



# SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Received

MAR 18 2016

Well File No.  
**28557**

## ND Oil & Gas Division

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

Notice of Intent

Approximate Start Date

Report of Work Done

Date Work Completed

**September 9, 2015**

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

**Well is now on pump**

### Well Name and Number

**Wade Federal 5300 41-30 7T**

Footages

877

F

S

L

280

F

W

L

Qtr-Qtr

Section

Township

Range

153 N

100 W

Field

Baker

Pool

Bakken

County

McKenzie

### 24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

Address

City

State

Zip Code

### DETAILS OF WORK

Effective 09/09/2015 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 8196.54'

Pump: 2-1/2" x 2.0" x 24' insert pump @ 8130.84'

Company <b>Oasis Petroleum North America LLC</b>		Telephone Number <b>281 404-9436</b>
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Jennifer Swenson</b>	
Title <b>Regulatory Specialist</b>	Date <b>March 17, 2016</b>	
Email Address <b>jswenson@oasispetroleum.com</b>		

### FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date <b>4-7-2016</b>	
By 	
Title <b>JARED THUNE</b> Engineering Technician	

# **Wade Federal 5300 41-30 7T**

## **End of Well Report**

### **Wade Federal 5300 41-30 7T**

**877' FSL - 280' FWL**

**SEC 30, T153N, R100W**

McKenzie County, ND

Prepared by:

Dylan E. Fowler, *well-site geologist*

Columbine Logging, Inc.

2385 S. Lipan St.

Denver CO 80223



Prepared for:



Brendan Hargrove, *operations geologist*

1001 Fannin, Suite 1500

Houston, Texas 77002

## 1.0 INTRODUCTION

Wade Federal 5200 41-30 7T is a East lateral Three Forks 1<sup>st</sup> Bench well located in SEC 30, T153N, R100W in McKenzie County, North Dakota. The primary pay zone was approximately 20' under the base of the Pronghorn member of the Bakken formation. This pay zone was picked for its production potential and quality of reservoir rock. The objective was to steer the well within the defined pay zone and within the legal requirements of the state. MWD services were performed by Schlumberger/Pathfinder and Directional services were provided by RPM. Heather A. Coutts, Jake Robertson and Dylan E. Fowler were the primary well site geologists; providing geo-steering and mud logging from Columbine Logging, Inc.

## Well Information

<b>API #:</b>	33-053-05998	<b>Field:</b>	Baker
<b>Spud Date:</b>	09/01//2014	<b>TD Date:</b>	11/18/2014
<b>Surface Location:</b> 877' FSL & 280' FWL SEC 30, T153N, R100W, McKenzie County, North Dakota.			
<b>Intermediate Casing Point:</b> 647' FSL & 878' FWL; SEC 30; 11,124' MD, 10,777.96' TVD			
<b>Bottom Hole Location:</b> 547' FSL & 162' FEL; SEC 29; 20,530' MD, 10,881.61' TVD			
<b>Surface Elevation:</b>	2045'	<b>KB:</b>	2070'
<b>Casing Shoe:</b>	11,124' MD, 10,778' TVD	<b>Total Depth Drilled:</b>	20,530'
<b>Operator:</b>	Oasis	<b>Rig:</b>	Patterson 488
<b>Company man:</b>	Tyler LaClaire, Bob Brown	<b>Well-site Geologist:</b>	Heather Coutts, Jake Robertson, Dylan E. Fowler
<b>Mud logging:</b>	Columbine Logging	<b>DD:</b>	RPM
<b>Mud Service:</b>	Reliable	<b>Drilling Mud:</b>	Invert, Brine
<b>MWD:</b>	Schlumberger/Pathfinder		

## **2.0 SERVICES**

### **2.1 Well site Geology (*Columbine Logging, Inc.*)**

Geological consulting and mud logging started on 10/03/2014. Services provided included; morning reports, evening reports, noon and midnight reports, sample examination, sample recording via pictures, production of vertical and horizontal mudlog, geo steering, sample collection and bagging, sample mailing and a final end of well report.

#### **2.1.1 Geosteering**

Our offset GR TVD logs were from the Wade Federal 5300 41-30 8T2 well, located on the same well pad as Wade Federal 5300 41-30 7T. Within the Three Forks 1<sup>st</sup> Bench, the primary objective was to stay near the middle gamma markers which marks the inter layering between limy sandstones and siltstone. Gamma patterns were compared with the offset log and a TVD log was created while landing the curve to in order to land in the targeted zone. Steering in the lateral was accomplished by calculating dip from relevant gamma markers, as well as by using lithology, total gas and ROP to determine our position within the formation.

#### **2.1.2 Gamma and Surveys**

Gamma and survey MWD services were provided by Schlumberger/Pathfinder. The majority of the well was drilled within the target area of the Three Forks 1<sup>st</sup> Bench.

### **2.2 Mud Logging (*Columbine Logging, Inc.*)**

#### **2.2.1 Sample Examination**

Samples were collected every 30 ft in the straight hole and build section, and every 30 ft while drilling the lateral. Descriptions included; mineralogy, color, firmness, argillaceous content, structure, texture, allochems, porosity, oil stain, and hydrocarbon fluorescence. Carbonate identification was determined with 10% dilute HCl<sup>-</sup>, alizarin red and calcimeter. Hydrocarbon fluorescence was determined using a fluoroscope with a UV lamp.

#### **2.2.2 Gas Detection**

Gas was logged using a Bloodhound total gas/chromatograph system. The gas detection system uses an infra-red detector to measure total gas and the chromatograph separates and measures gases C1, C2, C3, iC4 and nC4. Gas was recorded in units where 1 unit equals 100 ppm. The gas detection system measured gases: C1, C2, C3, iC4, nC4, H2S, O<sub>2</sub> and CO<sub>2</sub>.

The Bloodhound Gas Detection and Chromatograph system use digital signal processing techniques and non-dispersive infrared and chemical sensors for gas detection. The system uses a proprietary chromatograph, which has the capability to detect from 0 to 10,000 gas units. This translates as 0 to 100% typical naturally-occurring hydrocarbon gas mixtures. Calibration is performed using National Institute of Standards and Technology (NIST) traceable calibration

gases. Lab calibration points include 0%, 2.5%, and 100% pure methane. Complete immunity to saturation or damage in the presence of high concentrations of both light and heavy hydrocarbon gases precludes the necessity of constant re-calibration or zero referencing. This allows the Bloodhound to react to hydrocarbon based gases from zero to 100% in concentration without dilution.

Lag time was approximated from a calculation of annular velocity based on: pump output, open-hole diameter, cased hole diameter, collar diameter, drill pipe diameter and bottom hole assembly. Connection gases were monitored to confirm lag time calculations and adjustments were made when necessary.

## 3.0 GEOLOGY

### 3.1 Formation Tops

Formation tops were picked using ROP, lithology, and gamma ray to identify markers in the curve and lateral (Table 3.1).

Formation/Marker Beds	ACTUAL				Prognosis	
	Top MD (ft)	Top TVD (ft)	THICKNESS (ft)	Difference (ft)	TVD KB/DF(ft)	TVDSS (ft)
<b>Vertical Section</b>						
Kibbey Lime	8347	8347	145	2	8349	-6279
Charles Salt	8492	8492	684	0	8492	-6422
Base Last Salt	9176	9176	214	0	9176	-7106
Mission Canyon	9391	9390	544	1	9391	-7321
Lodgepole	9935	9934	721	1	9935	-7865
False Bakken	10744	10655	21	9	10664	-8594
Upper Bakken Shale	10762	10676	18	-1	10675	-8605
Middle Bakken	10795	10694	41	0	10694	-8624
Lower Bakken Shale	10885	10735	10	0	10735	-8665
Pronghorn	10912	10745	17	0	10745	-8675
Threeforks	10976	10762	~28	-1	10761	-8691

Table 3.1 Wade Federal 5300 41-30 7T Formation Tops

### 3.2 Lithology

Sample analysis began at 8,000' MD in the Otter Formation.

### 3.3 Formation Dip

The formation had an average dip of 89.35°.

### 3.4 Shows

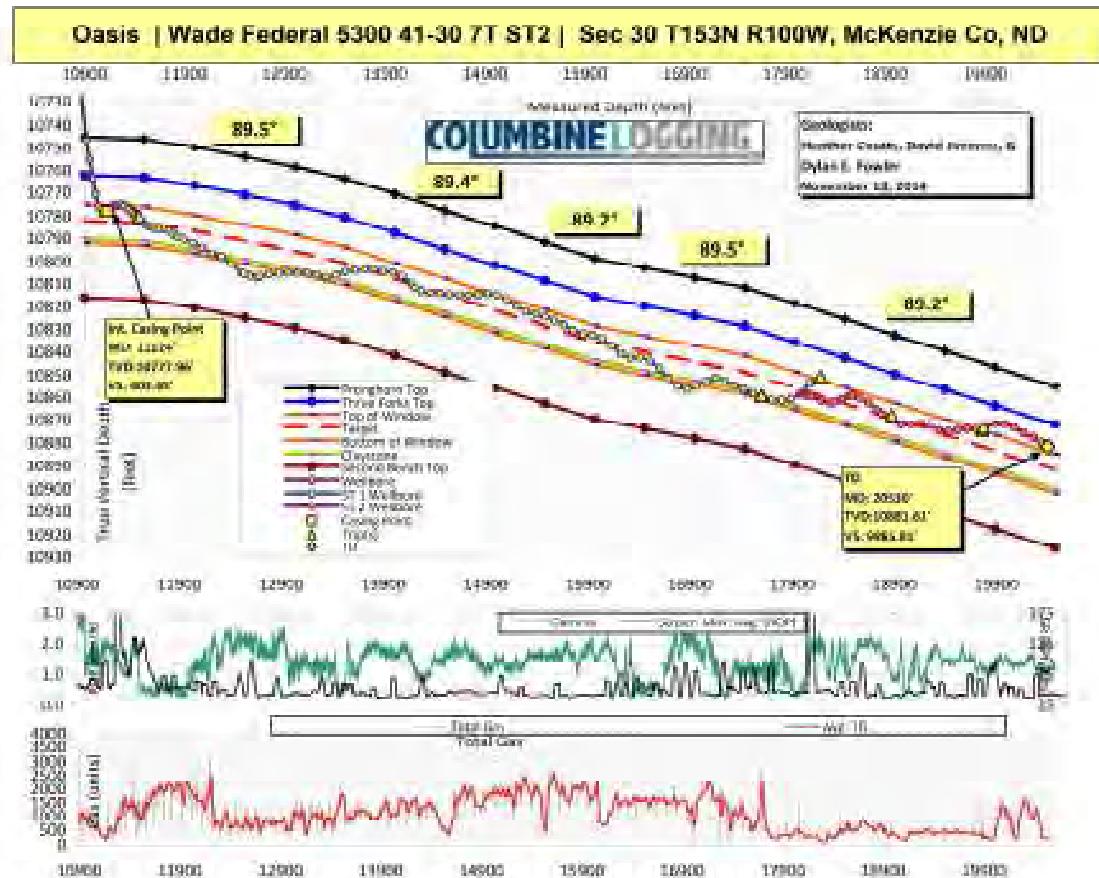
The vertical-build section was drilled with invert mud and the lateral was drilled with brine/production water. The oil-based mud contributed a background gas of 200-300 units, and saturated cuttings with oil, making all cuttings in the vertical show the same cut and fluorescence. Gas shows were around 2000+ units during the drilling of the lateral.

### 3.5 Oil Shows

Invert mud was used in the vertical, masking any oil shows. In the lateral part of the well the oil shows were consistently a moderately yellow to yellow green fluorescence with a fast milky blue cut and a medium brown residue ring.

## 4.0 WELLBORE

The surface location is 877' FSL & 280' FWL SEC 30, T153N, R100W, McKenzie County, North Dakota. Ground elevation is 2,045' and KB elevation was 2,070', referenced to the Kelly bushing of Patterson 488. The curve was landed in the Middle Bakken at 11,124' MD; 10,777.96' TVD. The lateral was drilled to TD at 20,530' MD, 10,881.61' TVD, 547' FSL & 162' FEL; SEC 30. Figure 4.1 shows a cross-section of the lateral.



## **Figure 4.1 Wellbore Cross Section**

## **5.0 SUMMARY AND CONCLUSION**

Wade Federal 5300 41-30 7T is a East lateral Three Forks 1<sup>st</sup> Bench well located in SEC 30, T153N, R100W in McKenzie County, North Dakota. The primary pay zone was 20' under the bottom of the Pronghorn member of the Bakken formation. This pay zone was picked for its production potential and quality of reservoir rock. The objective was to steer the well within the defined pay zone and within the legal requirements of the state.

The primary objective was to stay near the middle gamma markers which marks the inter layering between limy sandstones and siltstones. Gamma patterns were compared with the offset log and a TVD log was created while landing the curve to in order to land in the targeted zone. Steering in the lateral was accomplished by calculating dip from relevant gamma markers, as well as by using lithology, total gas and ROP to determine our position within the formation.

The formation had an average dip of 89.35°. Refer to Figure 4.1 on page 6 for a detailed formation dip profile.

Currently the well is awaiting completion.

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Dylan E. Fowler, Well-Site Geologist  
Columbine Logging, Inc.  
2385 S. Lipan St.  
Denver CO 80223  
(303) 289-7764





# 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)

TFT  
Well File No.  
**28978 28557**



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion							
<input checked="" type="checkbox"/> Oil Well		<input type="checkbox"/> EOR Well		<input type="checkbox"/> Recompletion		<input type="checkbox"/> Deepened Well	
<input type="checkbox"/> Gas Well		<input type="checkbox"/> SWD Well		<input type="checkbox"/> Water Supply Well		<input type="checkbox"/> Other:	
Well Name and Number <b>Wade Federal 5300 41-30 7T</b>				Spacing Unit Description <b>Sec. 30/29 T153N R100W</b>			
Operator <b>Oasis Petroleum North America</b>		Telephone Number <b>(281) 404-9591</b>		Field <b>Baker</b>			
Address <b>1001 Fannin, Suite 1500</b>				Pool <b>Bakken</b>			
City <b>Houston</b>		State <b>TX</b>	Zip Code <b>77002</b>	Permit Type <input type="checkbox"/> Wildcat <input checked="" type="checkbox"/> Development <input type="checkbox"/> Extension			

## LOCATION OF WELL

At Surface <b>877 F S L</b>		<b>280 F WL</b>	Qtr-Qtr <b>Lot 4</b>	Section <b>30</b>	Township <b>153 N</b>	Range <b>100 W</b>	County <b>McKenzie</b>
Spud Date <b>September 1, 2014</b>		Date TD Reached <b>November 19, 2014</b>	Drilling Contractor and Rig Number <b>Patterson 488</b>			KB Elevation (Ft) <b>2077</b>	Graded Elevation (Ft) <b>2045</b>

Type of Electric and Other Logs Run (See Instructions)

**MWD/GR from KOP to TD; CBL from int. TD to surface**

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

Well Bore	String Type	Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Surface	<b>13 3/8</b>	<b>0</b>	<b>2070</b>	<b>17 1/2</b>	<b>54.5</b>			<b>969</b>	<b>0</b>
Vertical Hole	Intermediate	<b>9 5/8</b>	<b>0</b>	<b>6080</b>	<b>13 1/2</b>	<b>36</b>			<b>1105</b>	
Vertical Hole	Intermediate	<b>7</b>	<b>0</b>	<b>11167</b>	<b>8 3/4</b>	<b>32</b>			<b>801</b>	<b>6400</b>
Lateral1	Liner	<b>4 1/2</b>	<b>10269</b>	<b>20517</b>	<b>6</b>	<b>13.5</b>			<b>507</b>	

## PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft)		Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perfd or Drilled	Date Isolated	Isolation Method	Sacks Cement
			Top	Bottom						
Lateral1	<b>20530</b>	Perforations	<b>11167</b>	<b>20517</b>	<b>10283</b>		<b>04/24/2015</b>			
	<b>11691</b>			<b>11501</b>						
ST 1	<b>18174</b>		<b>11270</b>	<b>18174</b>						
ST 2	<b>20530</b>		<b>18053</b>	<b>20530</b>						

## PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft) <b>Lateral 1- 11167' to 20517'</b>				Name of Zone (If Different from Pool Name)			
Date Well Completed (SEE INSTRUCTIONS) <b>June 9, 2015</b>		Producing Method <b>Flowing</b>		Pumping-Size & Type of Pump		Well Status (Producing or Shut-In) <b>Producing</b>	
Date of Test <b>07/05/2015</b>	Hours Tested <b>24</b>	Choke Size <b>26 /64</b>	Production for Test	Oil (Bbls) <b>832</b>	Gas (MCF) <b>23</b>	Water (Bbls) <b>1108</b>	Oil Gravity-API (Corr.) <b>42.0 °</b>
Flowing Tubing Pressure (PSI) <b>850</b>	Flowing Casing Pressure (PSI) <b>1925</b>		Calculated 24-Hour Rate	Oil (Bbls) <b>832</b>	Gas (MCF) <b>23</b>	Water (Bbls) <b>1108</b>	Gas-Oil Ratio <b>28</b>

## 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 04/24/2015	Stimulated Formation Three Forks		Top (Ft) 11167	Bottom (Ft) 20517	Stimulation Stages 36	Volume 134353	Volume Units Barrels
Type Treatment Sand Frac	Acid %	Lbs Proppant 3973130	Maximum Treatment Pressure (PSI) 9218			Maximum Treatment Rate (BBLS/Min) 39.0	
Details 40/70 White: 1437920 20/40 Ceramic: 1859940 20/40 Resin Coated: 605340 100 Mesh White: 159020							
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 <a href="mailto:jswenson@oasispetroleum.com">jswenson@oasispetroleum.com</a>	Date 07/16/2015
--	---	--------------------

Signature 	Printed Name Jennifer Swenson	Title Regulatory Specialist
--	----------------------------------	--------------------------------



## AUTHORIZATION TO PURCHASE AND TRANSPORT OIL FROM LEASE - Form 8

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

Well File No.

28557

NDIC CTB No.

To be assigned

228394

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND FOUR COPIES.

Well Name and Number <b>WADE FEDERAL 5300 41-30 7T</b>	Qtr-Qtr. <b>LOT4</b>	Section <b>30</b>	Township <b>153</b>	Range <b>100</b>	County <b>Williams</b>
---	-------------------------	----------------------	------------------------	---------------------	---------------------------

Operator <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>(281) 404-9573</b>	Field <b>BAKER</b>
--	---	-----------------------

Address <b>1001 Fannin, Suite 1500</b>	City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
---	------------------------	--------------------	--------------------------

Name of First Purchaser <b>Oasis Petroleum Marketing LLC</b>	Telephone Number <b>(281) 404-9627</b>	% Purchased <b>100%</b>	Date Effective <b>June 1, 2015</b>
Principal Place of Business <b>1001 Fannin, Suite 1500</b>	City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Field Address	City	State	Zip Code
Transporter <b>Hiland Crude, LLC</b>	Telephone Number <b>(580) 616-2058</b>	% Transported <b>75%</b>	Date Effective <b>June 1, 2015</b>
Address <b>P.O. Box 3886</b>	City <b>Enid</b>	State <b>OK</b>	Zip Code <b>73702</b>
The above named producer authorizes the above named purchaser to purchase the percentage of oil stated above which is produced from the lease designated above until further notice. The oil will be transported by the above named transporter.			

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other Transporters Transporting From This Lease <b>Hofmann Trucking</b>	% Transported <b>25%</b>	Date Effective <b>June 1, 2015</b>
Other Transporters Transporting From This Lease	% Transported	Date Effective
		<b>June 1, 2015</b>
Comments		

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Date <b>June 15, 2015</b>
Signature 	Printed Name <b>Dina Barron</b>
	Title <b>Mktg. Contracts Administrator</b>

Above Signature Witnessed By:	Printed Name	Title
Signature 	Alexa Cardona	Marketing Analyst

FOR STATE USE ONLY		
Date Approved <b>JUN 19 2015</b>		
By 		
Title <b>Enie Peterson</b>		

Oil &amp; Gas Production Analyst

Industrial Commission of North Dakota  
Oil and Gas Division

Well or Facility No

**28557**

Verbal Approval To Purchase and Transport Oil      Tight Hole      Yes

**OPERATOR**

Operator <b>OASIS PETROLEUM NORTH AMERICA LL</b>	Representative <b>Todd Hanson</b>	Rep Phone <b>(701) 577-1632</b>
---	--------------------------------------	------------------------------------

**WELL INFORMATION**

Well Name <b>WADE FEDERAL 5300 41-30 7T</b>	Inspector <b>Richard Dunn</b>
Well Location    QQ               Sec               Twp               Rng	County <b>MCKENZIE</b>
<b>LOT4</b> <b>30</b> <b>153 N</b> <b>100 W</b>	Field <b>BAKER</b>
Footages <b>877</b> Feet From the <b>S</b> Line	Pool <b>BAKKEN</b>
<b>280</b> Feet From the <b>W</b> Line	
Date of First Production Through Permanent Wellhead	6/9/2015      This Is The First Sales

**PURCHASER / TRANSPORTER**

Purchaser <b>OASIS PETROLEUM MARKETING LLC</b>	Transporter <b>HOFMANN TRUCKING, LLC</b>
---	---

**TANK BATTERY**

Central Tank Battery Number : <b>228394-01</b>
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**SALES INFORMATION**    This Is The First Sales

ESTIMATED BARRELS TO BE SOLD	ACTUAL BARRELS SOLD	DATE
<b>15000</b>	<b>BBLS</b>	<b>6/9/2015</b>
	<b>BBLS</b>	

**DETAILS**

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      **6/9/2015**  
Date Approved    **6/17/2015**  
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.  
**28557**

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



<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date <b>May 18, 2015</b>
<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	<u>Change well status to CONFIDENTIAL</u>

Well Name and Number <b>Wade Federal 5300 41-30 7B</b>					
Footages <b>877 F S L</b>	Qtr-Qtr <b>280 F W L</b>	Section <b>LOT4</b>	Township <b>30</b>	Range <b>153 N</b>	<b>100 W</b>
Field <b>Baker</b>	Pool <b>Bakken</b>	County <b>McKenzie</b>			

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.

This well has not been completed

*OFF CONFIDENTIAL 11/19/15.*

Company <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>281-404-9436</b>	
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Jennifer Swenson</b>	
Title <b>Regulatory Specialist</b>	Date <b>May 18, 2015</b>	
Email Address <b>jswenson@oasispetroleum.com</b>		

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <b>5/21/15</b>	
By 	
Title <b>Engineering Technician</b>	



## 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)



CTB

Well File No.  
228394-01

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

 Notice of IntentApproximate Start Date  
**February 15, 2015** 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**Central production facility-commingle ppe**

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

Footages	F	L	F	L	Qtr-Qtr	Section	Township	Range
						30	153 N	100 W
Field	Pool <b>Bakken</b>				County	<b>McKenzie</b>		

**24-HOUR PRODUCTION RATE**

	Before	After
Oil	Bbls	Oil
Water	Bbls	Water
Gas	MCF	Gas

Name of Contractor(s)

Address

City

State

Zip Code

**DETAILS OF WORK**

Oasis Petroleum North America, LLC respectfully requests approval to commingle oil and gas in a central production facility known as 5300 30-29 CTB with common ownership for the following wells:

Well file #28554 Wade Federal 5300 31-30 2B Lot3 Sec. 30 T153N R100W API 33-053-05995

Well file #28394 Wade Federal 5300 41-30 4T Lot4 Sec. 30 T153N R100W API 33-053-05943

Well file #28556 Wade Federal 5300 41-30 5T2 Lot4 Sec. 30 T153N R100W API 33-053-05997

Well file #28425 Wade Federal 5300 41-30 6B Lot4 Sec. 30 T153N R100W API 33-053-05954

Well file #28357 Wade Federal 5300 41-30 7T Lot4 Sec. 30 T153N R100W API 33-053-05998

Well file #28555 Wade Federal 5300 41-30 3T2 is being reevaluated and will not be commingled.

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. Oasis will allocate production measured at the central production facility to the various wells on the basis of isolated production tests utilizing oil, gas, and water meters on a test separator at the central production facility. Oasis will measure the production from each well separately each month for a minimum of three days. Oasis believes that such allocation will result in an accurate determination of production from each well. Tank vapor gas is being recovered and burned by a 98% DRE enclosed combuster.

Company <b>Oasis Petroleum North America, LLC</b>	Telephone Number <b>(713) 770-6430</b>	
Address <b>1001 Fannin Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>David Copeland</b>	
Title <b>Regulatory Specialist</b>	Date <b>January 24, 2015</b>	
Email Address <b>dcopeland@oasispetroleum.com</b>		

**FOR STATE USE ONLY**

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <b>2-2-2015</b>	
By 	
Title <b>PETROLEUM ENGINEER</b>	

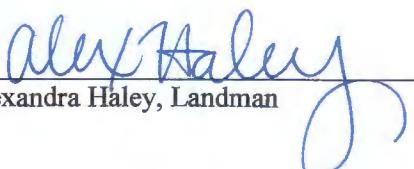
COMMINGLING AFFIDAVIT

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

The under signed, Alex Haley, of lawful age, being first duly sworn on her oath states that she is a duly authorized agent of Oasis Petroleum North America LLC, and that she has personal knowledge of the facts hereinafter set forth to make this Affidavit.

1. Sections 29 & 30, Township 153 North, Range 100 West, McKenzie County North Dakota constitute a spacing unit in accordance with the applicable orders for the Bakken pool.
2. Six wells have been drilled in the spacing unit, which are known as the Wade Federal 5300 31-30 2B, Wade Federal 5300 41-30 4T, Wade Federal 5300 41-30 5T2, Wade Federal 5300 41-30 6B, and the Wade Federal 5300 41-30 7T
3. By NDIC Order 23339 dated March 18, 2014, all oil and gas interest within the aforementioned spacing unit were pooled.
4. All Working Interests, Royalty Interests and Overriding Royalty Interests in the Wade Federal 5300 31-30 2B, -Wade Federal 5300 41-30 4T, Wade Federal 5300 41-30 5T2, Wade Federal 5300 41-30 6B, and the Wade Federal 5300 41-30 7T will be in common.

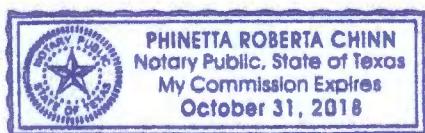
Dated this 22nd day of January, 2015

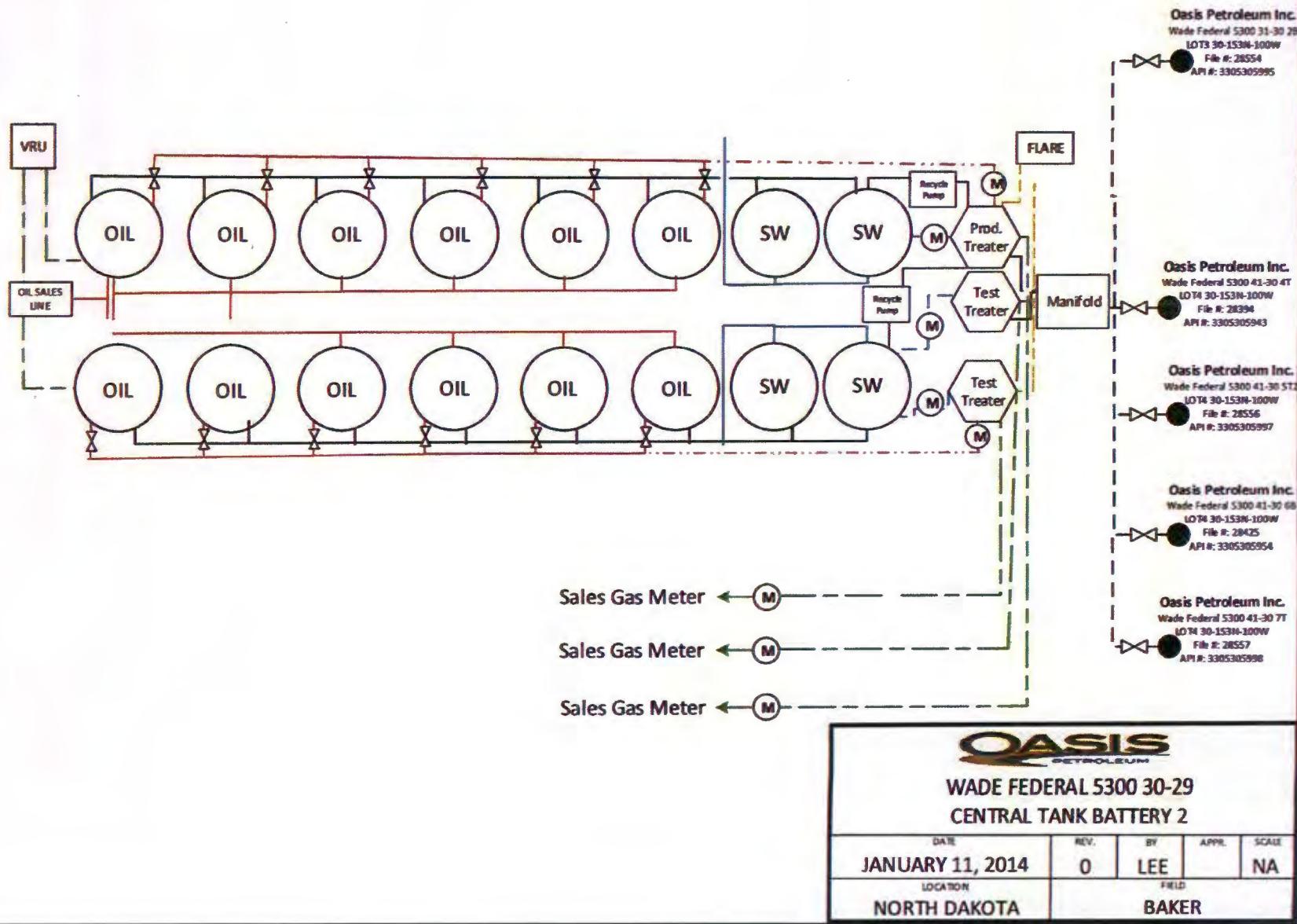
  
Alexandra Haley, Landman

STATE OF TEXAS      )  
                                ) ss.  
COUNTY OF HARRIS      )

Subscribed to and sworn before me this 22nd day of January, 2015

  
Phinetta Roberta Chinn  
Notary Public  
State of Texas  
My Commission Expires: October 31, 2018

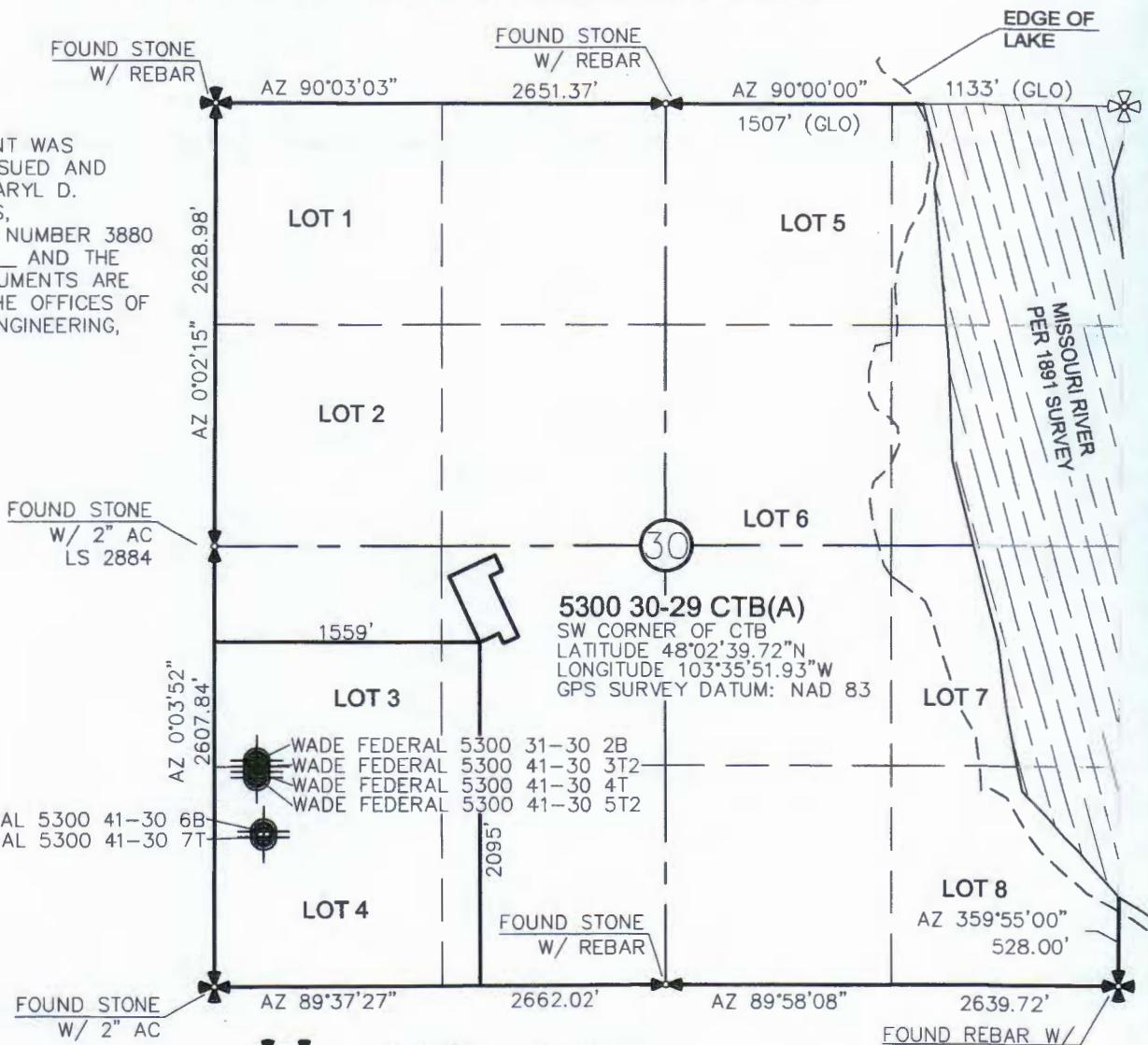




**BATTERY LOCATION PLAT**  
OASIS PETROLEUM NORTH AMERICA, LLC  
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

"5300 30-29 CTB(A)"  
SECTION 30, T153N, R100W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

THIS DOCUMENT WAS  
ORIGINALLY ISSUED AND  
SEALED BY DARYL D.  
KASEMAN, PLS,  
REGISTRATION NUMBER 3880  
ON 1/07/15 AND THE  
ORIGINAL DOCUMENTS ARE  
STORED AT THE OFFICES OF  
INTERSTATE ENGINEERING,  
INC.



VICINITY MAP



STAKED ON 3/25/14  
VERTICAL CONTROL DATUM WAS BASED UPON  
CONTROL POINT 705 WITH AN ELEVATION OF 2158.3'

THIS SURVEY AND PLAT IS BEING PROVIDED AT THE  
REQUEST OF ERIC BAYES 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

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1/5



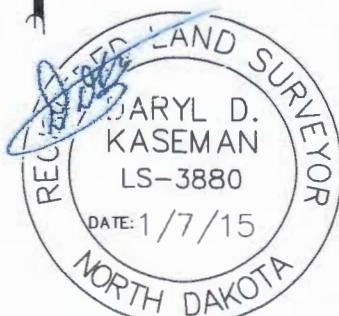
Professionals you need, people you trust

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425 East Main Street  
Sidney, Montana 59270  
Ph (406) 433-5617  
Fax (406) 433-5618  
[www.interstateeng.com](http://www.interstateeng.com)  
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
BATTERY LOCATION PLAT  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	J.J.S.	Project No.:	S15-09-003
Checked By:	D.D.K.	Date:	JAN 2015

Revision No.	Date	By	Description



**PAD LAYOUT**  
OASIS PETROLEUM NORTH AMERICA, LLC  
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
"5300 30-29 CTB(A)"  
SECTION 30, T153N, R100W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

THIS DOCUMENT WAS ORIGINALLY  
ISSUED AND SEALED BY DARYL D.  
KASEMAN, PLS, REGISTRATION  
NUMBER 3880 ON 1/07/15 AND  
THE ORIGINAL DOCUMENTS ARE  
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NOTE: All utilities shown are preliminary only, a complete utilities location is recommended before construction.

2/5



SHEET NO. Professionals you need, people you trust.

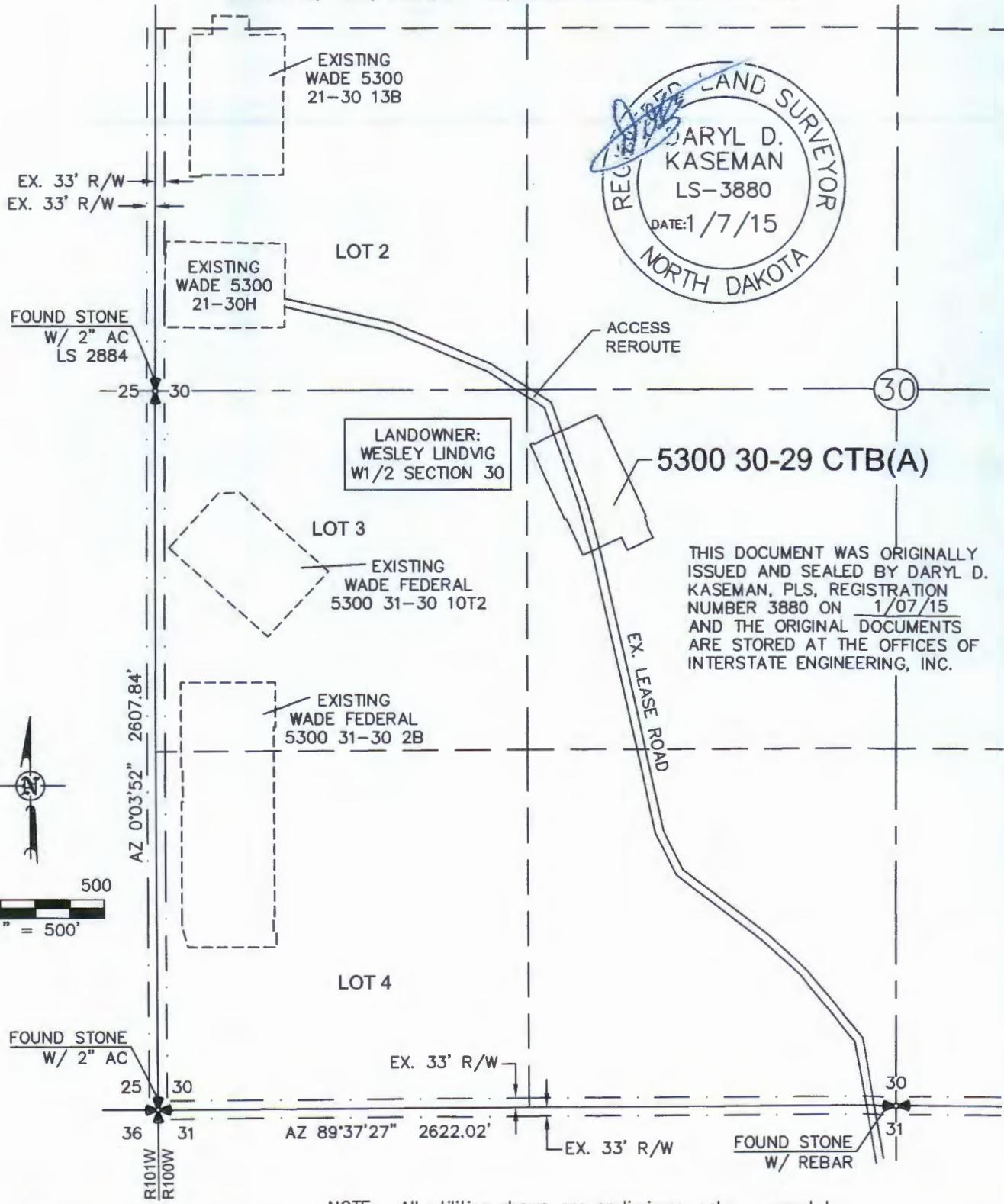
**Interstate Engineering, Inc.**  
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OASIS PETROLEUM NORTH AMERICA, LLC  
PAD LAYOUT  
SECTION 30, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Revision No.	Date	By	Description

**ACCESS APPROACH**  
 OASIS PETROLEUM NORTH AMERICA, LLC  
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
 "5300 30-29 CTB(A)"  
 SECTION 30, T153N, R100W, 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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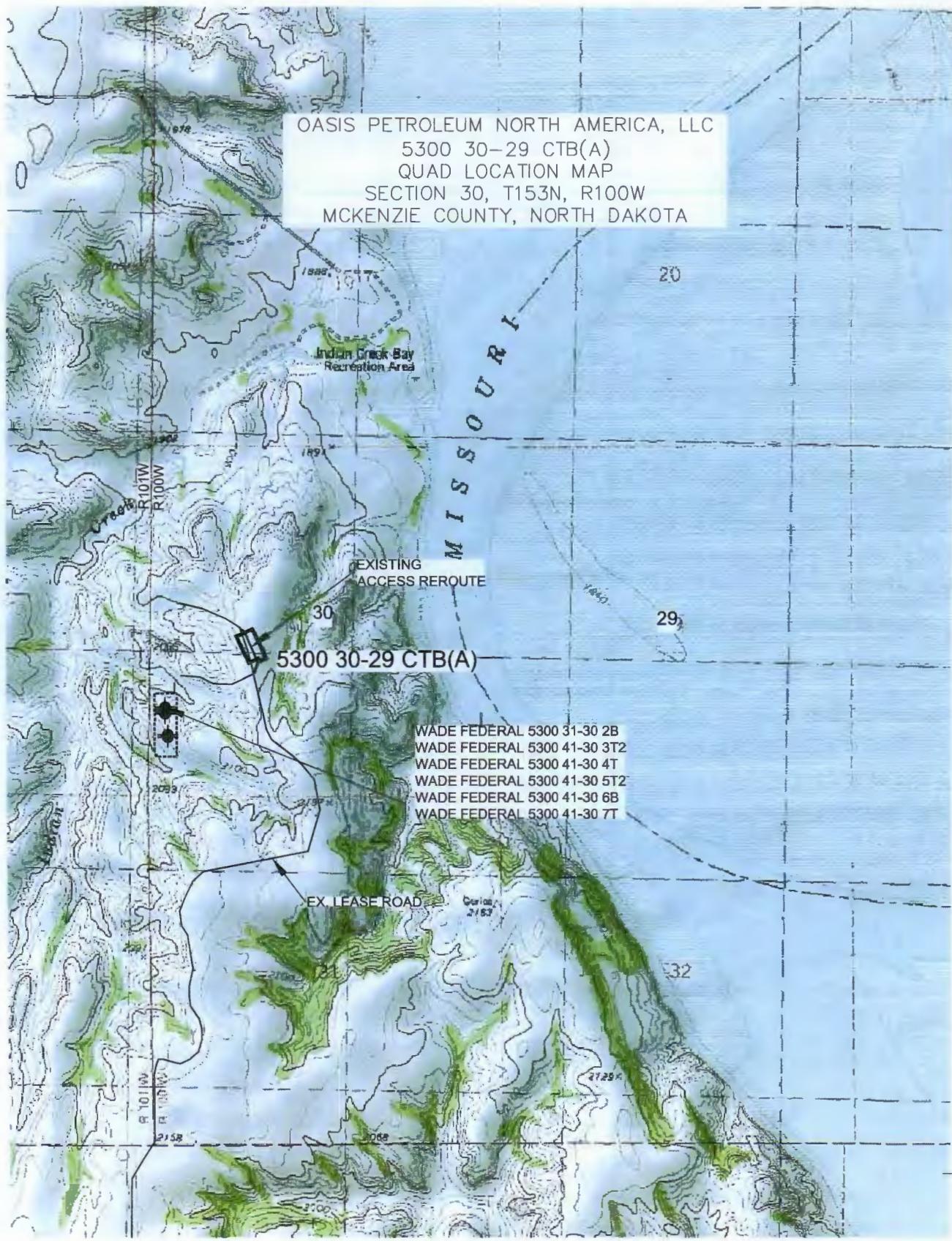


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Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
ACCESS APPROACH  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA  
Drawn By: J.J.S. Project No.: S15-09-003  
Checked By: D.D.K. Date: JAN 2015

Revision No.	Date	By	Description



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[www.interstateeng.com](http://www.interstateeng.com)

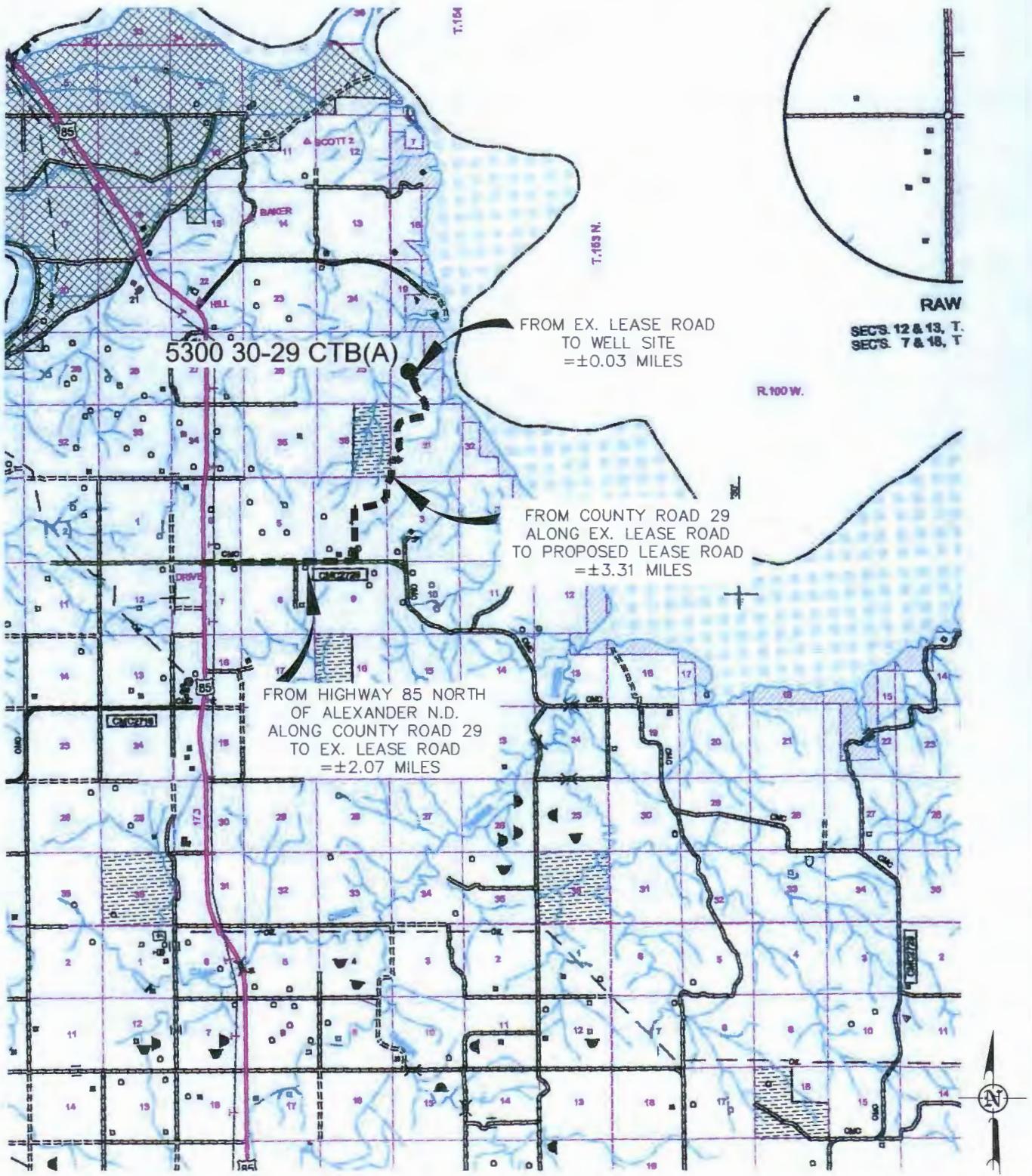
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
QUAD LOCATION MAP  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: J.J.S. Project No.: S15-09-003  
Checked By: D.D.K. Date: JAN 2015

Revision No.	Date	By	Description

**COUNTY ROAD MAP**  
OASIS PETROLEUM NORTH AMERICA, LLC  
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
"5300 30-29 CTB(A)"  
SECTION 30, T153N, R100W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

5/5



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Digitized by srujanika@gmail.com

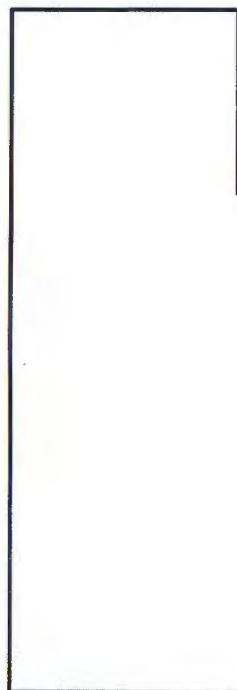
OASIS PETROLEUM NORTH AMERICA, LLC  
COUNTY ROAD MAP  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA

rawn By: J.J.S. Project No.: S15-09-003

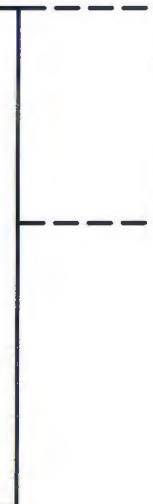
Checked By: D.D.K. Date: JAN 2015

## LAT/LONG PAD CORNERS

48°02'44.48"N  
103°35'51.68"W



48°02'40.64"N  
103°35'49.00"W



5300 30-29 CTB(A)

48°02'43.56"N  
103°35'54.61"W

48°02'39.72"N  
103°35'51.93"W





# 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.

28976

28557

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date <b>September 14, 2014</b>
<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 Diagnosis	<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 type="checkbox"/> Other <b>offsite pit</b>	



Well Name and Number

**Wade Federal 5300 21-30 12T**

Footages	Qtr-Qtr	Section	Township	Range
1640 F N L	270 F W L	SWNW	30	153 N 100 W
Field <b>Baker</b>	Pool <b>Bakken</b>		County <b>McKenzie</b>	

## 24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)

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

## DETAILS OF WORK

Oasis Petroleum North America LLC respectfully requests to use an offsite pit for this well. The following wells will also use this pit:

Wade Federal 5300 31-30 2B - 28554  
 Wade Federal 5300 41-30 3T2 - 28555  
 Wade Federal 5300 41-30 4T - 28394  
 Wade Federal 5300 41-30 5T2 - 28556  
 Wade Federal 5300 41-30 6B - 28425 - TH  
 Wade Federal 5300 41-30 7T - 28557  
 Wade Federal 5300 41-30 8T2 - 28558 - TH  
 Wade Federal 5300 41-30 9B - 28744  
 Wade Federal 5300 21-30 13B - 28978  
 Wade Federal 5300 21-30 14T2 - 28977

Attached are the plats for the offsite pit location.

Company <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>281-404-9589</b>	
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Sonja Rolfes</b>	
Title <b>Regulatory Analyst</b>	Date <b>August 20, 2014</b>	
Email Address <b>srolfes@oasispetroleum.com</b>		

## FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <b>2-9-15</b>	
By 	
Title <b>Wade</b>	

# OFFSITE PIT LOCATION PLAT

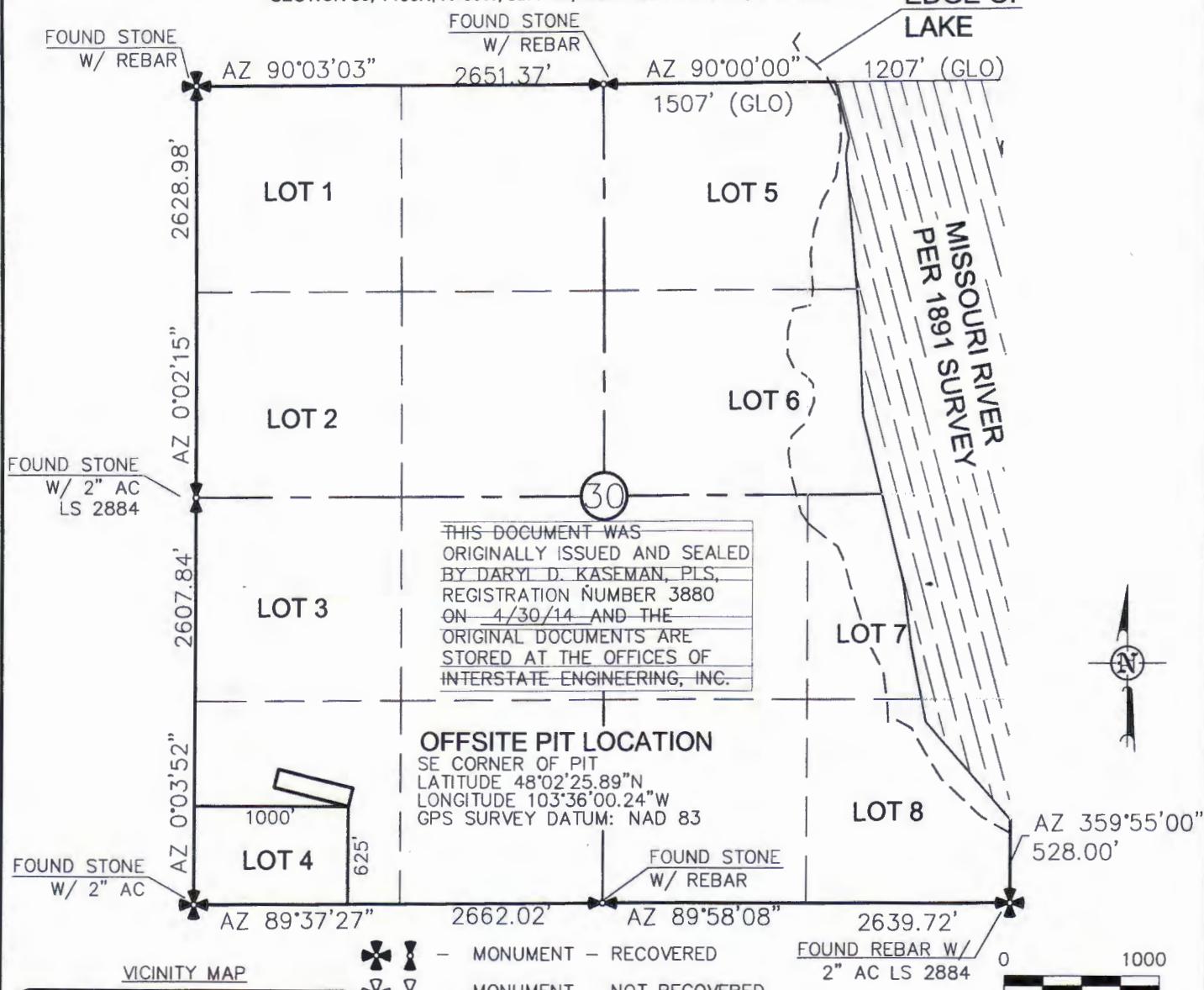
OASIS PETROLEUM NORTH AMERICA, LLC

1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

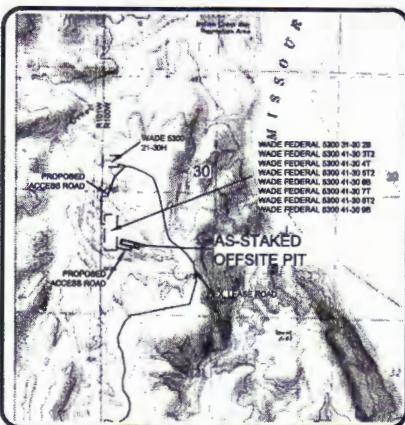
"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE

SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

EDGE OF  
LAKE



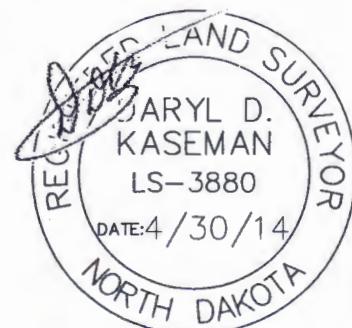
## VICINITY MAP



STAKED ON 4/30/14  
VERTICAL CONTROL DATUM WAS BASED UPON  
CONTROL POINT 705 WITH AN ELEVATION OF 2158.3'

THIS SURVEY AND PLAT IS BEING PROVIDED AT THE  
REQUEST OF ERIC BAYES 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



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Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
OFFSITE PIT LOCATION PLAT  
SECTION 30, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H.	Project No.: S13-09-381-09
Checked By: D.D.K.	Date: APRIL 2014

Revision No.	Date	By	Description

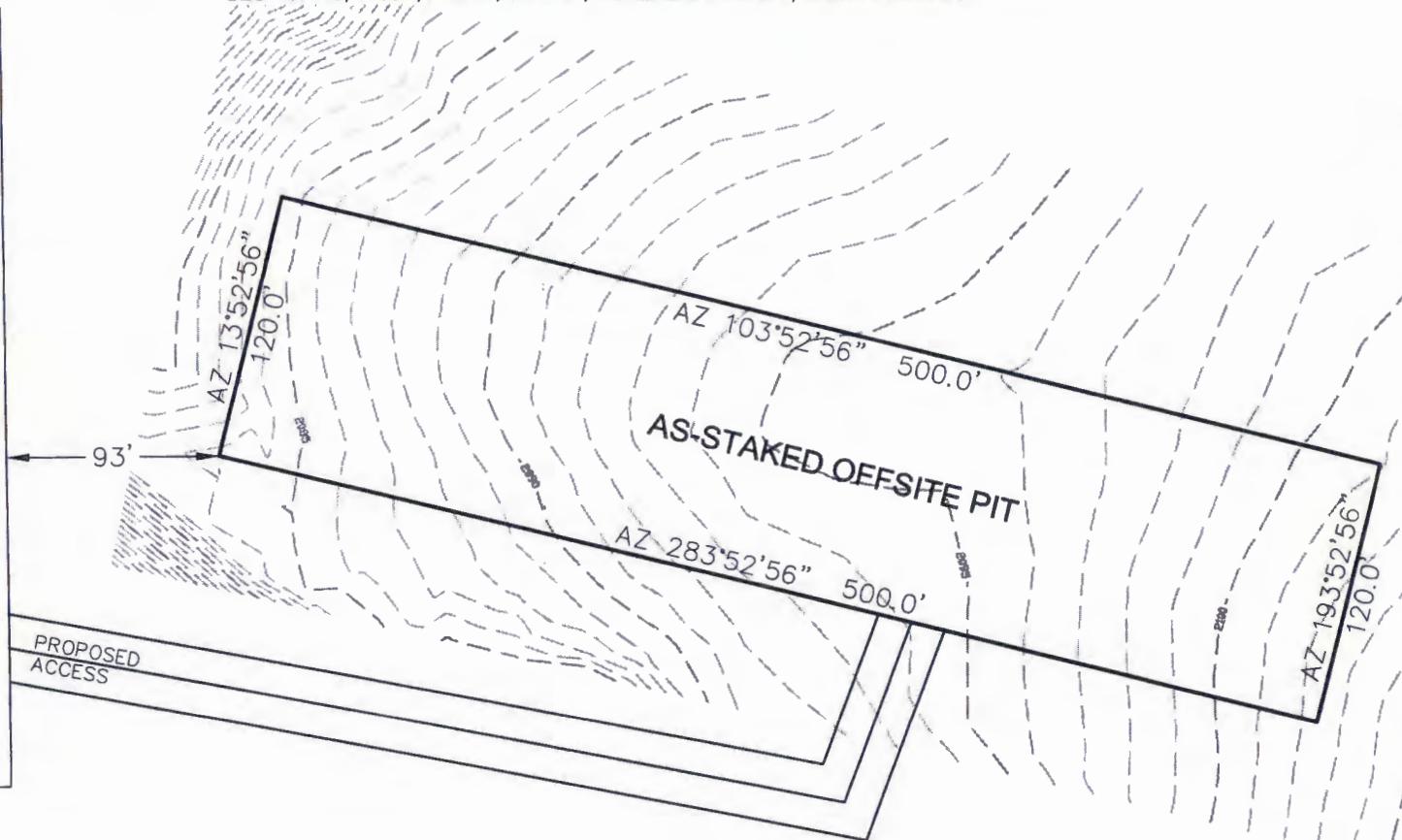
## PAD LAYOUT

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

"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T2, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE

SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WADE FEDERAL  
5300 31-30 2B  
WADE FEDERAL  
5300 41-30 3T2  
WADE FEDERAL  
5300 41-30 4T  
WADE FEDERAL  
5300 41-30 5T2  
WADE FEDERAL  
5300 41-30 6B  
WADE FEDERAL  
5300 41-30 7T  
WADE FEDERAL  
5300 41-30 8T2  
WADE FEDERAL  
5300 41-30 9B



THIS DOCUMENT WAS ORIGINALLY ISSUED  
AND SEALED BY DARYL D. KASEMAN,  
PLS, REGISTRATION NUMBER 3880 ON  
4/30/14 AND THE ORIGINAL  
DOCUMENTS ARE STORED AT THE  
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NOTE: All utilities shown are preliminary only, a complete  
utilities location is recommended before construction.



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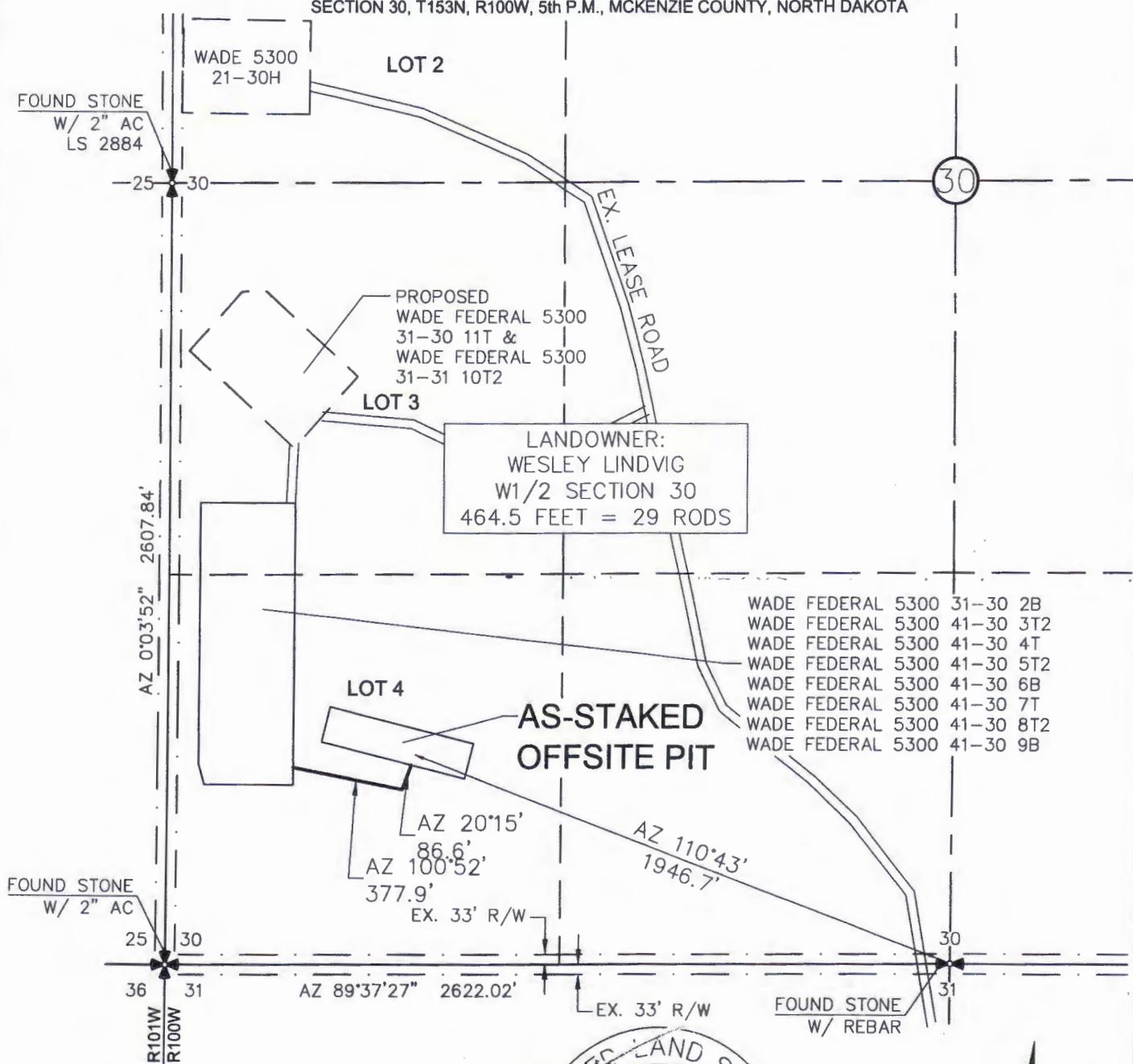
OASIS PETROLEUM NORTH AMERICA, LLC		Revision No.	Date	By	Description
PAD LAYOUT					
SECTION 30, T153N, R100W					
MCKENZIE COUNTY, NORTH DAKOTA					
Project No.:	S13409-381-09				
Drawn By:	B.H.H.				
Checked By:	D.D.K.				
Date:	APRIL 2014				

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P.O. Box 648  
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Sidney, Montana 59270  
Ph. (406) 433-5617  
Fax. (406) 433-5618  
www.interstateeng.com  
Other offices in Wyoming, North Dakota and South Dakota

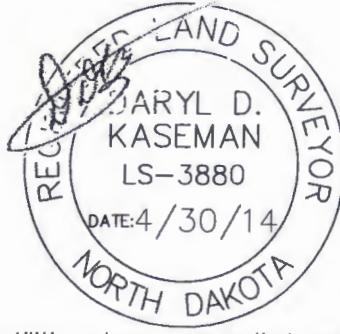
# ACCESS APPROACH

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

"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T2, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE  
SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 4/30/14 AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.



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OASIS PETROLEUM NORTH AMERICA, LLC  
ACCESS APPROACH  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA

Revision No.	Date	By	Description
Drawn By: B.H.H.	Project No.: S13-09-381.09		
Checked By: D.D.K.	Date: APRIL 2014		

## OFF-SITE PIT AGREEMENT

In consideration of the sum of [REDACTED] paid by Oasis Petroleum North America LLC ("Oasis") the undersigned surface owners, Wesley Lindvig and Barbara Lindvig, for themselves and their heirs, successors, administrators and assigns, hereby acknowledge the receipt and sufficiency of said payment in full and complete settlement for and as a release of all claim for loss, damage or injury to the hereafter described surface property arising out of the off-site cuttings plt, in which the cuttings from the Wade Federal 5300 21-30 13B, Wade Federal 5300 21-30 14T2 wells will be buried, located on the approximately two (2.0) acre tract of land identified on the plat attached hereto as Exhibit "A" and which is situated on the following described real property located in McKenzie County, State of North Dakota, towit:

Township 153 North, Range 100 West, 5<sup>th</sup> P.M.  
Section 30: Lots 3 & 4 a/k/a W $\frac{1}{2}$ SW $\frac{1}{4}$

The undersigned knows that Oasis Petroleum North America LLC is the operator and will be drilling the Wade Federal 5300 21-30 13B, Wade Federal 5300 21-30 14T2 wells. The undersigned further states that they are fully aware that the cuttings generated from the drilling of the Wade Federal 5300 21-30 13B, Wade Federal 5300 21-30 14T2 wells will be buried in the pit on the above described location.

Dated this 19 day of May, 2014.

### SURFACE OWNER(S)

Wesley Lindvig  
Wesley Lindvig  
Barbara J. Lindvig  
Barbara Lindvig

for W.G.L.  
*[Signature]*

Location will be fenced after construction.  
Pit will be reclaimed to Owners Satisfaction  
by W.G.L.

ACKNOWLEDGMENT INDIVIDUAL

State of North Dakota )

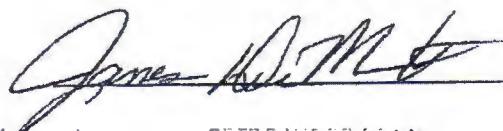
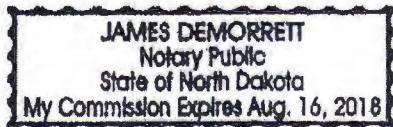
)

County of McKenzie )

BE IT REMEMBERED, That on this 19 day of May, 2014 before me, a Notary Public, in and for said County and State, personally appeared Wesley Lindvig and Barbara Lindvig, to me known to be the identical persons described in and who executed the within and foregoing instrument and acknowledged to me to that they executed the same as their free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed my notarial seal, the day and year last above written.

My Commission expires:



Notary Public



# SUNDRY NOTICE 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 (09-2006)

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



Well File No	28394
	28405
	28554
	28555
	28556
	28557
	28558
	28744

<input type="checkbox"/> Notice of Intent	Approximate Start Date	<input type="checkbox"/> Drilling Program	<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 type="checkbox"/> Other	

Well Name and Number <b>Wade Federal 5300 41-30 4T</b> + See Details				
Footages <b>1263 F S L</b>	Qtr-Qtr <b>240 F W L</b>	Section <b>SWSW</b>	Township <b>30</b>	Range <b>153 N 100 W</b>
Field	Pool <b>Bakken</b>	County <b>McKenzie</b>		

## 24-HOUR PRODUCTION RATE

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

Name of Contractor(s)			
Address	City	State	Zip Code

## DETAILS OF WORK

Oasis Petroleum respectfully requests to use an offsite pit for the wells listed below. We are requesting to use an offsite pit because a pit wont fit on location with a rig anchor and the land adjacent is too rough. Attached are the plats.

Wade Federal 5300 31-30 2B - 28554  
Wade Federal 5300 41-30 3T2 - 28555  
Wade Federal 5300 41-30 4T - 28394  
Wade Federal 5300 41-30 5T2 - 28556  
Wade Federal 5300 41-30 6B - 28405  
Wade Federal 5300 41-30 7T - 28557  
Wade Federal 5300 41-30 8T2 - 28558  
Wade Federal 5300 41-30 9B - 28744

Company <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>281-404-9491</b>	
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Brandi Terry</b>	
Title <b>Regulatory Specialist</b>	Date <b>May 12, 2014</b>	
Email Address <b>bterry@oasispetroleum.com</b>		

## FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date <b>12-23-14</b>	
By 	
Title 	

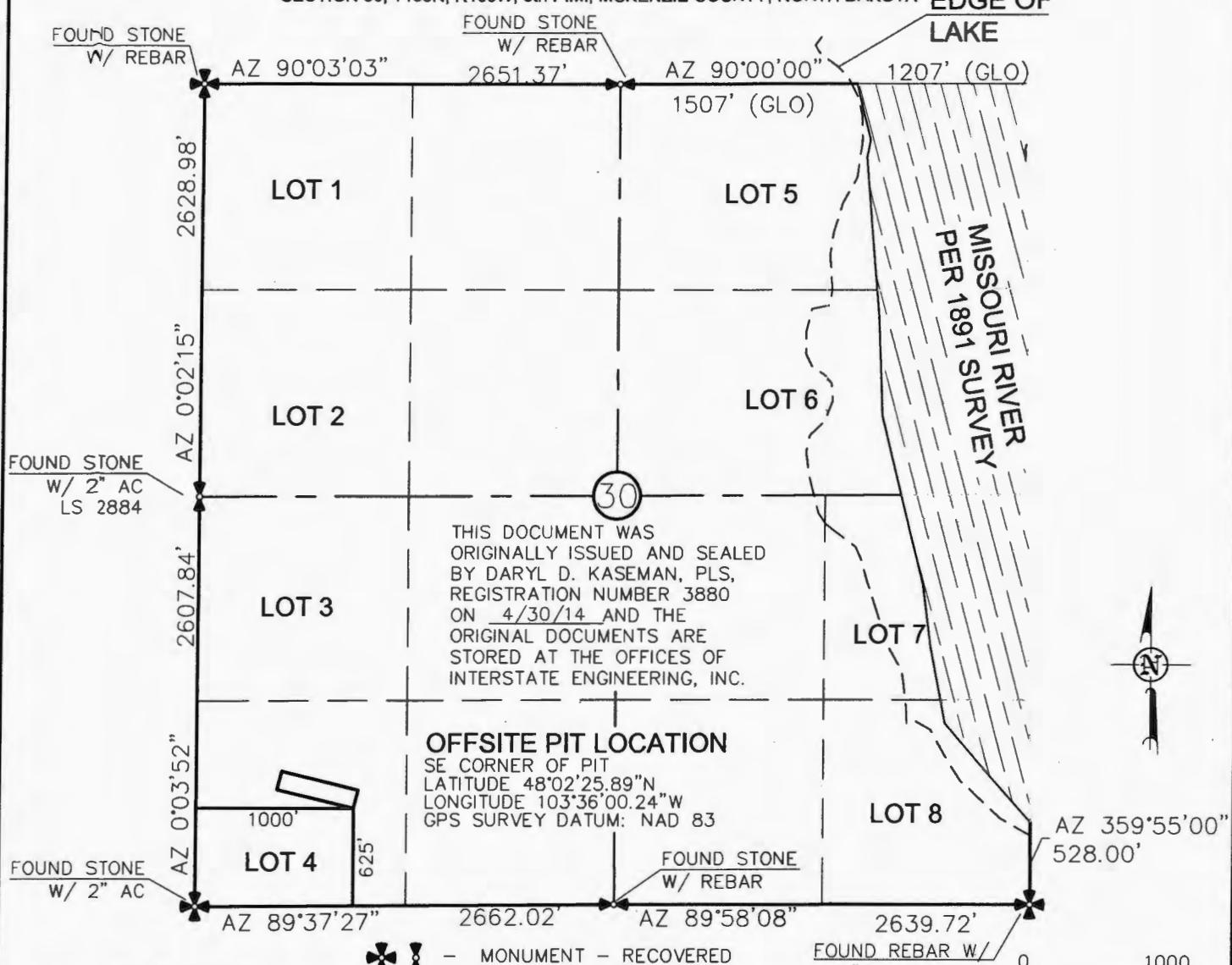
**OFFSITE PIT LOCATION PLAT**  
OASIS PETROLEUM NORTH AMERICA, LLC

1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

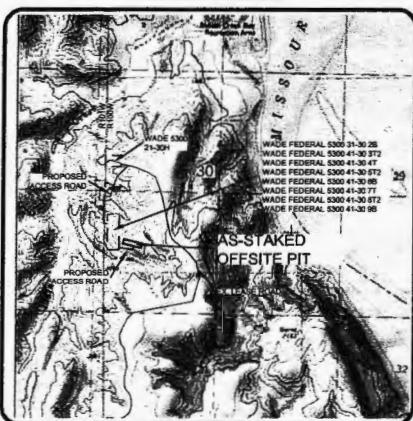
"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T2, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE

SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

**EDGE OF  
LAKE**



**VICINITY MAP**



DARYL D. KASEMAN LS-3880

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1/3



SHEET NO.

Interstate Engineering, Inc.  
P.O. Box 648  
425 East Main Street  
Sidney, Montana 59270  
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Fax: (406) 433-5618  
[www.interstateeng.com](http://www.interstateeng.com)  
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
OFFSITE PIT LOCATION PLAT  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA  
Drawn By: B.H. Project No.: S13-09-381.09  
Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description

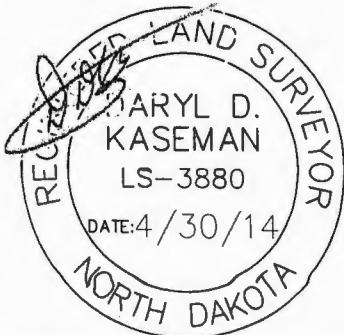
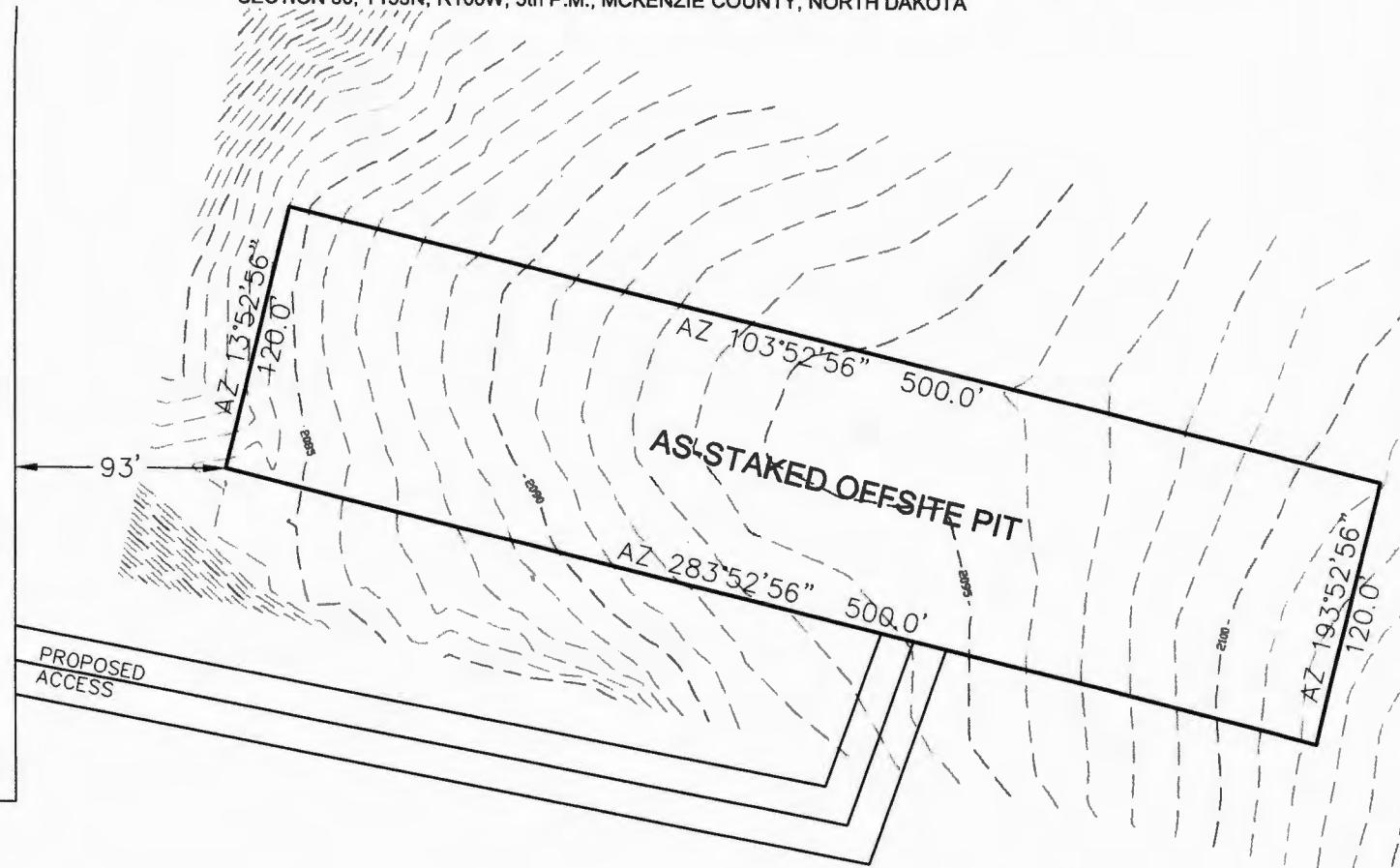


# PAD LAYOUT

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

"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T2, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE  
SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WADE FEDERAL  
5300 31-30 2B  
WADE FEDERAL  
5300 41-30 3T2  
WADE FEDERAL  
5300 41-30 4T  
WADE FEDERAL  
5300 41-30 5T2  
WADE FEDERAL  
5300 41-30 6B  
WADE FEDERAL  
5300 41-30 7T  
WADE FEDERAL  
5300 41-30 8T2  
WADE FEDERAL  
5300 41-30 9B



THIS DOCUMENT WAS ORIGINALLY ISSUED  
AND SEALED BY DARYL D. KASEMAN,  
PLS, REGISTRATION NUMBER 3880 ON  
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NOTE: All utilities shown are preliminary only, a complete  
utilities location is recommended before construction.

0 80  
1" = 80'

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SHEET NO.

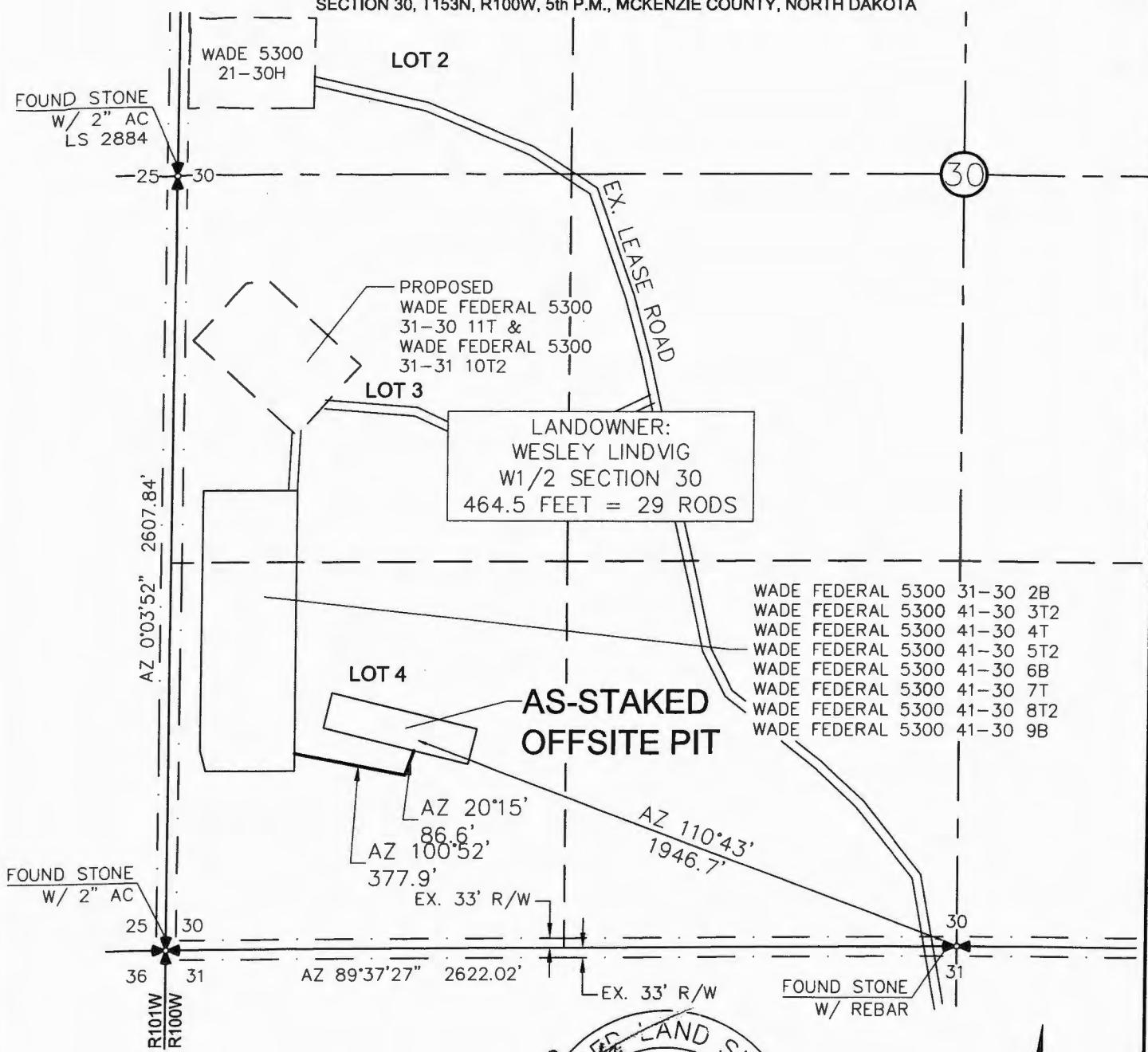
OASIS PETROLEUM NORTH AMERICA, LLC	Section No.	Date	By	Description
PAD LAYOUT				
SECTION 30, T153N, R100W				
MCKENZIE COUNTY, NORTH DAKOTA				
Project No.: S15-05-381-09	Drawn By: B.H.H.	Checked By: D.D.K.	APRIL 2014	
Drawn: _____ Date: _____				

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  
Other offices in Missoula, North Dakota, and South Dakota

# ACCESS APPROACH

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

"AS-STAKED OFFSITE PIT FOR WADE FEDERAL 5300 31-30 2B, WADE FEDERAL 5300 41-30 3T2,  
WADE FEDERAL 5300 41-30 4T, WADE FEDERAL 5300 41-30 5T2, WADE FEDERAL 5300 41-30 6B,  
WADE FEDERAL 5300 41-30 7T, WADE FEDERAL 5300 41-30 8T2, & WADE FEDERAL 5300 41-30 9B"  
625 FEET FROM SOUTH LINE AND 1000 FEET FROM WEST LINE  
SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 4/30/14 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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Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
ACCESS APPROACH  
SECTION 30, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S13-09-381.06
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description



# 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.  
**28557**

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

Notice of Intent

Approximate Start Date

**December 9, 2014**

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

**Wade Federal 5300 41-30 7T**

Footages	Qtr-Qtr	Section	Township	Range
<b>877 F S L 280 F W L</b>	<b>LOT 4</b>	<b>30</b>	<b>153 N</b>	<b>100 W</b>

Field	Pool	County
<b>Baker</b>	<b>Bakken</b>	<b>McKenzie</b>

## 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 a variance to NDAC 43-02-03-21 for the tubing/packer requirement:  
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# and 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 flowback 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 <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>281-404-9436</b>	
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Jennifer Swenson</b>	
Title <b>Regulatory Assistant</b>	Date <b>December 9, 2014</b>	
Email Address <b>jswenson@oasispetroleum.com</b>		

## FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <i>December 11, 2014</i>	
By 	
Title <b>PETROLEUM ENGINEER</b>	



A Schlumberger Company  
9251 E 104th Ave.  
Commerce City, CO 80640  
(303) 439-5500

### Directional Survey Certification Form

Wade Federal 5300 41-30 #7T

Oasis Petroleum	Original Hole	5-Dec-2014
Company	Well Name	Final report Date
PathFinder Job Number	ND, McKenzie County (NAD 83 NZ) Oasis	33-053-05998
	County / State	API Number
N 48° 2' 28.32000" N 48.0412	W 103° 36' 10.82000" W 103.60300556	877 ft FSL & 500 ft FEL Sec 30 Twn 153 N Rng 100 W
Surface Latitude	Surface Longitude	Surface Section - Township - Range
NAD83 ND State Plane, N Zone, Ft Datum & Coordinate System	Patterson 488 Rig Contractor	KB 32ft @ 2077.00 ft / GL: 2045.00 ft MSL Height Reference
Survey Depth	112.00 Depth From	11423.00 Depth To
<b>Measurement While Drilling</b>		
Type of Survey		
Survey Depth	11423.00 Depth From	11501.00 Depth To
<b>Straight line projection to Bit/TD</b>		
Type of Survey		
Site Supervisors	Brittany Feddersen - MWD	
	MWD Surveyor 1	
	Dennis Lipcovski - MWD	
	MWD Surveyor 2	

The data submitted in this report conforms to the standards and procedures as set forth by Schlumberger. This report represents a true and correct directional wellbore survey based on original survey data obtained at the well site.

*Matt VanderSchaaf*

Matt VanderSchaaf  
PathFinder Well Planner II

12/5/2014 15:46

Date



**Wade Federal 5300 41-30 #7T MWD 0' to 11501' Definitive Survey Geodetic Report  
(Def Survey)**

**PATHFINDER**  
A Schlumberger Company

<b>Report Date:</b>	December 05, 2014 - 03:37 PM	<b>Survey / DLS Computation:</b>	Minimum Curvature / Lubinski									
<b>Client:</b>	Oasis Petroleum	<b>Vertical Section Azimuth:</b>	91.850 ° (True North)									
<b>Field:</b>	ND, McKenzie County (NAD 83 NZ) Oasis 2014	<b>Vertical Section Origin:</b>	0.000 ft, 0.000 ft									
<b>Structure / Slot:</b>	Oasis 30-153N-100W (Wade Federal 5300 41-30 Pad) - Patterson 488 / Wade Federal 5300 41-30 #7T	<b>TVD Reference Datum:</b>	KB 32ft									
<b>Well:</b>	Wade Federal 5300 41-30 #7T	<b>TVD Reference Elevation:</b>	2077.000 ft above MSL									
<b>Borehole:</b>	Original Hole	<b>Seabed / Ground Elevation:</b>	2045.000 ft above MSL									
<b>UWI / API#:</b>	Unknown / Unknown	<b>Magnetic Declination:</b>	8.395 °									
<b>Survey Name:</b>	Wade Federal 5300 41-30 #7T OH MWD 0' to 11501' Definitive	<b>Total Gravity Field Strength:</b>	1000.0448mgn (9.80665 Based)									
<b>Survey Date:</b>	December 05, 2014	<b>Gravity Model:</b>	GARM									
<b>Tort / AHD / DDI / ERD Ratio:</b>	144.137 ° / 1078.695 ft. / 5.220 / 0.100	<b>Total Magnetic Field Strength:</b>	56237.474 nT									
<b>Coordinate Reference System:</b>	NAD83 North Dakota State Plane, Northern Zone, Feet	<b>Magnetic Dip Angle:</b>	72.904 °									
<b>Location Lat / Long:</b>	N 48° 2' 28.32000", W 103° 36' 10.82000"	<b>Declination Date:</b>	December 05, 2014									
<b>Location Grid N/E Y/X:</b>	L 395087.826 ft, E 1209642.216 ft	<b>Magnetic Declination Model:</b>	BGGM 2014									
<b>CRS Grid Convergence Angle:</b>	-2.3091 °	<b>North Reference:</b>	True North									
<b>Grid Scale Factor:</b>	0.99993613	<b>Grid Convergence Used:</b>	0.0000 °									
<b>Version / Patch:</b>	2.8.572.0	<b>Total Corr Mag North-&gt;True</b>										
		<b>North:</b>	8.3953 °									
		<b>Local Coord Referenced To:</b>	Well Head									
Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC	NS (ft)	EW (ft)	DLS (%100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °°")	Longitude (E/W °°")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	395087.83	1209642.22	N 48 2 28.32	W 103 36 10.82
Begin MWD Survey	112.00	0.79	207.45	112.00	-0.33	-0.69	-0.36	0.71	395087.16	1209641.83	N 48 2 28.31	W 103 36 10.83
	203.00	0.70	234.77	202.99	-1.05	-1.56	-1.10	0.40	395086.31	1209641.05	N 48 2 28.30	W 103 36 10.84
	294.00	0.88	239.07	293.98	-2.08	-2.24	-2.15	0.21	395085.67	1209639.97	N 48 2 28.30	W 103 36 10.85
	386.00	0.53	258.70	385.97	-3.09	-2.69	-3.18	0.46	395085.27	1209638.93	N 48 2 28.29	W 103 36 10.87
	476.00	0.62	246.59	475.97	-3.93	-2.96	-4.03	0.17	395085.03	1209638.07	N 48 2 28.29	W 103 36 10.88
	566.00	0.62	284.48	565.96	-4.85	-3.04	-4.95	0.45	395084.99	1209637.15	N 48 2 28.28	W 103 36 10.89
	657.00	0.26	42.87	656.96	-5.19	-2.76	-5.29	0.85	395085.28	1209636.82	N 48 2 28.29	W 103 36 10.90
	747.00	0.62	338.81	746.96	-5.25	-2.16	-5.32	0.62	395085.89	1209636.81	N 48 2 28.30	W 103 36 10.90
	838.00	0.70	15.23	837.95	-5.31	-1.16	-5.35	0.46	395086.88	1209636.82	N 48 2 28.31	W 103 36 10.90
	928.00	0.79	359.66	927.95	-5.21	-0.01	-5.21	0.25	395086.03	1209637.01	N 48 2 28.32	W 103 36 10.90
	1019.00	0.97	22.26	1018.94	-4.97	1.33	-4.93	0.43	395089.35	1209637.35	N 48 2 28.32	W 103 36 10.89
	1109.00	0.53	129.04	1108.93	-4.37	1.77	-4.31	1.37	395089.77	1209637.98	N 48 2 28.34	W 103 36 10.88
	1200.00	1.14	140.54	1199.92	-3.44	0.81	-3.41	0.69	395088.77	1209638.84	N 48 2 28.33	W 103 36 10.87
	1290.00	0.44	255.36	1289.92	-3.18	0.03	-3.18	1.54	395087.98	1209639.04	N 48 2 28.32	W 103 36 10.87
	1385.00	0.70	257.20	1384.91	-4.09	-0.19	-4.10	0.27	395087.80	1209638.12	N 48 2 28.32	W 103 36 10.88
	1480.00	0.97	275.41	1479.90	-5.45	-0.24	-5.46	0.40	395087.80	1209636.75	N 48 2 28.32	W 103 36 10.90
	1575.00	0.79	105.82	1574.90	-5.62	-0.35	-5.63	1.85	395087.71	1209636.57	N 48 2 28.32	W 103 36 10.90
	1670.00	1.32	116.09	1669.88	-3.99	-1.01	-4.02	0.59	395086.98	1209638.16	N 48 2 28.31	W 103 36 10.88
	1765.00	1.06	115.50	1764.86	-2.18	-1.87	-2.24	0.27	395086.05	1209639.90	N 48 2 28.30	W 103 36 10.85
	1860.00	0.62	62.53	1859.85	-0.93	-2.01	-0.99	0.89	395085.86	1209641.14	N 48 2 28.30	W 103 36 10.83
	1956.00	0.53	10.99	1955.85	-0.41	-1.33	-0.45	0.53	395086.51	1209641.71	N 48 2 28.31	W 103 36 10.83
	2051.00	0.70	1.86	2050.84	-0.34	-0.32	-0.35	0.21	395087.52	1209641.86	N 48 2 28.32	W 103 36 10.83
9 5/8" Casing Point	2100.00	0.82	54.14	2099.84	-0.06	0.18	-0.05	1.39	395088.01	1209642.17	N 48 2 28.32	W 103 36 10.82
	2116.00	0.97	64.88	2115.84	0.15	0.31	0.16	1.39	395088.13	1209642.39	N 48 2 28.32	W 103 36 10.82
	2179.00	1.06	333.00	2178.83	0.35	1.06	0.38	2.32	395088.87	1209642.64	N 48 2 28.33	W 103 36 10.81
	2274.00	1.23	326.04	2273.81	-0.67	2.68	-0.59	0.23	395090.53	1209641.74	N 48 2 28.35	W 103 36 10.83
	2368.00	0.44	17.14	2367.80	-1.17	3.87	-1.04	1.08	395091.73	1209641.33	N 48 2 28.36	W 103 36 10.84
	2463.00	0.62	33.42	2462.80	-0.80	4.64	-0.65	0.25	395092.49	1209641.75	N 48 2 28.37	W 103 36 10.83
	2557.00	0.62	30.16	2556.79	-0.29	5.51	-0.12	0.04	395093.33	1209642.32	N 48 2 28.37	W 103 36 10.82
	2652.00	0.62	151.47	2651.79	0.21	5.50	0.39	1.14	395093.31	1209642.82	N 48 2 28.37	W 103 36 10.81
	2747.00	0.88	159.74	2746.78	0.74	4.36	0.88	0.30	395092.15	1209643.28	N 48 2 28.36	W 103 36 10.81
	2843.00	1.06	173.61	2842.77	1.15	2.79	1.24	0.31	395090.56	1209643.57	N 48 2 28.35	W 103 36 10.80
	2938.00	0.97	179.58	2937.75	1.31	1.11	1.34	0.15	395088.88	1209643.60	N 48 2 28.33	W 103 36 10.80
	3033.00	0.97	208.96	3032.74	0.97	-0.39	0.96	0.52	395087.39	1209643.16	N 48 2 28.32	W 103 36 10.81
	3128.00	0.79	208.77	3127.73	0.31	-1.67	0.25	0.19	395086.15	1209642.40	N 48 2 28.35	W 103 36 10.82
	3223.00	1.06	200.08	3222.71	-0.26	-3.07	-0.36	0.32	395084.77	1209641.73	N 48 2 28.28	W 103 36 10.83
	3318.00	1.41	138.77	3317.70	0.26	-4.78	0.11	1.36	395083.05	1209642.13	N 48 2 28.27	W 103 36 10.82
	3413.00	1.23	135.93	3412.67	1.79	-6.39	1.59	0.20	395081.38	1209643.54	N 48 2 28.26	W 103 36 10.80
	3508.00	1.32	135.28	3507.65	3.32	-7.90	3.07	0.10	395079.81	1209644.96	N 48 2 28.24	W 103 36 10.77
	3603.00	1.06	114.63	3602.63	4.92	-9.04	4.63	0.52	395078.61	1209646.48	N 48 2 28.23	W 103 36 10.75
	3698.00	0.88	104.92	3697.61	6.44	-9.60	6.14	0.26	395077.99	1209647.96	N 48 2 28.22	W 103 36 10.73
	3793.00	0.97	108.74	3792.60	7.92	-10.04	7.60	0.11	395077.49	1209649.41	N 48 2 28.22	W 103 36 10.71
	3888.00	0.70	112.43	3887.59	9.24	-10.52	8.90	0.29	395076.96	1209650.69	N 48 2 28.22	W 103 36 10.69
	3983.00	0.26	103.07	3982.59	9.99	-10.79	9.65	0.47	395076.66	1209651.42	N 48 2 28.21	W 103 36 10.68
	4078.00	0.35	124.52	4077.59	10.45	-11.00	10.10	0.15	395076.42	1209651.86	N 48 2 28.21	W 103 36 10.67
	4173.00	0.35	6.14	4172.58	10.71	-10.88	10.37	0.63	395076.54	1209652.14	N 48 2 28.21	W 103 36 10.67
	4268.00	0.35	17.10	4267.58	10.81	-10.32	10.48	0.07	395077.10	1209652.28	N 48 2 28.22	W 103 36 10.67
	4363.00	0.35	31.54	4362.58	11.03	-9.79	10.72	0.09	395077.61	1209652.53	N 48 2 28.22	W 103 36 10.66
	4458.00	0.44	31.65	4457.58	11.36	-9.23	11.06	0.09	395078.16	1209652.90	N 48 2 28.23	W 103 36 10.66
	4553.00	0.35	46.30	4552.58	11.74	-8.72	11.47	0.14	395078.65	1209653.32	N 48 2 28.23	W 103 36 10.65
	4648.00	0.26	77.31	4647.58	12.15	-8.47	11.89	0.19	395078.88	1209653.75	N 48 2 28.24	W 103 36 10.65
	4743.00	0.44	119.27	4742.57	12.69	-8.60	12.41	0.32	395078.73	1209654.27	N 48 2 28.24	W 103 36 10.64
	4838.00	0.44	66.55	4837.57	13.34	-8.64	13.07	0.41	395078.67	1209654.92	N 48 2 28.23	W 103 36 10.63
	4933.00	0.70	52.95	4932.57	14.12	-8.14	13.86	0.31	395079.13	1209655.74	N 48 2 28.24	W 103 36 10.62
	5028.00	0.62	63.88	5027.56	15.03	-7.57	14.79	0.16	395079.67	1209656.69	N 48 2 28.22	W 103 36 10.60
	5123.00	0.70	87.05	5122.55	16.06	-7.31	15.83	0.29	395079.88	1209657.74	N 48 2 28.25	W 103 36 10.59
	5219.00	0.53	110.55	5218.55	17.06	-7.44	16.83	0.31	395079.72	1209658.73	N 48 2 28.25	W 103 36 10.57
	5313.00	0.62	75.27	5312.54	17.96	-7.46	17.73	0.38	395079.66	1209659.63	N 48 2 28.25	W 103 36 10.56
	5409.00	0.62	65.24	5408.54	18.92	-7.11	18.70	0.11	395079.97	1209660.62	N 48 2 28.25	W 103 36 10.54
	5503.00	0.53	69.03	5502.53	19.78	-6.74	19.57	0.10	395080.30	1209661.50	N 48 2 28.25	W 103 36 10.53
	5598.00	0.70	83.29	5597.53	20.76	-6.52	20.56	0.24	395080.49	1209662.49	N 48 2 28.26	W 103 36 10.52
	5693.00	0.70	82.46	5692.52	21.90	-6.37	21.71	0.01	395080.58	1209663.65	N 48 2 28.26	W 103 36 10.50
	5788.00	0.62	74.88	5787.52	22.97	-6.16	22.78	0.12	395080.75	1209664.73	N	

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °")	Longitude (E/W °")
	6929.00	1.14	58.32	6928.48	30.54	-5.11	30.39	1.07	395081.49	1209672.37	N 48 2 28.27	W 103 36 10.37
	7024.00	1.23	64.30	7023.46	32.23	-4.17	32.11	0.16	395082.36	1209674.13	N 48 2 28.28	W 103 36 10.35
	7119.00	0.97	77.69	7118.44	33.91	-3.56	33.82	0.38	395082.91	1209675.86	N 48 2 28.28	W 103 36 10.32
	7214.00	1.14	90.32	7213.43	35.64	-3.39	35.55	0.30	395083.00	1209677.59	N 48 2 28.28	W 103 36 10.30
	7309.00	1.06	88.69	7308.41	37.46	-3.38	37.37	0.09	395082.94	1209679.42	N 48 2 28.29	W 103 36 10.27
	7404.00	0.70	91.57	7403.40	38.92	-3.37	38.83	0.38	395082.89	1209680.87	N 48 2 28.29	W 103 36 10.25
	7500.00	0.79	89.38	7499.39	40.16	-3.38	40.08	0.10	395082.83	1209682.12	N 48 2 28.29	W 103 36 10.23
	7595.00	0.70	97.27	7594.38	41.40	-3.45	41.31	0.14	395082.72	1209683.35	N 48 2 28.28	W 103 36 10.21
	7690.00	0.62	139.61	7689.38	42.32	-3.92	42.22	0.51	395082.21	1209684.24	N 48 2 28.28	W 103 36 10.20
	7785.00	0.62	148.12	7784.37	42.95	-4.74	42.82	0.10	395081.36	1209684.81	N 48 2 28.27	W 103 36 10.19
	7880.00	0.53	140.35	7879.37	43.53	-5.52	43.37	0.13	395080.57	1209685.33	N 48 2 28.27	W 103 36 10.18
	7975.00	0.18	158.50	7974.37	43.88	-5.99	43.71	0.38	395080.08	1209685.64	N 48 2 28.26	W 103 36 10.18
	8070.00	0.26	182.81	8069.37	43.93	-6.35	43.75	0.13	395079.72	1209685.67	N 48 2 28.26	W 103 36 10.18
	8164.00	0.09	4.08	8163.36	43.93	-6.49	43.75	0.37	395079.58	1209685.66	N 48 2 28.26	W 103 36 10.18
	8259.00	0.18	22.11	8258.36	43.99	-6.28	43.81	0.10	395079.79	1209685.73	N 48 2 28.26	W 103 36 10.18
	8354.00	0.79	53.43	8353.36	44.55	-5.75	44.39	0.68	395080.30	1209686.34	N 48 2 28.26	W 103 36 10.17
	8449.00	0.97	43.90	8448.35	45.60	-4.78	45.47	0.24	395081.22	1209687.46	N 48 2 28.27	W 103 36 10.15
	8544.00	1.14	59.21	8543.33	46.94	-3.71	46.84	0.34	395082.23	1209688.87	N 48 2 28.28	W 103 36 10.13
	8640.00	1.06	65.29	8639.32	48.54	-2.85	48.47	0.15	395083.02	1209690.53	N 48 2 28.29	W 103 36 10.11
	8735.00	1.06	59.68	8734.30	50.07	-2.04	50.03	0.11	395083.77	1209692.12	N 48 2 28.30	W 103 36 10.08
	8830.00	0.97	65.04	8829.29	51.53	-1.26	51.51	0.14	395084.49	1209693.63	N 48 2 28.31	W 103 36 10.06
	8924.00	0.88	64.06	8923.27	52.88	-0.61	52.88	0.10	395085.09	1209695.03	N 48 2 28.31	W 103 36 10.04
	9019.00	0.79	55.32	9018.26	54.05	0.08	54.08	0.16	395085.73	1209696.25	N 48 2 28.32	W 103 36 10.02
	9114.00	0.70	53.95	9113.25	55.03	0.80	55.09	0.10	395086.40	1209697.29	N 48 2 28.33	W 103 36 10.01
	9209.00	0.62	52.76	9208.25	55.89	1.45	55.97	0.09	395087.02	1209698.19	N 48 2 28.33	W 103 36 10.00
	9304.00	0.62	140.15	9303.24	56.63	1.37	56.70	0.90	395086.91	1209698.93	N 48 2 28.33	W 103 36 9.99
	9399.00	0.70	153.57	9398.24	57.25	0.45	57.29	0.18	395085.97	1209699.48	N 48 2 28.28	W 103 36 9.98
	9494.00	0.79	149.01	9493.23	57.88	-0.63	57.89	0.11	395084.87	1209700.03	N 48 2 28.31	W 103 36 9.97
	9589.00	0.79	149.18	9588.22	58.59	-1.75	58.56	0.00	395083.72	1209700.65	N 48 2 28.30	W 103 36 9.96
	9684.00	0.44	166.64	9683.22	59.04	-2.67	58.98	0.41	395082.78	1209701.04	N 48 2 28.29	W 103 36 9.95
	9779.00	0.62	196.33	9778.21	59.00	-3.52	58.92	0.34	395081.94	1209700.94	N 48 2 28.29	W 103 36 9.95
	9874.00	0.53	225.02	9873.21	58.57	-4.32	58.46	0.31	395081.15	1209700.45	N 48 2 28.28	W 103 36 9.96
	9969.00	0.26	61.95	9968.21	58.46	-4.53	58.34	0.82	395080.95	1209700.33	N 48 2 28.28	W 103 36 9.96
	10063.00	0.35	42.55	10062.20	58.83	-4.22	58.73	0.14	395081.24	1209700.72	N 48 2 28.28	W 103 36 9.96
	10157.00	0.35	31.35	10156.20	59.16	-3.76	59.07	0.07	395081.69	1209701.08	N 48 2 28.28	W 103 36 9.95
	10202.00	0.44	25.98	10201.20	59.30	-3.49	59.22	0.22	395081.95	1209701.24	N 48 2 28.29	W 103 36 9.95
	10219.00	0.35	8.06	10218.20	59.33	-3.38	59.25	0.89	395082.06	1209701.28	N 48 2 28.29	W 103 36 9.95
	10251.00	0.62	66.09	10250.20	59.50	-3.21	59.42	1.65	395082.22	1209701.46	N 48 2 28.29	W 103 36 9.95
	10283.00	4.48	106.04	10282.16	60.87	-3.49	60.78	12.58	395081.89	1209702.81	N 48 2 28.29	W 103 36 9.93
	10314.00	9.41	106.74	10312.93	64.49	-4.55	64.38	15.91	395080.68	1209706.35	N 48 2 28.28	W 103 36 9.87
	10346.00	13.37	107.80	10344.29	70.58	-6.44	70.41	12.39	395078.56	1209712.30	N 48 2 28.26	W 103 36 9.78
	10378.00	14.95	107.39	10375.32	78.11	-8.80	77.87	4.95	395075.89	1209719.66	N 48 2 28.23	W 103 36 9.67
	10409.00	17.24	112.10	10405.10	86.28	-11.73	85.94	8.50	395072.65	1209727.61	N 48 2 28.20	W 103 36 9.56
	10441.00	21.90	113.99	10435.24	96.26	-15.94	95.79	14.69	395068.04	1209737.28	N 48 2 28.16	W 103 36 9.41
	10473.00	27.17	115.37	10464.35	108.49	-21.50	107.86	16.56	395062.00	1209749.11	N 48 2 28.11	W 103 36 9.23
	10504.00	30.34	115.28	10491.52	122.17	-27.88	121.34	10.23	395055.08	1209762.32	N 48 2 28.04	W 103 36 9.03
	10536.00	34.38	114.63	10518.54	137.92	-35.10	136.86	12.67	395047.24	1209777.54	N 48 2 27.97	W 103 36 8.81
	10568.00	38.51	114.74	10544.28	155.44	-43.04	154.13	12.91	395038.62	1209794.48	N 48 2 27.90	W 103 36 8.55
	10600.00	40.80	114.20	10568.92	174.29	-51.49	172.72	7.24	395023.42	1209812.71	N 48 2 27.81	W 103 36 8.28
	10631.00	43.44	113.06	10591.91	193.60	-59.82	191.77	8.87	395020.33	1209831.40	N 48 2 27.73	W 103 36 8.00
	10663.00	46.78	112.20	10614.49	214.79	-68.54	212.69	10.61	395010.78	1209851.96	N 48 2 27.64	W 103 36 7.69
	10694.00	50.12	110.69	10635.05	236.65	-77.01	234.28	11.37	395001.44	1209873.19	N 48 2 27.56	W 103 36 7.37
	10726.00	52.76	111.42	10654.99	260.27	-86.00	257.63	8.44	394991.52	1209896.16	N 48 2 27.47	W 103 36 7.03
	10758.00	53.73	112.37	10674.14	284.36	-95.56	281.42	3.85	394981.01	1209919.54	N 48 2 27.38	W 103 36 6.68
	10790.00	56.98	111.33	10692.33	309.09	-105.36	305.85	10.50	394970.24	1209943.55	N 48 2 27.28	W 103 36 6.32
	10821.00	61.64	112.50	10708.15	334.12	-115.31	330.57	15.38	394959.30	1209967.85	N 48 2 27.18	W 103 36 5.96
	10853.00	65.60	113.45	10722.37	360.86	-126.50	356.96	12.66	394947.06	1209993.77	N 48 2 27.07	W 103 36 5.57
	10885.00	67.36	114.04	10735.14	388.08	-138.32	383.81	5.75	394934.17	1210020.12	N 48 2 26.96	W 103 36 5.17
	10917.00	71.58	113.82	10746.36	415.84	-150.47	411.20	13.20	394920.92	1210046.99	N 48 2 26.84	W 103 36 4.77
	10948.00	74.74	114.38	10755.33	443.30	-162.58	438.28	10.34	394907.73	1210073.56	N 48 2 26.72	W 103 36 4.37
	10980.00	75.62	113.63	10763.52	471.95	-175.17	466.54	3.56	394894.02	1210101.29	N 48 2 26.59	W 103 36 3.95
	11011.00	78.26	112.75	10770.52	500.08	-187.06	494.30	8.95	394881.02	1210128.54	N 48 2 26.47	W 103 36 3.55
	11036.00	81.21	112.72	10774.98	523.06	-196.56	516.98	11.81	394870.61	1210150.83	N 48 2 26.38	W 103 36 3.21
	11043.00	82.04	112.71	10776.00	529.53	-199.24	523.37	11.81	394867.68	1210157.10	N 48 2 26.35	W 103 36 3.12
	11075.00	87.93	112.41	10778.79	559.33	-211.46	552.80	18.43	394854.28	1210186.01	N 48 2 26.23	W 103 36 2.69
	11107.00	92.42	111.83	10778.70	589.34	-223.51	582.43	14.15	394841.05	1210215.13	N 48 2 26.11	W 103 36 2.25
	11147.00	92.51	112.56	10776.98	626.81	-238.60	619.43	1.84	394824.48	1210251.50	N 48 2 25.97	W 103 36 1.70
	11178.00	91.01	112.02	10776.02	655.85	-250.36	648.10	5.14	394811.58	1210279.67	N 48 2 25.85	W 103 36 1.28
	11208.00	91.28	111.69	10775.42	684.03	-261.52	675.94	1.42	394799.30	1210307.03	N 48 2 25.74	W 103 36 0.87
	11239.00	89.78	111.36	10775.14	713.22	-272.89	704.78	4.95	394786.78			



A Schlumberger Company  
9251 E 104th Ave.  
Commerce City, CO 80640  
(303) 439-5500

## Directional Survey Certification Form

Oasis Petroleum	Wade Federal 5300 41-30 #7T ST1	8-Dec-2014
Company	Well Name	Final report Date
PathFinder Job Number	ND, McKenzie County (NAD 83 NZ) Oasis	33-053-05998
	County / State	API Number
N 48° 2' 28.32000" N 48.0412	W 103° 36' 10.82000" W 103.60300556	877 ft FSL & 500 ft FEL Sec 30 Twn 153 N Rng 100 W
Surface Latitude	Surface Longitude	Surface Section - Township - Range
NAD83 ND State Plane, N Zone, Ft Datum & Coordinate System	Patterson 488 Rig Contractor	KB 32ft @ 2077.00 ft / GL: 2045.00 ft MSL Height Reference
Survey Depth	11297.00 Depth From	18148.00 Depth To
<b>Measurement While Drilling</b>		
Type of Survey		
Survey Depth	18148.00 Depth From	18174.00 Depth To
<b>Straight line projection to Bit/TD</b>		
Type of Survey		
Site Supervisors	Brittany Peddersen - MWD	
	MWD Surveyor 1	
	Brittany Peddersen - MWD	
	MWD Surveyor 2	

The data submitted in this report conforms to the standards and procedures as set forth by Schlumberger. This report represents a true and correct directional wellbore survey based on original survey data obtained at the well site.

*Matt VanderSchaaf*

Matt VanderSchaaf  
PathFinder Well Planner II

12/8/2014 8:32

Date



**Wade Federal 5300 41-30 #7T ST1 11270' to 18174' Definitive Survey**  
**Geodetic Report**  
(Def Survey)

**PATHFINDER**  
A Schlumberger Company

Report Date:	December 08, 2014 - 08:23 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Oasis Petroleum	Vertical Section Azimuth:	91.850 ° (True North)
Field:	ND, McKenzie County (NAD 83 NZ) Oasis 2014	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Oasis 30-153N-100W (Wade Federal 5300 41-30 Pad) - Patterson 488 / Wade Federal 5300 41-30 #7T	TVD Reference Datum:	KB 32ft
Well:	Wade Federal 5300 41-30 #7T	TVD Reference Elevation:	2077.000 ft above MSL
Borehole:	ST1	Seabed / Ground Elevation:	2045.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	8.395 °
Survey Name:	Wade Federal 5300 41-30 #7T ST1 11270' to 18174' Definitive	Total Gravity Field Strength:	1000.0448mgn (9.80665 Based)
Survey Date:	December 05, 2014	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	254.337 ° / 7750.128 ft / 6.518 ° / 0.714	Total Magnetic Field Strength:	56237.474 nT
Coordinate Reference System:	NAD83 North Dakota State Plane, Northern Zone, Feet	Magnetic Dip Angle:	72.904 °
Location Lat / Long:	N 48° 2' 28.32000", W 103° 36' 10.82000"	Declination Date:	December 05, 2014
Location Grid N/E Y/X:	N 395087.826 ft, E 1209642.216 ft	Declination Model:	BGGM 2014
CRS Grid Convergence Angle:	-2.3091 °	North Reference:	True North
Grid Scale Factor:	0.99993613	Grid Convergence Used:	0.0000 °
Version / Patch:	2.8.572.0	Total Corr Mag North->True	
		North:	8.3953 °
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °')	Longitude (E/W °')
Tie-Into OH Survey	11270.00	89.87	110.86	10775.23	742.49	-284.06	733.70	N/A	394774.46	1210363.83	N 48 2 25.52	W 103 36 0.02
Begin ST1 Survey	11297.00	87.76	111.19	10775.79	767.98	-293.74	758.89	7.91	394763.77	1210388.61	N 48 2 25.42	W 103 35 59.65
11331.00	87.93	108.15	10777.07	800.32	-305.18	790.88	8.95	394751.05	1210420.11	N 48 2 25.31	W 103 35 59.18	
11361.00	87.49	106.03	10778.27	829.24	-313.99	819.53	7.21	394741.10	1210448.38	N 48 2 25.22	W 103 35 58.76	
11392.00	88.46	105.32	10779.36	859.32	-322.36	849.36	3.88	394731.53	1210477.85	N 48 2 25.14	W 103 35 58.32	
11423.00	87.58	104.44	10780.43	889.51	-330.31	879.30	4.01	394722.38	1210507.44	N 48 2 25.05	W 103 35 57.88	
11453.00	87.23	102.20	10781.79	918.88	-337.22	908.46	7.55	394714.31	1210536.30	N 48 2 24.99	W 103 35 57.45	
11484.00	88.20	98.42	10783.03	949.51	-342.76	938.93	12.58	394707.54	1210566.52	N 48 2 24.94	W 103 35 57.00	
11514.00	88.29	96.72	10783.95	979.34	-346.71	968.66	5.67	394702.40	1210596.06	N 48 2 24.90	W 103 35 56.57	
11545.00	88.81	92.21	10784.73	1010.29	-349.12	999.54	14.64	394698.74	1210626.82	N 48 2 24.87	W 103 35 56.11	
11576.00	89.25	90.40	10785.26	1041.29	-349.83	1030.53	6.01	394696.79	1210657.75	N 48 2 24.87	W 103 35 55.66	
11606.00	89.34	87.77	10785.63	1071.25	-349.35	1060.52	8.77	394696.06	1210687.74	N 48 2 24.87	W 103 35 55.21	
11637.00	89.69	86.52	10785.89	1102.14	-347.80	1091.48	4.19	394696.35	1210718.73	N 48 2 24.89	W 103 35 54.76	
11698.00	90.57	87.48	10785.75	1162.92	-344.61	1152.40	2.13	394697.09	1210779.72	N 48 2 24.92	W 103 35 53.86	
11740.00	87.67	90.39	10786.40	1204.85	-343.83	1194.38	9.78	394696.18	1210821.69	N 48 2 24.93	W 103 35 53.24	
11790.00	88.02	90.76	10788.28	1254.81	-344.33	1244.34	1.02	394693.66	1210871.59	N 48 2 24.92	W 103 35 52.51	
11832.00	88.99	87.89	10789.37	1296.75	-343.84	1286.32	7.21	394692.47	1210913.55	N 48 2 24.93	W 103 35 51.89	
11885.00	89.08	88.19	10790.26	1349.62	-342.03	1339.28	0.59	394692.15	1210966.54	N 48 2 24.99	W 103 35 51.11	
11981.00	89.08	87.97	10791.81	1445.40	-338.81	1435.21	0.23	394691.49	1211062.52	N 48 2 24.99	W 103 35 49.70	
12076.00	88.55	87.76	10793.77	1540.15	-335.27	1530.12	0.60	394691.20	1211157.49	N 48 2 25.01	W 103 35 48.30	
12171.00	88.55	88.18	10796.17	1634.90	-331.91	1625.03	0.44	394690.74	1211252.46	N 48 2 25.04	W 103 35 46.91	
12267.00	89.60	88.20	10797.72	1730.69	-328.88	1720.97	1.09	394689.91	121348.43	N 48 2 25.07	W 103 35 45.50	
12362.00	86.88	89.55	10800.64	1825.51	-327.01	1815.90	3.20	394687.95	121443.35	N 48 2 25.09	W 103 35 44.10	
12458.00	88.11	87.95	10804.84	1921.27	-324.92	1911.78	2.10	394686.17	121539.23	N 48 2 25.11	W 103 35 42.69	
12489.00	89.96	87.82	10805.36	1952.19	-323.77	1942.75	5.98	394686.07	121570.22	N 48 2 25.12	W 103 35 42.23	
12553.00	88.46	86.32	10806.24	2015.96	-320.50	2006.66	3.31	394686.76	1216134.20	N 48 2 25.16	W 103 35 41.29	
12617.00	90.40	88.75	10806.88	2079.77	-317.75	2070.59	4.86	394686.94	121698.19	N 48 2 25.18	W 103 35 40.35	
12648.00	90.75	88.85	10806.57	2110.72	-317.10	2101.58	1.17	394686.34	1211729.18	N 48 2 25.19	W 103 35 39.89	
12744.00	90.31	88.68	10805.68	2206.58	-315.03	2197.55	0.49	394684.54	121825.15	N 48 2 25.21	W 103 35 38.48	
12839.00	90.22	90.62	10805.24	2301.50	-314.45	2292.55	2.04	394681.29	1211920.09	N 48 2 25.22	W 103 35 37.08	
12934.00	89.96	91.36	10805.09	2396.49	-316.09	2387.53	0.83	394675.82	1212014.92	N 48 2 25.24	W 103 35 35.69	
13029.00	90.04	91.38	10805.09	2491.49	-318.13	2482.50	0.09	394669.73	121209.72	N 48 2 25.18	W 103 35 34.29	
13124.00	89.87	90.80	10805.17	2586.48	-320.17	2577.49	0.64	394664.10	1212204.55	N 48 2 25.16	W 103 35 32.89	
13219.00	89.16	91.01	10805.97	2681.46	-321.67	2672.47	0.78	394658.77	1212299.39	N 48 2 25.14	W 103 35 31.49	
13315.00	89.60	89.60	10807.01	2777.42	-322.18	2768.46	1.54	394654.39	1212395.27	N 48 2 25.14	W 103 35 30.08	
13410.00	91.45	87.92	10806.14	2872.27	-320.13	2863.43	2.63	394652.62	1212490.24	N 48 2 25.11	W 103 35 28.68	
13505.00	90.57	89.39	10804.46	2967.10	-317.90	2958.38	1.80	394651.02	1212585.20	N 48 2 25.09	W 103 35 27.29	
13601.00	90.04	90.89	10803.95	3063.06	-318.13	3054.38	1.66	394649.62	1212681.10	N 48 2 25.18	W 103 35 25.87	
13696.00	90.57	91.34	10803.45	3158.05	-319.98	3149.36	0.73	394641.25	1212775.92	N 48 2 25.16	W 103 35 24.48	
13791.00	89.34	91.54	10803.52	3253.04	-322.37	3244.33	1.31	394635.03	1212870.71	N 48 2 25.14	W 103 35 23.08	
13885.00	89.78	92.42	10804.24	3347.04	-325.62	3338.27	1.05	394628.01	1212964.44	N 48 2 25.10	W 103 35 21.70	
13979.00	89.34	90.59	10804.97	3441.03	-328.09	3432.23	2.00	394621.75	1213058.22	N 48 2 25.06	W 103 35 20.31	
14074.00	88.72	90.31	10806.57	3535.99	-328.83	3527.21	0.72	394617.18	1213153.09	N 48 2 25.07	W 103 35 18.92	
14169.00	86.97	90.10	10810.15	3630.88	-329.17	3622.14	1.86	394613.02	1213247.92	N 48 2 25.07	W 103 35 17.52	
14200.00	87.85	90.36	10811.55	3661.83	-329.30	3653.10	2.96	394611.65	1213278.86	N 48 2 25.07	W 103 35 17.06	
14264.00	89.25	90.60	10813.17	3725.79	-329.83	3717.08	2.22	394609.53	1213342.75	N 48 2 25.06	W 103 35 16.12	
14359.00	89.96	90.09	10813.82	3820.76	-330.40	3812.08	0.92	394604.13	1213437.64	N 48 2 25.06	W 103 35 14.72	
14454.00	89.35	89.93	10813.96	3915.69	-329.94	3907.07	0.78	394600.77	1213532.58	N 48 2 25.06	W 103 35 13.33	
14549.00	89.60	90.29	10814.40	4016.63	-329.64	4002.07	1.03	394597.24	1213627.50	N 48 2 25.06	W 103 35 11.93	
14645.00	89.96	89.74	10814.77	4106.58	-329.67	4098.07	0.68	394593.35	1213723.42	N 48 2 25.06	W 103 35 10.52	
14740.00	90.13	89.87	10814.70	4201.52	-329.34	4193.07	0.23	394589.85	1213818.34	N 48 2 25.07	W 103 35 9.12	
14835.00	90.13	89.63	10814.48	4296.45	-328.93	4288.07	0.25	394584.83	1213913.28	N 48 2 25.07	W 103 35 7.72	
14930.00	90.22	89.31	10814.19	4391.37	-328.05	4383.06	0.35	394583.48	1214008.22	N 48 2 25.08	W 103 35 6.32	
15025.00	89.34	88.85	10814.55	4486.26	-326.52	4478.05	1.05	394581.18	1214103.19	N 48 2 25.09	W 103 35 4.92	
15121.00	87.93	89.73	10816.84	4582.13	-325.33	4574.01	1.73	394578.50	1214199.11	N 48 2 25.10	W 103 35 3.51	
15216.00	88.02	89.66	10820.20	4677.00	-324.83	4668.95	0.12	394575.18	1214293.99	N 48 2 25.11	W 103 35 2.11	
15311.00	89.43	88.97	10822.31	4771.88	-323.69	4763.92	1.65	394572.49	1214388.92	N 48 2 25.12	W 103 35 0.72	
15406.00	89.16	89.25	10823.48	4866.77	-322.22	4858.90	0.41	394570.14	1214483.88	N 48 2 25.13	W 103 34 59.32	
15502.00	89.34	89.01	10824.74	4962.65	-320.76	4954.88	0.31	394567.73	1214579.83	N 48 2 25.15	W 103 34 57.91	
15597.00	88.90	89.97	10826.20	5057.52	-319.09	5049.85	0.47	394565.58	1214674.79	N 4		

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °")	Longitude (E/W °")
	17207.00	89.87	90.12	10850.91	6666.01	-327.58	6658.91	2.47	394492.26	1216282.09	N 48 2 25.08	W 103 34 32.83
	17300.00	88.29	91.28	10852.40	6758.97	-328.72	6751.88	2.11	394487.38	1216374.94	N 48 2 25.06	W 103 34 31.46
	17394.00	89.16	89.90	10854.49	6852.93	-329.69	6845.85	1.74	394482.63	1216468.79	N 48 2 25.05	W 103 34 30.08
	17488.00	88.90	90.70	10856.09	6946.88	-330.18	6939.84	0.89	394478.35	1216562.67	N 48 2 25.05	W 103 34 28.70
	17583.00	88.90	90.37	10857.91	7041.83	-331.06	7034.81	0.35	394473.64	1216657.53	N 48 2 25.04	W 103 34 27.30
	17677.00	88.90	90.24	10859.71	7135.78	-331.56	7128.79	0.14	394469.35	1216751.41	N 48 2 25.03	W 103 34 25.92
	17771.00	89.60	90.45	10860.94	7229.74	-332.13	7222.78	0.78	394465.00	1216845.29	N 48 2 25.03	W 103 34 24.53
	17865.00	90.31	89.55	10861.02	7323.69	-332.13	7316.78	1.22	394461.22	1216939.21	N 48 2 25.02	W 103 34 23.15
	17959.00	90.40	89.00	10860.44	7417.59	-330.94	7410.77	0.59	394458.62	1217033.17	N 48 2 25.01	W 103 34 21.77
	18053.00	92.15	87.89	10858.34	7511.40	-328.39	7504.71	2.20	394457.38	1217127.12	N 48 2 25.00	W 103 34 20.39
Last ST1 Survey	18148.00	93.39	89.33	10853.75	7606.13	-326.09	7599.57	2.00	394455.86	1217221.99	N 48 2 25.09	W 103 34 18.99
Projection to Bit	18174.00	93.39	89.33	10852.22	7632.06	-325.79	7625.52	0.00	394455.12	1217247.93	N 48 2 25.09	W 103 34 18.61

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	32.000	1/98.425	30.000	30.000	SLB_MWD-STD-Depth Only
	1	32.000	32.000	Act Stns	30.000	30.000	SLB_MWD-STD-Depth Only
	1	32.000	11270.000	Act Stns	30.000	30.000	SLB_MWD-STD
	1	11270.000	18148.000	Act Stns	30.000	30.000	SLB_MWD-STD
	1	18148.000	18174.000	Act Stns	30.000	30.000	SLB_BLIND+TREND



A Schlumberger Company  
9251 E 104th Ave.  
Commerce City, CO 80640  
(303) 439-5500

## Directional Survey Certification Form

Oasis Petroleum	Wade Federal 5300 41-30 #7T ST2	8-Dec-2014
Company	Well Name	Final report Date
PathFinder Job Number	ND, McKenzie County (NAD 83 NZ) Oasis	33-053-05998
	County / State	API Number
N 48° 2' 28.32000" N 48.0412	W 103° 36' 10.82000" W 103.60300556	877 ft FSL & 500 ft FEL Sec 30 Twn 153 N Rng 100 W
Surface Latitude	Surface Longitude	Surface Section - Township - Range
NAD83 ND State Plane, N Zone, Ft Datum & Coordinate System	Patterson 488 Rig Contractor	KB 32ft @ 2077.00 ft / GL: 2045.00 ft MSL Height Reference
Survey Depth	18068.00 Depth From	20457.00 Depth To
<b>Measurement While Drilling</b> Type of Survey		
Survey Depth	20457.00 Depth From	20530.00 Depth To
<b>Straight line projection to Bit/TD</b> Type of Survey		
Site Supervisors	Brittany Feddersen - MWD	
	MWD Surveyor 1	
	Brittany Feddersen - MWD	
	MWD Surveyor 2	

The data submitted in this report conforms to the standards and procedures as set forth by Schlumberger. This report represents a true and correct directional wellbore survey based on original survey data obtained at the well site.

*Matt VanderSchaaf*

Matt VanderSchaaf  
PathFinder Well Planner II

12/8/2014 8:41

Date



**Wade Federal 5300 41-30 #7T ST2 18053' to 20530' Definitive Survey**  
**Geodetic Report**  
 (Non-Def Survey)

**PATHFINDER**  
 A Schlumberger Company

Report Date:	December 08, 2014 - 08:38 AM		Survey / DLS Computation:	Minimum Curvature / Lubinski								
Client:	Oasis Petroleum		Vertical Section Azimuth:	91.850 ° (True North)								
Field:	ND, McKenzie County (NAD 83 NZ) Oasis 2014		Vertical Section Origin:	0.000 ft, 0.000 ft								
Structure / Slot:	Oasis 30-153N-100W (Wade Federal 5300 41-30 Pad) - Patterson 488 / Wade Federal 5300 41-30 #7T		TVD Reference Datum:	KB 32ft								
Well:	Wade Federal 5300 41-30 #7T		TVD Reference Elevation:	2077.000 ft above MSL								
Borehole:	ST2		Seabed / Ground Elevation:	2045.000 ft above MSL								
UWI / API#:	Unknown / Unknown		Magnetic Declination:	8.395 °								
Survey Name:	Wade Federal 5300 41-30 #7T ST2 18053' to 20530' Definitive		Total Gravity Field Strength:	1000.0448mgn (9.80665 Based)								
Survey Date:	December 05, 2014		Gravity Model:	GARM								
Tort / AHD / DDI / ERD Ratio:	291.164 ° / 10105.834 ft / 6.744 / 0.929		Total Magnetic Field Strength:	56237.474 nT								
Coordinate Reference System:	NAD83 North Dakota State Plane, Northern Zone, Feet		Magnetic Dip Angle:	72.904 °								
Location Lat / Long:	N 48° 2' 28.32000", W 103° 36' 10.82000"		Declination Date:	December 05, 2014								
Location Grid N/E Y/X:	N 395087.826 ft, E 1209642.216 ft		Declination Model:	BGGM 2014								
CRS Grid Convergence Angle:	-2.3091 °		North Reference:	True North								
Grid Scale Factor:	0.99993613		Grid Convergence Used:	0.0000 °								
Version / Patch:	2.8.572.0		Total Corr Mag North->True									
			North:	8.3953 °								
			Local Coord Referenced To:	Well Head								
Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (%100ft)	Northing (ft)	Easting (ft)	Latitude (N/S °')	Longitude (E/W °')
Tie-Into ST1	18053.00	92.15	87.89	10858.34	7511.40	-328.39	7504.71	N/A	394457.38	1217127.12	N 48 2 25.00	W 103 34 17.39
Begin ST2	18068.00	89.78	90.11	10858.09	7526.38	-328.13	7519.70	21.65	394457.04	1217142.11	N 48 2 25.07	W 103 34 20.17
Survey	18100.00	88.64	90.71	10858.53	7558.36	-328.36	7551.70	4.03	394455.52	1217174.07	N 48 2 25.06	W 103 34 19.69
	18131.00	89.25	90.45	10859.10	7589.35	-328.67	7582.69	2.14	394453.96	1217205.03	N 48 2 25.06	W 103 34 19.24
	18163.00	89.34	91.00	10859.50	7621.34	-329.08	7614.69	1.74	394452.26	1217236.98	N 48 2 25.06	W 103 34 18.77
	18259.00	88.55	91.04	10861.27	7717.31	-330.79	7710.65	0.82	394446.69	1217332.79	N 48 2 25.00	W 103 34 17.36
	18354.00	90.22	90.43	10862.29	7812.29	-332.00	7805.64	1.87	394441.65	1217427.64	N 48 2 25.00	W 103 34 15.96
	18386.00	90.40	90.12	10862.11	7844.27	-332.16	7837.64	1.12	394440.20	1217459.61	N 48 2 25.03	W 103 34 15.49
	18449.00	91.54	89.94	10861.05	7907.23	-332.19	7900.63	1.83	394437.63	1217522.54	N 48 2 25.03	W 103 34 14.56
	18474.00	90.75	89.49	10860.55	7932.21	-332.07	7925.62	3.64	394436.75	1217547.52	N 48 2 25.03	W 103 34 14.19
	18544.00	91.54	89.71	10859.15	8002.14	-331.58	7995.60	1.17	394434.42	1217617.46	N 48 2 25.03	W 103 34 13.16
	18576.00	89.08	89.69	10858.97	8034.12	-331.41	8027.60	7.69	394433.30	1217649.44	N 48 2 25.00	W 103 34 12.69
	18640.00	89.16	89.87	10859.96	8098.07	-331.16	8091.59	0.31	394430.97	1217713.38	N 48 2 25.03	W 103 34 11.75
	18735.00	88.11	89.74	10862.22	8192.98	-330.84	8186.56	1.11	394427.46	1217808.28	N 48 2 25.04	W 103 34 10.35
	18830.00	87.85	89.63	10865.57	8287.85	-330.32	8281.50	0.30	394424.16	1217903.16	N 48 2 25.04	W 103 34 8.96
	18871.00	88.02	89.05	10867.05	8328.78	-329.85	8322.47	1.47	394422.98	1217944.11	N 48 2 25.05	W 103 34 8.35
	18967.00	88.20	87.81	10870.21	8424.56	-327.22	8418.38	1.30	394421.74	1218040.04	N 48 2 25.07	W 103 34 6.94
	19062.00	89.52	88.36	10872.10	8519.33	-324.05	8513.31	1.51	394421.09	1218135.02	N 48 2 25.10	W 103 34 5.54
	19158.00	90.57	88.20	10872.03	8615.15	-321.16	8609.27	1.11	394420.10	1218231.00	N 48 2 25.13	W 103 34 4.13
	19252.00	90.22	90.25	10871.38	8709.04	-319.89	8703.25	2.21	394417.59	1218324.96	N 48 2 25.14	W 103 34 2.75
	19347.00	88.37	89.64	10872.55	8803.98	-319.80	8798.24	2.05	394413.85	1218419.86	N 48 2 25.14	W 103 34 1.35
	19443.00	89.16	89.20	10874.62	8899.87	-318.83	8894.21	0.94	394410.95	1218515.79	N 48 2 25.15	W 103 33 59.94
	19536.00	90.40	89.28	10874.97	8992.77	-317.60	8987.20	1.34	394408.44	1218608.75	N 48 2 25.16	W 103 33 58.57
	19630.00	90.48	90.57	10874.25	9068.71	-317.47	9081.19	1.37	394404.78	1218702.67	N 48 2 25.17	W 103 33 57.19
	19725.00	89.87	90.38	10873.96	9181.68	-318.26	9176.19	0.67	394400.16	1218797.55	N 48 2 25.16	W 103 33 55.79
	19812.00	89.87	92.25	10874.16	9268.67	-320.26	9263.16	2.15	394394.66	1218884.36	N 48 2 25.14	W 103 33 54.51
	19906.00	91.54	91.38	10873.00	9362.66	-323.23	9357.10	2.00	394387.91	1218978.10	N 48 2 25.11	W 103 33 53.13
	20000.00	90.13	91.48	10871.63	9456.65	-325.58	9451.06	1.50	394381.78	1219071.88	N 48 2 25.08	W 103 33 51.74
	20094.00	89.69	90.62	10871.78	9550.64	-327.30	9545.05	1.03	394376.27	1219165.72	N 48 2 25.07	W 103 33 50.36
	20189.00	88.29	90.04	10873.45	9645.59	-327.85	9640.03	1.60	394371.90	1219260.59	N 48 2 25.06	W 103 33 48.96
	20284.00	88.99	89.30	10875.71	9740.49	-327.30	9735.00	1.07	394368.62	1219355.50	N 48 2 25.07	W 103 33 47.57
	20378.00	88.64	87.84	10877.65	9834.31	-324.96	9828.94	1.60	394367.17	1219449.46	N 48 2 25.00	W 103 33 46.18
Last ST2 Survey	20457.00	88.46	87.33	10879.65	9913.07	-321.63	9907.85	0.68	394367.32	1219528.43	N 48 2 25.12	W 103 33 45.02
Projection to Bit	20530.00	88.46	87.33	10881.61	9985.81	-318.23	9980.74	0.00	394367.78	1219601.40	N 48 2 25.15	W 103 33 43.95

Survey Type: Non-Def Survey

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
 Survey Program:

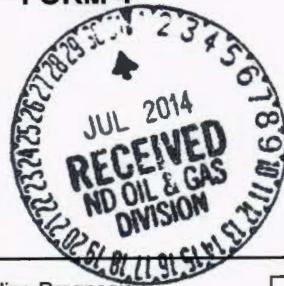
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	32.000	1/98.425	30.000	30.000	SLB_MWD-STD-Depth Only
	1	32.000	32.000	Act Stns	30.000	30.000	SLB_MWD-STD-Depth Only
	1	32.000	11270.000	Act Stns	30.000	30.000	SLB_MWD-STD
	1	11270.000	18053.000	Act Stns	30.000	30.000	SLB_MWD-STD
	1	18053.000	20457.000	Act Stns	30.000	30.000	SLB_MWD-STD
	1	20457.000	20530.000	Act Stns	30.000	30.000	SLB_BLIND+TREND



# 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.  
**28557**



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

Notice of Intent

Approximate Start Date  
**September 1, 2014**

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

## Well Name and Number

**Wade Federal 5300 41-30 7T**

Footages

877

F

S

L

280

F

W

L

Qtr-Qtr

Section

Township

Range

lot4

30

153 N

100 W

Field

Pool  
**Bakken**

County  
**McKenzie**

## 24-HOUR PRODUCTION RATE

Before	After	Oil	Bbls
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 to revise the casing plan for the subject well as follows:

13 3/8" 54.5# surface casing will be ran to 2,050'

Contingency 9 5/8" 40# will be ran to 6,400' in order to isolate the Dakota

7" 32# intermediate casing will be ran to 11,041'

4.5" 13.5# liner will be ran to 20,590'

Attached is a revised drill plan, directional plan/plot and well summary.

Company <b>Oasis Petroleum North America LLC</b>	Telephone Number <b>281-404-9491</b>	
Address <b>1001 Fannin, Suite 1500</b>		
City <b>Houston</b>	State <b>TX</b>	Zip Code <b>77002</b>
Signature 	Printed Name <b>Brandi Terry</b>	
Title <b>Regulatory Specialist</b>	Date <b>July 30, 2014</b>	
Email Address <b>bterry@oasispetroleum.com</b>		

## FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <b>8-18-14</b>	
By 	
Title <b>Petroleum Resource Specialist</b>	

DRILLING PLAN							
OPERATOR	Oasis Petroleum	COUNTY/STATE	McKenzie Co., ND				
WELL NAME	Wade Federal 5300 41-30 7T	RIG	Nabors 149				
WELL TYPE	Horizontal Three Forks	Surface Location (survey plat):	877' FSL	280' FWL			
LOCATION	SW SW 30-153N-100W	GROUND ELEV:	2,045'	Sub Height:	25'		
EST. T.D.	20,590'	KB ELEV:	2,070'				
TOTAL LATERAL:	9,549'						
<b>MARKER</b>	<b>TVD</b>	<b>Subsea TVD</b>	<b>LOGS:</b>	<b>Type</b>	<b>Interval</b>		
Pierre	NDIC MAP	1,920	150	OH Logs: Request Log waiver based on the Wade Federal 5300 21-30H 2,150' N of surface location			
Greenhorn		4,586	-2,496	CBL/GR: Above top of cement/GR to base of casing			
Mowry		4,969	-2,898	MWD GR: KOP to lateral TD			
Dakota		5,391	-3,321				
Rierdon		6,407	-4,337				
Dunham Salt		6,896	-4,826				
Dunham Salt Base		6,942	-4,872				
Pine Salt		7,205	-5,135				
Pine Salt Base		7,229	-5,159				
Opeche Salt		7,291	-5,221				
Opeche Salt Base		7,371	-5,301				
Amsden		7,815	-5,545				
Tyler		7,771	-5,701				
Otter/Base Minnelusa		7,994	-5,924				
Kibbey Lime		8,336	-6,296				
Charles Salt		8,484	-6,414				
Base Last Salt		9,163	-7,093				
Mission Canyon		9,377	-7,307				
Lodgepole		9,926	-7,856				
False Bakken		10,656	-8,586				
Upper Bakken Shale		10,668	-8,598				
Middle Bakken		10,683	-8,613				
Lower Bakken Shale		10,719	-8,649				
Pronghorn		10,728	-8,658				
Threeforks		10,744	-8,674				
Threeforks(Top of Target)		10,761	-8,691				
Threeforks(Base of Target)		10,770	-8,700				
Claystone		10,770	-8,700				
Est. Dip Rate:	0.01%						
Max. Anticipated BHP:	4867						
<b>MUD:</b>	<b>Interval</b>	<b>Type</b>	<b>WT</b>	<b>Vis</b>	<b>WL</b>	<b>Remarks</b>	
Surface:	0' -	2,050' FW/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,050' -	11,041' Invert	9.5-10.4	40-50	30+HTHP	Circ Mud Tanks	
Laterak	11,041' -	20,590' Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks	
<b>CASING:</b>	<b>Size</b>	<b>Wt ppf</b>	<b>Hole</b>	<b>Depth</b>	<b>Cement</b>	<b>WOC</b>	<b>Remarks</b>
Surface:	13-3/8"	54.5#	17-1/2"	2,050'	To Surface	12	100' into Pierre
Inermediate (Dakota):	9-5/8"	40#	12-1/4"	6,400'	To Surface	24	Set Casing across Dakota
Intermediate:	7"	32#	8-3/4"	11,041'	3891	24	1500' above Dakota
Production Liner:	4.5"	13.5#	6"	20,590'	TOL @ 10,243'		50' above KOP
<b>PROBABLE PLUGS, IF REQ'D:</b>							
<b>OTHER:</b>	<b>MD</b>	<b>TVD</b>	<b>FNL/FSL</b>	<b>FEL/FWL</b>	<b>S-T-R</b>	<b>AZI</b>	
Surface:	2,050	2,050	877 FSL	280 FWL	30-T153-R100		Survey Company:
KOP:	10,293'	10,293'	877 FSL	340 FWL	30-T153-R100		Build Rate: 12 deg./100'
EOC:	11,038'	10,770'	896 FSL	779 FWL	30-T153-R100	112.4	
Casing Point:	11,041'	10,770'	896 FSL	780 FWL	30-T153-R100	112.4	
Middle Bakken Lateral TD:	20,590'	10,828'	563 FSL	210 FEL	29-T153-R100	90.0	
<b>Comments:</b>							
Request Log waiver based on the Wade Federal 5300 21-30H 2,150' N of surface location							
No frac string planned							
35 packers and 25 sleeves planned 3.6MM lbs 30% ceramic							
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.							
68334-30-5 (Primary Name: Fuel, diesel) 68476-34-6 (Primary Name: Fuel, diesel, No. 2) 68476-30-2 (Primary Name: Fuel oil, No. 2)							
68476-31-3 (Primary Name: Fuel oil, No. 4) 8008-20-6 (Primary Name: Kerosene)							
<b>OASIS</b> PETROLEUM							
Geology: N. Gabelman	1/20/2014	Engineering: SMG3.26					

# **Oasis**

**Indian Hills**

**153N-100W-29/30**

**Wade Federal 5300 41-30 7T**

**Wade Federal 5300 41-30 7T**

**Plan: Design #1**

# **Standard Planning Report**

**19 May, 2014**

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T							
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)							
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)							
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True							
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature							
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T									
<b>Design:</b>	Design #1									
<b>Project</b>	Indian Hills									
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level							
<b>Geo Datum:</b>	North American Datum 1983									
<b>Map Zone:</b>	North Dakota Northern Zone									
<b>Site</b>	153N-100W-29/30									
<b>Site Position:</b>		<b>Northing:</b>	395,521.43 ft							
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,209,621.64 ft							
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	13.200 in							
			<b>Latitude:</b> 48° 2' 32.580 N							
			<b>Longitude:</b> 103° 36' 11.410 W							
			<b>Grid Convergence:</b> -2.31 °							
<b>Well</b>	Wade Federal 5300 41-30 7T									
<b>Well Position</b>	+N/S +E/W	-431.7 ft 40.1 ft	<b>Northing:</b> 395,088.50 ft <b>Easting:</b> 1,209,644.31 ft							
<b>Position Uncertainty</b>	0.0 ft		<b>Latitude:</b> 48° 2' 28.320 N <b>Longitude:</b> 103° 36' 10.820 W							
			<b>Wellhead Elevation:</b> Ground Level: 2,045.0 ft							
<b>Wellbore</b>	Wade Federal 5300 41-30 7T									
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b> (°)	<b>Dip Angle</b> (°)	<b>Field Strength</b> (nT)					
	IGRF200510	1/28/2014	8.18	72.95	56,489					
<b>Design</b>	Design #1									
<b>Audit Notes:</b>										
<b>Version:</b>		<b>Phase:</b>	<b>PROTOTYPE</b>	<b>Tie On Depth:</b>	0.0					
<b>Vertical Section:</b>		<b>Depth From (TVD)</b> (ft)	<b>+N/S</b> (ft)	<b>+E/W</b> (ft)	<b>Direction</b> (°)					
		0.0	0.0	0.0	91.85					
<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,060.0	0.50	90.00	2,060.0	0.0	0.0	5.00	5.00	0.00	90.00	
8,925.6	0.50	90.00	8,925.3	0.0	60.0	0.00	0.00	0.00	0.00	
8,935.6	0.00	0.00	8,935.3	0.0	60.0	5.00	-5.00	0.00	180.00	
10,000.3	0.00	0.00	10,000.0	0.0	60.0	0.00	0.00	0.00	0.00	
10,292.8	0.00	0.00	10,292.5	0.0	60.0	0.00	0.00	0.00	0.00	
11,039.9	89.65	112.38	10,770.0	-180.7	498.8	12.00	12.00	0.00	112.38	
11,041.2	89.65	112.38	10,770.0	-181.2	500.0	0.00	0.00	0.00	0.00	
11,782.3	89.65	90.00	10,774.6	-324.1	1,222.4	3.02	0.00	-3.02	269.93	
20,590.1	89.65	90.00	10,828.4	-324.1	10,030.0	0.00	0.00	0.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	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	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	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	
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Pierre</b>										
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,020.0	0.00	0.00	2,020.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Start Build 5.00</b>										
2,030.0	0.00	0.00	2,030.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Start 6865.6 hold at 2030.0 MD</b>										
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>9 5/8"</b>										
2,060.0	0.50	90.00	2,060.0	0.0	0.0	0.0	5.00	5.00	0.00	
2,100.0	0.50	90.00	2,100.0	0.0	0.4	0.4	0.00	0.00	0.00	
2,200.0	0.50	90.00	2,200.0	0.0	1.3	1.3	0.00	0.00	0.00	
2,300.0	0.50	90.00	2,300.0	0.0	2.1	2.1	0.00	0.00	0.00	
2,400.0	0.50	90.00	2,400.0	0.0	3.0	3.0	0.00	0.00	0.00	
2,500.0	0.50	90.00	2,500.0	0.0	3.9	3.9	0.00	0.00	0.00	
2,600.0	0.50	90.00	2,600.0	0.0	4.8	4.8	0.00	0.00	0.00	
2,700.0	0.50	90.00	2,700.0	0.0	5.6	5.6	0.00	0.00	0.00	
2,800.0	0.50	90.00	2,800.0	0.0	6.5	6.5	0.00	0.00	0.00	
2,900.0	0.50	90.00	2,900.0	0.0	7.4	7.4	0.00	0.00	0.00	
3,000.0	0.50	90.00	3,000.0	0.0	8.2	8.2	0.00	0.00	0.00	
3,100.0	0.50	90.00	3,100.0	0.0	9.1	9.1	0.00	0.00	0.00	
3,200.0	0.50	90.00	3,200.0	0.0	10.0	10.0	0.00	0.00	0.00	
3,300.0	0.50	90.00	3,300.0	0.0	10.9	10.9	0.00	0.00	0.00	
3,400.0	0.50	90.00	3,399.9	0.0	11.7	11.7	0.00	0.00	0.00	
3,500.0	0.50	90.00	3,499.9	0.0	12.6	12.6	0.00	0.00	0.00	
3,600.0	0.50	90.00	3,599.9	0.0	13.5	13.5	0.00	0.00	0.00	
3,700.0	0.50	90.00	3,699.9	0.0	14.4	14.3	0.00	0.00	0.00	
3,800.0	0.50	90.00	3,799.9	0.0	15.2	15.2	0.00	0.00	0.00	
3,900.0	0.50	90.00	3,899.9	0.0	16.1	16.1	0.00	0.00	0.00	
4,000.0	0.50	90.00	3,999.9	0.0	17.0	17.0	0.00	0.00	0.00	
4,100.0	0.50	90.00	4,099.9	0.0	17.8	17.8	0.00	0.00	0.00	
4,200.0	0.50	90.00	4,199.9	0.0	18.7	18.7	0.00	0.00	0.00	
4,300.0	0.50	90.00	4,299.9	0.0	19.6	19.6	0.00	0.00	0.00	
4,400.0	0.50	90.00	4,399.9	0.0	20.5	20.5	0.00	0.00	0.00	
4,500.0	0.50	90.00	4,499.9	0.0	21.3	21.3	0.00	0.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
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<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
4,566.1	0.50	90.00	4,566.0	0.0	21.9	21.9	0.00	0.00	0.00	
<b>Greenhorn</b>										
4,600.0	0.50	90.00	4,599.9	0.0	22.2	22.2	0.00	0.00	0.00	
4,700.0	0.50	90.00	4,699.9	0.0	23.1	23.1	0.00	0.00	0.00	
4,800.0	0.50	90.00	4,799.9	0.0	24.0	23.9	0.00	0.00	0.00	
4,900.0	0.50	90.00	4,899.9	0.0	24.8	24.8	0.00	0.00	0.00	
4,969.1	0.50	90.00	4,969.0	0.0	25.4	25.4	0.00	0.00	0.00	
<b>Mowry</b>										
5,000.0	0.50	90.00	4,999.9	0.0	25.7	25.7	0.00	0.00	0.00	
5,100.0	0.50	90.00	5,099.9	0.0	26.6	26.6	0.00	0.00	0.00	
5,200.0	0.50	90.00	5,199.9	0.0	27.4	27.4	0.00	0.00	0.00	
5,300.0	0.50	90.00	5,299.9	0.0	28.3	28.3	0.00	0.00	0.00	
5,391.1	0.50	90.00	5,391.0	0.0	29.1	29.1	0.00	0.00	0.00	
<b>Dakota</b>										
5,400.0	0.50	90.00	5,399.9	0.0	29.2	29.2	0.00	0.00	0.00	
5,500.0	0.50	90.00	5,499.9	0.0	30.1	30.0	0.00	0.00	0.00	
5,600.0	0.50	90.00	5,599.9	0.0	30.9	30.9	0.00	0.00	0.00	
5,700.0	0.50	90.00	5,699.9	0.0	31.8	31.8	0.00	0.00	0.00	
5,800.0	0.50	90.00	5,799.9	0.0	32.7	32.7	0.00	0.00	0.00	
5,900.0	0.50	90.00	5,899.9	0.0	33.6	33.5	0.00	0.00	0.00	
6,000.0	0.50	90.00	5,999.8	0.0	34.4	34.4	0.00	0.00	0.00	
6,100.0	0.50	90.00	6,099.8	0.0	35.3	35.3	0.00	0.00	0.00	
6,200.0	0.50	90.00	6,199.8	0.0	36.2	36.2	0.00	0.00	0.00	
6,300.0	0.50	90.00	6,299.8	0.0	37.0	37.0	0.00	0.00	0.00	
6,400.0	0.50	90.00	6,399.8	0.0	37.9	37.9	0.00	0.00	0.00	
6,407.2	0.50	90.00	6,407.0	0.0	38.0	38.0	0.00	0.00	0.00	
<b>Rierdon</b>										
6,500.0	0.50	90.00	6,499.8	0.0	38.8	38.8	0.00	0.00	0.00	
6,600.0	0.50	90.00	6,599.8	0.0	39.7	39.6	0.00	0.00	0.00	
6,700.0	0.50	90.00	6,699.8	0.0	40.5	40.5	0.00	0.00	0.00	
6,800.0	0.50	90.00	6,799.8	0.0	41.4	41.4	0.00	0.00	0.00	
6,896.2	0.50	90.00	6,896.0	0.0	42.2	42.2	0.00	0.00	0.00	
<b>Dunham Salt</b>										
6,900.0	0.50	90.00	6,899.8	0.0	42.3	42.3	0.00	0.00	0.00	
6,942.2	0.50	90.00	6,942.0	0.0	42.6	42.6	0.00	0.00	0.00	
<b>Dunham Salt Base</b>										
7,000.0	0.50	90.00	6,999.8	0.0	43.2	43.1	0.00	0.00	0.00	
7,100.0	0.50	90.00	7,099.8	0.0	44.0	44.0	0.00	0.00	0.00	
7,200.0	0.50	90.00	7,199.8	0.0	44.9	44.9	0.00	0.00	0.00	
7,205.2	0.50	90.00	7,205.0	0.0	44.9	44.9	0.00	0.00	0.00	
<b>Pine Salt</b>										
7,229.2	0.50	90.00	7,229.0	0.0	45.2	45.1	0.00	0.00	0.00	
<b>Pine Salt Base</b>										
7,291.2	0.50	90.00	7,291.0	0.0	45.7	45.7	0.00	0.00	0.00	
<b>Opelche Salt</b>										
7,300.0	0.50	90.00	7,299.8	0.0	45.8	45.7	0.00	0.00	0.00	
7,371.2	0.50	90.00	7,371.0	0.0	46.4	46.4	0.00	0.00	0.00	
<b>Opelche Salt Base</b>										
7,400.0	0.50	90.00	7,399.8	0.0	46.6	46.6	0.00	0.00	0.00	
7,500.0	0.50	90.00	7,499.8	0.0	47.5	47.5	0.00	0.00	0.00	
7,600.0	0.50	90.00	7,599.8	0.0	48.4	48.4	0.00	0.00	0.00	
7,615.2	0.50	90.00	7,615.0	0.0	48.5	48.5	0.00	0.00	0.00	
<b>Amsden</b>										
7,700.0	0.50	90.00	7,699.8	0.0	49.3	49.2	0.00	0.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 TT	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 TT		
<b>Design:</b>	Design #1		

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)	
7,771.2	0.50	90.00	7,771.0	0.0	49.9	49.9	0.00	0.00	0.00	
<b>Tyler</b>										
7,800.0	0.50	90.00	7,799.8	0.0	50.1	50.1	0.00	0.00	0.00	
7,900.0	0.50	90.00	7,899.8	0.0	51.0	51.0	0.00	0.00	0.00	
7,994.2	0.50	90.00	7,994.0	0.0	51.8	51.8	0.00	0.00	0.00	
<b>Otter/Base Minnelusa</b>										
8,000.0	0.50	90.00	7,999.8	0.0	51.9	51.9	0.00	0.00	0.00	
8,100.0	0.50	90.00	8,099.8	0.0	52.8	52.7	0.00	0.00	0.00	
8,200.0	0.50	90.00	8,199.8	0.0	53.6	53.6	0.00	0.00	0.00	
8,300.0	0.50	90.00	8,299.8	0.0	54.5	54.5	0.00	0.00	0.00	
8,336.3	0.50	90.00	8,336.0	0.0	54.8	54.8	0.00	0.00	0.00	
<b>Kibbey Lime</b>										
8,400.0	0.50	90.00	8,399.8	0.0	55.4	55.3	0.00	0.00	0.00	
8,484.3	0.50	90.00	8,484.0	0.0	56.1	56.1	0.00	0.00	0.00	
<b>Charles Salt</b>										
8,500.0	0.50	90.00	8,499.8	0.0	56.2	56.2	0.00	0.00	0.00	
8,600.0	0.50	90.00	8,599.8	0.0	57.1	57.1	0.00	0.00	0.00	
8,700.0	0.50	90.00	8,699.7	0.0	58.0	58.0	0.00	0.00	0.00	
8,800.0	0.50	90.00	8,799.7	0.0	58.9	58.8	0.00	0.00	0.00	
8,895.6	0.50	90.00	8,895.3	0.0	59.7	59.7	0.00	0.00	0.00	
<b>Start Drop -5.00</b>										
8,900.0	0.50	90.00	8,899.7	0.0	59.7	59.7	0.00	0.00	0.00	
8,905.6	0.50	90.00	8,905.3	0.0	59.8	59.8	0.00	0.00	0.00	
<b>Start 1094.7 hold at 8905.6 MD</b>										
8,925.6	0.50	90.00	8,925.3	0.0	60.0	59.9	0.00	0.00	0.00	
8,935.6	0.00	0.00	8,935.3	0.0	60.0	60.0	5.00	-5.00	0.00	
9,000.0	0.00	0.00	8,999.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,099.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,163.3	0.00	0.00	9,163.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Base Last Salt</b>										
9,200.0	0.00	0.00	9,199.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,299.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,377.3	0.00	0.00	9,377.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Mission Canyon</b>										
9,400.0	0.00	0.00	9,399.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,499.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,599.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,699.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,799.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,899.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,926.3	0.00	0.00	9,926.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Lodgepole</b>										
10,000.3	0.00	0.00	10,000.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Start 292.5 hold at 10000.3 MD</b>										
10,100.0	0.00	0.00	10,099.7	0.0	60.0	60.0	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,199.7	0.0	60.0	60.0	0.00	0.00	0.00	
10,292.8	0.00	0.00	10,292.5	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Start Build 12.00 KOP</b>										
10,300.0	0.86	112.38	10,299.7	0.0	60.1	60.0	12.00	12.00	0.00	
10,325.0	3.86	112.38	10,324.7	-0.4	61.0	61.0	12.00	12.00	0.00	
10,350.0	6.86	112.38	10,349.6	-1.3	63.2	63.2	12.00	12.00	0.00	
10,375.0	9.86	112.38	10,374.3	-2.7	66.5	66.6	12.00	12.00	0.00	
10,400.0	12.86	112.38	10,398.8	-4.6	71.1	71.2	12.00	12.00	0.00	
10,425.0	15.86	112.38	10,423.1	-6.9	76.8	77.0	12.00	12.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
10,450.0	18.86	112.38	10,446.9	-9.8	83.7	84.0	12.00	12.00	0.00	
10,475.0	21.86	112.38	10,470.3	-13.1	91.8	92.1	12.00	12.00	0.00	
10,500.0	24.86	112.38	10,493.3	-16.9	100.9	101.4	12.00	12.00	0.00	
10,525.0	27.86	112.38	10,515.7	-21.1	111.2	111.8	12.00	12.00	0.00	
10,550.0	30.86	112.38	10,537.5	-25.7	122.5	123.3	12.00	12.00	0.00	
10,575.0	33.86	112.38	10,558.6	-30.8	134.9	135.8	12.00	12.00	0.00	
10,600.0	36.86	112.38	10,579.0	-36.4	148.3	149.4	12.00	12.00	0.00	
10,625.0	39.86	112.38	10,598.6	-42.3	162.6	163.9	12.00	12.00	0.00	
10,650.0	42.86	112.38	10,617.3	-48.6	177.9	179.4	12.00	12.00	0.00	
10,675.0	45.86	112.38	10,635.2	-55.2	194.1	195.7	12.00	12.00	0.00	
10,700.0	48.86	112.38	10,652.1	-62.2	211.1	213.0	12.00	12.00	0.00	
10,705.9	49.58	112.38	10,656.0	-63.9	215.2	217.2	12.00	12.00	0.00	
<b>False Bakken</b>										
10,724.9	51.85	112.38	10,668.0	-69.5	228.8	230.9	12.00	12.00	0.00	
<b>Upper Bakken Shale</b>										
10,725.0	51.86	112.38	10,668.1	-69.5	228.9	231.0	12.00	12.00	0.00	
10,750.0	54.86	112.38	10,683.0	-77.2	247.4	249.8	11.98	11.98	0.00	
<b>Middle Bakken</b>										
10,775.0	57.86	112.38	10,696.8	-85.1	266.7	269.3	12.02	12.02	0.00	
10,800.0	60.86	112.38	10,709.6	-93.3	286.5	289.4	12.00	12.00	0.00	
10,820.1	63.28	112.38	10,719.0	-100.1	303.0	306.1	12.00	12.00	0.00	
<b>Lower Bakken Shale</b>										
10,825.0	63.86	112.38	10,721.2	-101.7	307.0	310.1	12.00	12.00	0.00	
10,841.1	65.79	112.38	10,728.0	-107.3	320.5	323.8	12.00	12.00	0.00	
<b>Pronghorn</b>										
10,850.0	66.86	112.38	10,731.6	-110.4	328.0	331.4	12.00	12.00	0.00	
10,875.0	69.86	112.38	10,740.8	-119.2	349.5	353.2	12.00	12.00	0.00	
10,884.6	71.01	112.38	10,744.0	-122.7	357.8	361.6	12.00	12.00	0.00	
<b>Threeforks</b>										
10,900.0	72.86	112.38	10,748.8	-128.2	371.4	375.4	12.00	12.00	0.00	
10,925.0	75.86	112.38	10,755.5	-137.4	393.7	397.9	12.00	12.00	0.00	
10,950.0	78.86	112.38	10,761.0	-146.7	416.2	420.7	12.00	12.00	0.00	
10,950.1	78.86	112.38	10,761.0	-146.7	416.3	420.8	0.00	0.00	0.00	
<b>Threeforks(Top of Target)</b>										
10,975.0	81.86	112.38	10,765.2	-156.1	439.0	443.8	12.03	12.03	0.00	
11,000.0	84.86	112.38	10,768.1	-165.5	462.0	467.1	12.00	12.00	0.00	
11,025.0	87.86	112.38	10,769.7	-175.0	485.0	490.4	12.00	12.00	0.00	
11,039.9	89.65	112.38	10,770.0	-180.7	498.8	504.4	12.00	12.00	0.00	
<b>Start 1.3 hold at 11039.9 MD</b>										
11,041.0	89.65	112.38	10,770.0	-181.1	499.8	505.4	0.00	0.00	0.00	
<b>7"</b>										
11,041.2	89.65	112.38	10,770.0	-181.2	500.0	505.6	0.00	0.00	0.00	
<b>Start DLS 3.02 TFO 269.93 7" csg pt</b>										
11,044.7	89.65	112.38	10,770.0	-182.5	503.3	508.9	0.00	0.00	0.00	
<b>Threeforks(Base of Target)</b>										
11,100.0	89.65	110.61	10,770.4	-202.8	554.7	561.0	3.21	0.00	-3.21	
11,200.0	89.65	107.59	10,771.0	-235.5	649.2	656.5	3.02	0.00	-3.02	
11,300.0	89.64	104.57	10,771.6	-263.1	745.3	753.4	3.02	0.00	-3.02	
11,400.0	89.64	101.55	10,772.2	-285.7	842.7	851.5	3.02	0.00	-3.02	
11,500.0	89.64	98.53	10,772.8	-303.2	941.1	950.4	3.02	0.00	-3.02	
11,600.0	89.64	95.51	10,773.5	-315.4	1,040.4	1,050.0	3.02	0.00	-3.02	
11,700.0	89.65	92.49	10,774.1	-322.3	1,140.1	1,149.9	3.02	0.00	-3.02	
11,782.3	89.65	90.00	10,774.6	-324.1	1,222.4	1,232.2	3.02	0.00	-3.02	
<b>Start 8807.7 hold at 11782.3 MD</b>										

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
11,800.0	89.65	90.00	10,774.7	-324.1	1,240.1	1,249.9	0.00	0.00	0.00	0.00
11,900.0	89.65	90.00	10,775.3	-324.1	1,340.1	1,349.9	0.00	0.00	0.00	0.00
12,000.0	89.65	90.00	10,775.9	-324.1	1,440.1	1,449.8	0.00	0.00	0.00	0.00
12,100.0	89.65	90.00	10,776.5	-324.1	1,540.1	1,549.8	0.00	0.00	0.00	0.00
12,200.0	89.65	90.00	10,777.1	-324.1	1,640.1	1,649.7	0.00	0.00	0.00	0.00
12,300.0	89.65	90.00	10,777.8	-324.1	1,740.1	1,749.6	0.00	0.00	0.00	0.00
12,400.0	89.65	90.00	10,778.4	-324.1	1,840.1	1,849.6	0.00	0.00	0.00	0.00
12,500.0	89.65	90.00	10,779.0	-324.1	1,940.1	1,949.5	0.00	0.00	0.00	0.00
12,600.0	89.65	90.00	10,779.6	-324.1	2,040.1	2,049.5	0.00	0.00	0.00	0.00
12,700.0	89.65	90.00	10,780.2	-324.1	2,140.1	2,149.4	0.00	0.00	0.00	0.00
12,800.0	89.65	90.00	10,780.8	-324.1	2,240.1	2,249.4	0.00	0.00	0.00	0.00
12,900.0	89.65	90.00	10,781.4	-324.1	2,340.1	2,349.3	0.00	0.00	0.00	0.00
13,000.0	89.65	90.00	10,782.0	-324.1	2,440.1	2,449.3	0.00	0.00	0.00	0.00
13,100.0	89.65	90.00	10,782.6	-324.1	2,540.1	2,549.2	0.00	0.00	0.00	0.00
13,200.0	89.65	90.00	10,783.3	-324.1	2,640.1	2,649.2	0.00	0.00	0.00	0.00
13,300.0	89.65	90.00	10,783.9	-324.1	2,740.1	2,749.1	0.00	0.00	0.00	0.00
13,400.0	89.65	90.00	10,784.5	-324.1	2,840.1	2,849.1	0.00	0.00	0.00	0.00
13,500.0	89.65	90.00	10,785.1	-324.1	2,940.1	2,949.0	0.00	0.00	0.00	0.00
13,600.0	89.65	90.00	10,785.7	-324.1	3,040.1	3,048.9	0.00	0.00	0.00	0.00
13,700.0	89.65	90.00	10,786.3	-324.1	3,140.1	3,148.9	0.00	0.00	0.00	0.00
13,800.0	89.65	90.00	10,786.9	-324.1	3,240.1	3,248.8	0.00	0.00	0.00	0.00
13,900.0	89.65	90.00	10,787.5	-324.1	3,340.1	3,348.8	0.00	0.00	0.00	0.00
14,000.0	89.65	90.00	10,788.1	-324.1	3,440.1	3,448.7	0.00	0.00	0.00	0.00
14,100.0	89.65	90.00	10,788.8	-324.1	3,540.1	3,548.7	0.00	0.00	0.00	0.00
14,200.0	89.65	90.00	10,789.4	-324.1	3,640.1	3,648.6	0.00	0.00	0.00	0.00
14,300.0	89.65	90.00	10,790.0	-324.1	3,740.0	3,748.6	0.00	0.00	0.00	0.00
14,400.0	89.65	90.00	10,790.6	-324.1	3,840.0	3,848.5	0.00	0.00	0.00	0.00
14,500.0	89.65	90.00	10,791.2	-324.1	3,940.0	3,948.5	0.00	0.00	0.00	0.00
14,600.0	89.65	90.00	10,791.8	-324.1	4,040.0	4,048.4	0.00	0.00	0.00	0.00
14,700.0	89.65	90.00	10,792.4	-324.1	4,140.0	4,148.3	0.00	0.00	0.00	0.00
14,800.0	89.65	90.00	10,793.0	-324.1	4,240.0	4,248.3	0.00	0.00	0.00	0.00
14,900.0	89.65	90.00	10,793.6	-324.1	4,340.0	4,348.2	0.00	0.00	0.00	0.00
15,000.0	89.65	90.00	10,794.3	-324.1	4,440.0	4,448.2	0.00	0.00	0.00	0.00
15,100.0	89.65	90.00	10,794.9	-324.1	4,540.0	4,548.1	0.00	0.00	0.00	0.00
15,200.0	89.65	90.00	10,795.5	-324.1	4,640.0	4,648.1	0.00	0.00	0.00	0.00
15,300.0	89.65	90.00	10,796.1	-324.1	4,740.0	4,748.0	0.00	0.00	0.00	0.00
15,400.0	89.65	90.00	10,796.7	-324.1	4,840.0	4,848.0	0.00	0.00	0.00	0.00
15,500.0	89.65	90.00	10,797.3	-324.1	4,940.0	4,947.9	0.00	0.00	0.00	0.00
15,600.0	89.65	90.00	10,797.9	-324.1	5,040.0	5,047.9	0.00	0.00	0.00	0.00
15,700.0	89.65	90.00	10,798.5	-324.1	5,140.0	5,147.8	0.00	0.00	0.00	0.00
15,800.0	89.65	90.00	10,799.2	-324.1	5,240.0	5,247.8	0.00	0.00	0.00	0.00
15,900.0	89.65	90.00	10,799.8	-324.1	5,340.0	5,347.7	0.00	0.00	0.00	0.00
16,000.0	89.65	90.00	10,800.4	-324.1	5,440.0	5,447.6	0.00	0.00	0.00	0.00
16,100.0	89.65	90.00	10,801.0	-324.1	5,540.0	5,547.6	0.00	0.00	0.00	0.00
16,200.0	89.65	90.00	10,801.6	-324.1	5,640.0	5,647.5	0.00	0.00	0.00	0.00
16,300.0	89.65	90.00	10,802.2	-324.1	5,740.0	5,747.5	0.00	0.00	0.00	0.00
16,400.0	89.65	90.00	10,802.8	-324.1	5,840.0	5,847.4	0.00	0.00	0.00	0.00
16,500.0	89.65	90.00	10,803.4	-324.1	5,940.0	5,947.4	0.00	0.00	0.00	0.00
16,600.0	89.65	90.00	10,804.0	-324.1	6,040.0	6,047.3	0.00	0.00	0.00	0.00
16,700.0	89.65	90.00	10,804.7	-324.1	6,140.0	6,147.3	0.00	0.00	0.00	0.00
16,800.0	89.65	90.00	10,805.3	-324.1	6,240.0	6,247.2	0.00	0.00	0.00	0.00
16,900.0	89.65	90.00	10,805.9	-324.1	6,340.0	6,347.2	0.00	0.00	0.00	0.00
17,000.0	89.65	90.00	10,806.5	-324.1	6,440.0	6,447.1	0.00	0.00	0.00	0.00
17,100.0	89.65	90.00	10,807.1	-324.1	6,540.0	6,547.1	0.00	0.00	0.00	0.00
17,200.0	89.65	90.00	10,807.7	-324.1	6,640.0	6,647.0	0.00	0.00	0.00	0.00

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
17,300.0	89.65	90.00	10,808.3	-324.1	6,740.0	6,746.9	0.00	0.00	0.00	
17,400.0	89.65	90.00	10,808.9	-324.1	6,840.0	6,846.9	0.00	0.00	0.00	
17,500.0	89.65	90.00	10,809.5	-324.1	6,940.0	6,946.8	0.00	0.00	0.00	
17,600.0	89.65	90.00	10,810.2	-324.1	7,040.0	7,046.8	0.00	0.00	0.00	
17,700.0	89.65	90.00	10,810.8	-324.1	7,140.0	7,146.7	0.00	0.00	0.00	
17,800.0	89.65	90.00	10,811.4	-324.1	7,240.0	7,246.7	0.00	0.00	0.00	
17,900.0	89.65	90.00	10,812.0	-324.1	7,340.0	7,346.6	0.00	0.00	0.00	
18,000.0	89.65	90.00	10,812.6	-324.1	7,440.0	7,446.6	0.00	0.00	0.00	
18,100.0	89.65	90.00	10,813.2	-324.1	7,540.0	7,546.5	0.00	0.00	0.00	
18,200.0	89.65	90.00	10,813.8	-324.1	7,640.0	7,646.5	0.00	0.00	0.00	
18,300.0	89.65	90.00	10,814.4	-324.1	7,740.0	7,746.4	0.00	0.00	0.00	
18,400.0	89.65	90.00	10,815.0	-324.1	7,840.0	7,846.4	0.00	0.00	0.00	
18,500.0	89.65	90.00	10,815.7	-324.1	7,940.0	7,946.3	0.00	0.00	0.00	
18,600.0	89.65	90.00	10,816.3	-324.1	8,040.0	8,046.2	0.00	0.00	0.00	
18,700.0	89.65	90.00	10,816.9	-324.1	8,140.0	8,146.2	0.00	0.00	0.00	
18,800.0	89.65	90.00	10,817.5	-324.1	8,240.0	8,246.1	0.00	0.00	0.00	
18,900.0	89.65	90.00	10,818.1	-324.1	8,340.0	8,346.1	0.00	0.00	0.00	
19,000.0	89.65	90.00	10,818.7	-324.1	8,440.0	8,446.0	0.00	0.00	0.00	
19,100.0	89.65	90.00	10,819.3	-324.1	8,540.0	8,546.0	0.00	0.00	0.00	
19,200.0	89.65	90.00	10,819.9	-324.1	8,640.0	8,645.9	0.00	0.00	0.00	
19,300.0	89.65	90.00	10,820.5	-324.1	8,740.0	8,745.9	0.00	0.00	0.00	
19,400.0	89.65	90.00	10,821.2	-324.1	8,840.0	8,845.8	0.00	0.00	0.00	
19,500.0	89.65	90.00	10,821.8	-324.1	8,940.0	8,945.8	0.00	0.00	0.00	
19,600.0	89.65	90.00	10,822.4	-324.1	9,039.9	9,045.7	0.00	0.00	0.00	
19,700.0	89.65	90.00	10,823.0	-324.1	9,139.9	9,145.6	0.00	0.00	0.00	
19,800.0	89.65	90.00	10,823.6	-324.1	9,239.9	9,245.6	0.00	0.00	0.00	
19,900.0	89.65	90.00	10,824.2	-324.1	9,339.9	9,345.5	0.00	0.00	0.00	
20,000.0	89.65	90.00	10,824.8	-324.1	9,439.9	9,445.5	0.00	0.00	0.00	
20,100.0	89.65	90.00	10,825.4	-324.1	9,539.9	9,545.4	0.00	0.00	0.00	
20,200.0	89.65	90.00	10,826.1	-324.1	9,639.9	9,645.4	0.00	0.00	0.00	
20,300.0	89.65	90.00	10,826.7	-324.1	9,739.9	9,745.3	0.00	0.00	0.00	
20,400.0	89.65	90.00	10,827.3	-324.1	9,839.9	9,845.3	0.00	0.00	0.00	
20,500.0	89.65	90.00	10,827.9	-324.1	9,939.9	9,945.2	0.00	0.00	0.00	
20,590.1	89.65	90.00	10,828.4	-324.1	10,030.0	10,035.2	0.00	0.00	0.00	

TD at 20590.1

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,050.0	2,050.0 13 3/8"		13.375	17.500
11,041.0	10,770.0 7"		7.000	8.750

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,920.0	1,920.0	Pierre			
4,566.1	4,566.0	Greenhorn			
4,969.1	4,969.0	Mowry			
5,391.1	5,391.0	Dakota			
6,407.2	6,407.0	Rierdon			
6,896.2	6,896.0	Dunham Salt			
6,942.2	6,942.0	Dunham Salt Base			
7,205.2	7,205.0	Pine Salt			
7,229.2	7,229.0	Pine Salt Base			
7,291.2	7,291.0	Opecche Salt			
7,371.2	7,371.0	Opecche Salt Base			
7,615.2	7,615.0	Amsden			
7,771.2	7,771.0	Tyler			
7,994.2	7,994.0	Otter/Base Minnelusa			
8,336.3	8,336.0	Kibbey Lime			
8,484.3	8,484.0	Charles Salt			
9,163.3	9,163.0	Base Last Salt			
9,377.3	9,377.0	Mission Canyon			
9,926.3	9,926.0	Lodgepole			
10,705.9	10,656.0	False Bakken			
10,724.9	10,668.0	Upper Bakken Shale			
10,750.0	10,683.0	Middle Bakken			
10,820.1	10,719.0	Lower Bakken Shale			
10,841.1	10,728.0	Pronghorn			
10,884.6	10,744.0	Threeforks			
10,950.1	10,761.0	Threeforks(Top of Target)			
11,044.7	10,770.0	Threeforks(Base of Target)			

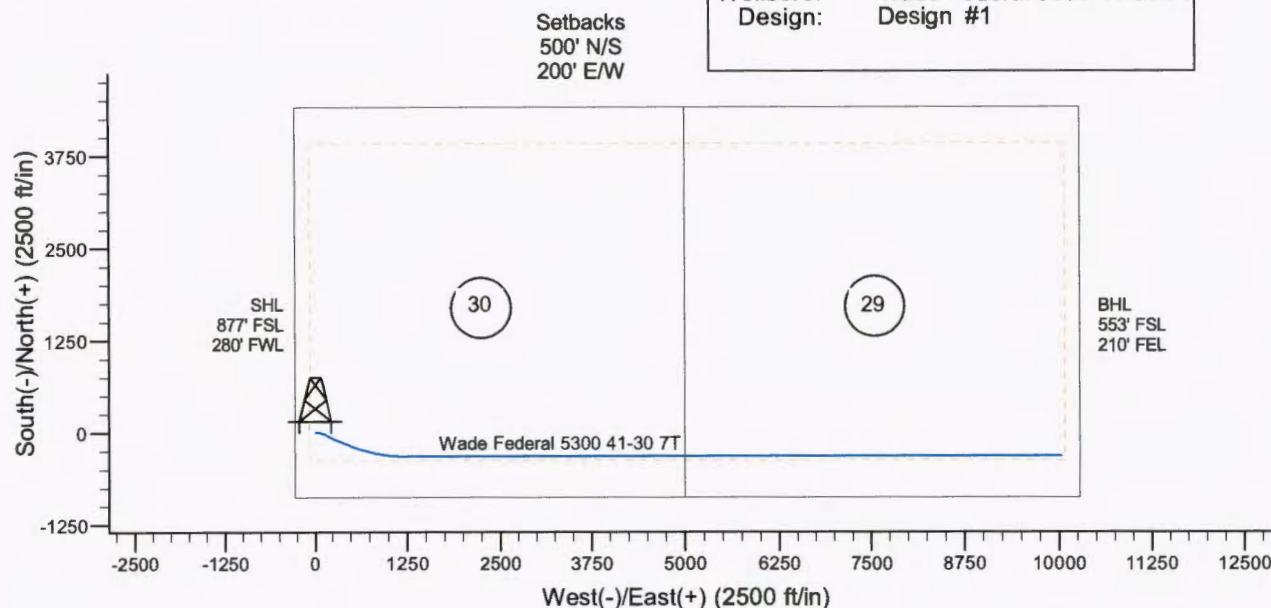
Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/S (ft)	+E/W (ft)		
2,020.0	2,020.0	0.0	0.0	Start Build 5.00	
2,030.0	2,030.0	0.0	0.0	Start 6865.6 hold at 2030.0 MD	
8,895.6	8,895.3	0.0	60.0	Start Drop -5.00	
8,905.6	8,905.3	0.0	60.0	Start 1094.7 hold at 8905.6 MD	
10,000.3	10,000.0	0.0	60.0	Start 292.5 hold at 10000.3 MD	
10,292.8	10,292.5	0.0	60.0	Start Build 12.00 KOP	
11,039.9	10,770.0	-180.7	498.8	Start 1.3 hold at 11039.9 MD	
11,041.2	10,770.0	-181.2	500.0	Start DLS 3.02 TFO 269.93 7" csg pt	
11,782.3	10,774.6	-324.1	1,222.4	Start 8807.7 hold at 11782.3 MD	
20,590.1	10,828.4	-324.1	10,030.0	TD at 20590.1	



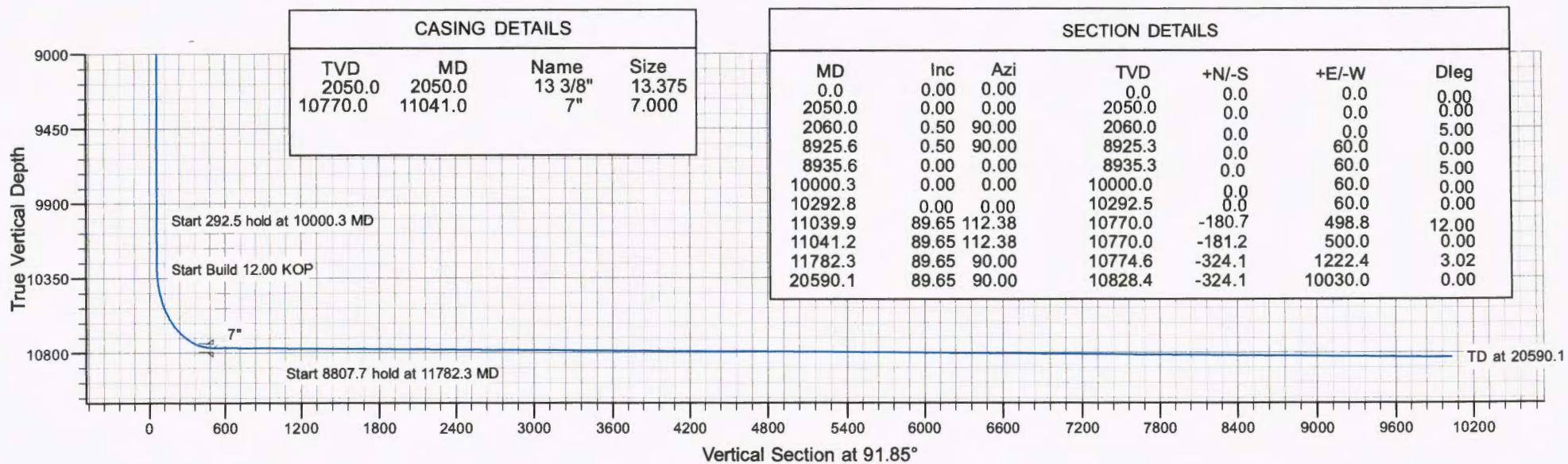
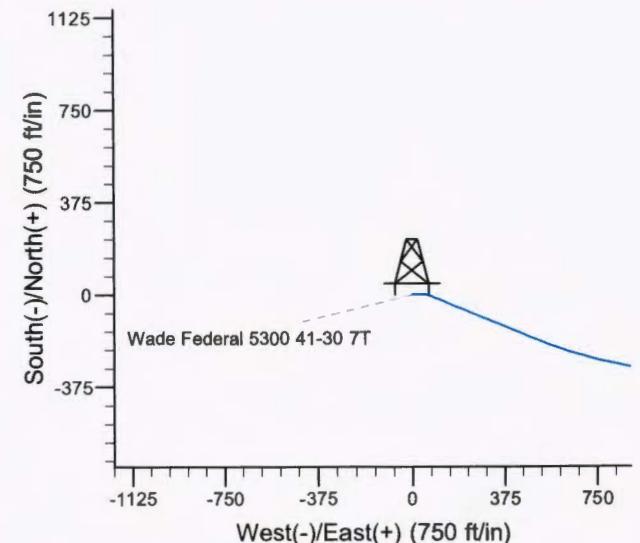
Azimuths to True North  
Magnetic North: 8.18°  
  
Magnetic Field  
Strength: 56488.5nT  
Dip Angle: 72.95°  
Date: 1/28/2014  
Model: IGRF200510



Project: Indian Hills  
Site: 153N-100W-29/30  
Well: Wade Federal 5300 41-30 7T  
Wellbore: Wade Federal 5300 41-30 7T  
Design: Design #1



SITE DETAILS: 153N-100W-29/30	
Site Centre Latitude:	48° 2' 28.320 N
Longitude:	103° 36' 10.820 W
Positional Uncertainty:	0.0
Convergence:	-2.31
Local North:	True



**Oasis Petroleum  
Well Summary**  
**Wade Federal 5300 41-30 7T**  
**Section 30 T153N R100W**  
**McKenzie County, ND**

**SURFACE CASING AND CEMENT DESIGN**

<b>Size</b>	<b>Interval</b>	<b>Weight</b>	<b>Grade</b>	<b>Coupling</b>	<b>I.D.</b>	<b>Drift</b>	<b>Make-up Torque (ft-lbs)</b>		
							<b>Minimum</b>	<b>Optimum</b>	<b>Max</b>
13-3/8"	0' to 2,050'	54.5	J-55	STC	12.615"	12.459"	4,100	5,470	6,840

<b>Interval</b>	<b>Description</b>	<b>Collapse</b>	<b>Burst</b>	<b>Tension</b>
		(psi) a	(psi) b	(1000 lbs) c
0' to 2,050'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.18	2730 / 2.84	514 / 2.62

**API Rating & Safety Factor**

- a) Based on full casing evacuation with 9 ppg fluid on backside (2,050' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2,050' setting depth).
- c) Based on string weight in 9 ppg fluid at 2,050' TVD plus 100k# overpull. (Buoyed weight equals 96k lbs.)

Cement volumes are based on 13-3/8" casing set in 17-1/2" hole with 50% excess to circulate cement back to surface.  
 Mix and pump the following slurry.

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

**Lead Slurry:**      **596 sks** (308 bbls) 2.9 yield conventional system with 94 lb/sk cement, .25 lb/sk D130 Lost Circulation Control Agent, 2% CaCl<sub>2</sub>, 4% D079 Extender and 2% D053 Expanding Agent.

**Tail Slurry:**      **349 sks** (72 bbls) 1.16 yield conventional system with 94 lb/sk cement, .25% CaCl<sub>2</sub> and 0.25 lb/sk Lost Circulation Control Agent

**Oasis Petroleum**  
**Well Summary**  
**Wade Federal 5300 41-30 7T**  
**Section 30 T153N R100W**  
**McKenzie County, ND**

**CONTINGENCY SURFACE CASING AND CEMENT DESIGN**

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' to 6,400'	40	L-80	LTC	8.835"	8.75"	5,450	7,270	9,090

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' to 6,400'	9-5/8", 40#, L-80, LTC, 8rd	3090 / 3.71	5750 / 1.24	837 / 3.86

**API Rating & Safety Factor**

- a) Collapse pressure based on 11.5 ppg fluid on the backside and 9 ppg fluid inside of casing.
- b) Burst pressure calculated from a gas kick coming from the production zone (Bakken Pool) at 9,000 psi and a subsequent breakdown at the 9-5/8" shoe, based on a 13.5#/ft fracture gradient. Backup of 9 ppg fluid.
- c) Yield based on string weight in 10 ppg fluid, (217k lbs buoyed weight) plus 100k lbs overpull.

Cement volumes are based on 9-5/8" casing set in 12-1/4" hole with 10% excess in OH and 0% excess inside surface casing. TOC at surface.

**Pre-flush (Spacer):**      **20 bbls** Chem wash

**Lead Slurry:**                **592 sks** (210 bbls) Conventional system with 75 lb/sk cement, 0.5 lb/sk lost circulation, 10% expanding agent, 2% extender, 2% CaCl<sub>2</sub>, 0.2% anti-settling agent and 0.4% fluid loss agent.

**Tail Slurry:**                **521 sks** (108 bbls) Conventional system with 94 lb/sk cement, 0.3% anti-settling agent, 0.3% fluid loss agent, 0.3 lb/sk lost circulation control agent, 0.2% anti-settling agent and 0.1% retarder.

**Oasis Petroleum  
Well Summary  
Wade Federal 5300 41-30 7T  
Section 30 T153N R100W  
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' – 11,041'	32	HCP-110	LTC	6.094"	6.000"	6730	8970	9870

\*\*\*Special drift

Interval	Length	Description	Collapse	Burst	Tension
			(psi) a	(psi) b	(1000 lbs) c
0' – 11,041'	11,041'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.11*	12460 / 1.28	897 / 2.24
6,696' – 9,163'	2,467'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.07*	12460 / 1.30	

**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.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10,770' TVD.
- c) Based on string weight in 10 ppg fluid, (290k lbs buoyed weight) plus 100k

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

**Pre-flush (Spacer):**      **50 bbls Saltwater**  
**40 bbls Weighted MudPush Express**

**Lead Slurry:**      **185 sks** (85 bbls) 2.55 yield conventional system with 47 lb/sk cement, 37 lb/sk D035 extender, 3.0% KCl, 3.0% D154 extender, 0.3% D208 viscosifier, 0.07% retarder, 0.2% anti-foam, 0.5 lb/sk, D130 LCM.

**Tail Slurry:**      **575 sks** (168 bbls) 1.55 yield conventional system with 94 lb/sk cement, 3.0% KCl, 35.0% Silica, 0.5% retarder, 0.2% fluid loss, 0.2% anti-foam and 0.5 lb/sk LCM.

**Oasis Petroleum  
Well Summary  
Wade Federal 5300 41-30 7T  
Section 30 T153N R100W  
McKenzie County, ND**

**PRODUCTION LINER**

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Estimated Torque
4-1/2"	10,243' – 20,591'	13.5	P-110	BTC	3.92"	3.795"	4,500

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10,243' – 20,591'	4-1/2", 13.5 lb, P-110, BTC, 8rd	10670 / 1.99	12410 / 1.28	443 / 2.01

**API Rating & Safety Factor**

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10,828' TVD.  
Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external
- b) fluid gradient @ 10,828' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 120k lbs.) plus 100k lbs overpull.

**Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.**

**68334-30-5 (Primary Name: Fuels, diesel)  
68476-34-6 (Primary Name: Fuels, diesel, No. 2)  
68476-30-2 (Primary Name: Fuel oil No. 2)  
68476-31-3 (Primary Name: Fuel oil, No. 4)  
8008-20-6 (Primary Name: Kerosene)**



# **Oil and Gas Division**

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

## **Department of Mineral Resources**

Lynn D. Helms - Director

## **North Dakota Industrial Commission**

[www.dmr.nd.gov/oilgas](http://www.dmr.nd.gov/oilgas)

28557

BRANDI TERRY  
OASIS PETROLEUM NORTH AMERICA LLC  
1001 FANNIN STE 1500  
HOUSTON, TX 77002 USA

Date: 6/9/2014

### **RE: CORES AND SAMPLES**

Well Name: **WADE FEDERAL 5300 41-30 7T** Well File No.: **28557**  
Location: **LOT4 30-153-100** County: **MCKENZIE**  
Permit Type: **Development - HORIZONTAL**  
Field: **BAKER** Target Horizon: **THREE FORKS B1**

Dear BRANDI TERRY:

North Dakota Century Code 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:

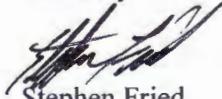
- 1) All cores, core chips and samples must be submitted to the State Geologist as provided for under North Dakota Century Code: Section 38-08-04 and North Dakota Administrative Code: Section 43-02-03-38.1.
- 2) Samples: The Operator is to begin collecting sample drill cuttings no lower than the:  
**Base of the Last Charles Salt**
  - Sample cuttings shall be collected at:
    - o 30' maximum intervals through all vertical and build sections.
    - o 100' maximum intervals through any horizontal sections.
  - Samples must be washed, dried, placed in standard sample envelopes (3" x 4.5"), packed in the correct order into standard sample boxes (3.5" x 5.25" x 15.25").
  - Samples boxes are to be carefully identified with a label that indicates the operator, well name, well file number, American Petroleum Institute (API) number, location and depth of samples; and forwarded in to the state core and sample library within 30 days of the completion of drilling operations.
- 3) Cores: Any cores cut shall be preserved in correct order, boxed in standard core boxes (4.5", 4.5", 35.75"), and the entire core forwarded to the state core and samples library within 180 days of completion of drilling operations.  
Any extension of time must have approval on a Form 4 Sundry Notice.

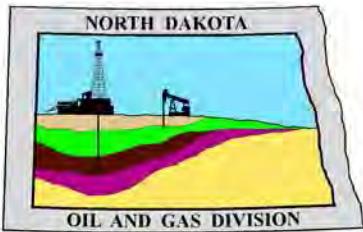
All cores, core chips, and samples must be shipped, prepaid, to the state core and samples library at the following address:

**ND Geological Survey Core Library  
2835 Campus Road, Stop 8156  
Grand Forks, ND 58202**

North Dakota Century Code 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

  
Stephen Fried  
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](http://www.oilgas.nd.gov)

June 5, 2014

Brandi Terry  
REGULATORY SPECIALIST  
OASIS PETROLEUM NORTH AMERICA LLC  
1001 Fannin Street, Suite 1500  
Houston, TX 77002

**RE: HORIZONTAL WELL  
WADE FEDERAL 5300 41-30 7T  
LOT4 Section 30-153N-100W  
McKenzie County  
Well File # 28557**

Dear Brandi:

Pursuant to Commission Order No. 23752, 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 **500'** setback from the north & south boundaries and **200'** setback from the east & west boundaries within the 1280 acre spacing unit consisting of SECTIONS 29 & 30 T153N R100W. **Tool error is not required pursuant to order.**

**PERMIT STIPULATIONS:** Effective June 1, 2014, a covered leak-proof container (with placard) for filter sock disposal must be maintained on the well site beginning when the well is spud, and must remain on-site during clean-out, completion, and flow-back whenever filtration operations are conducted. Due to drainage adjacent to the well site, a dike is required surrounding the entire location. 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." 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. Based on the azimuth of the proposed lateral the maximum legal coordinate from the well head is: 377'S and 10042'E.

### 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](mailto: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](mailto:digitallogs@nd.gov)

Thank you for your cooperation.

Sincerely,

Alice Webber  
Engineering Tech



# 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 <b>New Location</b>	Type of Well <b>Oil &amp; Gas</b>	Approximate Date Work Will Start <b>5 / 30 / 2014</b>	Confidential Status <b>No</b>
Operator <b>OASIS PETROLEUM NORTH AMERICA LLC</b>		Telephone Number <b>281-404-9491</b>	
Address <b>1001 Fannin Street, Suite 1500</b>		City <b>Houston</b>	State <b>TX</b> Zip Code <b>77002</b>

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 <b>WADE FEDERAL</b>			Well Number <b>5300 41-30 7T</b>			
Surface Footages <b>877 F S L      280 F W L</b>		Qtr-Qtr <b>LOT4</b>	Section <b>30</b>	Township <b>153 N</b>	Range <b>100 W</b>	County <b>McKenzie</b>
Longstring Casing Point Footages <b>696 F S L      780 F W L</b>		Qtr-Qtr <b>LOT4</b>	Section <b>30</b>	Township <b>153 N</b>	Range <b>100 W</b>	County <b>McKenzie</b>
Longstring Casing Point Coordinates From Well Head <b>181 S From WH      500 E From WH</b>		Azimuth <b>112.3 °</b>	Longstring Total Depth <b>11041 Feet MD      10770 Feet TVD</b>			
Bottom Hole Footages From Nearest Section Line <b>553 F S L      212 F E L</b>		Qtr-Qtr <b>LOT6</b>	Section <b>29</b>	Township <b>153 N</b>	Range <b>100 W</b>	County <b>Williams</b>
Bottom Hole Coordinates From Well Head <b>324 S From WH      10030 E From WH</b>		KOP Lateral 1 <b>10292 Feet MD</b>	Azimuth Lateral 1 <b>90.0 °</b>	Estimated Total Depth Lateral 1 <b>20590 Feet MD      10828 Feet TVD</b>		
Latitude of Well Head <b>48 ° 02 ' 28.32 "</b>	Longitude of Well Head <b>-103 ° 36 ' 10.82 "</b>	NAD Reference <b>NAD83</b>		Description of Spacing Unit: (Subject to NDIC Approval) <b>SECTIONS 29 &amp; 30 T153N R100W</b>		
Ground Elevation <b>2069 Feet Above S.L.</b>	Acres in Spacing/Drilling Unit <b>1280</b>	Spacing/Drilling Unit Setback Requirement <b>500 Feet N/S      200 Feet E/W</b>		Industrial Commission Order <b>23752</b>		
North Line of Spacing/Drilling Unit <b>10513 Feet</b>	South Line of Spacing/Drilling Unit <b>10522 Feet</b>	East Line of Spacing/Drilling Unit <b>5082 Feet</b>		West Line of Spacing/Drilling Unit <b>5236 Feet</b>		
Objective Horizons <b>Three Forks B1</b>						Pierre Shale Top <b>1920</b>
Proposed Surface Casing	Size <b>9 - 5/8 "</b>	Weight <b>36 Lb./Ft.</b>	Depth <b>2050 Feet</b>	Cement Volume <b>598 Sacks</b>	NOTE: Surface hole must be drilled with fresh water and surface casing must be cemented back to surface.	
Proposed Longstring Casing	Size <b>7 - "</b>	Weight(s) <b>32 Lb./Ft.</b>	Longstring Total Depth <b>11041 Feet MD</b>	Cement Volume <b>760 Sacks</b>	Cement Top <b>3922 Feet</b>	Top Dakota Sand <b>5391 Feet</b>
Base Last Charles Salt (If Applicable) <b>9163 Feet</b>		NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.				
Proposed Logs <b>TRIPLE COMBO: KOP TO KIBBEY GR/RES TO BSC GR TO SURF CND THROUGH THE DAKOTA</b>						
Drilling Mud Type (Vertical Hole - Below Surface Casing) <b>Invert</b>			Drilling Mud Type (Lateral) <b>Salt Water Gel</b>			
Survey Type in Vertical Portion of Well <b>MWD Every 100 Feet</b>		Survey Frequency: Build Section <b>30 Feet</b>		Survey Frequency: Lateral <b>90 Feet</b>		Survey Contractor <b>RYAN</b>

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

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

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

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

See Page 2 for Comments section and signature block.

**COMMENTS, ADDITIONAL INFORMATION, AND/OR LIST OF ATTACHMENTS**

Lateral 2

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

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

Date

03 / 31 / 2014

ePermit

Printed Name  
**Brandi Terry**

Title

**REGULATORY SPECIALIST****FOR STATE USE ONLY**

Permit and File Number <b>28557</b>	API Number <b>33 - 053 - 05998</b>
Field <b>BAKER</b>	
Pool <b>BAKKEN</b>	Permit Type <b>DEVELOPMENT</b>

**FOR STATE USE ONLY**

Date Approved <b>6 / 5 / 2014</b>
By <b>Alice Webber</b>
Title <b>Engineering Tech</b>



# 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](http://www.oilgas.nd.gov)

April 9, 2014

**RE: Filter Socks and Other Filter Media  
Leakproof Container Required  
Oil and Gas Wells**

Dear Operator,

North Dakota Administrative Code Section 43-02-03-19.2 states in part that all waste material associated with exploration or production of oil and gas must be properly disposed of in an authorized facility in accord with all applicable local, state, and federal laws and regulations.

Filtration systems are commonly used during oil and gas operations in North Dakota. The Commission is very concerned about the proper disposal of used filters (including filter socks) used by the oil and gas industry.

Effective June 1, 2014, a container must be maintained on each well drilled in North Dakota beginning when the well is spud and must remain on-site during clean-out, completion, and flow-back whenever filtration operations are conducted. The on-site container must be used to store filters until they can be properly disposed of in an authorized facility. Such containers must be:

- leakproof to prevent any fluids from escaping the container
- covered to prevent precipitation from entering the container
- placard to indicate only filters are to be placed in the container

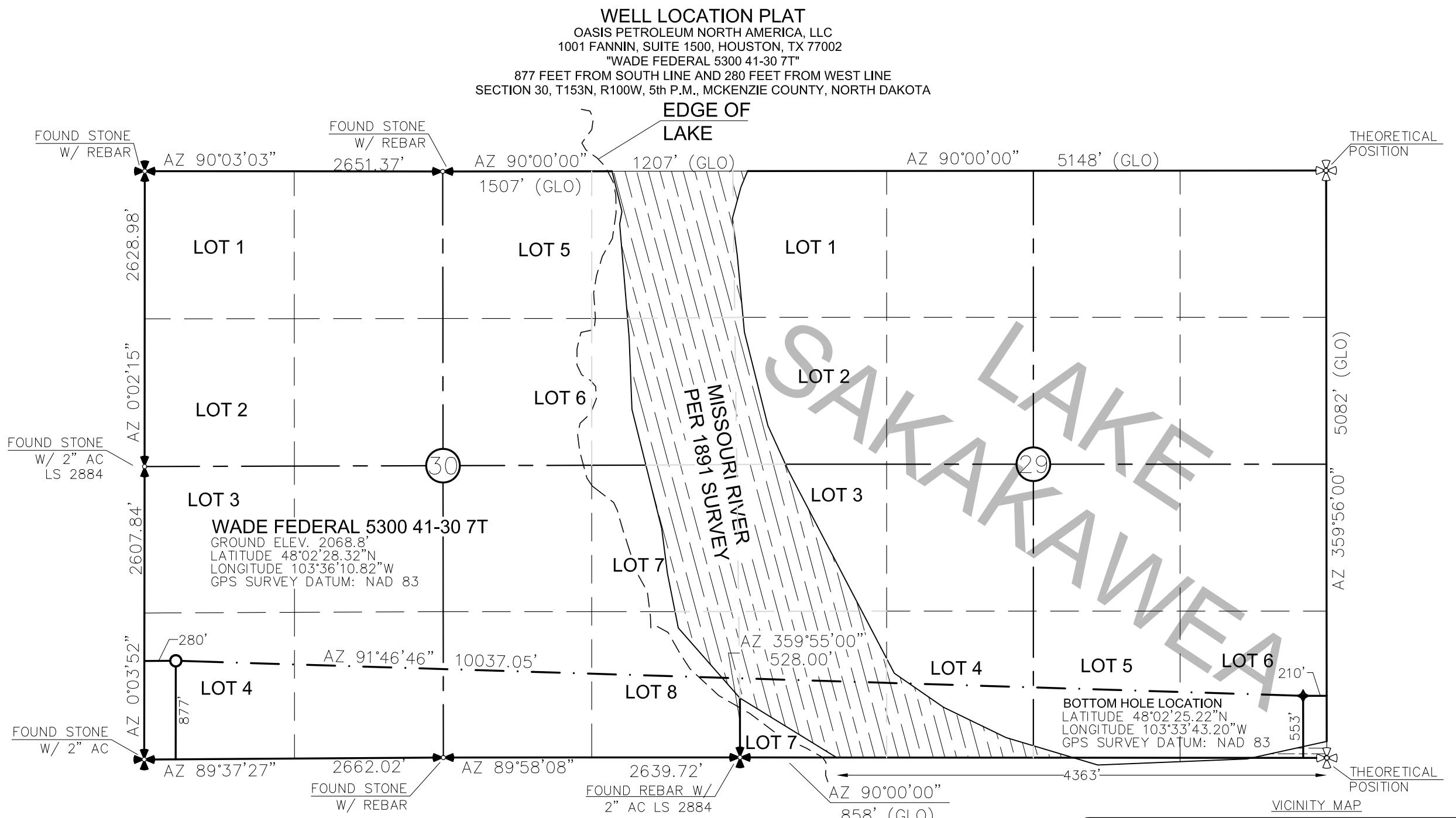
If the operator will not utilize a filtration system, a waiver to the container requirement will be considered, but only upon the operator submitting a Sundry Notice (Form 4) justifying their request.

As previously stated in our March 13, 2014 letter, North Dakota Administrative Code Section 33-20-02.1-01 states in part that every person who transports solid waste (which includes oil and gas exploration and production wastes) is required to have a valid permit issued by the North Dakota Department of Health, Division of Waste Management. Please contact the Division of Waste Management at (701) 328-5166 with any questions on the solid waste program. Note oil and gas exploration and production wastes include produced water, drilling mud, invert mud, tank bottom sediment, pipe scale, filters, and fly ash.

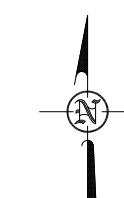
Thank you for your cooperation.

Sincerely,

*Bruce E. Hicks*  
Assistant Director



THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 3/18/14 AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.

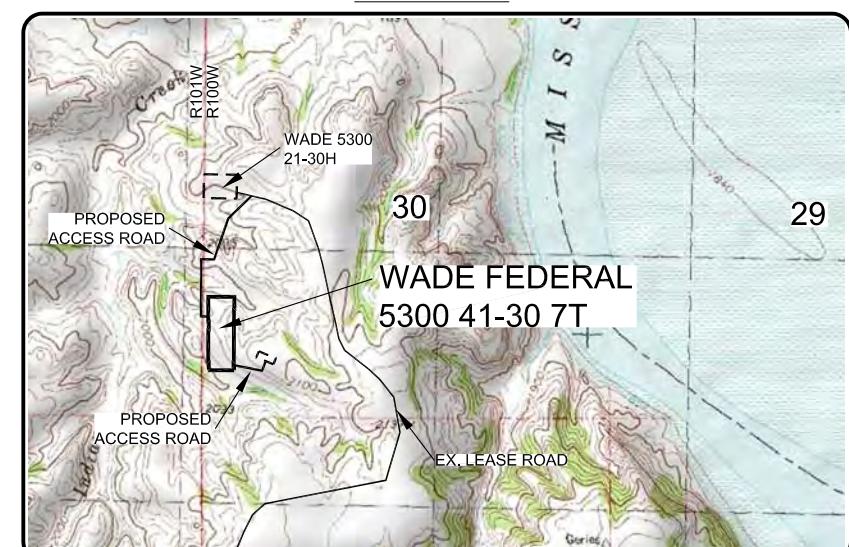
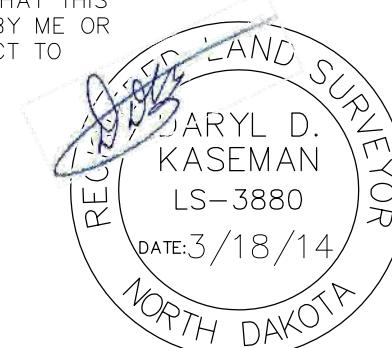


- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

DARYL D. KASEMAN LS-3880

STAKED ON 1/10/14  
VERTICAL CONTROL DATUM WAS BASED UPON  
CONTROL POINT 705 WITH AN ELEVATION OF 2158.3'

THIS SURVEY AND PLAT IS BEING PROVIDED AT THE REQUEST OF ERIC BAYES 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.



1/8



SHEET NO.

© 2014, INTERSTATE ENGINEERING, INC.

	Revision No.	Date	By	Description
	REV 1	3/17/14	JJS	Moved wells on pad & access road

© 2013 SAK-30-3880-06 Oasis Petroleum - Wade 71d - 3/19/2014 6:59 AM Well schmeefer  
© 2013 SAK-30-3880-06 Oasis Petroleum - Wade 71d - 3/19/2014 6:59 AM Well schmeefer

OASIS PETROLEUM NORTH AMERICA, LLC	WELL LOCATION PLAT
SECTION 30, T153N, R100W	
MCKENZIE COUNTY, NORTH DAKOTA	
Drawn By: BHH	Project No.: S13-09-3880-06
Checked By: DDK	Date: JAN 2014

Other offices in Minnesota, North Dakota and South Dakota

P.O. Box 648  
425 East Main Street  
Sidney, Montana 59270  
Ph (406) 433-5617  
Fax (406) 433-5618  
[www.interstateeng.com](http://www.interstateeng.com)

© 2013 SAK-30-3880-06 Oasis Petroleum - Wade 71d - 3/19/2014 6:59 AM Well schmeefer

DRILLING PLAN									
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND				
WELL NAME	Wade Federal 5300 41-30 7T			RIG	Nabors 149				
WELL TYPE	Horizontal Three Forks			LOCATION	SW SW 30-153N-100W				
EST. T.D.	20,590'			Surface Location (survey plat):	877' FSL	280' FWL			
TOTAL LATERAL:	9,549'			GROUND ELEV:	2,045'	Sub Height: 25'			
MARKER	TVD	Subsea TVD	LOGS:	Type	Interval				
Pierre	NDIC MAP	1,920		OH Logs:	Request Log waiver based on the Wade Federal 5300 21-30H 2,150' N of surface location				
Greenhorn		4,566	150 -2,496	CBL/GR:	Above top of cement/GR to base of casing				
Mowry		4,969	-2,899	MWD GR:	KOP to lateral TD				
Dakota		5,391	-3,321						
Rierdon		6,407	-4,337	DEVIATION:	Surf: 3 deg. max., 1 deg / 100'; svry every 500' Prod: 5 deg. max., 1 deg / 100'; svry every 100'				
Dunham Salt		6,896	-4,826						
Dunham Salt Base		6,942	-4,872						
Pine Salt		7,205	-5,135						
Pine Salt Base		7,229	-5,159						
Opeche Salt		7,291	-5,221						
Opeche Salt Base		7,371	-5,301						
Amsden		7,615	-5,545						
Tyler		7,771	-5,701						
Otter/Base Minnelusa		7,994	-5,924	DST'S:	None planned				
Kibbey Lime		8,336	-6,266						
Charles Salt		8,484	-6,414	CORES:	None planned				
Base Last Salt		9,163	-7,093						
Mission Canyon		9,377	-7,307						
Lodgepole		9,926	-7,856						
False Bakken		10,656	-8,586						
Upper Bakken Shale		10,668	-8,598	MUDLOGGING:	Two-Man: Begin 200' above Kibbey 30' samples in curve and lateral				
Middle Bakken		10,683	-8,613						
Lower Bakken Shale		10,719	-8,649						
Pronghorn		10,728	-8,658						
Threeforks		10,744	-8,674						
Threeforks(Top of Target)		10,761	-8,691						
Threeforks(Base of Target)		10,770	-8,700						
Claystone		10,770	-8,700	BOP:	11" 5000 psi blind, pipe & annular				
Est. Dip Rate:	-0.35								
Max. Anticipated BHP:	4667			Surface Formation:	Glacial till				
MUD:	Interval	Type	WT	Vis	WL	Remarks			
Surface:	0' - 2,050'	FW/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks			
Intermediate:	2,050' - 11,041'	Invert	9.5-10.4	40-50	30+HtHp	Circ Mud Tanks			
Laterals:	11,041' - 20,590'	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"	2,050'	To Surface	12	100' into Pierre		
Intermediate:	7"	29/32#	8-3/4"	11,041'	3891	24	1500' above Dakota		
Production Liner:	4.5"	11.6#	6"	20,590'	TOL @ 10,243'		50' above KOP		
PROBABLE PLUGS, IF REQ'D:									
OTHER:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI			
Surface:	2,050	2,050	877 FSL	280 FWL	30-T153-R100		Survey Company:		
KOP:	10,293'	10,293'	877 FSL	340 FWL	30-T153-R100		Build Rate: 12 deg /100'		
EOC:	11,039'	10,770'	696 FSL	779 FWL	30-T153-R100	112.4			
Casing Point:	11,041'	10,770'	696 FSL	780 FWL	30-T153-R100	112.4			
Middle Bakken Lateral TD:	20,590'	10,828'	553 FSL	210 FEL	29-T153-R100	90.0			
Comments:									
Request Log waiver based on the Wade Federal 5300 21-30H 2,150' N of surface location									
No frac string planned									
35 packers and 25 sleeves planned 3.6MM lbs 30% ceramic									
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.									
68334-30-5 (Primary Name: Fuels, diesel) 68476-34-6 (Primary Name: Fuels, diesel, No. 2) 68476-30-2 (Primary Name: Fuel oil No. 2)									
68476-31-3 (Primary Name: Fuel oil, No. 4) 8008-20-6 (Primary Name: Kerosene)									
									
Geology:	N. Gabelman	1/20/2014		Engineering:	SMG3.26				

**Oasis Petroleum**  
**Well Summary**  
**Wade Federal 5300 41-30 7T**  
**Secion 30 T153N R100W**  
**McKenzie Co, ND**

**SURFACE CASING AND CEMENT DESIGN**

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' - <b>[2050]</b>	36	J-55	LTC	8.921"	8.765"	3400	4530	5660

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - <b>[2050]</b>	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.13	3520 / 3.72	453 / 2.78

**API Rating & Safety Factor**

- a) Based on full casing evacuation with 9 ppg fluid on backside **[2050]** setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside **[2050]** setting depth).
- c) Based on string weight in 9 ppg fluid at **[2050]** VD plus 100k# overpull. (Buoyed weight equals 63k 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:**      **425 sks** (225 bbls), 11.5 lb/gal, 2.97 cu. Ft./sk Varicem Cement with 0.125 il/sk Lost Circulation Additive

**Tail Slurry:**      **173 sks** (62 bbls), 13.0 lb/gal, 2.01 cu.ft./sk Varicem with .125 lb/sk Lost Circulation Agent

**Oasis Petroleum**  
**Well Summary**  
**Wade Federal 5300 41-30 7T**  
**Secion 30 T153N R100W**  
**McKenzie Co, ND**

**INTERMEDIATE CASING AND CEMENT DESIGN**

<b>Size</b>	<b>Interval</b>	<b>Weight</b>	<b>Grade</b>	<b>Coupling</b>	<b>I.D.</b>	<b>Drift**</b>	<b>Make-up Torque (ft-lbs)</b>		
							<b>Minimum</b>	<b>Optimum</b>	<b>Max</b>
7"	0' - 11041'	32	HCP-110	LTC	6.094"	6.000"**	6730	8970	9870

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

<b>Interval</b>	<b>Length</b>	<b>Description</b>	<b>Collapse</b>	<b>Burst</b>	<b>Tension</b>
			(psi) a	(psi) b	(1000 lbs) c
0' - 11041'	11041'	7", 32#, P-110, LTC, 8rd	11820 / 2.11*	12460 / 1.28	897 / 2.24
6696' - 9163'	2467'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.07**	12460 / 1.30	

**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.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10770' TVD.
- c) Based on string weight in 10 ppg fluid, (300k 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.

Mix and pump the following slurry

**Pre-flush (Spacer):**      **100 bbls** Saltwater  
**20bbls** CW8  
**20bbls** Fresh Water

**Lead Slurry:**      **185 sks** (85 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive

**Tail Slurry:**      **575 sks** (168 bbls), 14.0 ppg, 1.55 cu. ft./sk Extendcem System with .2% HR-5 Retarder and .25 lb/sk Lost Circulation Additive

**Oasis Petroleum**  
**Well Summary**  
**Wade Federal 5300 41-30 7T**  
**Secion 30 T153N R100W**  
**McKenzie Co, ND**

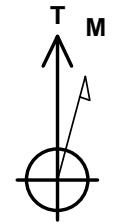
**PRODUCTION LINER**

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10243' - 20591'	13.5	P-110	BTC	3.920"	3.795"	2270	3020	3780

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c
10243' - 20591'	10348	4-1/2", 13.5 lb, P-110, BTC	10670 / 1.99	12410 / 1.28	443 / 2.01

**API Rating & Safety Factor**

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10828' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10828' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 120k lbs.) plus 100k lbs overpull.



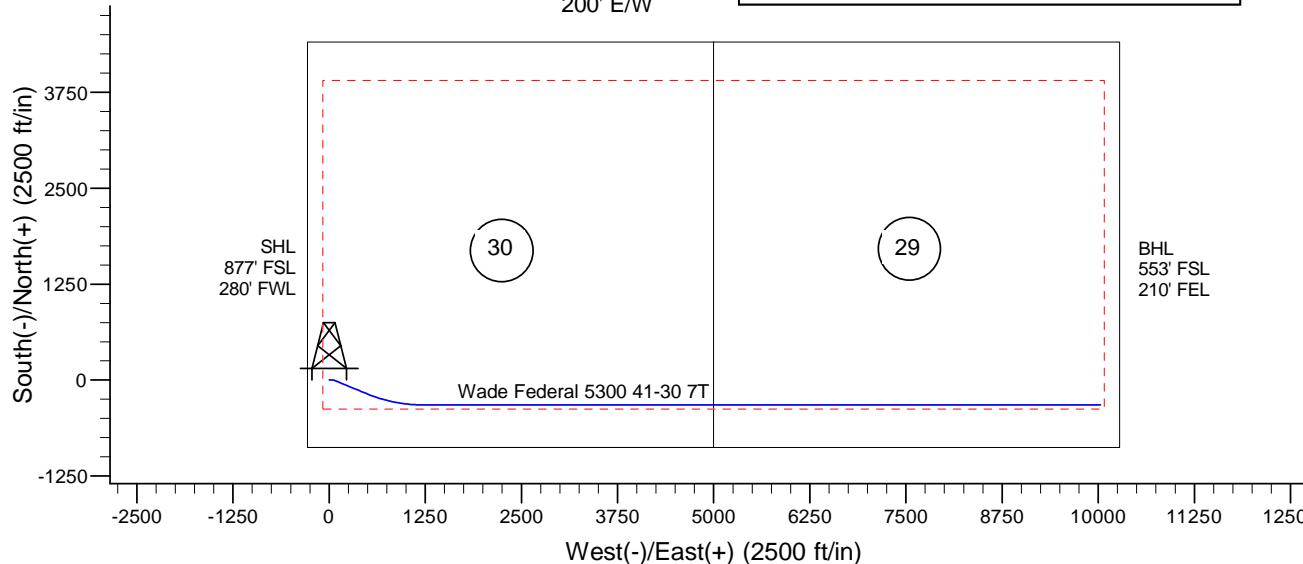
Azimuths to True North  
Magnetic North: 8.18°

Magnetic Field  
Strength: 56488.5snT  
Dip Angle: 72.95°  
Date: 1/28/2014  
Model: IGRF200510

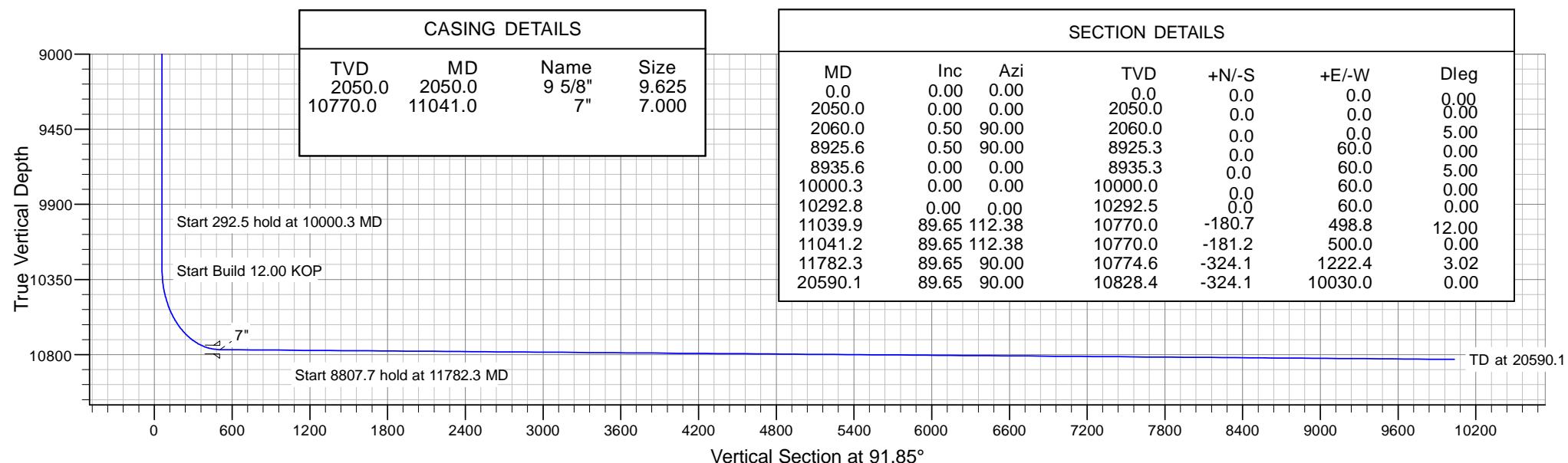
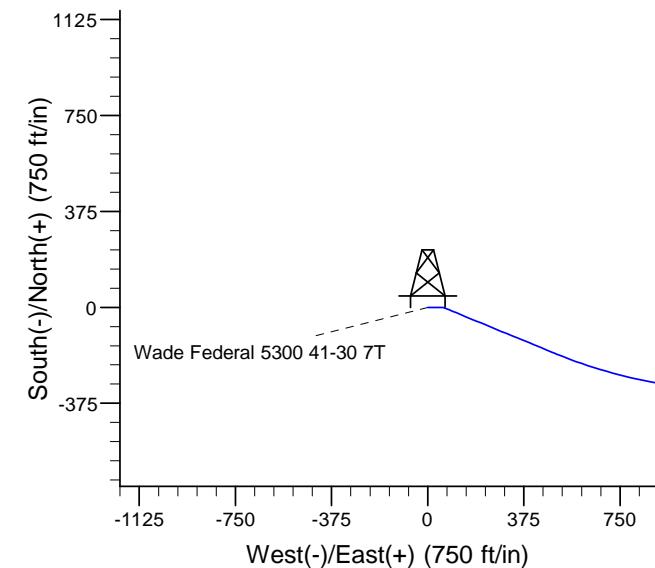


Project: Indian Hills  
Site: 153N-100W-29/30  
Well: Wade Federal 5300 41-30 7T  
Wellbore: Wade Federal 5300 41-30 7T  
Design: Design #1

Setbacks  
500' N/S  
200' E/W



SITE DETAILS: 153N-100W-29/30	
Site Centre Latitude:	48° 2' 28.320 N
Longitude:	103° 36' 10.820 W
Positional Uncertainty:	0.0
Convergence:	-2.31
Local North:	True



# **Oasis**

**Indian Hills  
153N-100W-29/30  
Wade Federal 5300 41-30 7T**

**Wade Federal 5300 41-30 7T**

**Plan: Design #1**

# **Standard Planning Report**

**19 May, 2014**

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

<b>Project</b>	Indian Hills	
<b>Map System:</b>	US State Plane 1983	
<b>Geo Datum:</b>	North American Datum 1983	
<b>Map Zone:</b>	North Dakota Northern Zone	

<b>Site</b>	153N-100W-29/30
<b>Site Position:</b>	<b>Northing:</b> 395,521.43 ft
<b>From:</b> Lat/Long	<b>Easting:</b> 1,209,621.64 ft
<b>Position Uncertainty:</b> 0.0 ft	<b>Slot Radius:</b> 13.200 in

**Latitude:** 48° 2' 32.580 N  
**Longitude:** 103° 36' 11.410 W  
**Grid Convergence:** -2.31 °

<b>Well</b>	Wade Federal 5300 41-30 7T
<b>Well Position</b>	<b>+N/-S</b> -431.7 ft <b>Northing:</b> 395,088.50 ft <b>Latitude:</b> 48° 2' 28.320 N
	<b>+E/-W</b> 40.1 ft <b>Easting:</b> 1,209,644.31 ft <b>Longitude:</b> 103° 36' 10.820 W
<b>Position Uncertainty</b>	0.0 ft <b>Wellhead Elevation:</b> <b>Ground Level:</b> 2,045.0 ft

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/28/2014	8.18	72.95	56,489

<b>Design</b>	Design #1
<b>Audit Notes:</b>	
<b>Version:</b>	
<b>Phase:</b> PROTOTYPE	
<b>Vertical Section:</b>	
<b>Depth From (TVD) (ft)</b>	
0.0	
<b>+N/-S (ft)</b>	
0.0	
<b>+E/-W (ft)</b>	
0.0	
<b>Direction (°)</b>	
91.85	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (/100ft)	Build Rate (/100ft)	Turn Rate (/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,060.0	0.50	90.00	2,060.0	0.0	0.0	5.00	5.00	0.00	90.00	
8,925.6	0.50	90.00	8,925.3	0.0	60.0	0.00	0.00	0.00	0.00	
8,935.6	0.00	0.00	8,935.3	0.0	60.0	5.00	-5.00	0.00	180.00	
10,000.3	0.00	0.00	10,000.0	0.0	60.0	0.00	0.00	0.00	0.00	
10,292.8	0.00	0.00	10,292.5	0.0	60.0	0.00	0.00	0.00	0.00	
11,039.9	89.65	112.38	10,770.0	-180.7	498.8	12.00	12.00	0.00	112.38	
11,041.2	89.65	112.38	10,770.0	-181.2	500.0	0.00	0.00	0.00	0.00	
11,782.3	89.65	90.00	10,774.6	-324.1	1,222.4	3.02	0.00	-3.02	269.93	
20,590.1	89.65	90.00	10,828.4	-324.1	10,030.0	0.00	0.00	0.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

### 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
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	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
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	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
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	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
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	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
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	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
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Pierre</b>									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,020.0	0.00	0.00	2,020.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 5.00</b>									
2,030.0	0.00	0.00	2,030.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start 6865.6 hold at 2030.0 MD</b>									
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>9 5/8"</b>									
2,060.0	0.50	90.00	2,060.0	0.0	0.0	0.0	5.00	5.00	0.00
2,100.0	0.50	90.00	2,100.0	0.0	0.4	0.4	0.00	0.00	0.00
2,200.0	0.50	90.00	2,200.0	0.0	1.3	1.3	0.00	0.00	0.00
2,300.0	0.50	90.00	2,300.0	0.0	2.1	2.1	0.00	0.00	0.00
2,400.0	0.50	90.00	2,400.0	0.0	3.0	3.0	0.00	0.00	0.00
2,500.0	0.50	90.00	2,500.0	0.0	3.9	3.9	0.00	0.00	0.00
2,600.0	0.50	90.00	2,600.0	0.0	4.8	4.8	0.00	0.00	0.00
2,700.0	0.50	90.00	2,700.0	0.0	5.6	5.6	0.00	0.00	0.00
2,800.0	0.50	90.00	2,800.0	0.0	6.5	6.5	0.00	0.00	0.00
2,900.0	0.50	90.00	2,900.0	0.0	7.4	7.4	0.00	0.00	0.00
3,000.0	0.50	90.00	3,000.0	0.0	8.2	8.2	0.00	0.00	0.00
3,100.0	0.50	90.00	3,100.0	0.0	9.1	9.1	0.00	0.00	0.00
3,200.0	0.50	90.00	3,200.0	0.0	10.0	10.0	0.00	0.00	0.00
3,300.0	0.50	90.00	3,300.0	0.0	10.9	10.9	0.00	0.00	0.00
3,400.0	0.50	90.00	3,399.9	0.0	11.7	11.7	0.00	0.00	0.00
3,500.0	0.50	90.00	3,499.9	0.0	12.6	12.6	0.00	0.00	0.00
3,600.0	0.50	90.00	3,599.9	0.0	13.5	13.5	0.00	0.00	0.00
3,700.0	0.50	90.00	3,699.9	0.0	14.4	14.3	0.00	0.00	0.00
3,800.0	0.50	90.00	3,799.9	0.0	15.2	15.2	0.00	0.00	0.00
3,900.0	0.50	90.00	3,899.9	0.0	16.1	16.1	0.00	0.00	0.00
4,000.0	0.50	90.00	3,999.9	0.0	17.0	17.0	0.00	0.00	0.00
4,100.0	0.50	90.00	4,099.9	0.0	17.8	17.8	0.00	0.00	0.00
4,200.0	0.50	90.00	4,199.9	0.0	18.7	18.7	0.00	0.00	0.00
4,300.0	0.50	90.00	4,299.9	0.0	19.6	19.6	0.00	0.00	0.00
4,400.0	0.50	90.00	4,399.9	0.0	20.5	20.5	0.00	0.00	0.00
4,500.0	0.50	90.00	4,499.9	0.0	21.3	21.3	0.00	0.00	0.00

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
4,566.1	0.50	90.00	4,566.0	0.0	21.9	21.9	0.00	0.00	0.00	
<b>Greenhorn</b>										
4,600.0	0.50	90.00	4,599.9	0.0	22.2	22.2	0.00	0.00	0.00	
4,700.0	0.50	90.00	4,699.9	0.0	23.1	23.1	0.00	0.00	0.00	
4,800.0	0.50	90.00	4,799.9	0.0	24.0	23.9	0.00	0.00	0.00	
4,900.0	0.50	90.00	4,899.9	0.0	24.8	24.8	0.00	0.00	0.00	
4,969.1	0.50	90.00	4,969.0	0.0	25.4	25.4	0.00	0.00	0.00	
<b>Mowry</b>										
5,000.0	0.50	90.00	4,999.9	0.0	25.7	25.7	0.00	0.00	0.00	
5,100.0	0.50	90.00	5,099.9	0.0	26.6	26.6	0.00	0.00	0.00	
5,200.0	0.50	90.00	5,199.9	0.0	27.4	27.4	0.00	0.00	0.00	
5,300.0	0.50	90.00	5,299.9	0.0	28.3	28.3	0.00	0.00	0.00	
5,391.1	0.50	90.00	5,391.0	0.0	29.1	29.1	0.00	0.00	0.00	
<b>Dakota</b>										
5,400.0	0.50	90.00	5,399.9	0.0	29.2	29.2	0.00	0.00	0.00	
5,500.0	0.50	90.00	5,499.9	0.0	30.1	30.0	0.00	0.00	0.00	
5,600.0	0.50	90.00	5,599.9	0.0	30.9	30.9	0.00	0.00	0.00	
5,700.0	0.50	90.00	5,699.9	0.0	31.8	31.8	0.00	0.00	0.00	
5,800.0	0.50	90.00	5,799.9	0.0	32.7	32.7	0.00	0.00	0.00	
5,900.0	0.50	90.00	5,899.9	0.0	33.6	33.5	0.00	0.00	0.00	
6,000.0	0.50	90.00	5,999.8	0.0	34.4	34.4	0.00	0.00	0.00	
6,100.0	0.50	90.00	6,099.8	0.0	35.3	35.3	0.00	0.00	0.00	
6,200.0	0.50	90.00	6,199.8	0.0	36.2	36.2	0.00	0.00	0.00	
6,300.0	0.50	90.00	6,299.8	0.0	37.0	37.0	0.00	0.00	0.00	
6,400.0	0.50	90.00	6,399.8	0.0	37.9	37.9	0.00	0.00	0.00	
6,407.2	0.50	90.00	6,407.0	0.0	38.0	38.0	0.00	0.00	0.00	
<b>Rierdon</b>										
6,500.0	0.50	90.00	6,499.8	0.0	38.8	38.8	0.00	0.00	0.00	
6,600.0	0.50	90.00	6,599.8	0.0	39.7	39.6	0.00	0.00	0.00	
6,700.0	0.50	90.00	6,699.8	0.0	40.5	40.5	0.00	0.00	0.00	
6,800.0	0.50	90.00	6,799.8	0.0	41.4	41.4	0.00	0.00	0.00	
6,896.2	0.50	90.00	6,896.0	0.0	42.2	42.2	0.00	0.00	0.00	
<b>Dunham Salt</b>										
6,900.0	0.50	90.00	6,899.8	0.0	42.3	42.3	0.00	0.00	0.00	
6,942.2	0.50	90.00	6,942.0	0.0	42.6	42.6	0.00	0.00	0.00	
<b>Dunham Salt Base</b>										
7,000.0	0.50	90.00	6,999.8	0.0	43.2	43.1	0.00	0.00	0.00	
7,100.0	0.50	90.00	7,099.8	0.0	44.0	44.0	0.00	0.00	0.00	
7,200.0	0.50	90.00	7,199.8	0.0	44.9	44.9	0.00	0.00	0.00	
7,205.2	0.50	90.00	7,205.0	0.0	44.9	44.9	0.00	0.00	0.00	
<b>Pine Salt</b>										
7,229.2	0.50	90.00	7,229.0	0.0	45.2	45.1	0.00	0.00	0.00	
<b>Pine Salt Base</b>										
7,291.2	0.50	90.00	7,291.0	0.0	45.7	45.7	0.00	0.00	0.00	
<b>Opeche Salt</b>										
7,300.0	0.50	90.00	7,299.8	0.0	45.8	45.7	0.00	0.00	0.00	
7,371.2	0.50	90.00	7,371.0	0.0	46.4	46.4	0.00	0.00	0.00	
<b>Opeche Salt Base</b>										
7,400.0	0.50	90.00	7,399.8	0.0	46.6	46.6	0.00	0.00	0.00	
7,500.0	0.50	90.00	7,499.8	0.0	47.5	47.5	0.00	0.00	0.00	
7,600.0	0.50	90.00	7,599.8	0.0	48.4	48.4	0.00	0.00	0.00	
7,615.2	0.50	90.00	7,615.0	0.0	48.5	48.5	0.00	0.00	0.00	
<b>Amsden</b>										
7,700.0	0.50	90.00	7,699.8	0.0	49.3	49.2	0.00	0.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)	
7,771.2	0.50	90.00	7,771.0	0.0	49.9	49.9	0.00	0.00	0.00	
<b>Tyler</b>										
7,800.0	0.50	90.00	7,799.8	0.0	50.1	50.1	0.00	0.00	0.00	
7,900.0	0.50	90.00	7,899.8	0.0	51.0	51.0	0.00	0.00	0.00	
7,994.2	0.50	90.00	7,994.0	0.0	51.8	51.8	0.00	0.00	0.00	
<b>Otter/Base Minnelusa</b>										
8,000.0	0.50	90.00	7,999.8	0.0	51.9	51.9	0.00	0.00	0.00	
8,100.0	0.50	90.00	8,099.8	0.0	52.8	52.7	0.00	0.00	0.00	
8,200.0	0.50	90.00	8,199.8	0.0	53.6	53.6	0.00	0.00	0.00	
8,300.0	0.50	90.00	8,299.8	0.0	54.5	54.5	0.00	0.00	0.00	
8,336.3	0.50	90.00	8,336.0	0.0	54.8	54.8	0.00	0.00	0.00	
<b>Kibbey Lime</b>										
8,400.0	0.50	90.00	8,399.8	0.0	55.4	55.3	0.00	0.00	0.00	
8,484.3	0.50	90.00	8,484.0	0.0	56.1	56.1	0.00	0.00	0.00	
<b>Charles Salt</b>										
8,500.0	0.50	90.00	8,499.8	0.0	56.2	56.2	0.00	0.00	0.00	
8,600.0	0.50	90.00	8,599.8	0.0	57.1	57.1	0.00	0.00	0.00	
8,700.0	0.50	90.00	8,699.7	0.0	58.0	58.0	0.00	0.00	0.00	
8,800.0	0.50	90.00	8,799.7	0.0	58.9	58.8	0.00	0.00	0.00	
8,895.6	0.50	90.00	8,895.3	0.0	59.7	59.7	0.00	0.00	0.00	
<b>Start Drop -5.00</b>										
8,900.0	0.50	90.00	8,899.7	0.0	59.7	59.7	0.00	0.00	0.00	
8,905.6	0.50	90.00	8,905.3	0.0	59.8	59.8	0.00	0.00	0.00	
<b>Start 1094.7 hold at 8905.6 MD</b>										
8,925.6	0.50	90.00	8,925.3	0.0	60.0	59.9	0.00	0.00	0.00	
8,935.6	0.00	0.00	8,935.3	0.0	60.0	60.0	5.00	-5.00	0.00	
9,000.0	0.00	0.00	8,999.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,099.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,163.3	0.00	0.00	9,163.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Base Last Salt</b>										
9,200.0	0.00	0.00	9,199.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,299.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,377.3	0.00	0.00	9,377.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Mission Canyon</b>										
9,400.0	0.00	0.00	9,399.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,499.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,599.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,699.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,799.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,899.7	0.0	60.0	60.0	0.00	0.00	0.00	
9,926.3	0.00	0.00	9,926.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Lodgepole</b>										
10,000.3	0.00	0.00	10,000.0	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Start 292.5 hold at 10000.3 MD</b>										
10,100.0	0.00	0.00	10,099.7	0.0	60.0	60.0	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,199.7	0.0	60.0	60.0	0.00	0.00	0.00	
10,292.8	0.00	0.00	10,292.5	0.0	60.0	60.0	0.00	0.00	0.00	
<b>Start Build 12.00 KOP</b>										
10,300.0	0.86	112.38	10,299.7	0.0	60.1	60.0	12.00	12.00	0.00	
10,325.0	3.86	112.38	10,324.7	-0.4	61.0	61.0	12.00	12.00	0.00	
10,350.0	6.86	112.38	10,349.6	-1.3	63.2	63.2	12.00	12.00	0.00	
10,375.0	9.86	112.38	10,374.3	-2.7	66.5	66.6	12.00	12.00	0.00	
10,400.0	12.86	112.38	10,398.8	-4.6	71.1	71.2	12.00	12.00	0.00	
10,425.0	15.86	112.38	10,423.1	-6.9	76.8	77.0	12.00	12.00	0.00	

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

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)
10,450.0	18.86	112.38	10,446.9	-9.8	83.7	84.0	12.00	12.00	0.00
10,475.0	21.86	112.38	10,470.3	-13.1	91.8	92.1	12.00	12.00	0.00
10,500.0	24.86	112.38	10,493.3	-16.9	100.9	101.4	12.00	12.00	0.00
10,525.0	27.86	112.38	10,515.7	-21.1	111.2	111.8	12.00	12.00	0.00
10,550.0	30.86	112.38	10,537.5	-25.7	122.5	123.3	12.00	12.00	0.00
10,575.0	33.86	112.38	10,558.6	-30.8	134.9	135.8	12.00	12.00	0.00
10,600.0	36.86	112.38	10,579.0	-36.4	148.3	149.4	12.00	12.00	0.00
10,625.0	39.86	112.38	10,598.6	-42.3	162.6	163.9	12.00	12.00	0.00
10,650.0	42.86	112.38	10,617.3	-48.6	177.9	179.4	12.00	12.00	0.00
10,675.0	45.86	112.38	10,635.2	-55.2	194.1	195.7	12.00	12.00	0.00
10,700.0	48.86	112.38	10,652.1	-62.2	211.1	213.0	12.00	12.00	0.00
10,705.9	49.58	112.38	10,656.0	-63.9	215.2	217.2	12.00	12.00	0.00
<b>False Bakken</b>									
10,724.9	51.85	112.38	10,668.0	-69.5	228.8	230.9	12.00	12.00	0.00
<b>Upper Bakken Shale</b>									
10,725.0	51.86	112.38	10,668.1	-69.5	228.9	231.0	12.00	12.00	0.00
10,750.0	54.86	112.38	10,683.0	-77.2	247.4	249.8	11.98	11.98	0.00
<b>Middle Bakken</b>									
10,775.0	57.86	112.38	10,696.8	-85.1	266.7	269.3	12.02	12.02	0.00
10,800.0	60.86	112.38	10,709.6	-93.3	286.5	289.4	12.00	12.00	0.00
10,820.1	63.28	112.38	10,719.0	-100.1	303.0	306.1	12.00	12.00	0.00
<b>Lower Bakken Shale</b>									
10,825.0	63.86	112.38	10,721.2	-101.7	307.0	310.1	12.00	12.00	0.00
10,841.1	65.79	112.38	10,728.0	-107.3	320.5	323.8	12.00	12.00	0.00
<b>Pronghorn</b>									
10,850.0	66.86	112.38	10,731.6	-110.4	328.0	331.4	12.00	12.00	0.00
10,875.0	69.86	112.38	10,740.8	-119.2	349.5	353.2	12.00	12.00	0.00
10,884.6	71.01	112.38	10,744.0	-122.7	357.8	361.6	12.00	12.00	0.00
<b>Threeforks</b>									
10,900.0	72.86	112.38	10,748.8	-128.2	371.4	375.4	12.00	12.00	0.00
10,925.0	75.86	112.38	10,755.5	-137.4	393.7	397.9	12.00	12.00	0.00
10,950.0	78.86	112.38	10,761.0	-146.7	416.2	420.7	12.00	12.00	0.00
10,950.1	78.86	112.38	10,761.0	-146.7	416.3	420.8	0.00	0.00	0.00
<b>Threeforks(Top of Target)</b>									
10,975.0	81.86	112.38	10,765.2	-156.1	439.0	443.8	12.03	12.03	0.00
11,000.0	84.86	112.38	10,768.1	-165.5	462.0	467.1	12.00	12.00	0.00
11,025.0	87.86	112.38	10,769.7	-175.0	485.0	490.4	12.00	12.00	0.00
11,039.9	89.65	112.38	10,770.0	-180.7	498.8	504.4	12.00	12.00	0.00
<b>Start 1.3 hold at 11039.9 MD</b>									
11,041.0	89.65	112.38	10,770.0	-181.1	499.8	505.4	0.00	0.00	0.00
<b>7"</b>									
11,041.2	89.65	112.38	10,770.0	-181.2	500.0	505.6	0.00	0.00	0.00
<b>Start DLS 3.02 TFO 269.93 7" csg pt</b>									
11,044.7	89.65	112.38	10,770.0	-182.5	503.3	508.9	0.00	0.00	0.00
<b>Threeforks(Base of Target)</b>									
11,100.0	89.65	110.61	10,770.4	-202.8	554.7	561.0	3.21	0.00	-3.21
11,200.0	89.65	107.59	10,771.0	-235.5	649.2	656.5	3.02	0.00	-3.02
11,300.0	89.64	104.57	10,771.6	-263.1	745.3	753.4	3.02	0.00	-3.02
11,400.0	89.64	101.55	10,772.2	-285.7	842.7	851.5	3.02	0.00	-3.02
11,500.0	89.64	98.53	10,772.8	-303.2	941.1	950.4	3.02	0.00	-3.02
11,600.0	89.64	95.51	10,773.5	-315.4	1,040.4	1,050.0	3.02	0.00	-3.02
11,700.0	89.65	92.49	10,774.1	-322.3	1,140.1	1,149.9	3.02	0.00	-3.02
11,782.3	89.65	90.00	10,774.6	-324.1	1,222.4	1,232.2	3.02	0.00	-3.02
<b>Start 8807.7 hold at 11782.3 MD</b>									

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

### 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)
11,800.0	89.65	90.00	10,774.7	-324.1	1,240.1	1,249.9	0.00	0.00	0.00
11,900.0	89.65	90.00	10,775.3	-324.1	1,340.1	1,349.9	0.00	0.00	0.00
12,000.0	89.65	90.00	10,775.9	-324.1	1,440.1	1,449.8	0.00	0.00	0.00
12,100.0	89.65	90.00	10,776.5	-324.1	1,540.1	1,549.8	0.00	0.00	0.00
12,200.0	89.65	90.00	10,777.1	-324.1	1,640.1	1,649.7	0.00	0.00	0.00
12,300.0	89.65	90.00	10,777.8	-324.1	1,740.1	1,749.6	0.00	0.00	0.00
12,400.0	89.65	90.00	10,778.4	-324.1	1,840.1	1,849.6	0.00	0.00	0.00
12,500.0	89.65	90.00	10,779.0	-324.1	1,940.1	1,949.5	0.00	0.00	0.00
12,600.0	89.65	90.00	10,779.6	-324.1	2,040.1	2,049.5	0.00	0.00	0.00
12,700.0	89.65	90.00	10,780.2	-324.1	2,140.1	2,149.4	0.00	0.00	0.00
12,800.0	89.65	90.00	10,780.8	-324.1	2,240.1	2,249.4	0.00	0.00	0.00
12,900.0	89.65	90.00	10,781.4	-324.1	2,340.1	2,349.3	0.00	0.00	0.00
13,000.0	89.65	90.00	10,782.0	-324.1	2,440.1	2,449.3	0.00	0.00	0.00
13,100.0	89.65	90.00	10,782.6	-324.1	2,540.1	2,549.2	0.00	0.00	0.00
13,200.0	89.65	90.00	10,783.3	-324.1	2,640.1	2,649.2	0.00	0.00	0.00
13,300.0	89.65	90.00	10,783.9	-324.1	2,740.1	2,749.1	0.00	0.00	0.00
13,400.0	89.65	90.00	10,784.5	-324.1	2,840.1	2,849.1	0.00	0.00	0.00
13,500.0	89.65	90.00	10,785.1	-324.1	2,940.1	2,949.0	0.00	0.00	0.00
13,600.0	89.65	90.00	10,785.7	-324.1	3,040.1	3,048.9	0.00	0.00	0.00
13,700.0	89.65	90.00	10,786.3	-324.1	3,140.1	3,148.9	0.00	0.00	0.00
13,800.0	89.65	90.00	10,786.9	-324.1	3,240.1	3,248.8	0.00	0.00	0.00
13,900.0	89.65	90.00	10,787.5	-324.1	3,340.1	3,348.8	0.00	0.00	0.00
14,000.0	89.65	90.00	10,788.1	-324.1	3,440.1	3,448.7	0.00	0.00	0.00
14,100.0	89.65	90.00	10,788.8	-324.1	3,540.1	3,548.7	0.00	0.00	0.00
14,200.0	89.65	90.00	10,789.4	-324.1	3,640.1	3,648.6	0.00	0.00	0.00
14,300.0	89.65	90.00	10,790.0	-324.1	3,740.0	3,748.6	0.00	0.00	0.00
14,400.0	89.65	90.00	10,790.6	-324.1	3,840.0	3,848.5	0.00	0.00	0.00
14,500.0	89.65	90.00	10,791.2	-324.1	3,940.0	3,948.5	0.00	0.00	0.00
14,600.0	89.65	90.00	10,791.8	-324.1	4,040.0	4,048.4	0.00	0.00	0.00
14,700.0	89.65	90.00	10,792.4	-324.1	4,140.0	4,148.3	0.00	0.00	0.00
14,800.0	89.65	90.00	10,793.0	-324.1	4,240.0	4,248.3	0.00	0.00	0.00
14,900.0	89.65	90.00	10,793.6	-324.1	4,340.0	4,348.2	0.00	0.00	0.00
15,000.0	89.65	90.00	10,794.3	-324.1	4,440.0	4,448.2	0.00	0.00	0.00
15,100.0	89.65	90.00	10,794.9	-324.1	4,540.0	4,548.1	0.00	0.00	0.00
15,200.0	89.65	90.00	10,795.5	-324.1	4,640.0	4,648.1	0.00	0.00	0.00
15,300.0	89.65	90.00	10,796.1	-324.1	4,740.0	4,748.0	0.00	0.00	0.00
15,400.0	89.65	90.00	10,796.7	-324.1	4,840.0	4,848.0	0.00	0.00	0.00
15,500.0	89.65	90.00	10,797.3	-324.1	4,940.0	4,947.9	0.00	0.00	0.00
15,600.0	89.65	90.00	10,797.9	-324.1	5,040.0	5,047.9	0.00	0.00	0.00
15,700.0	89.65	90.00	10,798.5	-324.1	5,140.0	5,147.8	0.00	0.00	0.00
15,800.0	89.65	90.00	10,799.2	-324.1	5,240.0	5,247.8	0.00	0.00	0.00
15,900.0	89.65	90.00	10,799.8	-324.1	5,340.0	5,347.7	0.00	0.00	0.00
16,000.0	89.65	90.00	10,800.4	-324.1	5,440.0	5,447.6	0.00	0.00	0.00
16,100.0	89.65	90.00	10,801.0	-324.1	5,540.0	5,547.6	0.00	0.00	0.00
16,200.0	89.65	90.00	10,801.6	-324.1	5,640.0	5,647.5	0.00	0.00	0.00
16,300.0	89.65	90.00	10,802.2	-324.1	5,740.0	5,747.5	0.00	0.00	0.00
16,400.0	89.65	90.00	10,802.8	-324.1	5,840.0	5,847.4	0.00	0.00	0.00
16,500.0	89.65	90.00	10,803.4	-324.1	5,940.0	5,947.4	0.00	0.00	0.00
16,600.0	89.65	90.00	10,804.0	-324.1	6,040.0	6,047.3	0.00	0.00	0.00
16,700.0	89.65	90.00	10,804.7	-324.1	6,140.0	6,147.3	0.00	0.00	0.00
16,800.0	89.65	90.00	10,805.3	-324.1	6,240.0	6,247.2	0.00	0.00	0.00
16,900.0	89.65	90.00	10,805.9	-324.1	6,340.0	6,347.2	0.00	0.00	0.00
17,000.0	89.65	90.00	10,806.5	-324.1	6,440.0	6,447.1	0.00	0.00	0.00
17,100.0	89.65	90.00	10,807.1	-324.1	6,540.0	6,547.1	0.00	0.00	0.00
17,200.0	89.65	90.00	10,807.7	-324.1	6,640.0	6,647.0	0.00	0.00	0.00

# Oasis Petroleum

## Planning Report

<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

### 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)
17,300.0	89.65	90.00	10,808.3	-324.1	6,740.0	6,746.9	0.00	0.00	0.00
17,400.0	89.65	90.00	10,808.9	-324.1	6,840.0	6,846.9	0.00	0.00	0.00
17,500.0	89.65	90.00	10,809.5	-324.1	6,940.0	6,946.8	0.00	0.00	0.00
17,600.0	89.65	90.00	10,810.2	-324.1	7,040.0	7,046.8	0.00	0.00	0.00
17,700.0	89.65	90.00	10,810.8	-324.1	7,140.0	7,146.7	0.00	0.00	0.00
17,800.0	89.65	90.00	10,811.4	-324.1	7,240.0	7,246.7	0.00	0.00	0.00
17,900.0	89.65	90.00	10,812.0	-324.1	7,340.0	7,346.6	0.00	0.00	0.00
18,000.0	89.65	90.00	10,812.6	-324.1	7,440.0	7,446.6	0.00	0.00	0.00
18,100.0	89.65	90.00	10,813.2	-324.1	7,540.0	7,546.5	0.00	0.00	0.00
18,200.0	89.65	90.00	10,813.8	-324.1	7,640.0	7,646.5	0.00	0.00	0.00
18,300.0	89.65	90.00	10,814.4	-324.1	7,740.0	7,746.4	0.00	0.00	0.00
18,400.0	89.65	90.00	10,815.0	-324.1	7,840.0	7,846.4	0.00	0.00	0.00
18,500.0	89.65	90.00	10,815.7	-324.1	7,940.0	7,946.3	0.00	0.00	0.00
18,600.0	89.65	90.00	10,816.3	-324.1	8,040.0	8,046.2	0.00	0.00	0.00
18,700.0	89.65	90.00	10,816.9	-324.1	8,140.0	8,146.2	0.00	0.00	0.00
18,800.0	89.65	90.00	10,817.5	-324.1	8,240.0	8,246.1	0.00	0.00	0.00
18,900.0	89.65	90.00	10,818.1	-324.1	8,340.0	8,346.1	0.00	0.00	0.00
19,000.0	89.65	90.00	10,818.7	-324.1	8,440.0	8,446.0	0.00	0.00	0.00
19,100.0	89.65	90.00	10,819.3	-324.1	8,540.0	8,546.0	0.00	0.00	0.00
19,200.0	89.65	90.00	10,819.9	-324.1	8,640.0	8,645.9	0.00	0.00	0.00
19,300.0	89.65	90.00	10,820.5	-324.1	8,740.0	8,745.9	0.00	0.00	0.00
19,400.0	89.65	90.00	10,821.2	-324.1	8,840.0	8,845.8	0.00	0.00	0.00
19,500.0	89.65	90.00	10,821.8	-324.1	8,940.0	8,945.8	0.00	0.00	0.00
19,600.0	89.65	90.00	10,822.4	-324.1	9,039.9	9,045.7	0.00	0.00	0.00
19,700.0	89.65	90.00	10,823.0	-324.1	9,139.9	9,145.6	0.00	0.00	0.00
19,800.0	89.65	90.00	10,823.6	-324.1	9,239.9	9,245.6	0.00	0.00	0.00
19,900.0	89.65	90.00	10,824.2	-324.1	9,339.9	9,345.5	0.00	0.00	0.00
20,000.0	89.65	90.00	10,824.8	-324.1	9,439.9	9,445.5	0.00	0.00	0.00
20,100.0	89.65	90.00	10,825.4	-324.1	9,539.9	9,545.4	0.00	0.00	0.00
20,200.0	89.65	90.00	10,826.1	-324.1	9,639.9	9,645.4	0.00	0.00	0.00
20,300.0	89.65	90.00	10,826.7	-324.1	9,739.9	9,745.3	0.00	0.00	0.00
20,400.0	89.65	90.00	10,827.3	-324.1	9,839.9	9,845.3	0.00	0.00	0.00
20,500.0	89.65	90.00	10,827.9	-324.1	9,939.9	9,945.2	0.00	0.00	0.00
20,590.1	89.65	90.00	10,828.4	-324.1	10,030.0	10,035.2	0.00	0.00	0.00

**TD at 20590.1**

Casing Points			
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in) Hole Diameter (in)
2,050.0	2,050.0 9 5/8"		9.625 13.500
11,041.0	10,770.0 7"		7.000 8.750

# Oasis Petroleum

## Planning Report

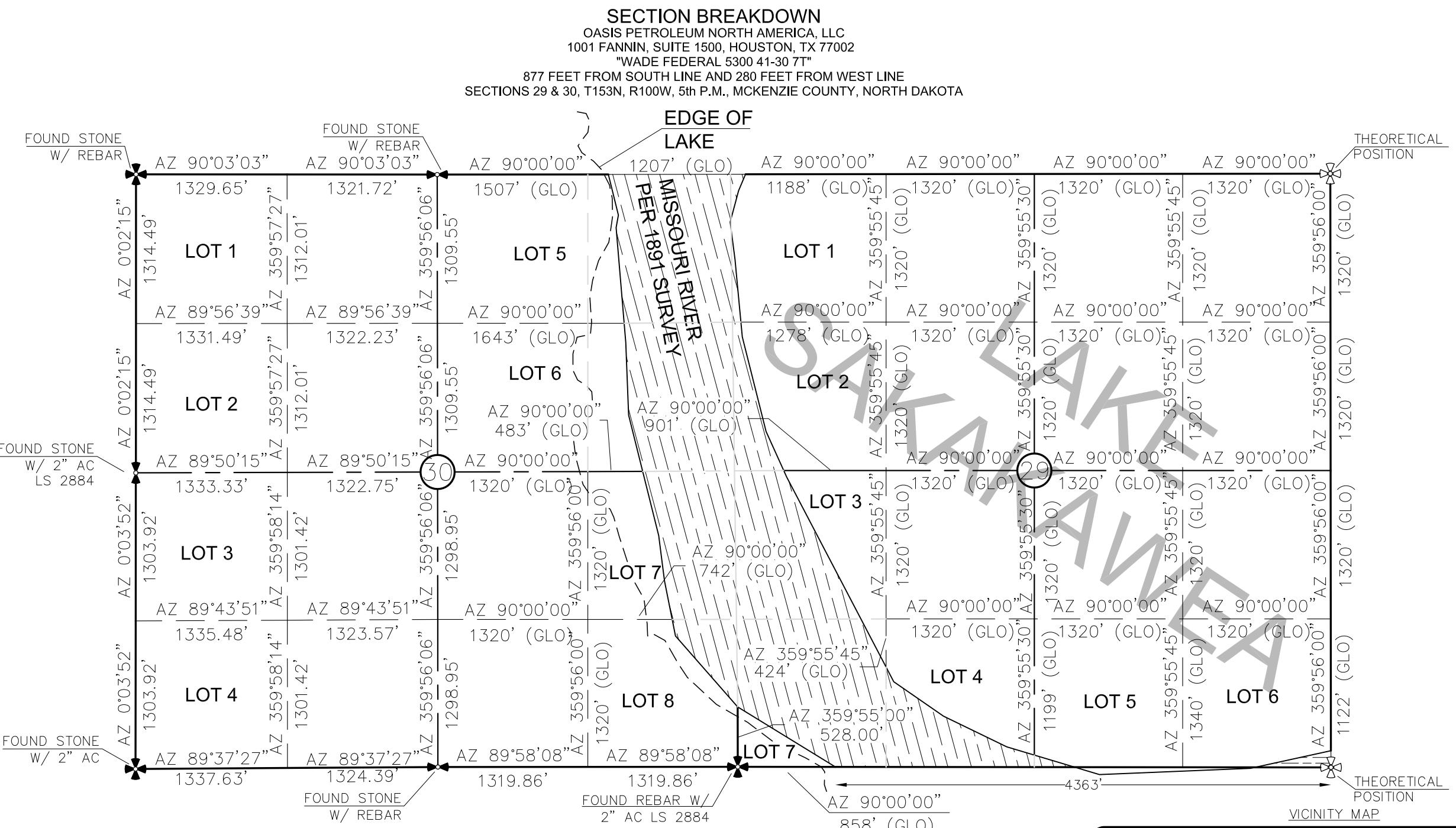
<b>Database:</b>	OpenWellsCompass - EDM Prod	<b>Local Co-ordinate Reference:</b>	Well Wade Federal 5300 41-30 7T
<b>Company:</b>	Oasis	<b>TVD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Project:</b>	Indian Hills	<b>MD Reference:</b>	WELL @ 2070.0ft (Original Well Elev)
<b>Site:</b>	153N-100W-29/30	<b>North Reference:</b>	True
<b>Well:</b>	Wade Federal 5300 41-30 7T	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wade Federal 5300 41-30 7T		
<b>Design:</b>	Design #1		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,920.0	1,920.0	Pierre			
4,566.1	4,566.0	Greenhorn			
4,969.1	4,969.0	Mowry			
5,391.1	5,391.0	Dakota			
6,407.2	6,407.0	Rierdon			
6,896.2	6,896.0	Dunham Salt			
6,942.2	6,942.0	Dunham Salt Base			
7,205.2	7,205.0	Pine Salt			
7,229.2	7,229.0	Pine Salt Base			
7,291.2	7,291.0	Opeche Salt			
7,371.2	7,371.0	Opeche Salt Base			
7,615.2	7,615.0	Amsden			
7,771.2	7,771.0	Tyler			
7,994.2	7,994.0	Otter/Base Minnelusa			
8,336.3	8,336.0	Kibbey Lime			
8,484.3	8,484.0	Charles Salt			
9,163.3	9,163.0	Base Last Salt			
9,377.3	9,377.0	Mission Canyon			
9,926.3	9,926.0	Lodgepole			
10,705.9	10,656.0	False Bakken			
10,724.9	10,668.0	Upper Bakken Shale			
10,750.0	10,683.0	Middle Bakken			
10,820.1	10,719.0	Lower Bakken Shale			
10,841.1	10,728.0	Pronghorn			
10,884.6	10,744.0	Threeforks			
10,950.1	10,761.0	Threeforks(Top of Target)			
11,044.7	10,770.0	Threeforks(Base of Target)			

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			Comment
		+N/S (ft)	+E/W (ft)		
2,020.0	2,020.0	0.0	0.0		Start Build 5.00
2,030.0	2,030.0	0.0	0.0		Start 6865.6 hold at 2030.0 MD
8,895.6	8,895.3	0.0	60.0		Start Drop -5.00
8,905.6	8,905.3	0.0	60.0		Start 1094.7 hold at 8905.6 MD
10,000.3	10,000.0	0.0	60.0		Start 292.5 hold at 10000.3 MD
10,292.8	10,292.5	0.0	60.0		Start Build 12.00 KOP
11,039.9	10,770.0	-180.7	498.8		Start 1.3 hold at 11039.9 MD
11,041.2	10,770.0	-181.2	500.0		Start DLS 3.02 TFO 269.93 7" csg pt
11,782.3	10,774.6	-324.1	1,222.4		Start 8807.7 hold at 11782.3 MD
20,590.1	10,828.4	-324.1	10,030.0		TD at 20590.1

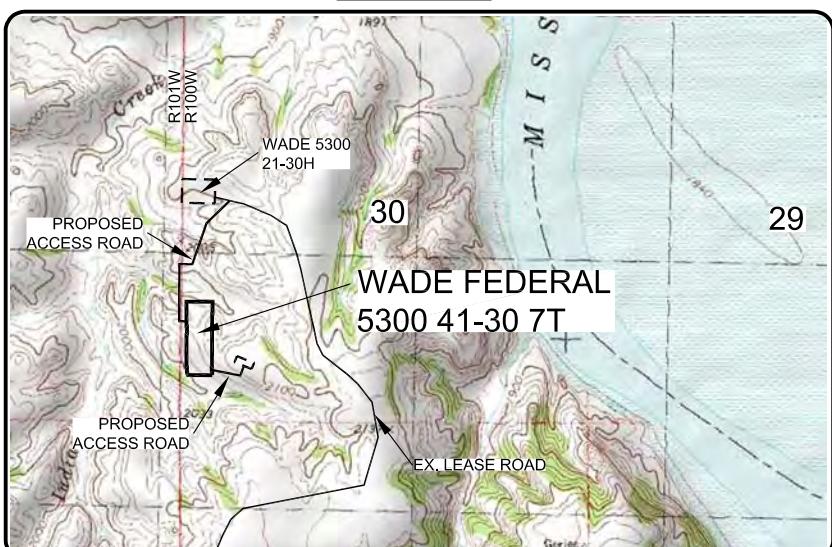
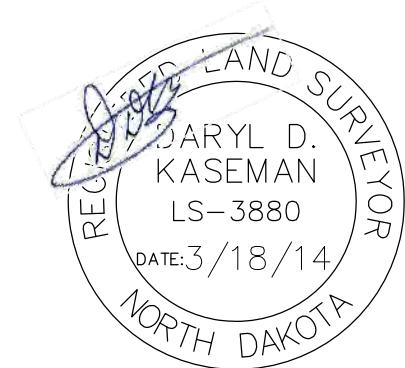


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- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

0 1000  
1" = 1000'

ALL AZIMUTHS ARE BASED ON G.P.S. OBSERVATIONS. THE ORIGINAL SURVEY OF THIS AREA FOR THE GENERAL LAND OFFICE (G.L.O.) WAS 1897. 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°03'.



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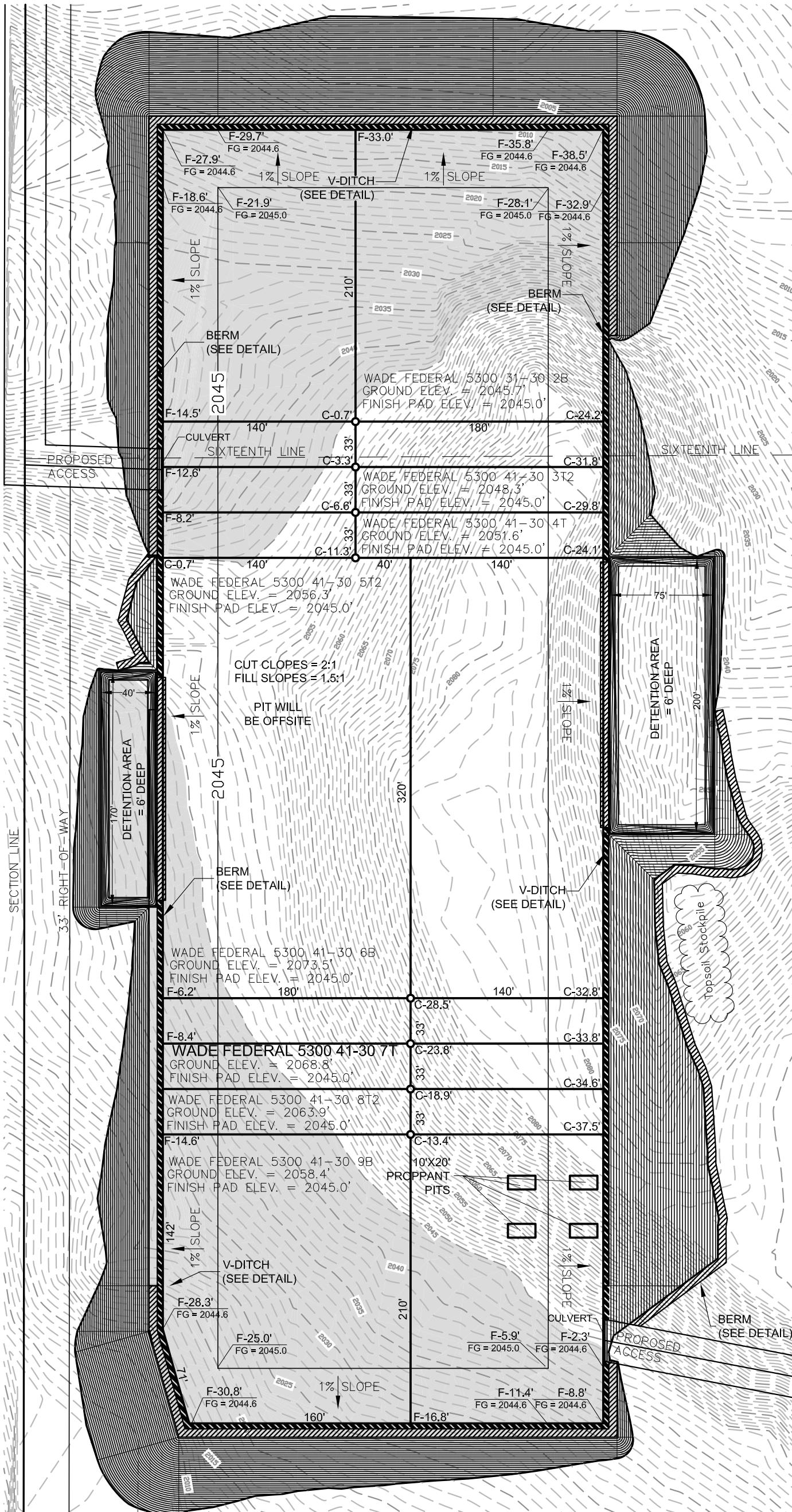
Revision No.	Date	By	Description
REV 1	3/17/14	JJS	Moved wells on pad & access road
			Oasis Petroleum - Wade 714-69 - 3/19/2014 6:59 AM Path schmeefer
			g: Well Pad CAD (REVIEWED) - Wade 714-69 - 3/19/2014 6:59 AM Path schmeefer

OASIS PETROLEUM NORTH AMERICA, LLC	Project No.: ST13-09-381.06
SECTION BREAKDOWN	
SECTIONS 29 & 30, T153N, R100W	
MCKENZIE COUNTY, NORTH DAKOTA	
Drawn By: B.H.H.	Date: JAN 2014
Checked By: D.D.K.	

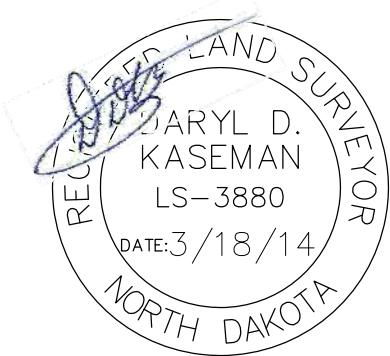
# PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC  
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
"WADE FEDERAL 5300 41-30 7T"

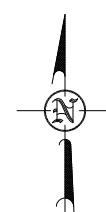
877 FEET FROM SOUTH LINE AND 280 FEET FROM WEST LINE  
SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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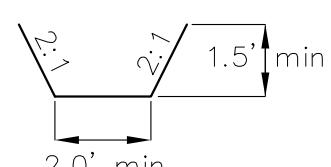


NOTE: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.



0 80  
1" = 80'

## V-DITCH DETAIL



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

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Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC  
PAD LAYOUT  
SECTION 30, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-381.06  
Checked By: D.D.K. Date: JAN. 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD

O:\2013\S13-09-381.06\Well Pad CAD\REVISED WADE 71.swg - 3/19/2014 7:00 AM josh schmierer

**WELL LOCATION SITE QUANTITIES**  
 OASIS PETROLEUM NORTH AMERICA, LLC  
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
 "WADE FEDERAL 5300 41-30 7T"  
 877 FEET FROM SOUTH LINE AND 280 FEET FROM WEST LINE  
 SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2068.8
WELL PAD ELEVATION	2045.0
EXCAVATION	149,966
PLUS PIT	0
	<u>149,966</u>
EMBANKMENT	113,402
PLUS SHRINKAGE (25%)	28,351
	<u>141,753</u>
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	7,955
BERMS	2,533 LF = 821 CY
DITCHES	1,655 LF = 253 CY
DETENTION AREA	4,219 CY
STOCKPILE MATERIAL	3,909
DISTURBED AREA FROM PAD	10.18 ACRES

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

CUT END SLOPES AT 2:1

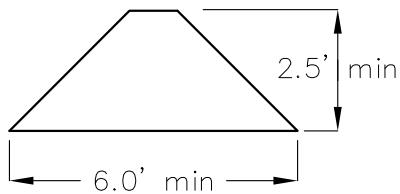
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

877' FSL

280' FWL

BERM DETAIL



DITCH DETAIL



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OASIS PETROLEUM NORTH AMERICA, LLC  
 QUANTITIES  
 SECTION 30, T153N, R100W

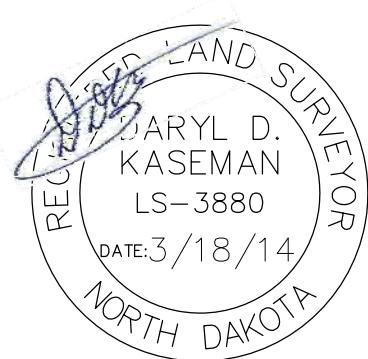
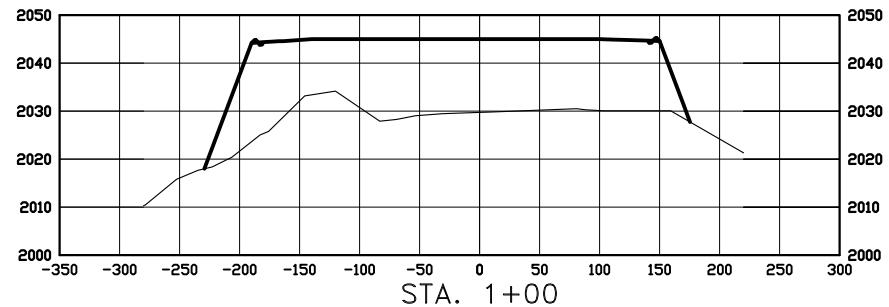
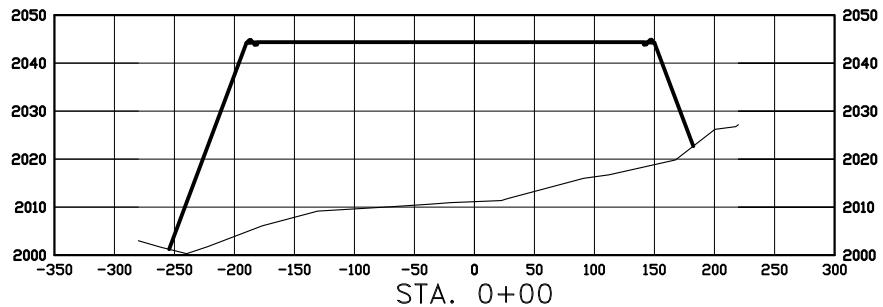
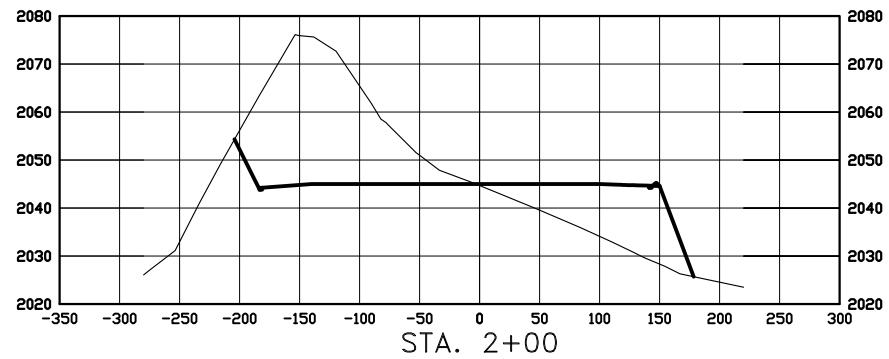
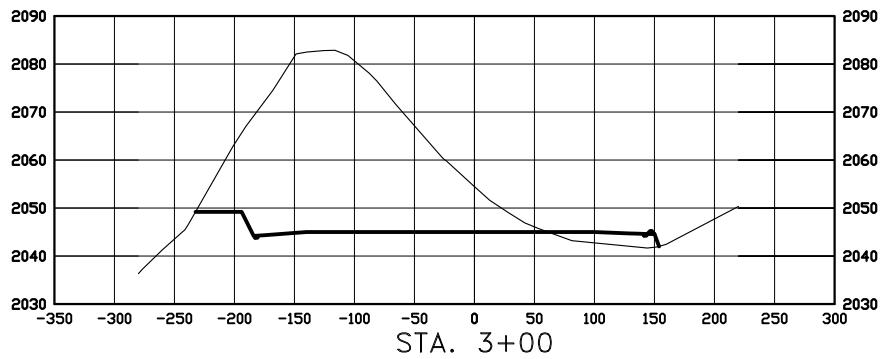
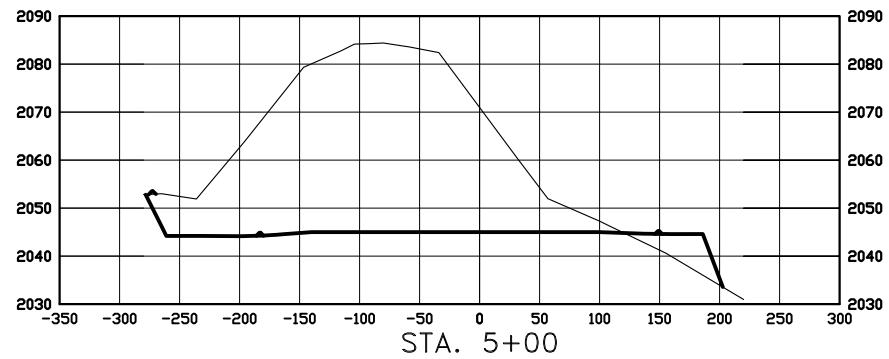
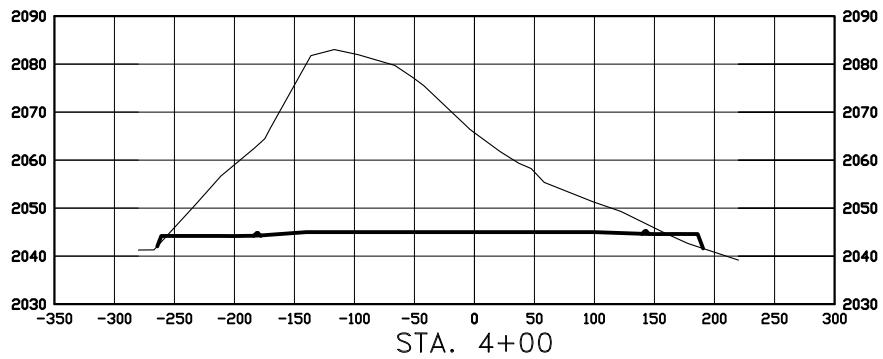
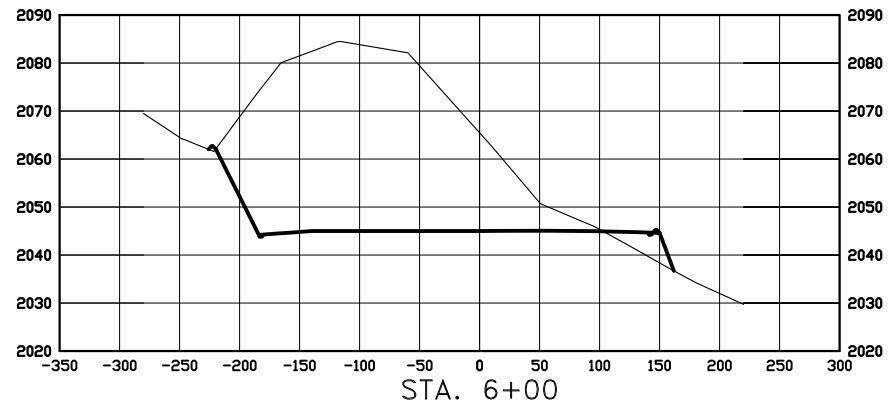
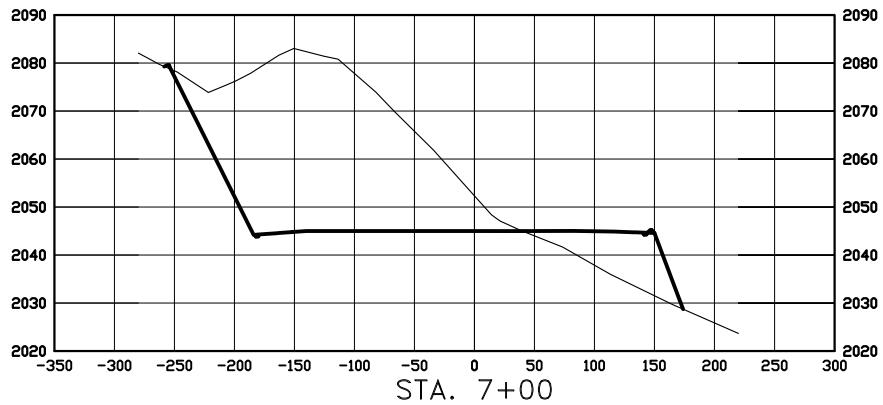
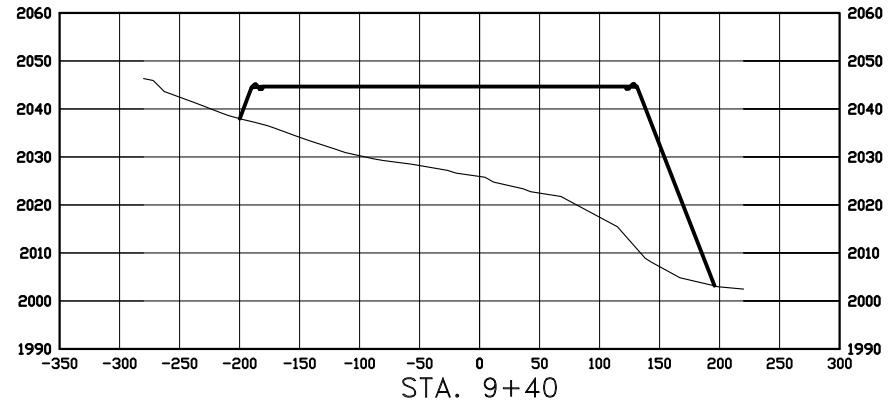
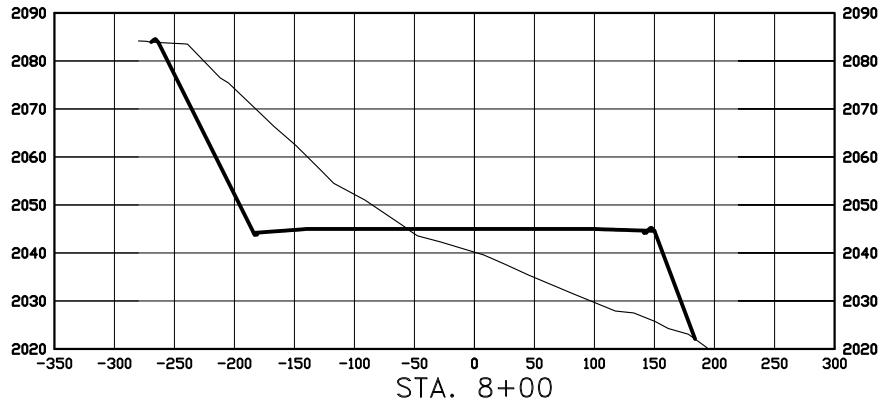
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-381.06

Checked By: D.D.K. Date: JAN. 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD

**CROSS SECTIONS**  
 OASIS PETROLEUM NORTH AMERICA, LLC  
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
 "WADE FEDERAL 5300 41-30 7T"  
 877 FEET FROM SOUTH LINE AND 280 FEET FROM WEST LINE  
 SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE  
 HORIZ 1"=160'  
 VERT 1"=40'

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 CROSS SECTIONS  
 SECTION 30, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-381.06  
 Checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD

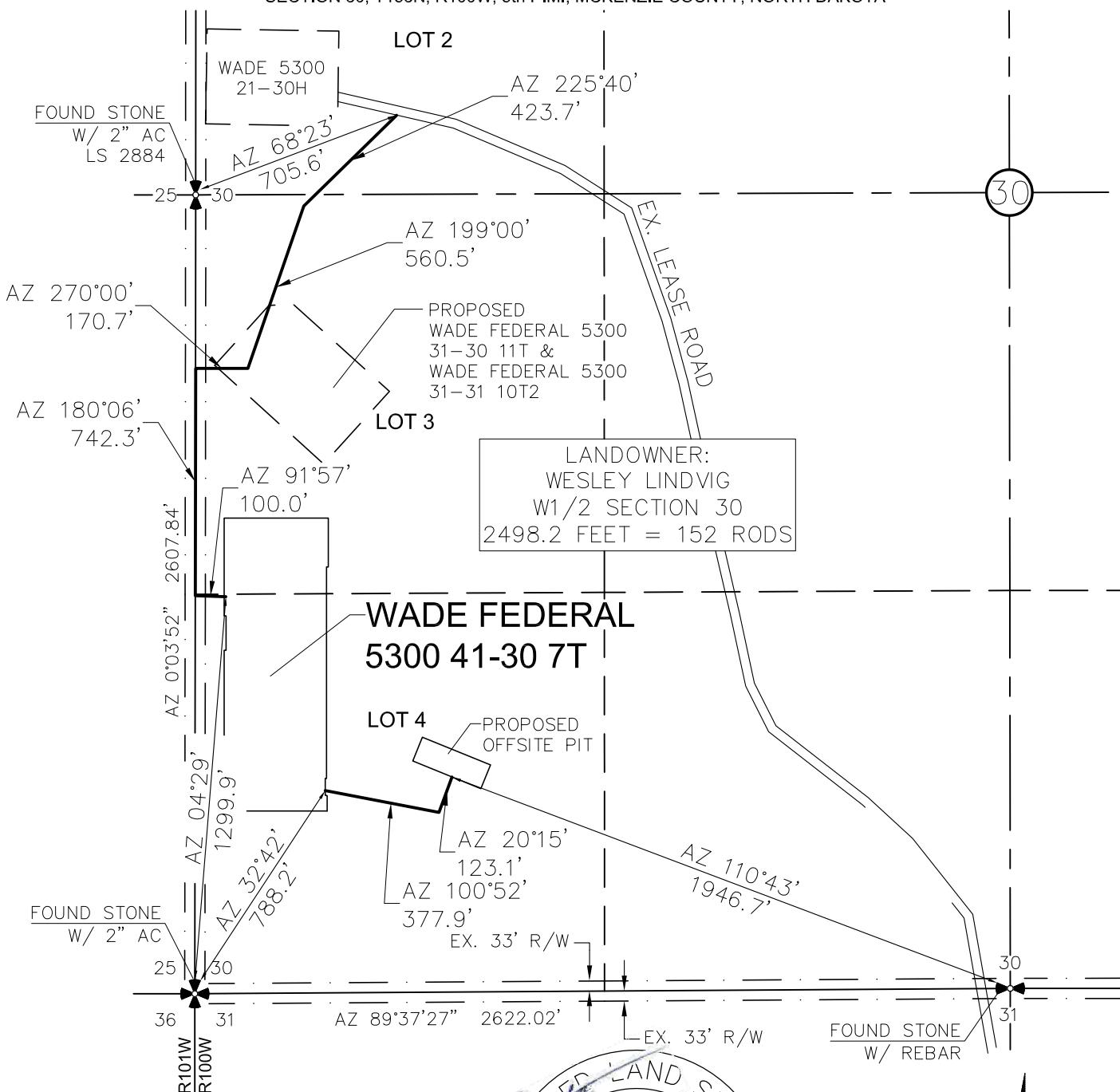
O:\2013\ST13-09\381.06 Oasis Petroleum - Wade 5300 41-30 7T Well Location  
 E-Well Pad\CAD\REVISED WADE\_71.dwg - 3/19/2014 7:01 AM josh schmierer

# ACCESS APPROACH

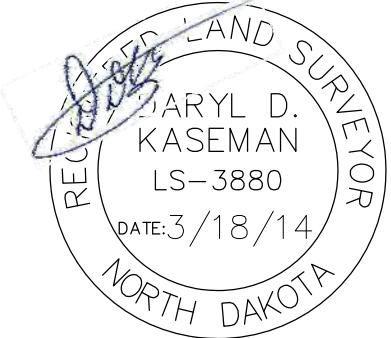
OASIS PETROLEUM NORTH AMERICA, LLC  
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

"WADE FEDERAL 5300 41-30 7T"

877 FEET FROM SOUTH LINE AND 280 FEET FROM WEST LINE  
SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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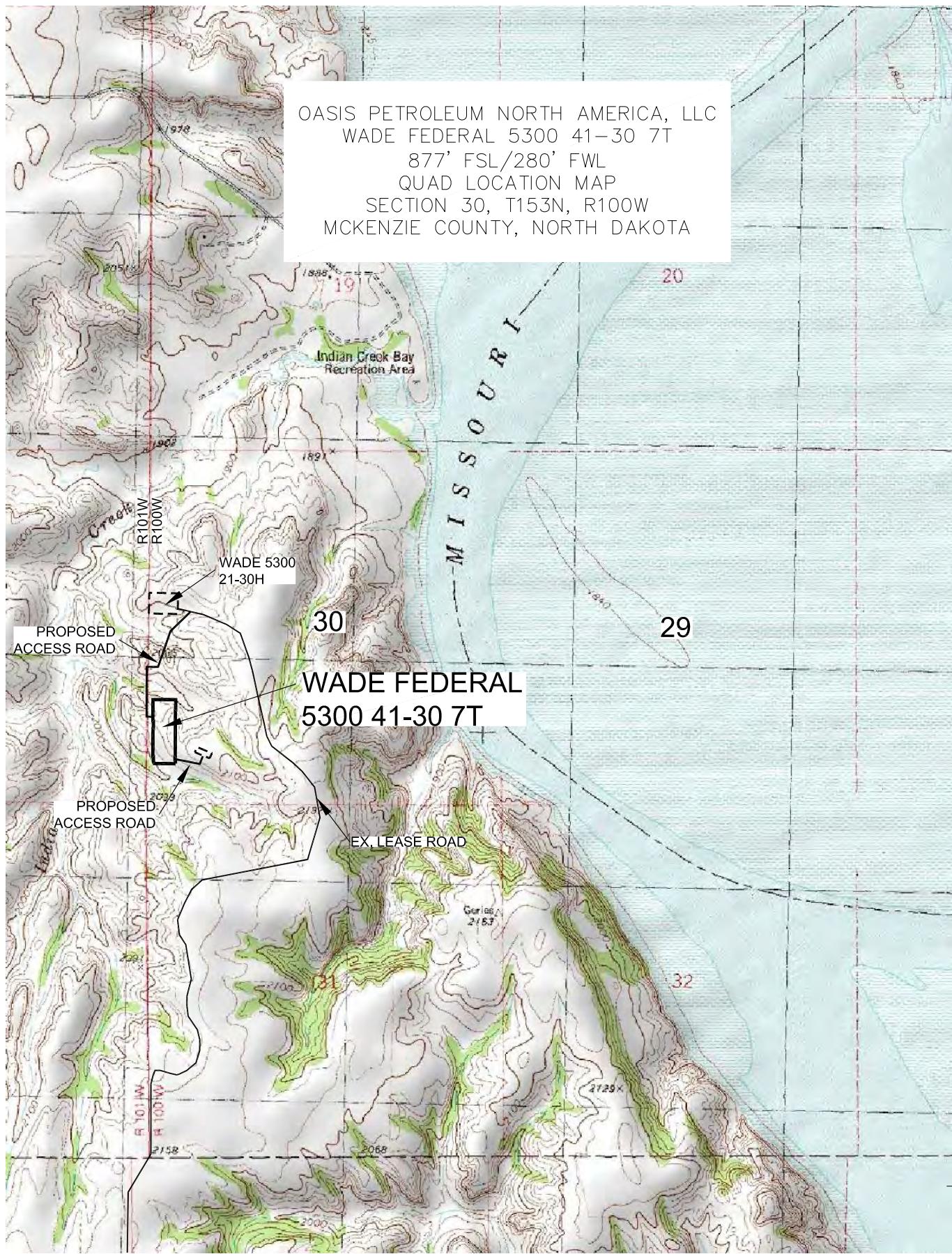


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ACCESS APPROACH  
SECTION 30, T153N, R100W  
MCKENZIE COUNTY, NORTH DAKOTA  
Drawn By: B.H.H. Project No.: S13-09-381.06  
Checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD



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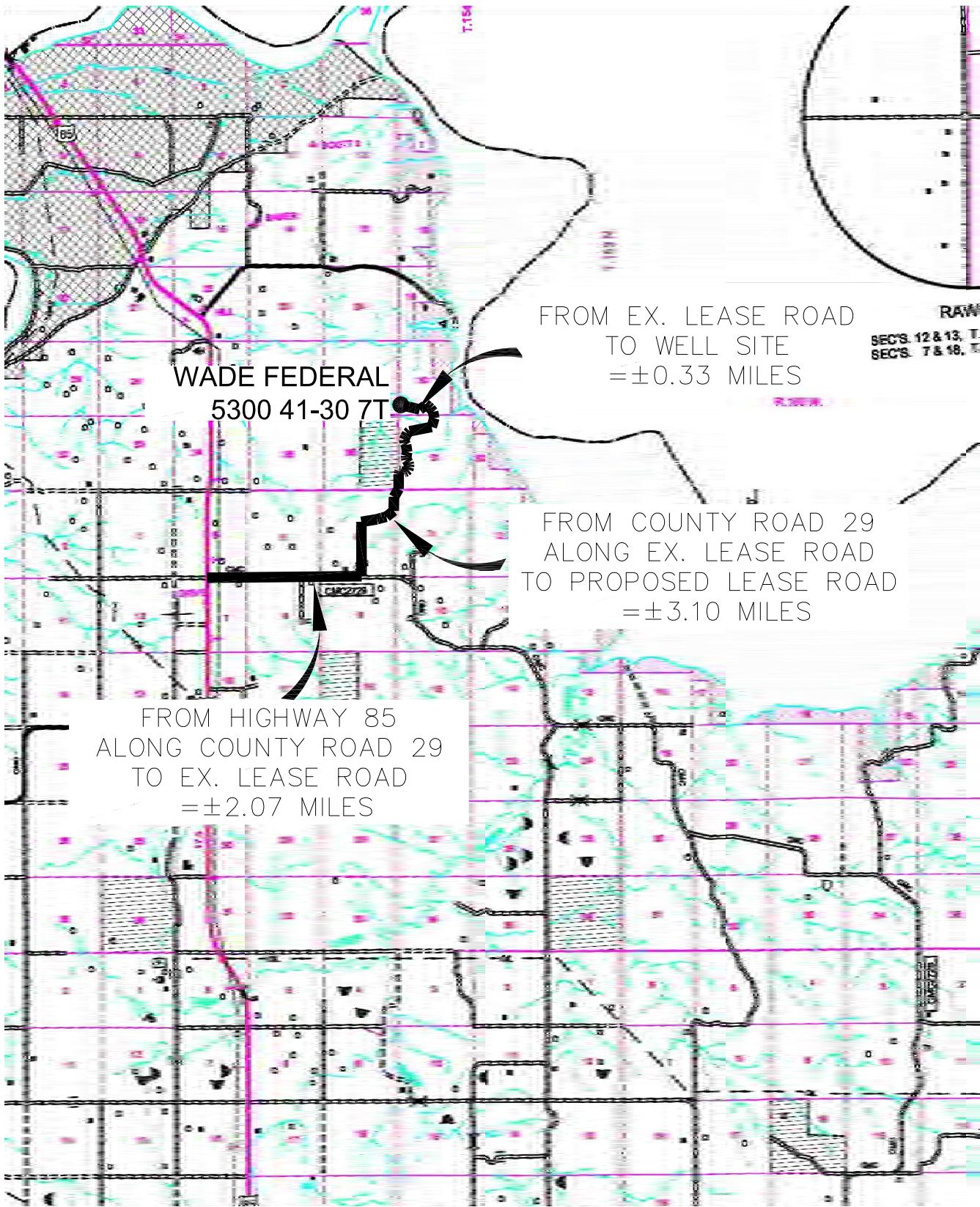
Interstate Engineering, Inc.  
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OASIS PETROLEUM NORTH AMERICA, LLC  
 QUAD LOCATION MAP  
 SECTION 30, T153N, R100W  
 MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-381.06  
 Checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD

**COUNTY ROAD MAP**  
 OASIS PETROLEUM NORTH AMERICA, LLC  
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002  
 "WADE FEDERAL 5300 41-30 7T"  
 877 FEET FROM SOUTH LINE AND 280 FEET FROM WEST LINE  
 SECTION 30, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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[www.InterstateEng.com](http://www.InterstateEng.com)  
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OASIS PETROLEUM NORTH AMERICA, LLC  
 COUNTY ROAD MAP  
 SECTION 30, T153N, R100W  
 MCKENZIE COUNTY, NORTH DAKOTA  
 Drawn By: B.H.H. Project No.: S13-09-381.06  
 Checked By: D.D.K. Date: JAN. 2014

Revision No.	Date	By	Description
REV 1	3/17/14	JJS	MOVED WELLS ON PAD & ACCESS ROAD



## **STATEMENT**

This statement is being sent in order to comply with NDAC 43-02-03-16 (Application for permit to drill and recomplete) which states (in part that) "confirmation that a legal street address has been requested for the well site, and well facility if separate from the well site, and the proposed road access to the nearest existing public road". On the date noted below a legal street address was requested from the appropriate county office.

McKenzie County  
Aaron Chisolm – McKenzie County Dept.

Wade Federal 5300 31-30 2B  
Wade Federal 5300 31-30 3T2  
Wade Federal 5300 41-30 4T  
Wade Federal 5300 41-30 5T2  
Wade Federal 5300 41-30 6B  
Wade Federal 5300 41-30 7T  
Wade Federal 5300 41-30 8T2  
Wade Federal 5300 41-30 9B

Brandi Terry

**Brandi Terry**  
Regulatory Specialist  
Oasis Petroleum North America, LLC

**From:** Heather McCowan  
**To:** Webber, Alice D.; Chelsea Covington; Brandi Terry  
**Subject:** RE: Wade Federal 8 Well Pad  
**Date:** Thursday, June 05, 2014 9:25:20 AM  
**Attachments:** [image002.png](#)

---

Hell Alice,

The cuttings will be buried offsite for this well. I believe a sundry was sent in.

*Thanks,*

*Heather McCowan*

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**From:** Webber, Alice D. [mailto:[adwebber@nd.gov](mailto:adwebber@nd.gov)]  
**Sent:** Thursday, June 05, 2014 9:12 AM  
**To:** Chelsea Covington; Brandi Terry; Heather McCowan  
**Subject:** RE: Wade Federal 8 Well Pad

Good morning Ladies,

Just checking in to see if we know where the cuttings are being hauled to for this pad. That is the only thing we are waiting for and I would like to get these permitted for Oasis today.

Thanks,  
Alice

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