND CORRECT TO
THE BEST OF MY KNOWLEDGE AND BELIEF.

1-42-001-001

Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.iengi.com

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 12, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA

MCKENZIE COUNTY, NORTH DAKOTA

rown By:	J.D.M.	Project No.:	S12-09-249
checked By:	D.D.K.	Date:	SEPT. 2012

Revision No.	Date	By	Description
REV I	7/10/13	JDM	ADDED WELLS

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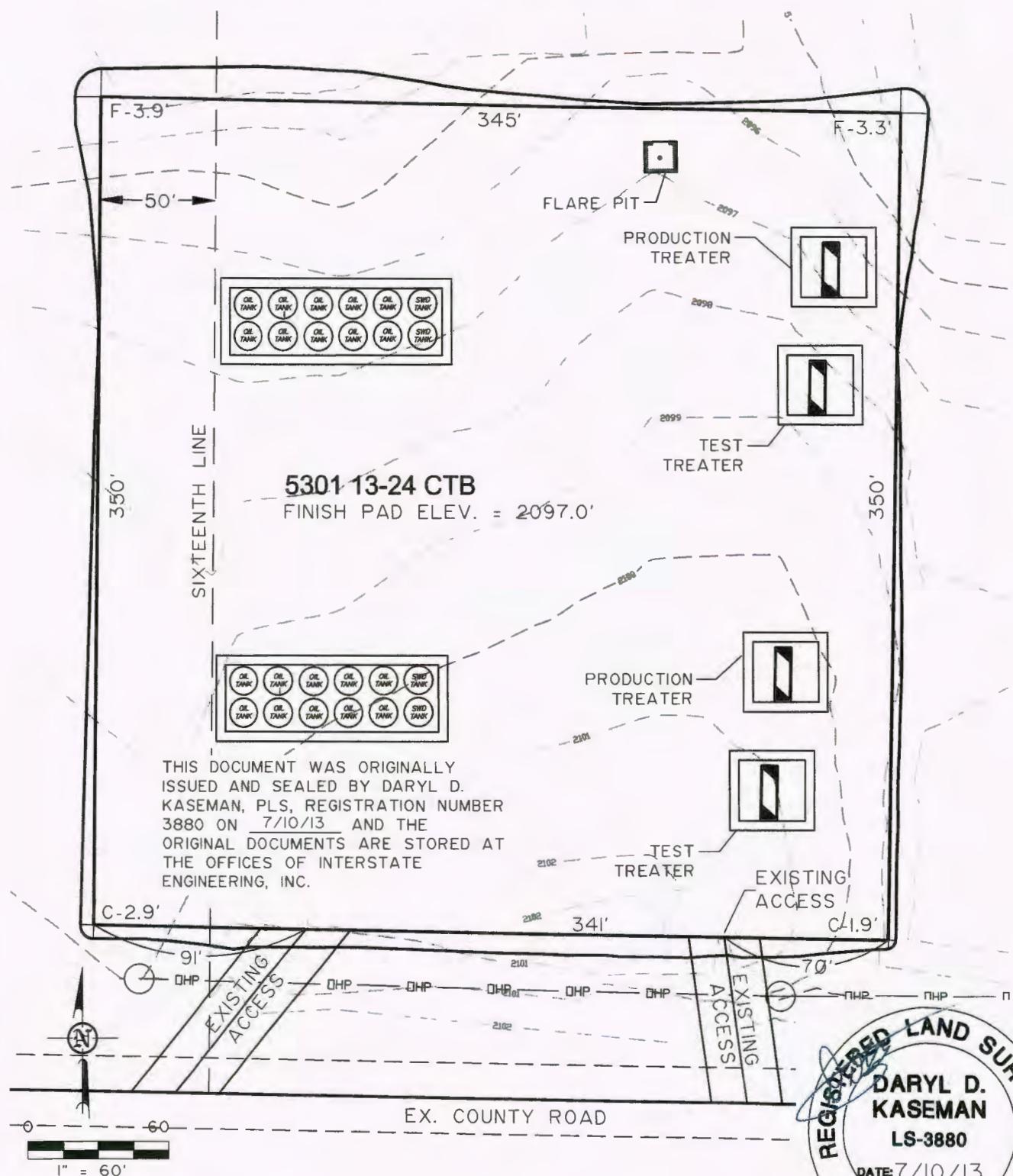
1/5



INTERSTATE
ENGINEERING

SHEET NO.

PAD LAYOUT
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 202 HOUSTON, TX 77002
"5301 13-24 CTB"
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



NOTE: All utilities shown are preliminary only, a complete utilities location is recommended before construction.

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2/5

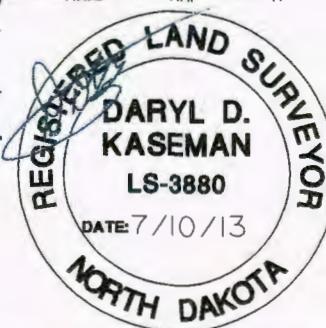


SHEET NO.

Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.iengi.com
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 12, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: J.D.M. Project No.: 612-9-249
Checked By: D.D.K. Date: SEPT. 2012

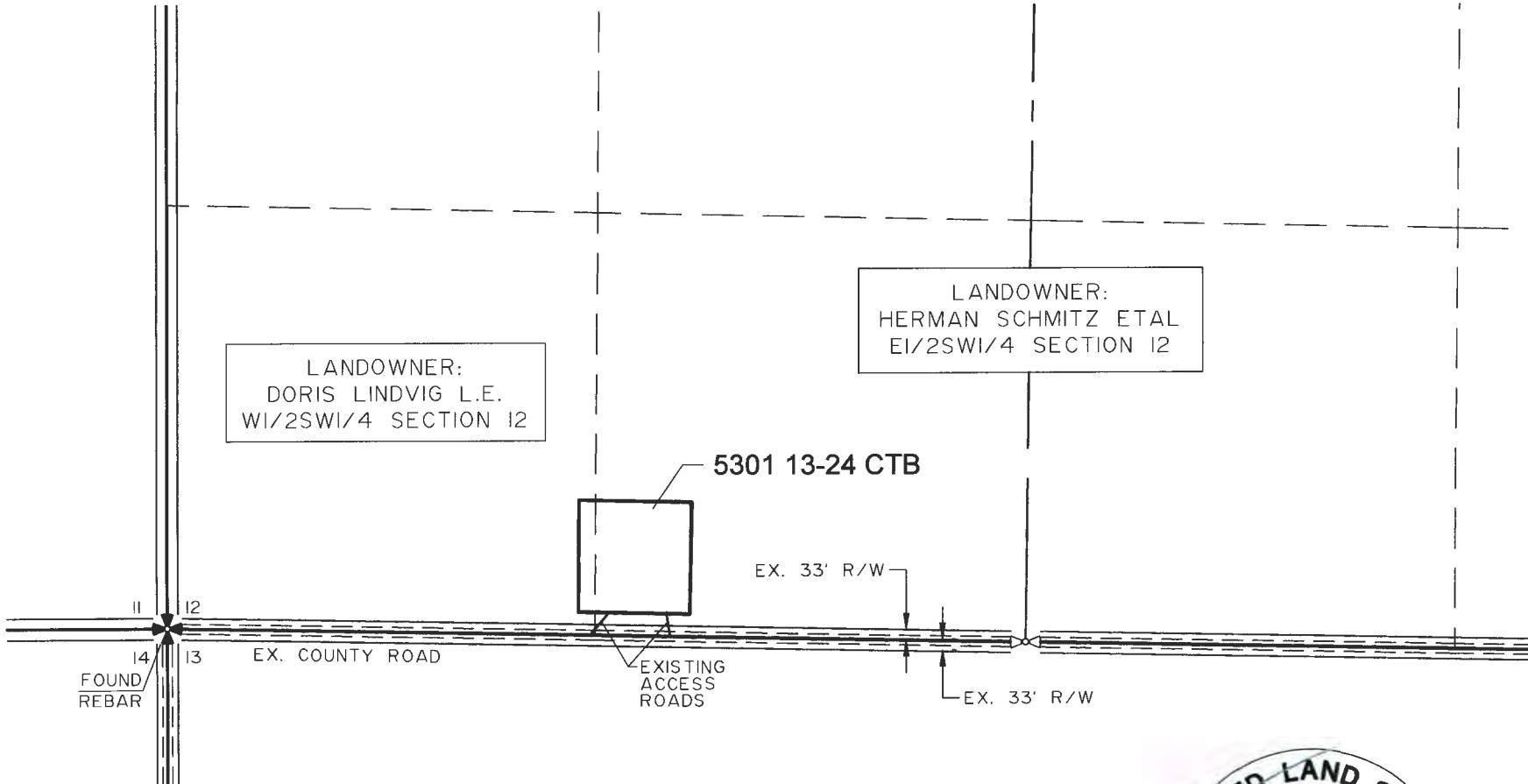
Revision No.	Date	By	Description
REV 1	7/10/13	JDM	ADDED WELLS



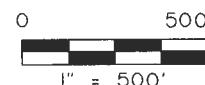
ACCESS APPROACH

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 202 HOUSTON, TX 77002
"5301 13-24 CTB"

SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS ORIGINALLY
ISSUED AND SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION NUMBER
3880 ON 7/10/13 AND THE
ORIGINAL DOCUMENTS ARE STORED AT
THE OFFICES OF INTERSTATE
ENGINEERING, INC.



NOTE: All utilities shown are preliminary only, a complete
utilities location is recommended before construction.

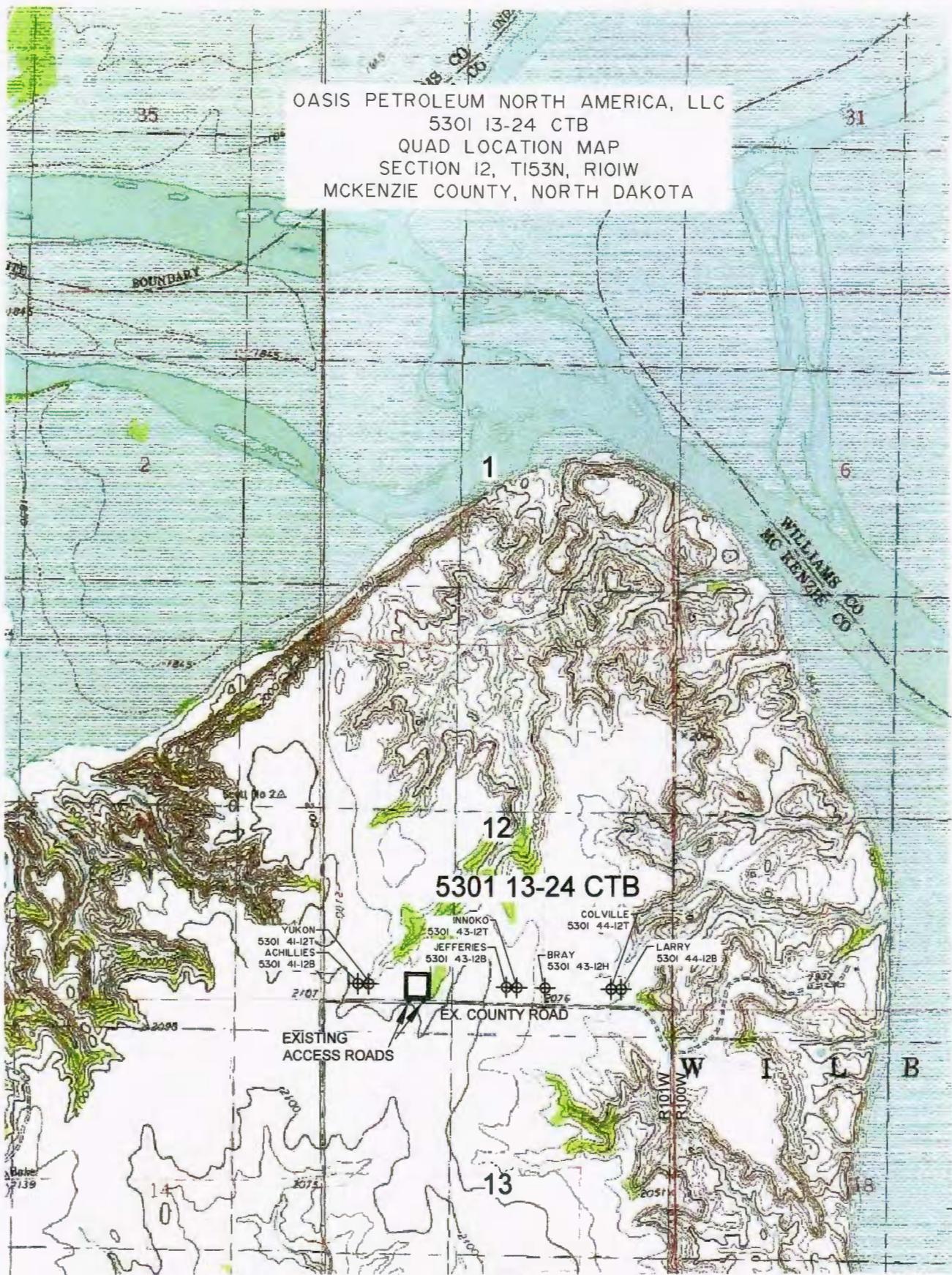


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Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph: (406) 433-5617
Fax: (406) 433-5618
www.leng.com
Other offices in Montana, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
ACCESS APPROACH
SECTION 12, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: J.D.M.
Checked By: D.D.K.
Project No.: ST2309-249
Date: SEPT. 2012



4/5

SHEET NO.



Professionals you need, people you trust.

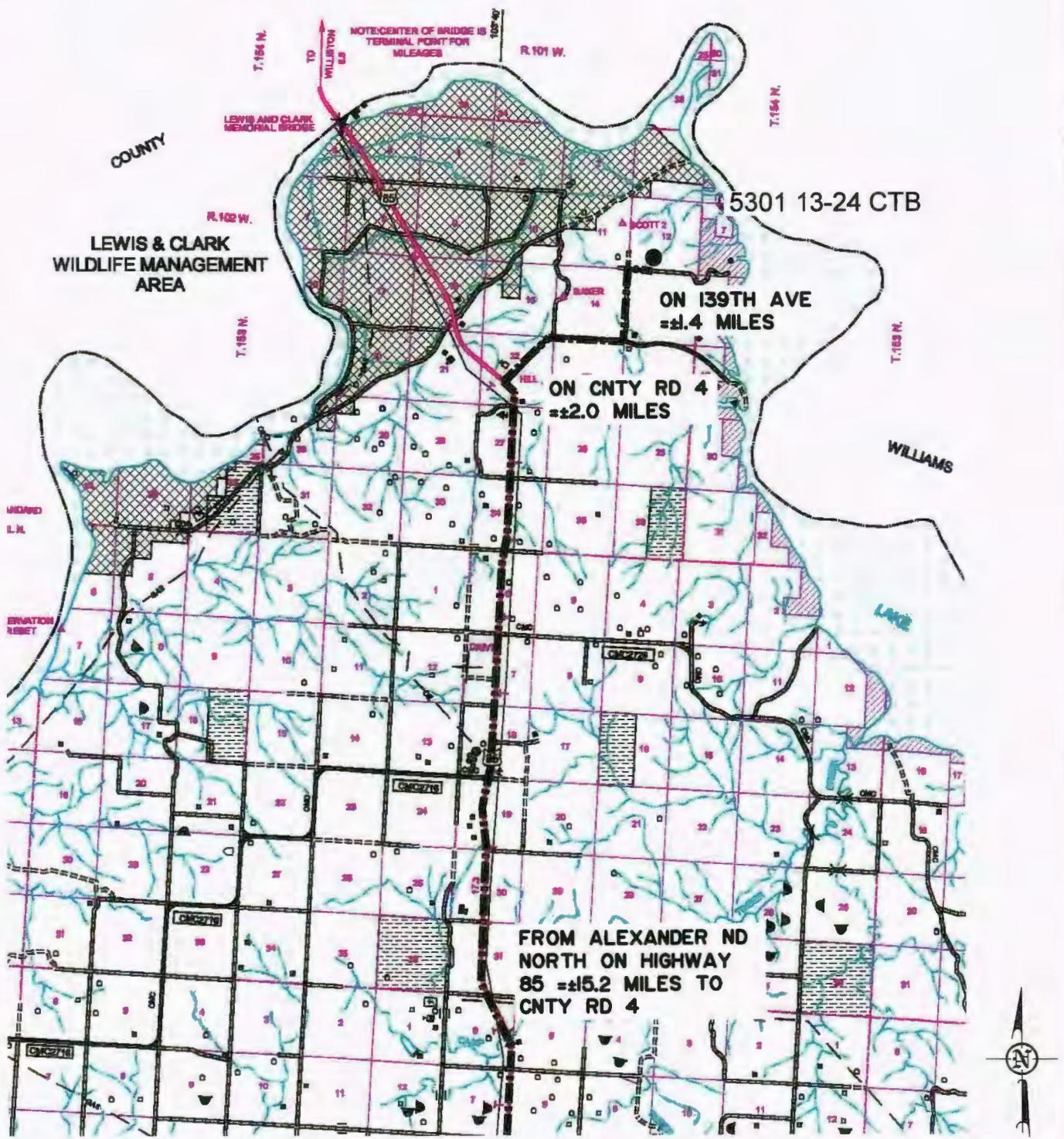
Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.iengi.com
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
QUAD LOCATION MAP
SECTION 12, T153N, R101W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: J.D.M. Project No.: S12-09-249
Checked By: DDK Date: SEPT. 2012

Revision No.	Date	By	Description
REV 1	7/10/13	JDM	ADDED WELLS

COUNTY ROAD MAP
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 202 HOUSTON, TX 77002
"5301 13-24 CTB"
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

5/5



SHEET NO.

Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.iengi.com

Interstate Engineering, Inc.
P.O. Box 648
125 East Main Street
OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 12, T44S RL1 C01W

425 Edie Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618

SECTION T2, T15S, R10W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	J.D. M.	Project No.:
		S12-09-249

www.iengi.com

Revision No.	Date	By	Description
REV I	7/10/13	JDM	ADDED WELLS

LAT/LONG PAD CORNERS

345'

48°05'00.01"N
103°37'13.86"W

48°04'59.95"N
103°37'08.78"W

5301 13-24 CTB

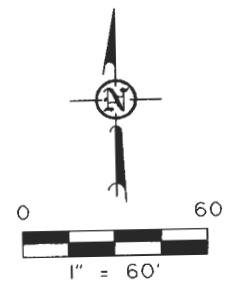
350'

350'

48°04'56.56"N
103°37'13.89"W

48°04'56.50"N
103°37'08.87"W

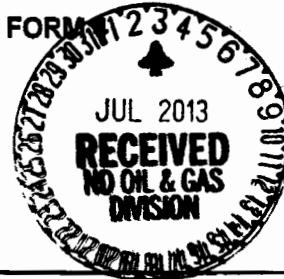
341'





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
SFN 5749 (08-2006)



Well File No.
25571

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date July 10, 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	Suspension of Drilling

Well Name and Number
Colville 5301 44-12T

Footages 250 F S L 950 F E L	Qtr-Qtr SESE	Section 12	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)
Advanced Energy Services

Address	City	State	Zip Code
---------	------	-------	----------

DETAILS OF WORK

Oasis Petroleum North America LLC requests permission for suspension of drilling for up to 90 days for the referenced well under NDAC 43-02-03-55. Oasis Petroleum North America LLC 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. Oasis Petroleum North America LLC 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). Oasis Petroleum North America LLC 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.

NOTIFY NDIC INSPECTOR RICHARD DUNN AT 701-770-3554 WITH SPUD + TD INFO.

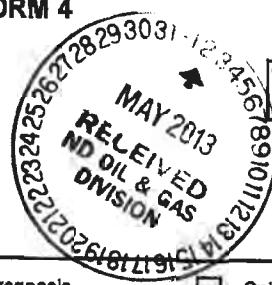
Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Heather McCowan</i>	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 3, 2013	
Email Address hmccowan@oasispetroleum.com		

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 7/09/13	
By <i>Alicia D. Webber</i>	
Title Engineering Technician	



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)



Well File No. 25571

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date April 30, 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	Waiver to rule Rule 43-02-03-31

Well Name and Number Colville 5301 44-12T				
Footages	Qtr-Qtr SESE	Section 12	Township 153 N	Range 101 W
Field	Pool Bakken	County Williams		

24-HOUR PRODUCTION RATE

	Before	After
Oil	Bbls	Bbls
Water	Bbls	Water
Gas	MCF	Gas

Name of Contractor(s)

Address

City

State

Zip Code

DETAILS OF WORK

Oasis Petroleum respectfully requests a waiver to Rule 43-02-03-31 in regards to running open hole logs for the above referenced well. Justification for this request is as follows:

The Gulf Oil /Lindvig 1-11-3C (33053014780000) located within a half mile of the subject well

#9309

If this exception is approved, Oasis Petroleum will run a CBL on the intermediate string, and we will also run GR to surface. Oasis Petroleum will also submit two digital copies of each cased hole log and a copy of the mud log containing MWD gamma ray.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Heather McCowan	
Title Regulatory Assistant	Date April 24, 2013	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 5-8-2013	
By 	
Title Richard A. Guggs Geologist	



Oil and Gas Division

25571

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

ROBIN E. HESKETH
OASIS PETROLEUM NORTH AMERICA LLC
1001 FANNIN, SUITE 1500
HOUSTON, TX 77002 USA

Date: 5/10/2013

RE: CORES AND SAMPLES

Well Name: **COLVILLE 5301 44-12T** Well File No.: **25571**
Location: **SESE 12-153-101** County: **MCKENZIE**
Permit Type: **Development - HORIZONTAL**
Field: **BAKER** Target Horizon: **THREE FORKS**

Dear ROBIN E. HESKETH:

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.

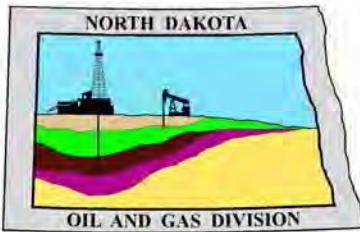
- 3) Cores: ALL CORES cut shall be preserved in correct order, properly boxed, and forwarded to the State Geologist within 90 days of completion of drilling operations. Any extension of time must have written approval from the State Geologist.
- 4) All cores, core chips, and samples must be shipped,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



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

May 8, 2013

Heather McCowan
Regulatory Assistant
OASIS PETROLEUM NORTH AMERICA LLC
1001 Fannin Suite 1500
Houston, TX 77002

**RE: HORIZONTAL WELL
COLVILLE 5301 44-12T
SESE Section 12-153N-101W
McKenzie County
Well File # 25571**

Dear Heather:

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 1280 acre spacing unit consisting of Section 13 & 24 T153N R101W.

PERMIT STIPULATIONS: OASIS PETROLEUM NORTH AMERICA LLC must take into consideration NDAC 43-02-03-28 (Safety Regulation) when contemplating simultaneous operations on the above captioned location. Pursuant to NDAC 43-02-03-28 (Safety Regulation) "No boiler, portable electric lighting generator, or treater shall be placed nearer than 150 feet to any producing well or oil tank." Due to surficial water adjacent to the well site, a dike is required surrounding the entire location. In cases where a spacing unit is accessed from an off-site drill pad, an affidavit must be provided affirming that the surface owner of the multi-well pad agrees to accept burial on their property of the cuttings generated from drilling the well(s) into an offsite spacing/drilling unit. OASIS PETRO NO AMER 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: 450' south. Also, based on the azimuth of the proposed lateral the maximum legal coordinate from the well head is: 10570' south.

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 .The permit fee has been received. 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.

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,

Nathaniel Erbele
Petroleum Resource Specialist



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 06 / 01 / 2013	Confidential Status No
Operator OASIS PETROLEUM NORTH AMERICA LLC		Telephone Number 281-404-9563	
Address 1001 Fannin Suite 1500		City Houston	State TX Zip Code 77002

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 COLVILLE				Well Number 5301 44-12T			
Surface Footages 250 F S L 950 F E L		Qtr-Qtr SESE	Section 12	Township 153 N	Range 101 W	County McKenzie	
Longstring Casing Point Footages 215 F N L 1144 F E L		Qtr-Qtr NENE	Section 13	Township 153 N	Range 101 W	County McKenzie	
Longstring Casing Point Coordinates From Well Head 465 S From WH 194 W From WH		Azimuth 202.6 °	Longstring Total Depth 11109 Feet MD 10811 Feet TVD				
Bottom Hole Footages From Nearest Section Line 242 F S L 1290 F E L		Qtr-Qtr SESE	Section 24	Township 153 N	Range 101 W	County McKenzie	
Bottom Hole Coordinates From Well Head 10528 S From WH 340 W From WH		KOP Lateral 1 10333 Feet MD	Azimuth Lateral 1 180.0 °	Estimated Total Depth Lateral 1 21192 Feet MD 10793 Feet TVD			
Latitude of Well Head 48 ° 04 ' 57.78 "	Longitude of Well Head -103 ° 36 ' 28.88 "	NAD Reference NAD83		Description of Spacing Unit: Section 13 & 24 T153N R101W			(Subject to NDIC Approval)
Ground Elevation 2060 Feet Above S.L.	Acres in Spacing/Drilling Unit 1280	Spacing/Drilling Unit Setback Requirement 200 Feet N/S 500 Feet E/W					Industrial Commission Order 21551
North Line of Spacing/Drilling Unit 5278 Feet	South Line of Spacing/Drilling Unit 5267 Feet	East Line of Spacing/Drilling Unit 10520 Feet		West Line of Spacing/Drilling Unit 10553 Feet			
Objective Horizons Three Forks							Pierre Shale Top 1985
Proposed Surface Casing	Size 9 - 5/8 "	Weight 36 Lb./Ft.	Depth 2087 Feet	Cement Volume 765 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) 32 Lb./Ft.	Longstring Total Depth 11109 Feet MD 10811 Feet TVD		Cement Volume 749 Sacks	Cement Top 3939 Feet	Top Dakota Sand 5439 Feet
Base Last Charles Salt (If Applicable) 9200 Feet	NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.						
Proposed Logs Triple Combo: KOP-KibbyGR/Res to BSC GR-To Surf CND thru Dakota							
Drilling Mud Type (Vertical Hole - Below Surface Casing) Invert				Drilling Mud Type (Lateral) Salt Water Gel			
Survey Type in Vertical Portion of Well MWD Every 100 Feet		Survey Frequency: Build Section 30 Feet		Survey Frequency: Lateral 90 Feet		Survey Contractor Ryan	

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**Documents forwarded by email: Drill plan with drilling fluids, Well Summary with casing/cement plans, Directional Plan & Plot, Plots**

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	
Bottom Hole Footages From Nearest Section Line F L		Qtr-Qtr	Section	Township N	Range W	County	

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	
Bottom Hole Footages From Nearest Section Line F L		Qtr-Qtr	Section	Township N	Range W	County	

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	
Bottom Hole Footages From Nearest Section Line F L		Qtr-Qtr	Section	Township N	Range W	County	

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	
Bottom Hole Footages From Nearest Section Line F L		Qtr-Qtr	Section	Township N	Range W	County	

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

Date

04 / 24 / 2013

ePermit

Printed Name
Heather McCowanTitle
Regulatory Assistant**FOR STATE USE ONLY**

Permit and File Number 25571	API Number 33 - 053 - 04981
Field BAKER	
Pool BAKKEN	Permit Type DEVELOPMENT

FOR STATE USE ONLY

Date Approved 5 / 8 / 2013
By Nathaniel Erbele
Title Petroleum Resource Specialist

WELL LOCATION PLAT
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44 12T"

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN SUITE 1500 HOUSTON TX 77002

"COLVILLE 5301 44-12T"

COLVILLE 53301 44-121
DUTCH LINE AND 050 EEE

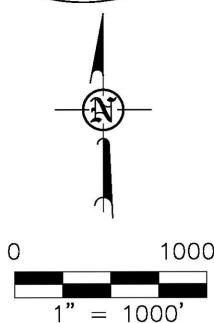
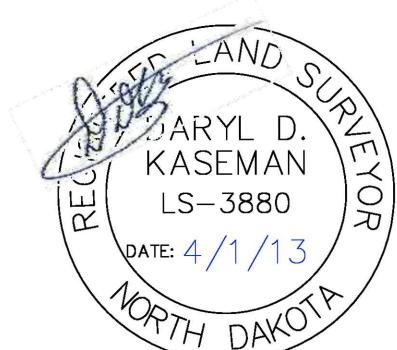
250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

THIS DOCUMENT WAS ORIGINALLY ISSUED AND
SEALED BY DARYL D. KASEMAN, PLS,
REGISTRATION NUMBER 3880 ON 4/1/13 AND
THE ORIGINAL DOCUMENTS ARE STORED AT THE
OFFICES OF INTERSTATE ENGINEERING, INC.

STAKED ON 3/28/13
VERTICAL CONTROL DATUM WAS BASED UPON
CONTROL POINT 13 WITH AN ELEVATION OF 2090.8'

THIS SURVEY AND PLAT IS BEING PROVIDED AT
THE REQUEST OF FABIAN KJORSTAD OF OASIS
PETROLEUM. I CERTIFY THAT THIS PLAT CORRECTLY
REPRESENTS WORK PERFORMED BY ME OR UNDER
MY SUPERVISION AND IS TRUE AND CORRECT TO
THE BEST OF MY KNOWLEDGE AND BELIEF.

DARYL D. KASEMAN LS-3880

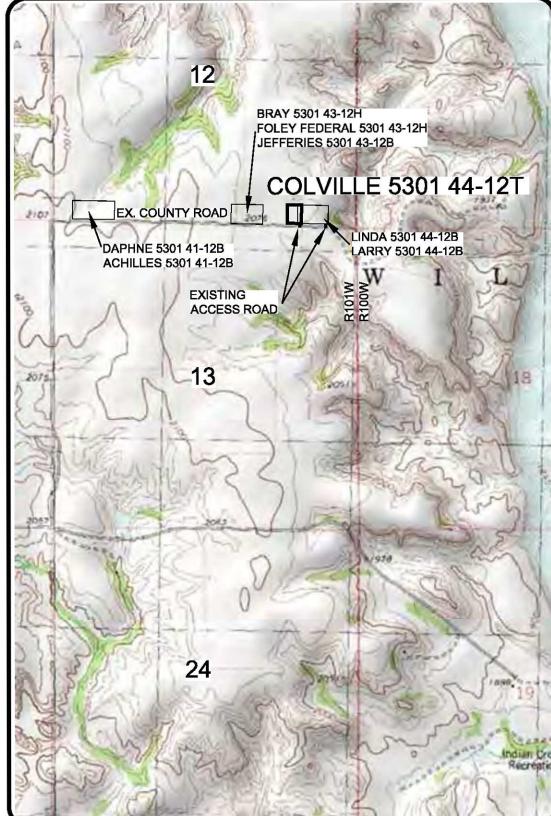


 — MONUMENT — RECOVERED

  — MONUMENT — NOT RECOVERED

FOUND STONE
W/ 2" AC
LS 2884

VICINITY MAP



© 2013, INTERSTATE ENGINEERING, INC.

1/8



Professionals you need, people you trust

Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.interstateeng.com

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 12 T153N R101W

MCKENZIE COUNTY, NORTH DAKOTA

Revision No.	Date	By	Description
REV 1	4/1/13	BHH	REVISED PAD

DRILLING PLAN											
OPERATOR	Oasis Petroleum	COUNTY/STATE	McKenzie Co., ND								
WELL NAME	Colville 5301 44-12T	RIG	Nabors B25								
WELL TYPE	Horizontal Three Forks										
LOCATION	SESE 12-153N-101W	Surface Location (survey plat): 250' fsl					950' fsl				
EST. T.D.	21,192'						GROUND ELEV: 2060 Finished Pad Elev.				
TOTAL LATERAL:	10,083' (est)						KB ELEV: 2085 Sub Height: 25				
PROGNOSIS:	Based on 2,085' KB(est)		LOGS:	Type	Interval						
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)	OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater); GR/Res to BSC; GR to surf; CND through the Dakota CBL/GR: Above top of cement/GR to base of casing MWD GR: KOP to lateral TD Request Log Waiver/ Gulf Oil Lindvig 1-11-3C is 5159' to the NW in sec 11 153N 101W 33053014780000								
Pierre	NDIC MAP	1,985	100								
Greenhorn		4,622	(2,537)								
Mowry		5,012	(2,927)								
Dakota		5,439	(3,354)								
Rierdon		6,354	(4,269)								
Dunham Salt		6,875	(4,790)								
Dunham Salt Base		6,951	(4,866)								
Spearfish		6,957	(4,872)								
Pine Salt		7,252	(5,167)								
Pine Salt Base		7,310	(5,225)								
Opeche Salt		7,335	(5,250)								
Opeche Salt Base		7,374	(5,289)	DST'S:							
Broom Creek (Top of Minnelusa Gp.)		7,584	(5,499)	None planned							
Amsden		7,641	(5,556)								
Tyler		7,827	(5,742)								
Otter (Base of Minnelusa Gp.)		7,998	(5,913)								
Kibbey		8,352	(6,267)	CORES:							
Charles Salt		8,498	(6,413)	None planned							
UB		9,121	(7,036)								
Base Last Salt		9,200	(7,115)								
Ratcliffe		9,244	(7,159)								
Mission Canyon		9,416	(7,331)	MUDLOGGING:							
Lodgepole		9,985	(7,900)	Two-Man: 8,298'							
Lodgepole Fracture Zone		10,172	(8,087)	~200' above the Charles (Kibbey) to Casing point; Casing point to TD							
False Bakken		10,697	(8,612)	30' samples at direction of wellsite geologist; 10' through target @ curve land							
Upper Bakken		10,705	(8,620)								
Middle Bakken		10,714	(8,629)								
Lower Bakken		10,756	(8,671)	BOP:							
Pronghorn		10,769	(8,684)	11" 5000 psi blind, pipe & annular							
Three Forks		10,785	(8,700)								
Three Forks Target Top		10,794	(8,709)								
Three Forks Target Base		10,811	(8,726)								
Claystone		10,813	(8,728)								
Dip Rate:	+0.11° or 0.2' /100' up										
Max. Anticipated BHP:	4677		Surface Formation: Glacial till								
MUD:	Interval	Type	WT	Vis	WL	Remarks					
Surface:	0' -	2,087' FW/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks					
Intermediate:	2,087' -	11,109' Invert	9.5-10.4	40-50	30+HtHp	Circ Mud Tanks					
Lateral:	11,109' -	21,192' Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks					
CASING:	Size	Wt ppf	Hole	Depth	Cement	WOC	Remarks				
Surface:	9-5/8"	36#	13-1/2"	2,087'	To Surface	12	100' into Pierre				
Intermediate:	7"	32#	8-3/4"	11,109'	3,939'	24	1500' above Dakota				
Production Liner:	4.5"	13.5#	6"	21,192'	TOL @ 10,273'		50' above KOP				
PROBABLE PLUGS, IF REQ'D:											
OTHER:	MD	TVD	ENL/FSL	FEL/FWL	S-T-R	AZI					
Surface:	2,087	2,087	250' FSL	950' FEL	Sec. 12 T153N-R101W	Survey Company:					
KOP:	10,333'	10,333'	250' FSL	950' FEL	Sec. 12 T153N-R101W	Build Rate:	12 deg /100'				
EOC:	11,083'	10,811'	191' FNL	1134' FEL	Sec. 13 T153N-R101W	202.6					
Casing Point:	11,109'	10,811'	215' FNL	1144' FEL	Sec. 13 T153N-R101W	202.6					
Middle Bakken Lateral TD:	21,192'	10,793'	250' FSL	1290' FEL	Sec. 24 T153N-R101W	180.0					
Comments:											
DRILL TO KOP											
DRILL CURVE TO 90 DEG AND 7" CASING POINT											
SET 7" CASING. DRILL THREE FORKS LATERAL.											
MWD Surveys will be taken every 100' in vertical hole, and a minimum of every 30' while building curve and every 90' while drilling latera											
MWD GR to be run from KOP to Lateral TD.											
											
Geology:	1/0/1900		Engineering:								

**Oasis Petroleum
Well Summary
Colville 5301 44-12T
Section 12 T153N R101W
McKenzie County, ND**

SURFACE CASING AND CEMENT DESIGN

Size	Interval		Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
	From	To						Minimum	Optimum	Max
9-5/8"	0	2087	36	J-55	LTC	8.921"	8.765"	3400	4530	5660

Interval	Description	Collapse	Burst	Tension	Cost per ft
		(psi) / a	(psi) / b	(1000 lbs) / c	
0' - 2087'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.07	3520 / 3.60	453 / 2.75	

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.0 ppg fluid on backside (2087' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2087' setting depth).
- c) Based on string weight in 9.0 ppg fluid at 2087' TVD plus 100k# overpull.
(Buoyed weight equals 65k lbs.)

Cement volumes are based on 9-5/8" casing set in 13-1/2" hole with 60% excess to circulate cement back to surface.
Mix and pump the following slurry.

Pre-flush (Spacer): **20 bbls** fresh water

Lead Slurry: **428 sks** (221 bbls), 11.5 lb/gal, 2.90 cu. ft./sk Conventional Class G Cement with 4.0% BWOB Extender, 2.0% BWOB Expanding Agent, 2.0% CaCl₂, and 0.250 lb/sk Lost Circulation Additive

Tail Slurry: **337 sks** (70 bbls), 15.8 lb/gal, 1.16 cu. ft./sk Conventional Class G Cement with 0.25% BWOB CaCl₂, and 0.250 lb/sk Lost Circulation Agent

Oasis Petroleum
Well Summary
Colville 5301 44-12T
Section 12 T153N R101W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift**	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' -11109'	32	HCP-110	LTC	6.094"	6.000***	6,730	8,970	9,870

**Special Drift 7" 32# to 6.0".

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c	Condition
0' -11109'	3958'	7", 32#, HCP-110, LTC, 8rd	11,820 / 2.10*	12,460 / 1.19	797/2.03	New
0' -11109'	3958'	7", 32#, HCP-110, LTC, 8rd	11,820 / 1.07**	12,460 / 1.19		New

API Rating & Safety Factor

- a. *Assume full casing evacuation with 10 ppg fluid on backside. **Assume full casing evacuation with 1.2 psi/ft equivalent fluid gradient across salt intervals (from **6375'** to **10333'**).
- b. Burst pressure based on 9,000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9.0 ppg fluid on backside—to **10811'** TVD.
- c. Based on string weight in 10 ppg fluid, (**301k** lbs buoyed weight) plus 100k lbs overpull.

Cement volumes are estimates based on 7" casing set in an 8-3/4" hole with 30% excess.

Pre-flush (Spacer): **50 bbls** Saltwater
20 bbls CW8
20 bbls Freshwater

Lead Slurry: **184 sks** (85 bbls), 11.8 ppg, 2.59 cu. ft./sk 65:35 POZ Cement with 6% BWOB Extender, 0.15% BWOB Viscosifier, 0.8% BWOB Fluid Loss Additive, 0.2% BWOB Anti Foam, and 0.259 lb/sk Lost Circulation Additive

Tail Slurry: **565 sks** (165 bbls), 15.6 ppg, 1.64 cu. ft./sk Conventional Class G Cement with 10.0% BWOB NaCL, 35.0% BWOB Silica Flour, 0.2% BWOB Fluid Loss, 0.27% BWOB Retarder, 0.2% BWOB Anti Foam, and 0.25 lb/sk Lost Circulation Additive

Oasis Petroleum
Well Summary
Colville 5301 44-12T
Section 12 T153N R101W
McKenzie County, ND

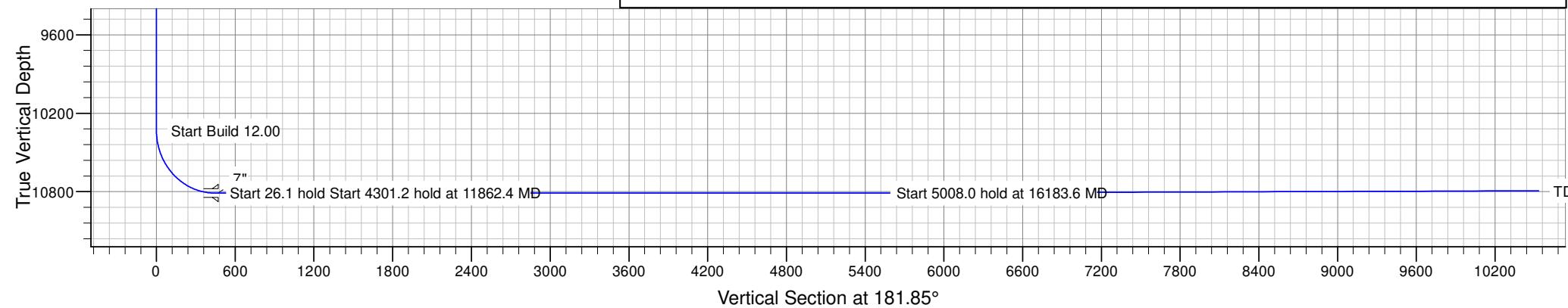
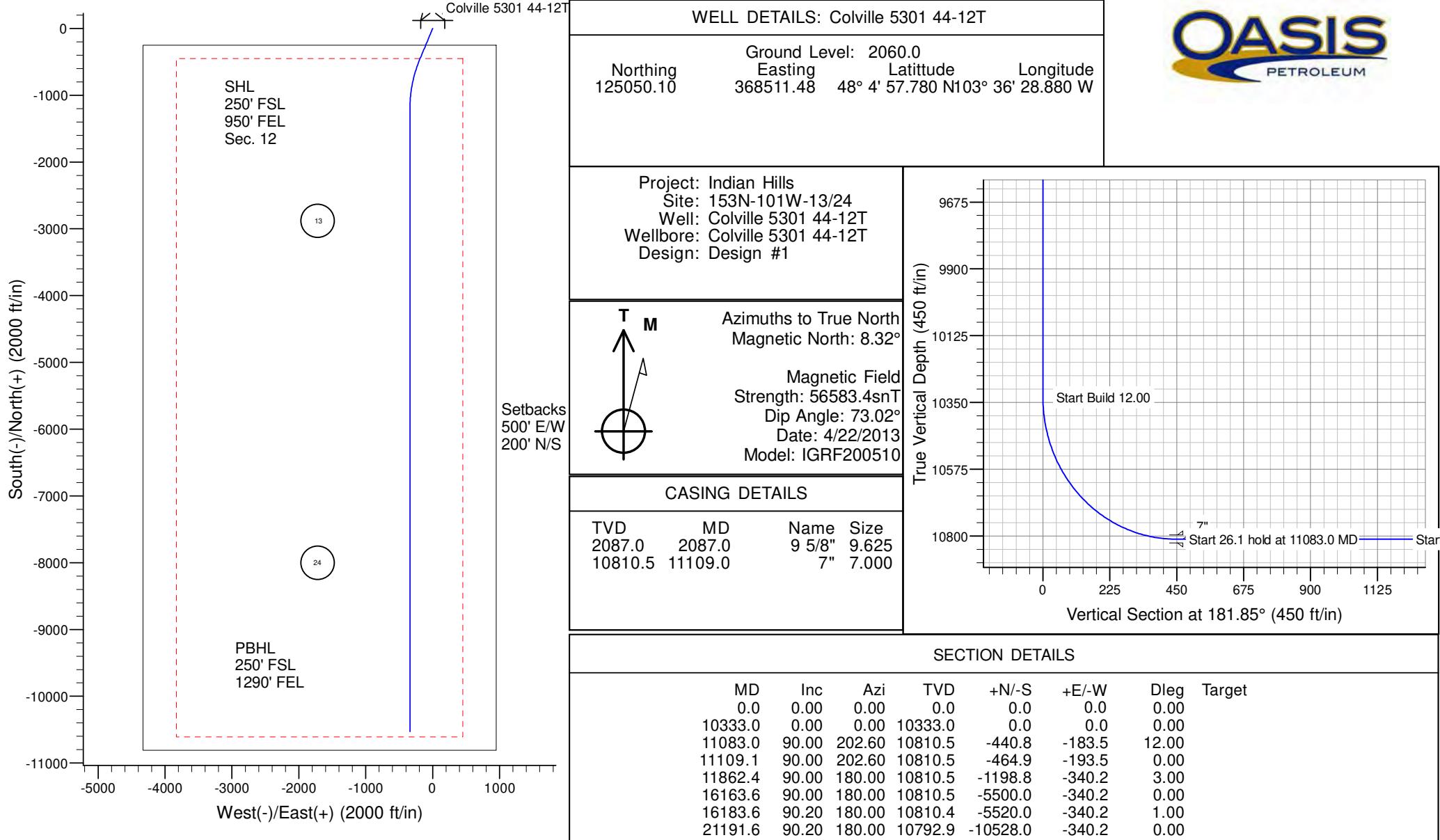
PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10283'-21192'	13.5	P-110	BTC	3.92"	3.795"	2,270	3,020	3,780

Interval	Length	Description	Collapse	Burst	Tension	Condition
			(psi) a	(psi) b	(1000 lbs) c	
10283'-21192'	10909'	4-1/2", 13.5 lb, P-110, BTC	10670 / 2.00	12410 / 1.19	422 / 2.04	New

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10811' TVD.
- b) Burst pressure based on 9,000 psi treating pressure with 10.2 ppg internal fluid gradient and 9.0 ppg external fluid gradient @ 10811' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 107k lbs.) plus 100k lbs overpull.



Oasis

**Indian Hills
153N-101W-13/24
Colville 5301 44-12T**

Colville 5301 44-12T

Plan: Design #1

Standard Survey Report

23 April, 2013

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T						
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)						
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)						
Well:	Colville 5301 44-12T	North Reference:	True						
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature						
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod						
Project	Indian Hills								
Map System:	US State Plane 1983	System Datum:	Mean Sea Level						
Geo Datum:	North American Datum 1983								
Map Zone:	North Dakota Northern Zone								
Site	153N-101W-13/24								
Site Position:		Northing:	125,067.66 m						
From:	Lat/Long	Easting:	368,214.56 m						
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in						
			Latitude: 48° 4' 57.960 N						
			Longitude: 103° 36' 43.250 W						
			Grid Convergence: -2.32 °						
Well	Colville 5301 44-12T								
Well Position	+N/-S +E/-W	0.0 ft	Northing: 125,050.10 m						
			Easting: 368,511.48 m						
Position Uncertainty	0.0 ft		Wellhead Elevation: ft						
			Latitude: 48° 4' 57.780 N						
			Longitude: 103° 36' 28.880 W						
			Ground Level: 2,060.0 ft						
Wellbore	Colville 5301 44-12T								
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)				
	IGRF200510	4/22/2013	8.32	73.02	56,583				
Design	Design #1								
Audit Notes:									
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0				
Vertical Section:		Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)				
		0.0	0.0	0.0	181.85				
Survey Tool Program	Date	4/23/2013							
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description					
0.0		21,191.6 Design #1 (Colville 5301 44-12T)	MWD	MWD - Standard					
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,333.0	0.00	0.00	10,333.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
10,400.0	8.04	202.60	10,399.8	-4.3	-1.8	4.4	12.00	12.00	0.00	0.00
10,500.0	20.04	202.60	10,496.6	-26.7	-11.1	27.0	12.00	12.00	0.00	0.00
10,600.0	32.04	202.60	10,586.3	-67.1	-27.9	68.0	12.00	12.00	0.00	0.00
10,700.0	44.04	202.60	10,664.9	-123.9	-51.6	125.5	12.00	12.00	0.00	0.00
10,800.0	56.04	202.60	10,729.0	-194.6	-81.0	197.1	12.00	12.00	0.00	0.00
10,900.0	68.04	202.60	10,775.8	-276.0	-114.9	279.5	12.00	12.00	0.00	0.00
11,000.0	80.04	202.60	10,803.3	-364.6	-151.8	369.3	12.00	12.00	0.00	0.00
11,083.0	90.00	202.60	10,810.5	-440.8	-183.5	446.5	12.00	12.00	0.00	0.00
11,100.0	90.00	202.60	10,810.5	-456.5	-190.0	462.4	0.00	0.00	0.00	0.00
11,109.1	90.00	202.60	10,810.5	-464.9	-193.5	470.9	0.00	0.00	0.00	0.00
11,200.0	90.00	199.87	10,810.5	-549.6	-226.4	556.6	3.00	0.00	-3.00	
11,300.0	90.00	196.87	10,810.5	-644.5	-258.0	652.5	3.00	0.00	-3.00	
11,400.0	90.00	193.87	10,810.5	-740.9	-284.5	749.7	3.00	0.00	-3.00	
11,500.0	90.00	190.87	10,810.5	-838.6	-305.9	848.0	3.00	0.00	-3.00	
11,600.0	90.00	187.87	10,810.5	-937.2	-322.2	947.2	3.00	0.00	-3.00	
11,700.0	90.00	184.87	10,810.5	-1,036.6	-333.3	1,046.8	3.00	0.00	-3.00	
11,800.0	90.00	181.87	10,810.5	-1,136.4	-339.2	1,146.8	3.00	0.00	-3.00	
11,862.4	90.00	180.00	10,810.5	-1,198.8	-340.2	1,209.2	3.00	0.00	-3.00	
11,900.0	90.00	180.00	10,810.5	-1,236.4	-340.2	1,246.8	0.00	0.00	0.00	
12,000.0	90.00	180.00	10,810.5	-1,336.4	-340.2	1,346.7	0.00	0.00	0.00	
12,100.0	90.00	180.00	10,810.5	-1,436.4	-340.2	1,446.6	0.00	0.00	0.00	
12,200.0	90.00	180.00	10,810.5	-1,536.4	-340.2	1,546.6	0.00	0.00	0.00	
12,300.0	90.00	180.00	10,810.5	-1,636.4	-340.2	1,646.5	0.00	0.00	0.00	
12,400.0	90.00	180.00	10,810.5	-1,736.4	-340.2	1,746.5	0.00	0.00	0.00	
12,500.0	90.00	180.00	10,810.5	-1,836.4	-340.2	1,846.4	0.00	0.00	0.00	
12,600.0	90.00	180.00	10,810.5	-1,936.4	-340.2	1,946.4	0.00	0.00	0.00	
12,700.0	90.00	180.00	10,810.5	-2,036.4	-340.2	2,046.3	0.00	0.00	0.00	
12,800.0	90.00	180.00	10,810.5	-2,136.4	-340.2	2,146.3	0.00	0.00	0.00	
12,900.0	90.00	180.00	10,810.5	-2,236.4	-340.2	2,246.2	0.00	0.00	0.00	
13,000.0	90.00	180.00	10,810.5	-2,336.4	-340.2	2,346.2	0.00	0.00	0.00	
13,100.0	90.00	180.00	10,810.5	-2,436.4	-340.2	2,446.1	0.00	0.00	0.00	
13,200.0	90.00	180.00	10,810.5	-2,536.4	-340.2	2,546.1	0.00	0.00	0.00	
13,300.0	90.00	180.00	10,810.5	-2,636.4	-340.2	2,646.0	0.00	0.00	0.00	
13,400.0	90.00	180.00	10,810.5	-2,736.4	-340.2	2,746.0	0.00	0.00	0.00	
13,500.0	90.00	180.00	10,810.5	-2,836.4	-340.2	2,845.9	0.00	0.00	0.00	

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
13,600.0	90.00	180.00	10,810.5	-2,936.4	-340.2	2,945.9	0.00	0.00	0.00	
13,700.0	90.00	180.00	10,810.5	-3,036.4	-340.2	3,045.8	0.00	0.00	0.00	
13,800.0	90.00	180.00	10,810.5	-3,136.4	-340.2	3,145.8	0.00	0.00	0.00	
13,900.0	90.00	180.00	10,810.5	-3,236.4	-340.2	3,245.7	0.00	0.00	0.00	
14,000.0	90.00	180.00	10,810.5	-3,336.4	-340.2	3,345.7	0.00	0.00	0.00	
14,100.0	90.00	180.00	10,810.5	-3,436.4	-340.2	3,445.6	0.00	0.00	0.00	
14,200.0	90.00	180.00	10,810.5	-3,536.4	-340.2	3,545.6	0.00	0.00	0.00	
14,300.0	90.00	180.00	10,810.5	-3,636.4	-340.2	3,645.5	0.00	0.00	0.00	
14,400.0	90.00	180.00	10,810.5	-3,736.4	-340.2	3,745.4	0.00	0.00	0.00	
14,500.0	90.00	180.00	10,810.5	-3,836.4	-340.2	3,845.4	0.00	0.00	0.00	
14,600.0	90.00	180.00	10,810.5	-3,936.4	-340.2	3,945.3	0.00	0.00	0.00	
14,700.0	90.00	180.00	10,810.5	-4,036.4	-340.2	4,045.3	0.00	0.00	0.00	
14,800.0	90.00	180.00	10,810.5	-4,136.4	-340.2	4,145.2	0.00	0.00	0.00	
14,900.0	90.00	180.00	10,810.5	-4,236.4	-340.2	4,245.2	0.00	0.00	0.00	
15,000.0	90.00	180.00	10,810.5	-4,336.4	-340.2	4,345.1	0.00	0.00	0.00	
15,100.0	90.00	180.00	10,810.5	-4,436.4	-340.2	4,445.1	0.00	0.00	0.00	
15,200.0	90.00	180.00	10,810.5	-4,536.4	-340.2	4,545.0	0.00	0.00	0.00	
15,300.0	90.00	180.00	10,810.5	-4,636.4	-340.2	4,645.0	0.00	0.00	0.00	
15,400.0	90.00	180.00	10,810.5	-4,736.4	-340.2	4,744.9	0.00	0.00	0.00	
15,500.0	90.00	180.00	10,810.5	-4,836.4	-340.2	4,844.9	0.00	0.00	0.00	
15,600.0	90.00	180.00	10,810.5	-4,936.4	-340.2	4,944.8	0.00	0.00	0.00	
15,700.0	90.00	180.00	10,810.5	-5,036.4	-340.2	5,044.8	0.00	0.00	0.00	
15,800.0	90.00	180.00	10,810.5	-5,136.4	-340.2	5,144.7	0.00	0.00	0.00	
15,900.0	90.00	180.00	10,810.5	-5,236.4	-340.2	5,244.7	0.00	0.00	0.00	
16,000.0	90.00	180.00	10,810.5	-5,336.4	-340.2	5,344.6	0.00	0.00	0.00	
16,100.0	90.00	180.00	10,810.5	-5,436.4	-340.2	5,444.6	0.00	0.00	0.00	
16,163.6	90.00	180.00	10,810.5	-5,500.0	-340.2	5,508.2	0.00	0.00	0.00	
16,183.6	90.20	180.00	10,810.4	-5,520.0	-340.2	5,528.2	1.00	1.00	0.00	
16,200.0	90.20	180.00	10,810.4	-5,536.4	-340.2	5,544.5	0.00	0.00	0.00	
16,300.0	90.20	180.00	10,810.0	-5,636.4	-340.2	5,644.5	0.00	0.00	0.00	
16,400.0	90.20	180.00	10,809.7	-5,736.4	-340.2	5,744.4	0.00	0.00	0.00	
16,500.0	90.20	180.00	10,809.3	-5,836.4	-340.2	5,844.4	0.00	0.00	0.00	
16,600.0	90.20	180.00	10,809.0	-5,936.4	-340.2	5,944.3	0.00	0.00	0.00	
16,700.0	90.20	180.00	10,808.6	-6,036.4	-340.2	6,044.2	0.00	0.00	0.00	
16,800.0	90.20	180.00	10,808.3	-6,136.4	-340.2	6,144.2	0.00	0.00	0.00	
16,900.0	90.20	180.00	10,807.9	-6,236.4	-340.2	6,244.1	0.00	0.00	0.00	
17,000.0	90.20	180.00	10,807.6	-6,336.4	-340.2	6,344.1	0.00	0.00	0.00	
17,100.0	90.20	180.00	10,807.2	-6,436.4	-340.2	6,444.0	0.00	0.00	0.00	
17,200.0	90.20	180.00	10,806.9	-6,536.4	-340.2	6,544.0	0.00	0.00	0.00	
17,300.0	90.20	180.00	10,806.5	-6,636.4	-340.2	6,643.9	0.00	0.00	0.00	
17,400.0	90.20	180.00	10,806.2	-6,736.4	-340.2	6,743.9	0.00	0.00	0.00	
17,500.0	90.20	180.00	10,805.8	-6,836.4	-340.2	6,843.8	0.00	0.00	0.00	
17,600.0	90.20	180.00	10,805.5	-6,936.4	-340.2	6,943.8	0.00	0.00	0.00	
17,700.0	90.20	180.00	10,805.1	-7,036.4	-340.2	7,043.7	0.00	0.00	0.00	

Survey Report

Company:	Oasis	Local Co-ordinate Reference:	Well Colville 5301 44-12T
Project:	Indian Hills	TVD Reference:	WELL @ 2085.0ft (Original Well Elev)
Site:	153N-101W-13/24	MD Reference:	WELL @ 2085.0ft (Original Well Elev)
Well:	Colville 5301 44-12T	North Reference:	True
Wellbore:	Colville 5301 44-12T	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	OpenWellsCompass - EDM Prod

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
17,800.0	90.20	180.00	10,804.8	-7,136.4	-340.2	7,143.7	0.00	0.00	0.00	
17,900.0	90.20	180.00	10,804.4	-7,236.4	-340.2	7,243.6	0.00	0.00	0.00	
18,000.0	90.20	180.00	10,804.1	-7,336.4	-340.2	7,343.6	0.00	0.00	0.00	
18,100.0	90.20	180.00	10,803.7	-7,436.4	-340.2	7,443.5	0.00	0.00	0.00	
18,200.0	90.20	180.00	10,803.4	-7,536.4	-340.2	7,543.5	0.00	0.00	0.00	
18,300.0	90.20	180.00	10,803.0	-7,636.4	-340.2	7,643.4	0.00	0.00	0.00	
18,400.0	90.20	180.00	10,802.7	-7,736.4	-340.2	7,743.3	0.00	0.00	0.00	
18,500.0	90.20	180.00	10,802.3	-7,836.4	-340.2	7,843.3	0.00	0.00	0.00	
18,600.0	90.20	180.00	10,802.0	-7,936.4	-340.2	7,943.2	0.00	0.00	0.00	
18,700.0	90.20	180.00	10,801.6	-8,036.4	-340.2	8,043.2	0.00	0.00	0.00	
18,800.0	90.20	180.00	10,801.3	-8,136.4	-340.2	8,143.1	0.00	0.00	0.00	
18,900.0	90.20	180.00	10,800.9	-8,236.4	-340.2	8,243.1	0.00	0.00	0.00	
19,000.0	90.20	180.00	10,800.6	-8,336.4	-340.2	8,343.0	0.00	0.00	0.00	
19,100.0	90.20	180.00	10,800.2	-8,436.4	-340.2	8,443.0	0.00	0.00	0.00	
19,200.0	90.20	180.00	10,799.9	-8,536.4	-340.2	8,542.9	0.00	0.00	0.00	
19,300.0	90.20	180.00	10,799.6	-8,636.4	-340.2	8,642.9	0.00	0.00	0.00	
19,400.0	90.20	180.00	10,799.2	-8,736.4	-340.2	8,742.8	0.00	0.00	0.00	
19,500.0	90.20	180.00	10,798.9	-8,836.4	-340.2	8,842.8	0.00	0.00	0.00	
19,600.0	90.20	180.00	10,798.5	-8,936.4	-340.2	8,942.7	0.00	0.00	0.00	
19,700.0	90.20	180.00	10,798.2	-9,036.4	-340.2	9,042.7	0.00	0.00	0.00	
19,800.0	90.20	180.00	10,797.8	-9,136.4	-340.2	9,142.6	0.00	0.00	0.00	
19,900.0	90.20	180.00	10,797.5	-9,236.4	-340.2	9,242.6	0.00	0.00	0.00	
20,000.0	90.20	180.00	10,797.1	-9,336.4	-340.2	9,342.5	0.00	0.00	0.00	
20,100.0	90.20	180.00	10,796.8	-9,436.4	-340.2	9,442.5	0.00	0.00	0.00	
20,200.0	90.20	180.00	10,796.4	-9,536.4	-340.2	9,542.4	0.00	0.00	0.00	
20,300.0	90.20	180.00	10,796.1	-9,636.4	-340.2	9,642.3	0.00	0.00	0.00	
20,400.0	90.20	180.00	10,795.7	-9,736.4	-340.2	9,742.3	0.00	0.00	0.00	
20,500.0	90.20	180.00	10,795.4	-9,836.4	-340.2	9,842.2	0.00	0.00	0.00	
20,600.0	90.20	180.00	10,795.0	-9,936.4	-340.2	9,942.2	0.00	0.00	0.00	
20,700.0	90.20	180.00	10,794.7	-10,036.4	-340.2	10,042.1	0.00	0.00	0.00	
20,800.0	90.20	180.00	10,794.3	-10,136.4	-340.2	10,142.1	0.00	0.00	0.00	
20,900.0	90.20	180.00	10,794.0	-10,236.4	-340.2	10,242.0	0.00	0.00	0.00	
21,191.6	90.20	180.00	10,792.9	-10,528.0	-340.2	10,533.5	0.00	0.00	0.00	

Casing Points										
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (in)	Hole Diameter (in)				
2,087.0	2,087.0	9 5/8"			9.625	13.500				
11,109.0	10,810.5	7"			7.000	8.750				

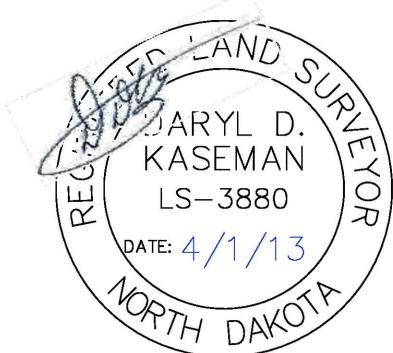
Checked By: _____ Approved By: _____ Date: _____

SECTION BREAKDOWN
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44-12T"

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTIONS 13 & 24, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

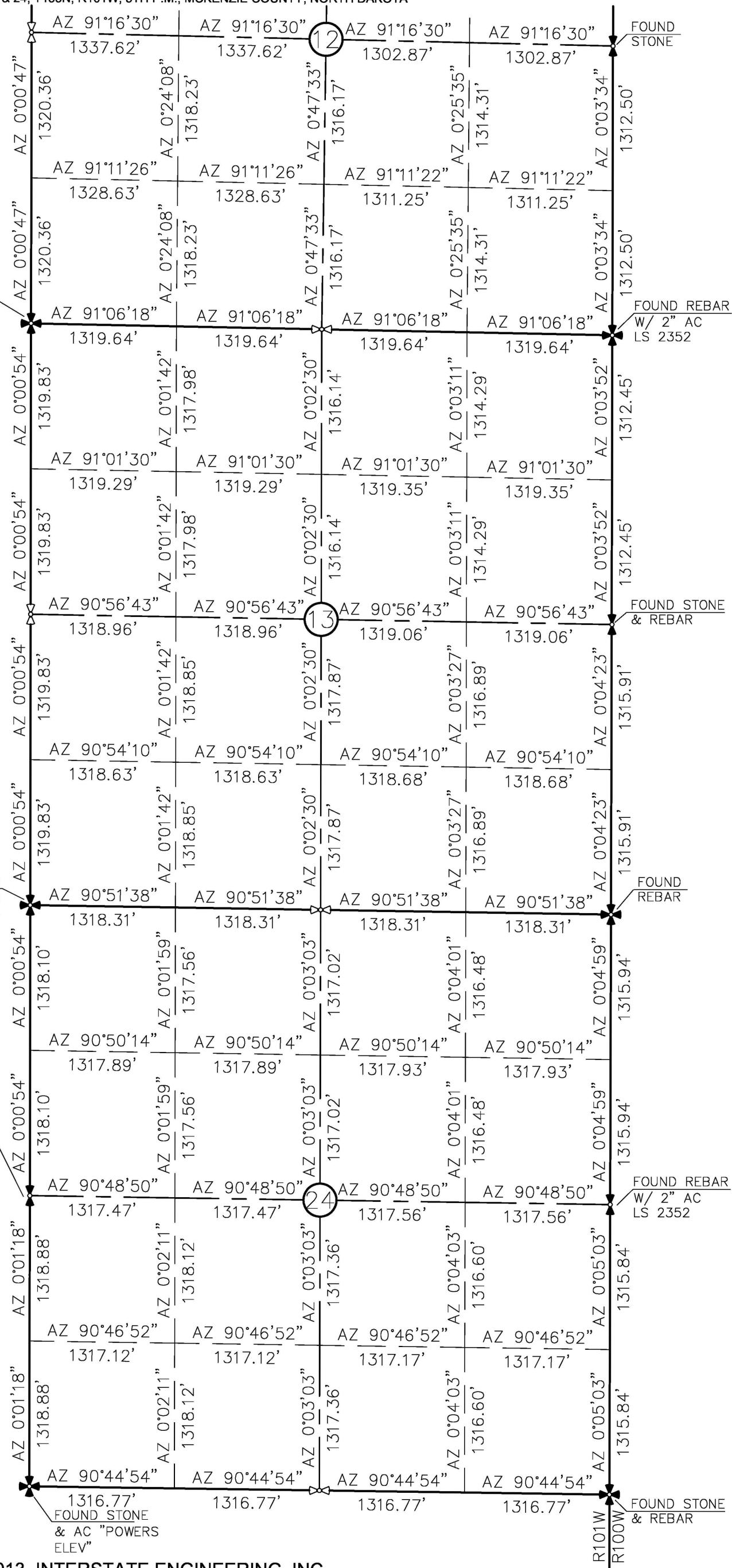
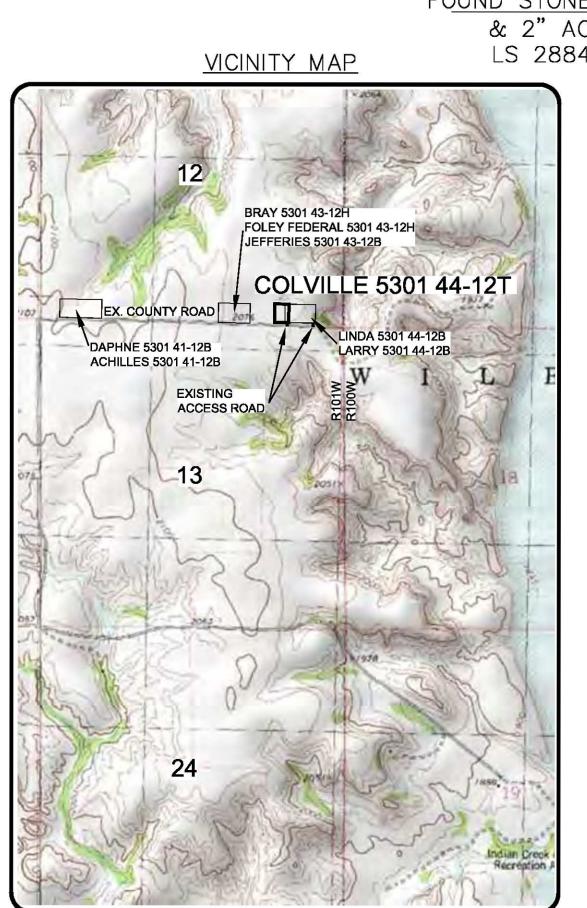
ALL AZIMUTHS ARE BASED ON G.P.S.
OBSERVATIONS. THE ORIGINAL SURVEY OF THIS
AREA FOR THE GENERAL LAND OFFICE (G.L.O.)
WAS 1900. THE CORNERS FOUND ARE AS
INDICATED AND ALL OTHERS ARE COMPUTED FROM
THOSE CORNERS FOUND AND BASED ON G.L.O.
DATA. THE MAPPING ANGLE FOR THIS AREA IS
APPROXIMATELY $-0^{\circ}0'3''$

THIS DOCUMENT WAS ORIGINALLY ISSUED AND
SEALED BY DARYL D. KASEMAN, PLS,
REGISTRATION NUMBER 3880 ON 4/1/13 AND
THE ORIGINAL DOCUMENTS ARE STORED AT THE
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0 1000
1" = 1000'

- MONUMENT — RECOVERED
- MONUMENT — NOT RECOVERED



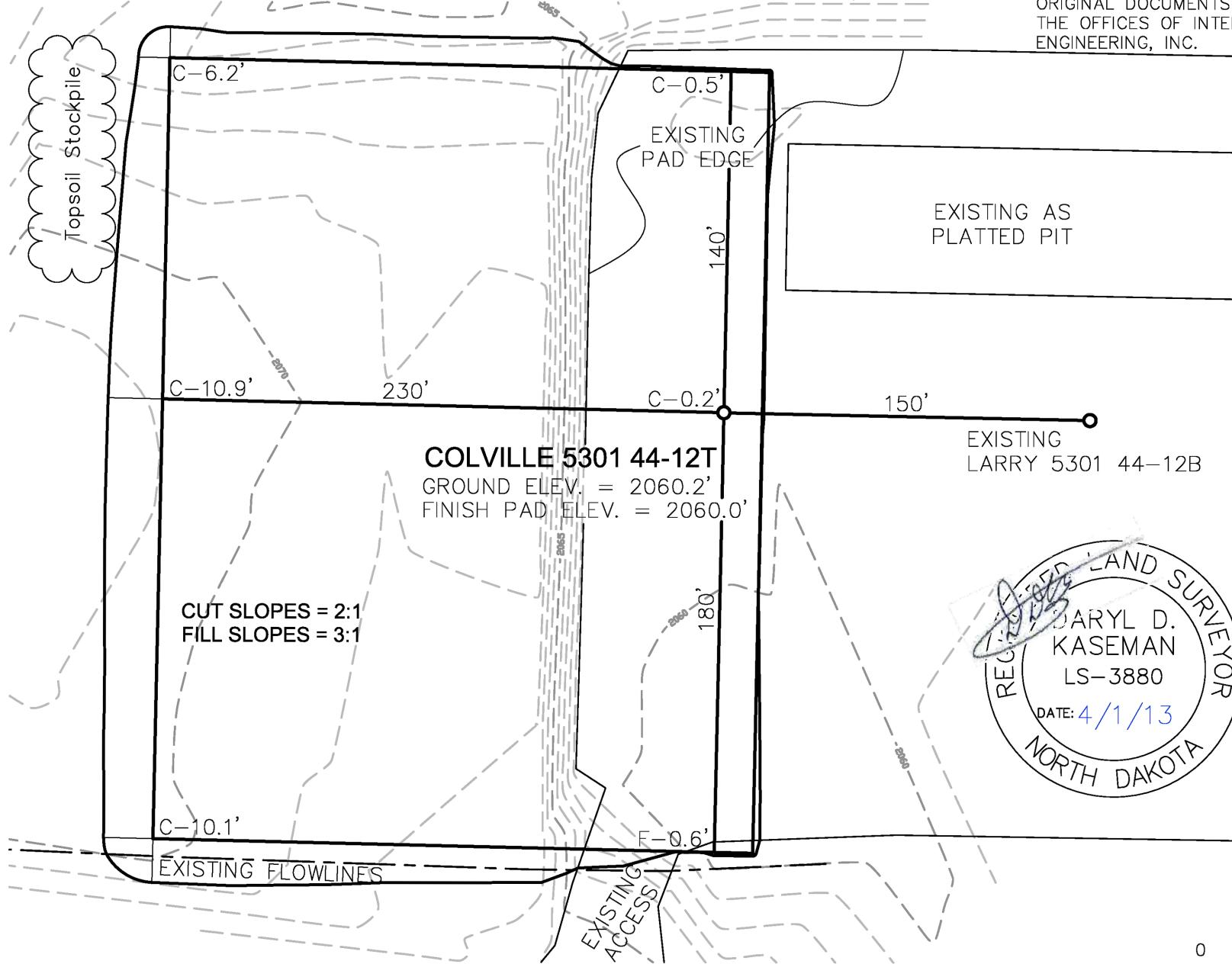
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PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44-12T"

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

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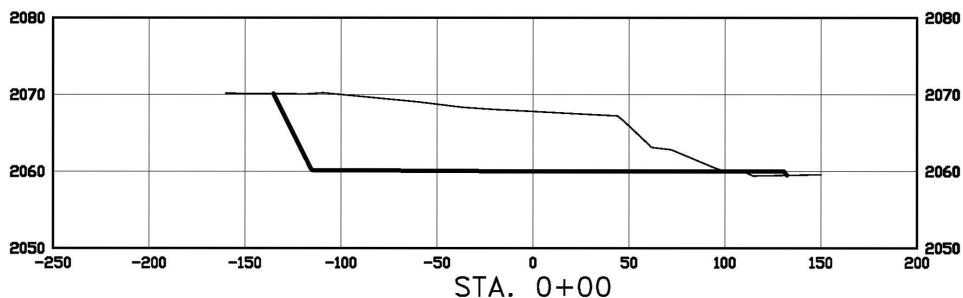
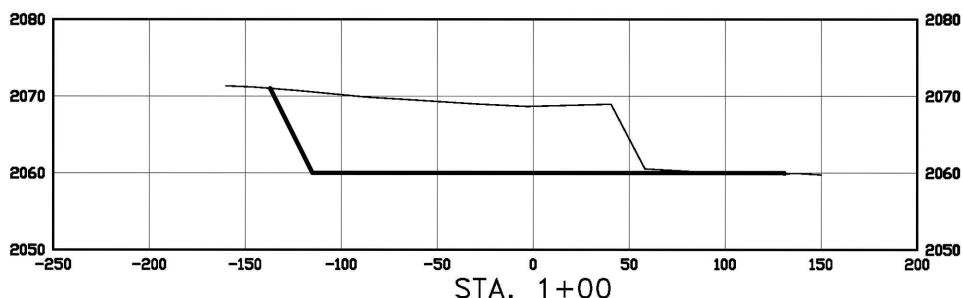
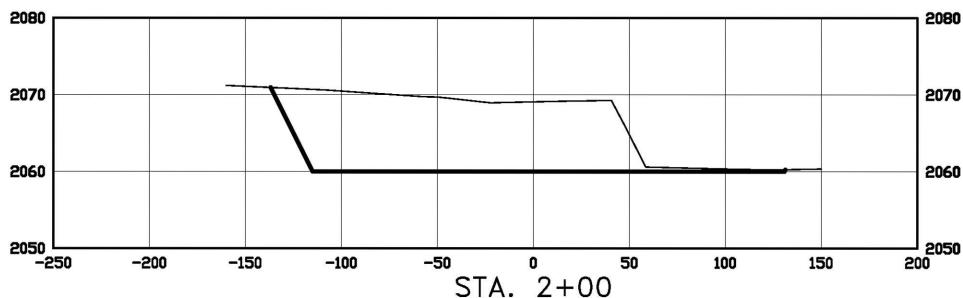
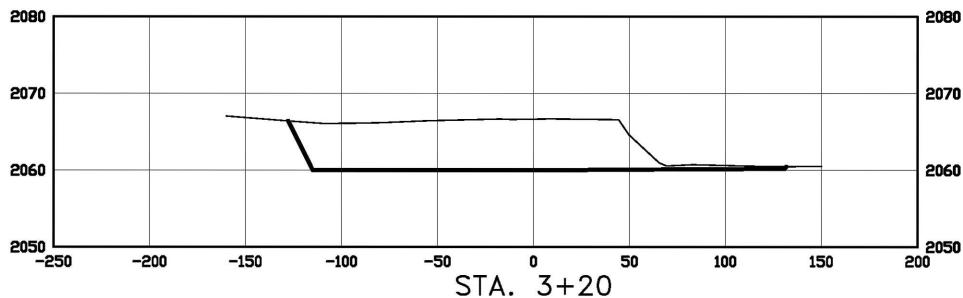
3/8

OASIS PETROLEUM NORTH AMERICA, LLC	
PAD LAYOUT	REV 1
SECTION 12, T153N, R101W	4/1/13
MCKENZIE COUNTY, NORTH DAKOTA	REVIEWED PAD
Drawn By: _____	By:
Project No.: S1309058	Date: MARCH 2013
B.H.H.	
Checked By: _____	
D.D.K.	

Interstate Engineering, Inc. P.O. Box 646 425 East Main Street Sidney, Montana 59270 Ph (406) 433-5617 Fax (406) 433-5618 www.interstateeng.com
Other offices in Minnesota, North Dakota and South Dakota

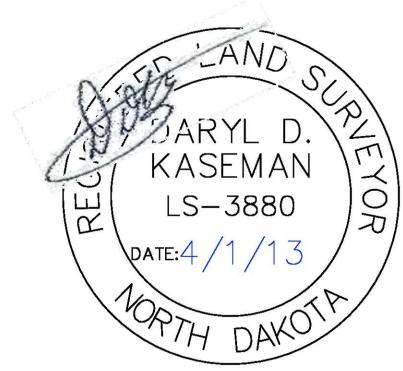
Other offices in Minnesota, North Dakota and South Dakota

CROSS SECTIONS
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "COLVILLE 5301 44-12T"
 250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
 SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE
 HORIZ 1"=100'
 VERT 1"=25'



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OASIS PETROLEUM NORTH AMERICA, LLC
 PAD CROSS SECTIONS
 SECTION 12, T153N, R101W
 MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S13-09-058
Checked By:	D.D.K.	Date:	MARCH 2013

Revision No.	Date	By	Description
REV 1	4/1/13	BHH	REVISED PAD

WELL LOCATION SITE QUANTITIES

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44-12T"

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2060.2
WELL PAD ELEVATION	2060.0
EXCAVATION	19,915
PLUS PIT	0
	<hr/>
	19,915
EMBANKMENT	70
PLUS SHRINKAGE (30%)	21
	<hr/>
	91
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	1,686
STOCKPILE FROM PAD	18,138
DISTURBED AREA FROM PAD	2.09 ACRES

NOTE: ALL QUANTITIES ARE IN CUBIC YARDS (UNLESS NOTED)

CUT END SLOPES AT 2:1

FILL END SLOPES AT 3:1

WELL SITE LOCATION

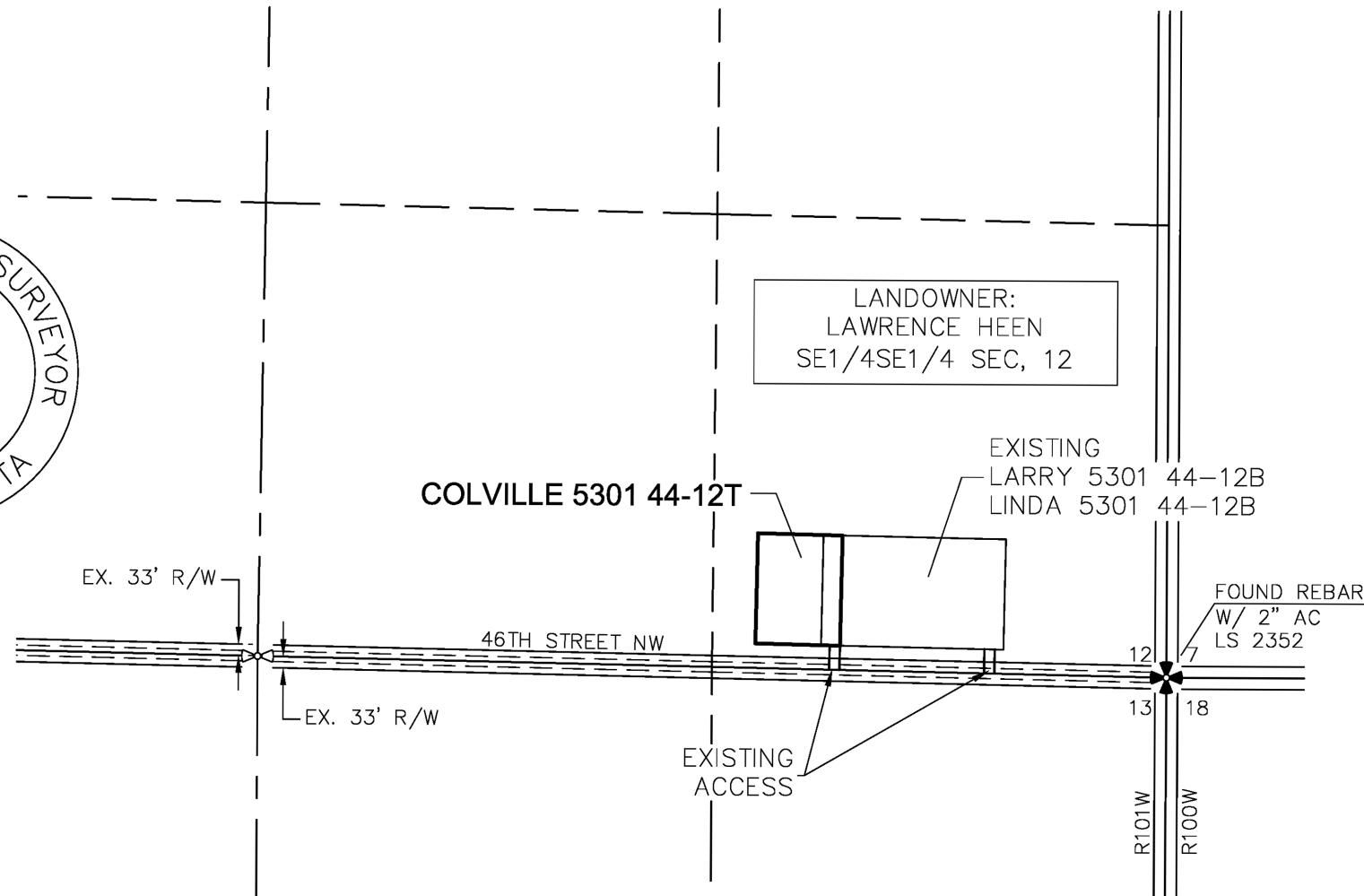
950' FFI

250' FSL

ACCESS APPROACH

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44-12T"

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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0 500
1" = 500'

NOTE: All utilities shown are preliminary only, a complete
utilities location is recommended before construction.

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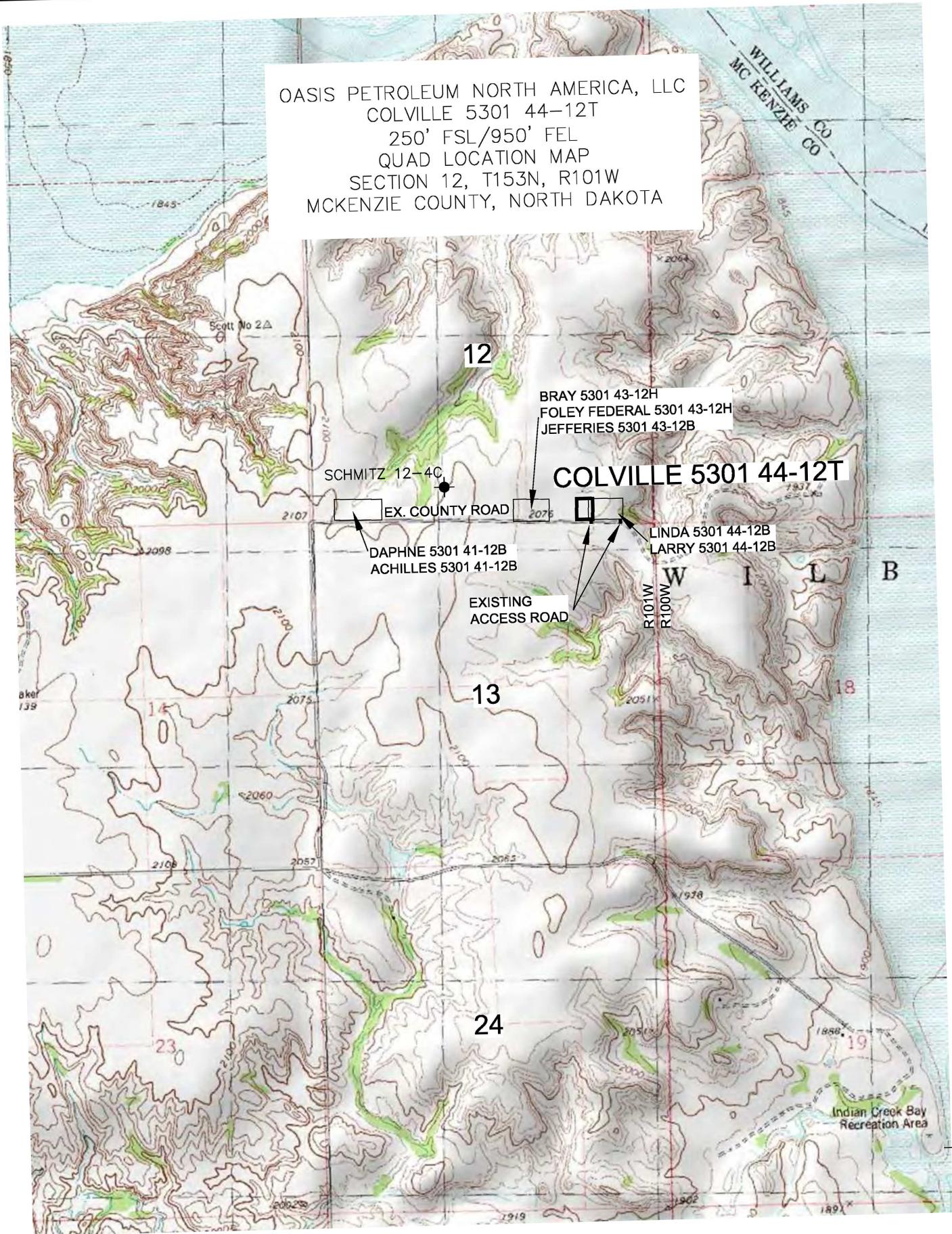


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SHEET NO.

OASIS PETROLEUM NORTH AMERICA, LLC		Revision No.	Date	By	Description
ACCESS APPROACH		REV 1	5/7/13	BH	REVISED PAD
SECTION 12, T153N, R101W					
MCKENZIE COUNTY, NORTH DAKOTA					
Drawn By: B.H.	Project No.: ST150556	Checked By: D.D.K.	Date: MARCH 2013		

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OASIS PETROLEUM NORTH AMERICA, LLC
 QUAD LOCATION MAP
 SECTION 12, T153N, R101W
 MCKENZIE COUNTY, NORTH DAKOTA

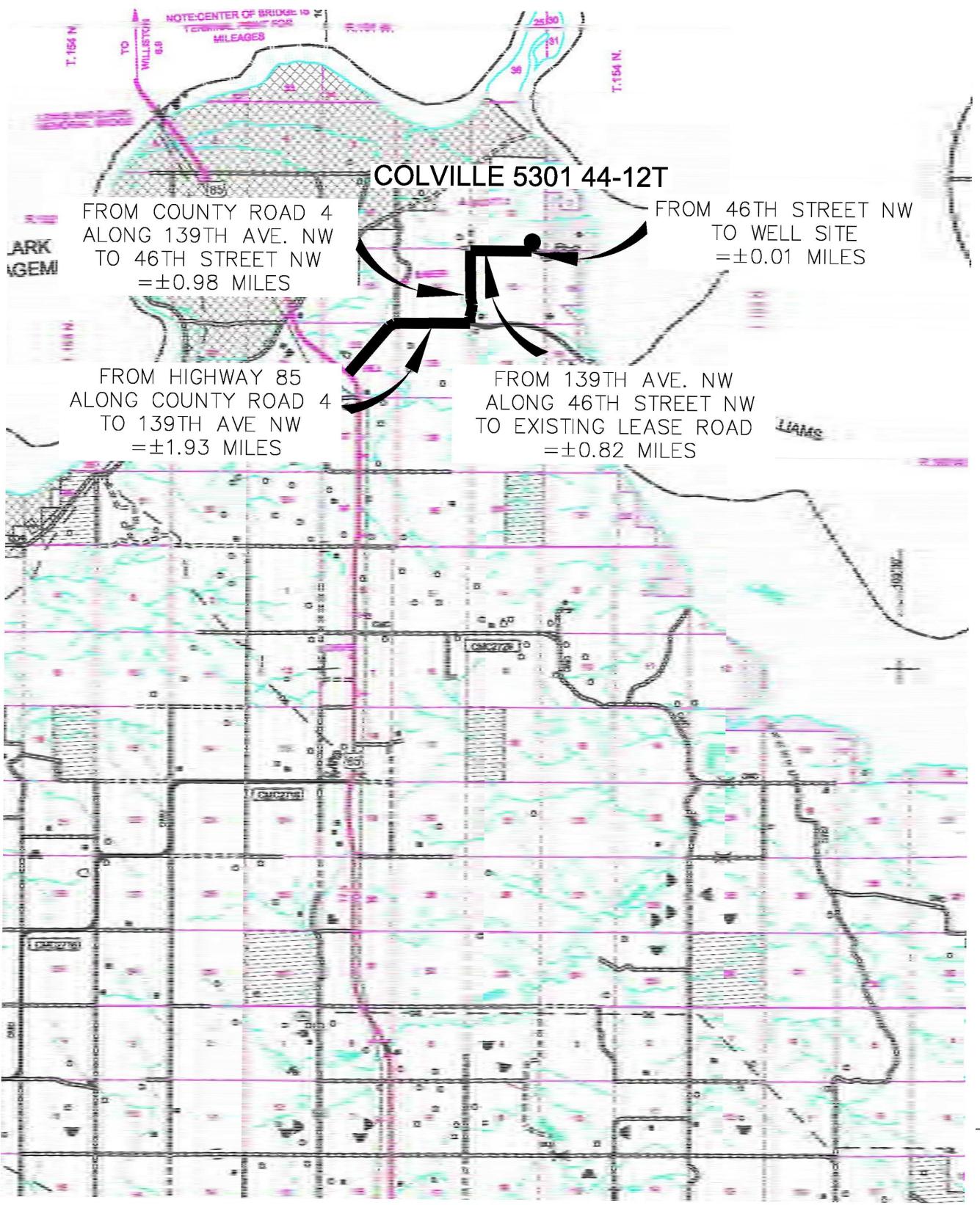
Drawn By: B.H.H. Project No.: S13-09-058
 Checked By: D.D.K. Date: MARCH 2013

Revision No.	Date	By	Description
REV 1	4/1/13	BHH	REVISED PAD

COUNTY ROAD MAP

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"COLVILLE 5301 44-12T"

250 FEET FROM SOUTH LINE AND 950 FEET FROM EAST LINE
SECTION 12, T153N, R101W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

6/8



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OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 12, T152N, R101W

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Revision No.	Date	By	Description
REV 1	4/1/13	BHH	REVISED PAD

Affidavit

STATE OF North Dakota)

COUNTY OF McKenzie)

Lawrence P. Heen, a married man dealing in his sole and separate property, being of lawful age and being sworn upon his oath,
Deposes and states:

That he is the surface owner of the following described lands in McKenzie County,
North Dakota:

Township 153 North, Range 101 West
Section 12: S2SE4

And affiant positively knows that Oasis Petroleum North America LLC has settled Surface damages to accommodate the drilling and production of the Colville 5301 44-12T. Affiant further states that he is fully aware that the cuttings generated from the drilling of the above described wells will be buried on site on the above described location.

Further affiant saith not.

Lawrence P. Heen
Lawrence P. Heen, a married man dealing his
Sole and separate property.

STATE OF North Dakota)

COUNTY OF McKenzie)

Before me, the undersigned, a Notary Public, in and for said County and State on this 2nd day of May, 2013, personally appeared Lawrence P Heen, to me known to be the identical person, described in and who executed the foregoing instrument of writing and acknowledged to me that he duly executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

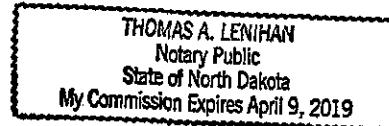
IN WITNESS WHEREOF, I have herein set my hand and affixed my notary seal the day and year last above written.

My Commission Expires:

April 9, 2019

Thomas A. Lenihan

Notary Public





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. _____

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Notice of Intent

Approximate Start Date
April 30, 2013

Report of Work Done

Date Work Completed

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

Drilling Prognosis

Spill Report

Redrilling or Repair

Shooting

Casing or Liner

Acidizing

Plug Well

Fracture Treatment

Supplemental History

Change Production Method

Temporarily Abandon

Reclamation

Other

Waiver to rule Rule 43-02-03-31

Well Name and Number

Colville 5301 44-12T

Footages

250 F S L

950 F E L

Qtr-Qtr
SESE

Section
12

Township
153 N

Range
101 W

Field

Pool
Bakken

County
Williams

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

Oasis Petroleum respectfully requests a waiver to Rule 43-02-03-31 in regards to running open hole logs for the above referenced well. Justification for this request is as follows:

The Gulf Oil /Lindvig 1-11-3C (33053014780000) located within a half mile of the subject well

If this exception is approved, Oasis Petroleum will run a CBL on the intermediate string, and we will also run GR to surface. Oasis Petroleum will also submit two digital copies of each cased hole log and a copy of the mud log containing MWD gamma ray.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563
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Address

1001 Fannin, Suite 1500

City

Houston

State

TX

Zip Code

77002

Signature

Printed Name
Heather McCowan

Title
Regulatory Assistant

Date
April 24, 2013

Email Address

hmccowan@oasp petroleum.com

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input type="checkbox"/> Approved
Date	
By	
Title	