

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/

28637

July 12, 2019

Mr. Jonathon Travis
Ryan, LLC
2800 Post Oak Boulevard, Suite 4200
Houston, TX 77056

**RE: Chalmers #5300 21-19 10T
Lot 2 Sec. 19, T.153N., R.100W.
McKenzie County, North Dakota
Baker Field
Well File No. 28637
STRIPPER WELL DETERMINATION**

Dear Mr. Travis:

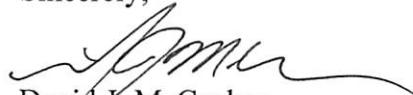
Oasis Petroleum North America LLC (Oasis) filed with the North Dakota Industrial Commission – Oil and Gas Division (Commission) on June 12, 2019 an application for a Stripper Well Determination for the above captioned well.

Information contained in the application indicates that the above mentioned well is a stripper well pursuant to statute and rule, and Oasis has elected to designate said well as a stripper well. The well produced from a well depth greater than 10000 feet and was completed after June 30, 2013. During the qualifying period, August 1, 2017 through July 31, 2018, the well produced at a maximum efficient rate or was not capable of exceeding the production threshold. The average daily production from the well was 34.4 barrels of oil per day during this period.

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

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

Sincerely,


David J. McCusker
Petroleum Engineer

Cc: ND Tax Department



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Received

Well File No.
28637

APR 08 2016

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

<input type="checkbox"/> Notice of Intent	Approximate Start Date
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed March 24, 2016
<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 type="checkbox"/> Other	Well is now on pump

Well Name and Number Chalmers 5300 21-19 10T					
Footages 2292 F N L	Qtr-Qtr 326 F W L	Section LOT2	Township 19	Range 153 N	Range 100 W
Field Baker	Pool Bakken	County McKenzie			

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

Name of Contractor(s)			
Address		City	State
			Zip Code

DETAILS OF WORK

Effective 03/24/2016 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 10235'

Pump: 2-1/2" x 2.0" x 24' insert pump @ 9859.52'

Company Oasis Petroleum North America LLC	Telephone Number 281 404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date April 7, 2016	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY	
<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 4/26/2016	
By 	
Title TAYLOR ROTH	
Engineering Technician	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Received

Well File No.

28637

FEB 12 2016

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

July 12, 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

Chalmers 5300 21-19 10T

Footages 2292 F N L	326 F W L	Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W
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Field Baker	Pool Bakken	County McKenzie
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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
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DETAILS OF WORK

Effective 07/12/2015 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 10205.07'

Pump: ESP @ 10024.37'

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date February 8, 2016	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 3-3-2016	
By Taylor Roth	
Title TAYLOR ROTH	
Engineering Technician	



AUTHORIZATION TO PURCHASE AND TRANSPORT OIL FROM LEASE - Form 8

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



Well File No.
28637
NDIC CTB No.
To be assigned

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND FOUR COPIES.

Well Name and Number CHALMERS 5300 21-19 10T	Qtr-Qtr LOT2	Section 19	Township 153	Range 100	County McKenzie
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Operator Oasis Petroleum North America LLC	Telephone Number (281) 404-9573	Field BAKER
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Address 1001 Fannin, Suite 1500	City Houston	State TX	Zip Code 77002
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Name of First Purchaser Oasis Petroleum Marketing LLC	Telephone Number (281) 404-9627	% Purchased 100%	Date Effective May 1, 2015
Principal Place of Business 1001 Fannin, Suite 1500	City Houston	State TX	Zip Code 77002
Field Address	City	State	Zip Code
Transporter Hiland Crude, LLC	Telephone Number (580) 616-2058	% Transported 75%	Date Effective May 1, 2015
Address P.O. Box 3886	City Enid	State OK	Zip Code 73702
The above named producer authorizes the above named purchaser to purchase the percentage of oil stated above which is produced from the lease designated above until further notice. The oil will be transported by the above named transporter.			

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other Transporters Transporting From This Lease	% Transported	Date Effective
Power Crude Transport	25%	May 1, 2015
Other Transporters Transporting From This Lease	% Transported	Date Effective
		May 1, 2015
Comments		

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Date September 10, 2015
Signature 	Printed Name Dina Barron Title Mktg. Contracts Administrator

Above Signature Witnessed By:	Printed Name	Title
Signature 	Printed Name Jeremy Harris	Title Marketing Scheduler

FOR STATE USE ONLY

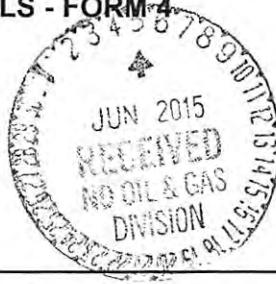
Date Approved SEP 18 2015
By
Title Erie Robertson

Oil & Gas Production Analyst



SUNDY 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.

28633TA
28634TA
28635
28636TA
28648TA
28637TA
28649TA

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input type="checkbox"/> Notice of Intent	Approximate Start Date
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed March 14, 2015
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date

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

Well Name and Number
See below

Footages	F N L	F E L	Qtr-Qtr	Section	Township	Range
			LOT2	19	153 N	100 W
Field Baker			Pool Bakken		County McKenzie	

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)
Neu Construction

Address 602 W. 9th Street	City Fairview	State MT	Zip Code 59221
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DETAILS OF WORK

Oasis Petroleum North America LLC plans to reclaim the reserve pit for the below referenced wells as follows:

Chalmers 5300 21-19 5T (28633)
Chalmers 5300 21-19 6B (28634)
Chalmers 5300 21-19 7T2 (28635)
Chalmers 5300 21-19 8T (28636)
Chalmers 5300 21-19 9B (28648)
Chalmers 5300 21-19 10T (28637)
Chalmers 5300 21-19 11T (28649)

The NDIC field inspector, Rick Dunn (NDIC) was notified on 03/06/2015

The surface owners, Wesley and Barbara Lindvig, 14075 41st Street NW, Alexander, ND 58831, were contacted on 03/06/2015

Spread material out in pit, cut top edge of liner and fold over cuttings, cover entire pit with liner, back fill with clay
slope and contour well site to ensure proper drainage

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date June 4, 2015	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 9-23-15	
By 	
Title 	



Oasis Petroleum North America, LLC
Chalmers 5300 21-19 10T
2,292' FNL & 327' FWL
Lot 2 Sec. 19, 153N, 100W
Baker / Three Forks
McKenzie County, North Dakota

BOTTOM HOLE LOCATION:

**545.56' S & 9,879.80' E of surface location or approx.
2,442.44' FSL & 306.57' FEL, NE SE Sec. 20, T153N, R100W**

Prepared for:

Nathan Gabelman
Oasis Petroleum North America, LLC
1001 Fannin Suite 1500
Houston, TX 77002

Prepared by:

Michelle Baker, G. Wayne Peterson,
Molly Hagstrom, Zachary Moses
PO Box 80507; Billings, MT 59108
(406) 259-4124
geology@sunburstconsulting.com
www.sunburstconsulting.com

WELL EVALUATION



Figure 1. Nabors B22 drilling the Oasis Petroleum North America, LLC - Chalmers 5300 21-19 10T during January-February, 2015 in the Baker Field, McKenzie County, North Dakota.
(G. Wayne Peterson, Sunburst Consulting)

INTRODUCTION

The **Oasis Petroleum North America, LLC Chalmers 5300 21-19 10T** [Lot 2 Section 19, T153N, R100W] is located approximately 7 miles south of the city of Williston in McKenzie County, North Dakota. The Chalmers 5300 21-19 10T is a horizontal Three Forks well within the Williston Basin consisting of one 9,444' uncased lateral drilled toward the east. The vertical hole was planned to be drilled to approximately 10,341'. The curve would be built at 12 degrees per 100' to land within the Three Forks. This well is a two section lateral which originates in the northwest quarter of section 19, then drilled east to the southeast quarter of section 20. Directional drilling technologies and geosteering techniques were used to land in the Three Forks reservoir and maintain exposure to the ideal target rock.

OFFSET WELLS

Offset well data used for depth correlation during curve operations are found in the ‘Control Data’ section appended to this report. Offset well control was essential in curve operations, to successfully land within the Three Forks. Formation thicknesses expressed by gamma ray signatures in these wells were compared to gamma data collected during drilling operations in order to successfully land the curve. The target landing true vertical depth (TVD) was periodically updated during drilling to ensure accurate landing of the curve.

GEOLOGY

The Charles Formation [Mississippian Madison Group] was logged 8,537' MD 8,536' TVD (-6,460' SS). Samples in the lower portion of the Charles Formation consisted of a limestone mudstone, which was light brown, light gray brown, off white in color. It was microcrystalline, firm-friable, laminated, with an earthy texture. A trace of intercrystalline porosity, as was *rare spotty light brown oil stain* Occasionally noted was a dolomite mudstone, which was light brown, light gray brown in color. It was microcrystalline, friable-firm, laminated, with an earthy texture. Also noted was a trace of intercrystalline porosity, and *occasional spotty light brown oil stain*. Rarely noted was anhydrite, which was off white and cream in color. It was soft, microcrystalline, and massive with an earthy to amorphous texture. Following connections or periods of non-circulation, gas peaks of 32 to 77 units were noted, as were drilling gas shows of 24 to 103 units.

The Mission Canyon Formation [Mississippian Madison Group] was logged 9,436' MD 9,435' TVD (-7,359' SS). The Mission Canyon Formation consisted of a lime mudstone that was described as light gray, light brown, gray brown, trace dark gray in color. The lime mudstone was predominately friable to firm, with an earthy to rarely crystalline in texture. Some intervals contained a trace of black-brown algal material, a trace of fossil fragments, and traces of disseminated pyrite. Also present was an argillaceous lime mudstone that was described as light gray, occasional medium gray, rare gray tan, rare off white, trace dark gray in color. The argillaceous lime mudstone was predominately firm to friable, crystalline to chalky texture. Some intervals contained a trace of disseminated pyrite. Following connections or periods of non-circulation, gas peaks of 63 to 160 units were noted, as were drilling gas shows of 89 to 294 units. Rare intercrystalline porosity was noted as well as traces to occasional *spotty light brown oil stain* was occasionally observed while logging the Mission Canyon Formation.



Figure 2. Limestone with spotty light to medium brown staining from the Mission Canyon Formation.

The Upper Bakken Shale [Mississippian Bakken Formation] was drilled at 10,777' MD 10,727' TVD (-8,651' SS). Entry into this member was characterized by high gamma, elevated background gas and increased rates of penetration. The black to black gray carbonaceous and *petroliferous* shale was hard with a splintery to smooth texture. Fracture porosity was noted, and trace minerals were observed to include disseminated pyrite and calcite fracture fill. Hydrocarbons evaluated in this interval reached a maximum of 1,472 units.

The Middle Bakken [Mississippian-Devonian Bakken Formation] was drilled at 10,803' MD 10,743' TVD (-8,667' SS). Samples in the Middle Bakken Member were predominantly silty sandstone which was described as light gray brown, light brown, trace light gray in color. It was very fine grained, friable, subround, smooth, moderately sorted, with calcite cement, moderately cemented. A trace of disseminated and nodular pyrite was noted as was fair intergranular porosity. Also noted was *occasional light brown spotty oil stain*. Hydrocarbons evaluated in this interval reached a maximum of 614 units drilling gas, with a survey gas of 750 units, and connection gas of 721 units.

The Lower Bakken Shale [Devonian Bakken Formation] was drilled at 10,880' MD 10,785' TVD (-8,709' SS). Entry into this interval was characterized by high gamma, elevated background gas and increased rates of penetration. The carbonaceous black, black gray shale is *petroliferous*, hard, splintery, smooth and exhibits possible fracture porosity. Trace minerals included disseminated pyrite. Drilling gas in this interval reached a maximum of 1,074 units.



Figure 3. Black carbonaceous and petroliferous shale from the Lower Member of the Bakken Formation and gray siltstone from the underlying Pronghorn Member.

The Pronghorn Member [Devonian-Bakken Formation] was reached at 10,906' MD 10,796' TVD (-8,720' SS). Entry into this interval was characterized by lower gamma, and slightly slower penetration rates. Samples from the Pronghorn were siltstone which was dark gray trace gray black, friable to firm, subblocky to subsplit. This siltstone was moderately dolomite cemented and included disseminated and nodular pyrite. Also noted was a trace of *spotty light brown oil stain*. Drilling gas in this interval reached a maximum of 552 units with a connection gas of 529 units.

The Three Forks [Devonian] was reached at 10,956' MD 10,814' TVD (-8,738' SS) which was - 1' low to the Oasis Petroleum NA, LLC Chalmers 5300 21-19 8T. The target zone of the Three Forks was to be drilled in a predominately dolomitic 11 foot zone beginning 16 feet into the Three Forks.

Samples in the Three Forks were predominantly dolomite which was described as light brown, light gray, tan-cream, peach, trace pink in color. It was firm, laminated, with a microsucrosic

texture. Rare disseminated pyrite was noted as was occasional intercrystalline porosity. Also noted was *common spotty to rare even light brown oil stain*. Also observed was light green-light gray green, rare light gray shale that was firm, subblocky, with an earthy texture. Occasional disseminated pyrite was noted as was possible intergranular porosity.



Figures 4, 5 & 6. A predominately dolomitic sample low in the preferred drilling zone of the Three Forks (left); a predominately dolomitic sample high in the preferred drilling zone of the Three Forks (middle); and sample of the underlying claystone (right).

Gas Show

Gas monitoring and fluid gains provided evidence of a hydrocarbon saturated reservoir during the drilling of the Chalmers 5300 21-19 10T. Oil and gas shows at the shakers and in samples were continuously monitored. In the closed mud system, hydrostatic conditions were maintained near balance, this allowed for gas and fluid gains from the well to be evaluated. Gas on the Chalmers 5300 21-19 10T varied according to stratigraphic position and penetration rates which may have reflected increased porosity. During the vertical, connection gas peaks of 35 to 160 units were noted, as were drilling gas shows of 40 to 294 units, against a 10.25-11.45 lb/gal diesel-invert mud weight. Background concentrations in the lateral ranged from 400 to 1,600 units, against a 9.75-9.8 lb/gal saltwater gel drilling fluid. Connection peaks of 1,200 to 2,284 units were observed, coinciding with the best shows. Drilling out of casing at 11,140 MD' yielded a trip/downtime gas of 2,227 units. Trips at 14,466' MD, a short trip to 8,375' MD for a washed pipe at 15,042' MD, and a trip at 17,024' MD yielded trip gas of 2,278 units, and 1,968 units, and 1,077 units respectively. Chromatography of gas revealed typical concentrations of methane, characteristic of Three Forks gas.

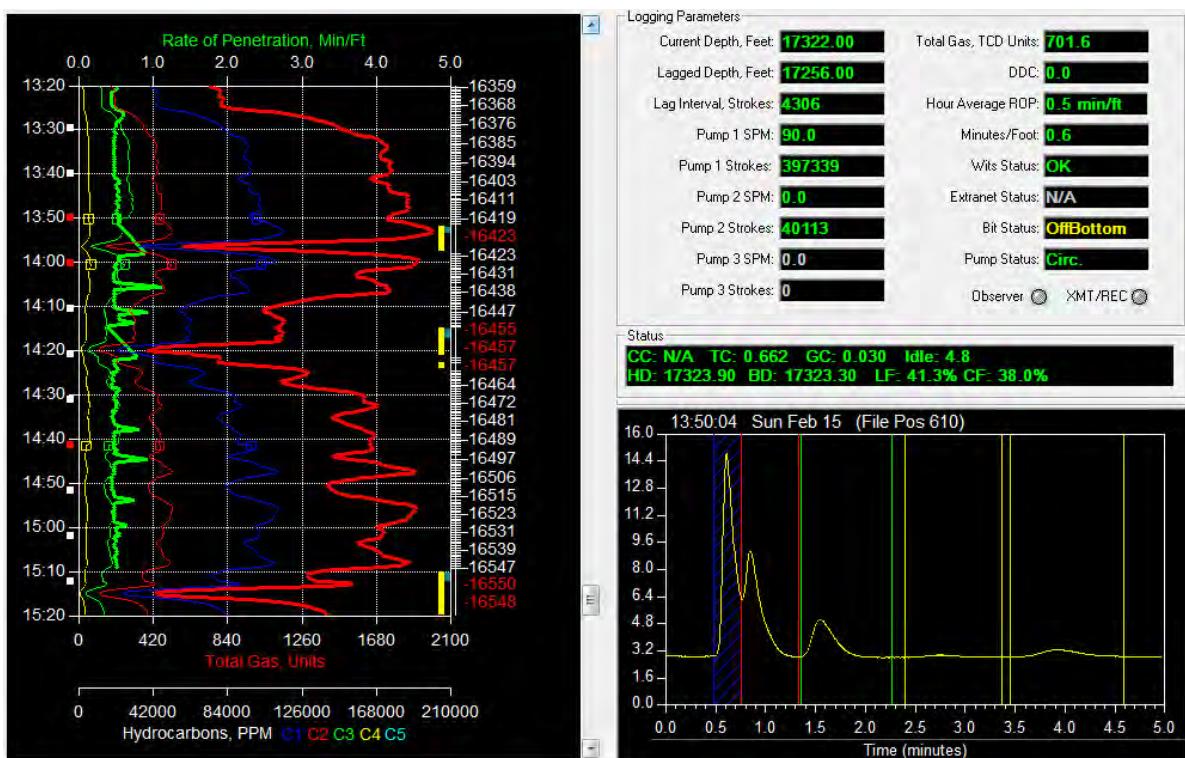


Figure 7. Gas chromatography of a 1,996 unit gas show.

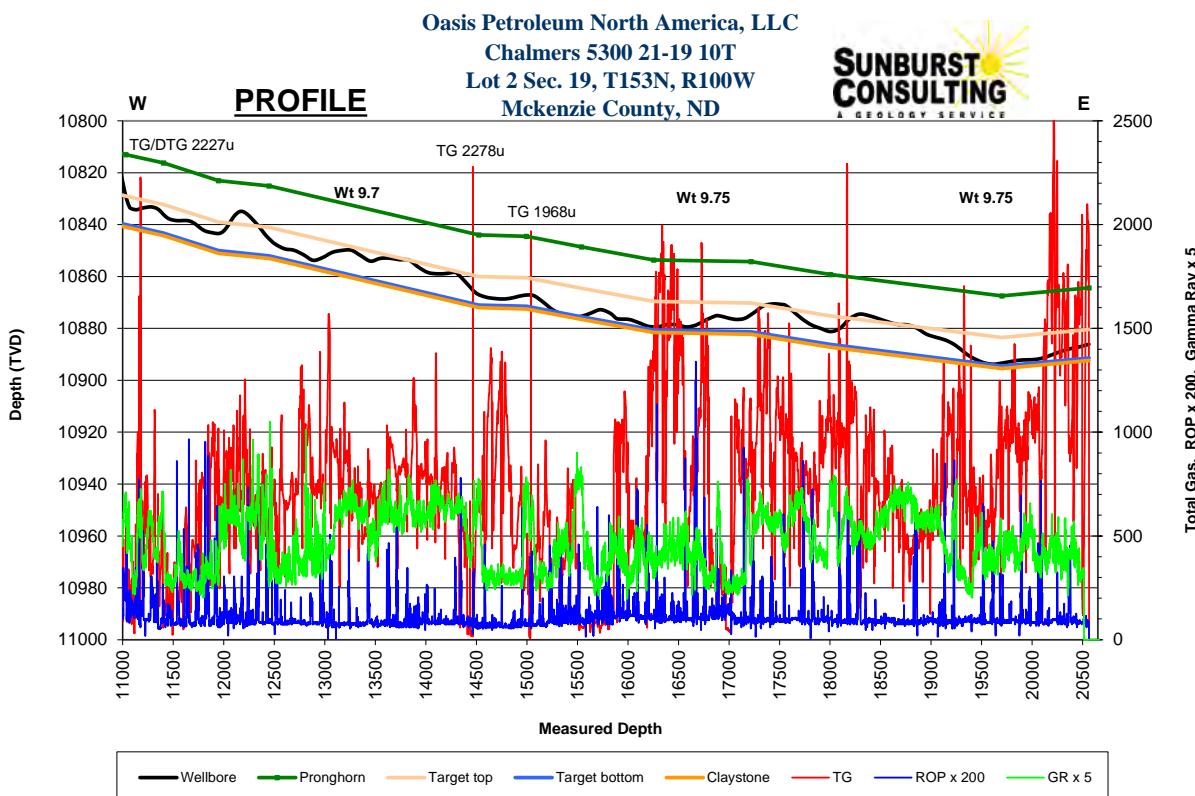


Figure 8. Profile displaying total gas, gamma ray and rate of penetration.

Geosteering

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

The 805' curve first drilled 44' in 1 hour before a MWD failure caused it to be tripped out of the hole and the MWD replaced. The remainder of the curve was drilled in 25 hours with a bottom hole assembly (BHA) consisting of bit #5/re-run #4, a Smith MDI516 PDC bit, attached to a 2.38 degree fixed NOV 7/8 5.0 motor. The curve was successfully landed at 11,140' MD and 10,834' TVD, approximately 20' into the Three Forks Formation. Seven inch diameter 32# HCP-110 casing was set to 11,118' MD.

Geologic structure maps of the Chalmers 5300 21-19 10T and surrounding control wells had estimated formation dip to be approximately 0.5° down to the TD of the lateral. The preferred drilling interval of the Chalmers 5300 21-19 10T consisted of a eleven foot zone located approximately sixteen feet into the Three Forks Formation. Penetration rates, gas shows, gamma ray data, and sample observations were utilized to keep the wellbore in the preferred stratigraphic position in the target zone. Using offset well data provided by Oasis representatives, projected porosity zones were identified in the preferred drilling areas.

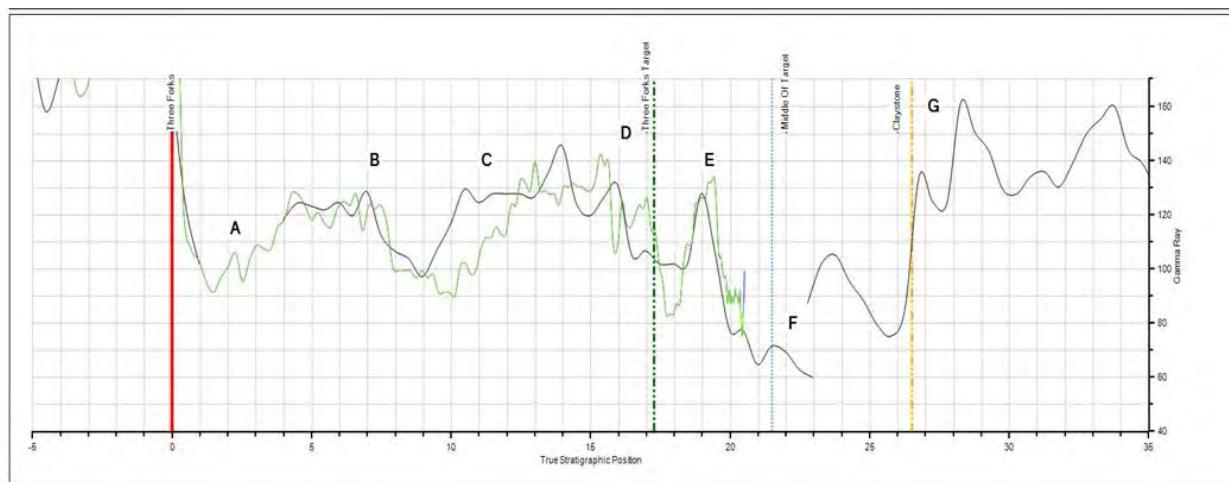


Figure 9. Offset well target definition, Indian Hills Prospect (Oasis).

Steering decisions were made by using target points and letter markers provided by Oasis personnel. The low gamma (F) in the middle to lower portion of the target zone was often utilized to establish the well-bore's position in the target zone. If the well-bore moved toward the bottom of the target zone, the moderate gamma was observed. As the well-bore moved lower in formation, the higher gamma of the underlying claystone (G) was observed, as was the presence of claystone in collected samples. Slides were then utilized to move the well-bore back up into the target zone. In accordance with the drilling plan the well-bore was steered down into the underlying claystone at prescribed intervals in order to definitively establish the well-bore's

position in formation. As the well-bore moved higher, approaching the top of the target zone the high to medium fluctuating gamma between markers (D & E) was noted. Samples in the lower gamma portion of the target zone contained noticeably greater concentrations of the light brown, tan-cream, peach, trace pink dolomite; as the well-bore moved higher in zone the samples tended to have more of the light gray, off white, gray brown dolomite. The TD of 20,562' MD was achieved at 08:25 hours CT February 18, 2015. The well site team worked together to maintain the well bore in the desired target interval for 94% of the lateral, opening 9,444' of potentially productive reservoir rock. The hole was then circulated and reamed for completion.

SUMMARY

The Chalmers 5300 21-19 10T is a successful well in Oasis Petroleum's horizontal Three Forks development program in Baker Field. The project was drilled from surface casing to TD in 18 days. The TD of 20,562' MD was achieved at 08:25 hours CT February 19, 2015. The well site team worked together to maintain the well bore in the desired target interval for 94% of the lateral, opening 9,444' of potentially productive reservoir rock.

Samples in the Three Forks were predominantly dolomite which was described as light brown, light gray, tan-cream, peach, trace pink in color. It was firm, laminated, with a microsucrosic texture. Rare disseminated pyrite was noted as was occasional intercrystalline porosity. Also noted was *common spotty to rare even light brown oil stain*. Also observed was light green-light gray green, rare light gray shale that was firm, subblocky, with an earthy texture. Occasional disseminated pyrite was noted as was possible intergranular porosity.

Gas on the Chalmers 5300 21-19 10T varied according to stratigraphic position and penetration rates which may have reflected increased porosity. The overall gas and hydrocarbon shows were encouraging and indicate a hydrocarbon rich system in the Three Forks.

The Oasis Petroleum North America, LLC. Chalmers 5300 21-19 10T awaits completion operations to determine its ultimate production potential.

Respectfully submitted,

G. Wayne Peterson
Sunburst Consulting, Inc.
18 February, 2015

WELL DATA SUMMARY

<u>OPERATOR:</u>	Oasis Petroleum North America, LLC
<u>ADDRESS:</u>	1001 Fannin Suite 1500 Houston, TX 77002
<u>WELL NAME:</u>	Chalmers 5300 21-19 10T
<u>API #:</u>	33-053-06022
<u>WELL FILE #:</u>	28637
<u>SURFACE LOCATION:</u>	2,292' FNL & 327' FWL Lot 2 Sec. 19, 153N, 100W
<u>FIELD/ PROSPECT:</u>	Baker / Three Forks
<u>COUNTY, STATE</u>	McKenzie County, North Dakota
<u>BASIN:</u>	Williston
<u>WELL TYPE:</u>	Three Forks Horizontal
<u>ELEVATION:</u>	GL: 2,051' KB: 2,076'
<u>SPUD/ RE-ENTRY DATE:</u>	January 14, 2015
<u>BOTTOM HOLE LOCATION</u>	545.56' S & 9,879.80' E of surface location or approx. 2,442.44' FSL & 306.57' FEL, NE SE Sec. 20, T153N, R100W
<u>CLOSURE COORDINATE</u>	Closure Direction: 93.16° Closure Distance: 9,894.85'
<u>TOTAL DEPTH / DATE:</u>	20,562' on February 18, 2015 94% within target interval
<u>TOTAL DRILLING DAYS:</u>	18 days
<u>CONTRACTOR:</u>	Nabors #B22
<u>PUMPS:</u>	H&H Triplex (stroke length - 12")

<u>TOOLPUSHERS:</u>	Jessie Tibbets, Mark Rollins
<u>FIELD SUPERVISORS:</u>	John Gordon, Doug Rakstad
<u>CHEMICAL COMPANY:</u>	NOV
<u>MUD ENGINEER:</u>	Joe Vaith, Joe Stander
<u>MUD TYPE:</u>	Fresh water in surface hole Diesel invert in vertical/curve; Salt water in lateral
<u>MUD LOSSES:</u>	Invert Mud: 164 bbls, Salt Water: 0 bbls
<u>PROSPECT GEOLOGIST:</u>	Nathan Gabelman
<u>WELLSITE GEOLOGISTS:</u>	Michelle Baker, G. Wayne Peterson, Molly Hagstrom, Zachary Moses
<u>GEOSTEERING SYSTEM:</u>	Sunburst Digital Wellsite Geological System
<u>ROCK SAMPLING:</u>	30' from 8,240' - 20,562' (TD) 10' spot samples through curve
<u>SAMPLE EXAMINATION:</u>	Binocular microscope & fluoroscope
<u>SAMPLE CUTS:</u>	Trichloroethylene (Carbo-Sol)
<u>GAS DETECTION:</u>	MSI (Mudlogging Systems, Inc.) TGC - total gas with chromatograph Serial Number(s): ML-134
<u>ELECTRIC LOGS:</u>	n/a
<u>DRILL STEM TESTS:</u>	n/a
<u>DIRECTIONAL DRILLERS:</u>	RPM, Inc. John Gordon, Doug Rakstad, Robert Jasper
<u>MWD:</u>	Ryan Directional Services Mike McCommadon, Ronald Maddalena, Brandon Tankersley Jake Creech, Matt Aesoph
<u>CASING:</u>	Surface: 13 3/8" 54.5# J-55 set to 2,063' Second: 9 5/8" 40# HCL-80 set to 6,097' Intermediate: 7" 29/32# P-110 set to 11,118'

KEY OFFSET WELLS:

Oasis Petroleum North America, LLC

Chalmers 5300 31-19H

NW SW Sec. 19 T153N R100W

McKenzie County, ND

Oasis Petroleum North America, LLC

Chalmers 5300 21-19 8T

Lot 2, Sec. 19, T153N, R100W

McKenzie County, ND

Oasis Petroleum North America, LLC

Chalmers 5300 21-19 7T2

Lot 2, Sec. 19, T153N, R100W

McKenzie County, ND

Oasis Petroleum North America, LLC

Chalmers 5301 44-24 4T2

SE SE Sec. 24 T153N R101W

McKenzie County, ND

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

SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

FOUND REBAR W/ 2" AC LS 2352

FOUND REBAR
W/ 2" AC
CALCULATED

EDGE OF

LAKE

CALCULATED
IN LAKE

AZ 9000' 00" 1947' (GLO)

2216' (GLO)

1056' (GLO)

AZ 9000' 00" 1831.5' (GLO)

1947' (GLO)

2216' (GLO)

1056' (GLO)

AZ 9000' 00" 1831.5' (GLO)

1947' (GLO)

2216' (GLO)

1056' (GLO)

AZ 9000' 00" 1831.5' (GLO)

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AZ 9000' 00" 1831.5' (GLO)

1947' (GLO)

2216' (GLO)

1056' (GLO)

AZ 9000' 00" 1831.5' (GLO)

RECORDED
DARYL D.
KASEMAN
LS-3880
DATE 5/07/14

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Daryl D. Kaseman

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Fax (406) 433-5618
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OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: B.H.K. Project No.: 613-09-262.05
Checked By: D.D.K. Date: JAN 2014

Revised Mo.	Date	By	Description
REV 1	2/8/14	BS	MOVED MILLS ON PAD
REV 2	4/27/14	BS	MOVED MILLS ON FIELD/REVISED PAD
REV 3	5/27/14	BS	MOVED MILLS ON PAD/REVISED PAD

SECTION BREAKDOWN

OASIS PETROLEUM NORTH AMERICA, LLC

1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

SECTIONS 19 & 20, T155N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

EDGE OF

W/ 2" AC

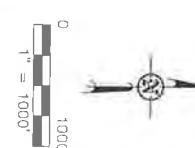
LS 233.2

FOUND REBAR

R101W

R100W

FOUND REBAR



ALL AZIMUTHS ARE BASED ON GPS
OBSERVATIONS. THE ORIGINAL SURVEY OF THIS
AREA FOR THE GENERAL LAND OFFICE (GLO)
WAS 1891. THE CORNERS FOUND ARE AS
INDICATED AND ALL OTHERS ARE COMPUTED FROM
THOSE CORNERS FOUND AND BASED ON GLO
DATA. THE MAPPING ANGLE FOR THIS AREA IS
APPROXIMATELY -0.03°.

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Other offices in Montana, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
SECTION BREAKDOWN
SECTIONS 19 & 20, T155N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-262.03
Checked By: D.D.K. Date: JAN 2014

Revision No.	Date	By	Description
REV 1	3/12/14	US	Moved wells on pad
REV 2	4/22/14	BBH	Moved wells on pad/revised pad
REV 3	5/2/14	BBH	Moved wells on pad/revised pad

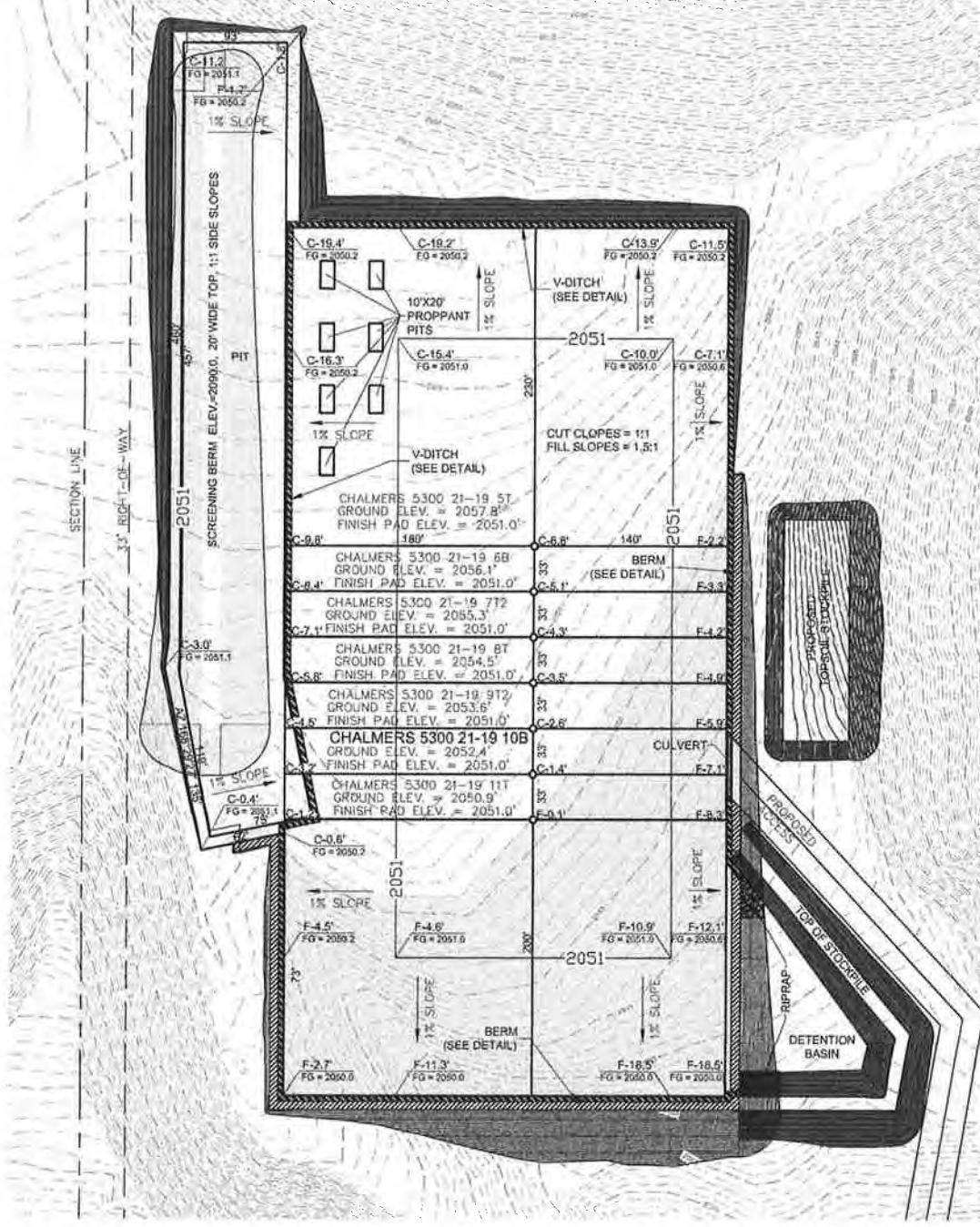
2/8



PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"CHALMERS 5300 21-19 10B"

CHALMERS 5300 21-19 TUB
2292 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2 : Screening berm is to be built after drilling operations are complete.

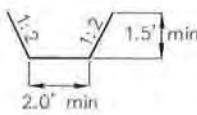
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— Proposed Contours — BERM
 - - - - - Original Contours — DITCH

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

V-DITCH DETAIL



3/8



SHETTA

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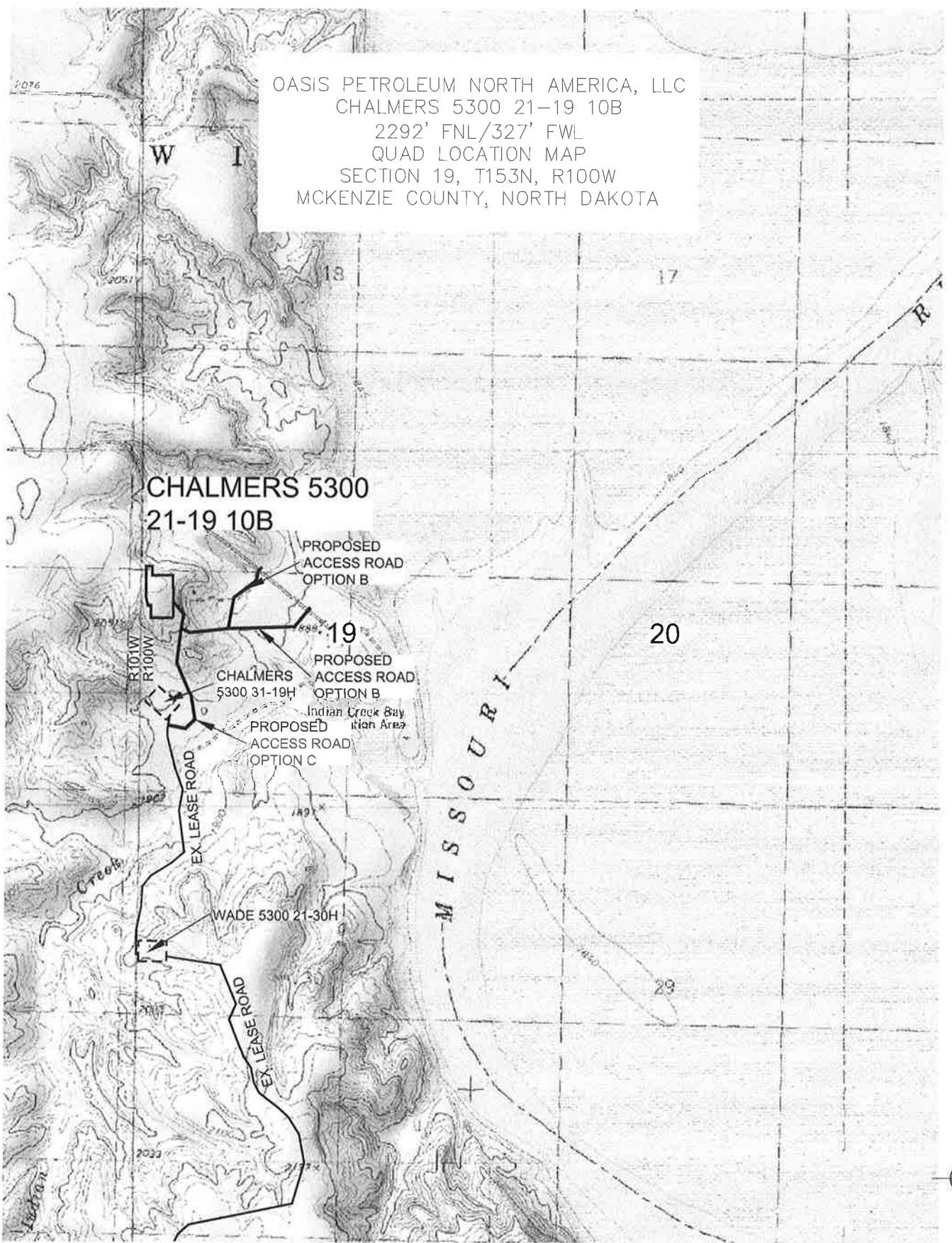
OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 19 T153N R100W

MCKENZIE COUNTY, NORTH DAKOTA

Own By: B.H.H. Project No.: S13-09-282

checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/28/14	JW	Moved wells on P&D
REV 2	4/22/14	JW/HF	Moved 14 wells on P&D/REVISED P&D
REV 3	5/2/14	JW/HF	Moved wells on P&D/REVISED P&D



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Office & Plans in Montana, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
QUAD LOCATION MAP
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. | Project No.: S13-09-282.05
Checked By: D.D.K. | Date: JAN, 2014

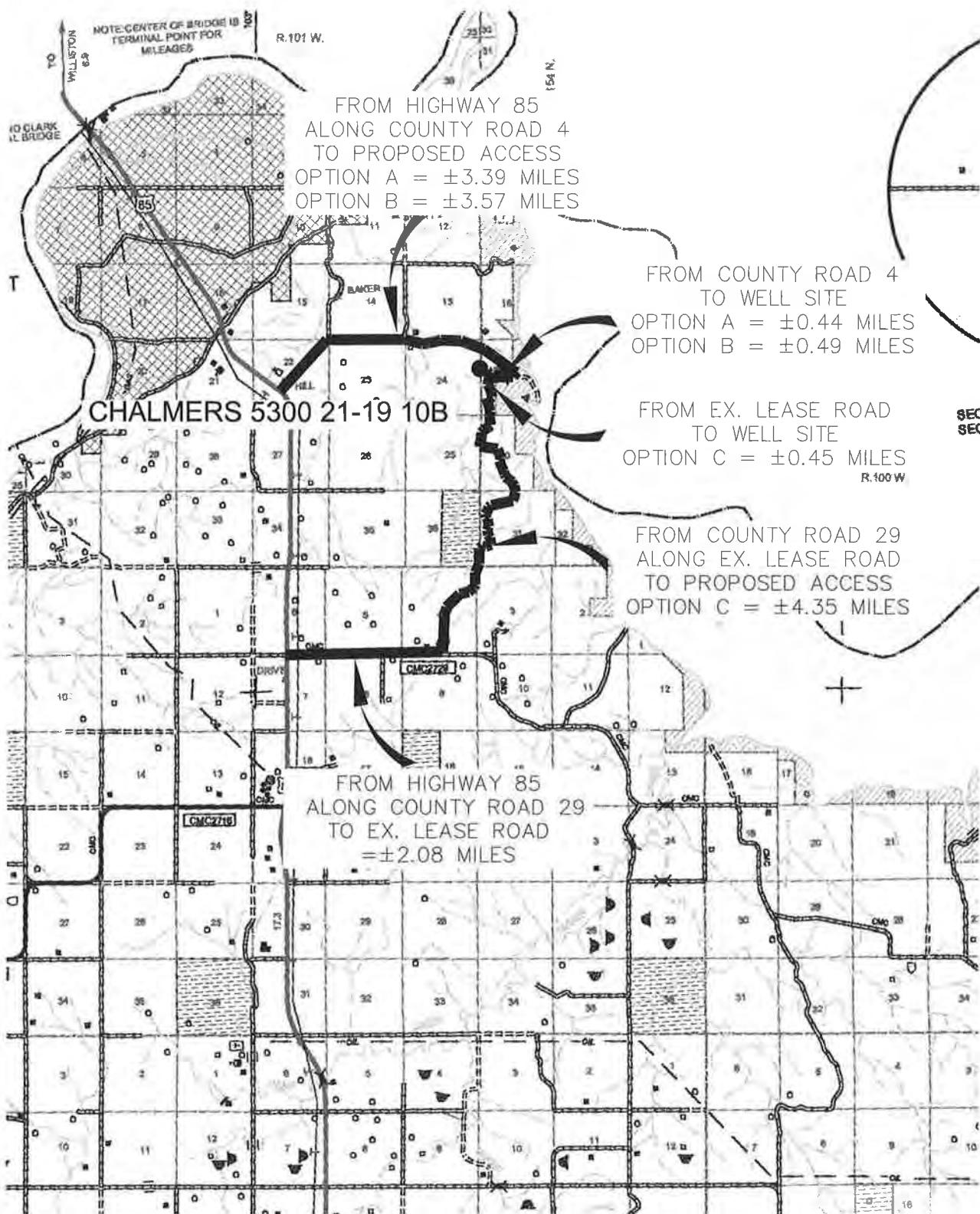
Revision No.	Date	By	Description
REV 1	3/19/14	JJB	Moved wells on pad
REV 2	4/22/14	BH&I	Moved wells on pad/revised pad
REV 3	5/2/14	BH&I	Moved wells on pad/revised pad

COUNTY ROAD MAP

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

"CHALMERS 5300 21-19 10B"

2292 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

6/8



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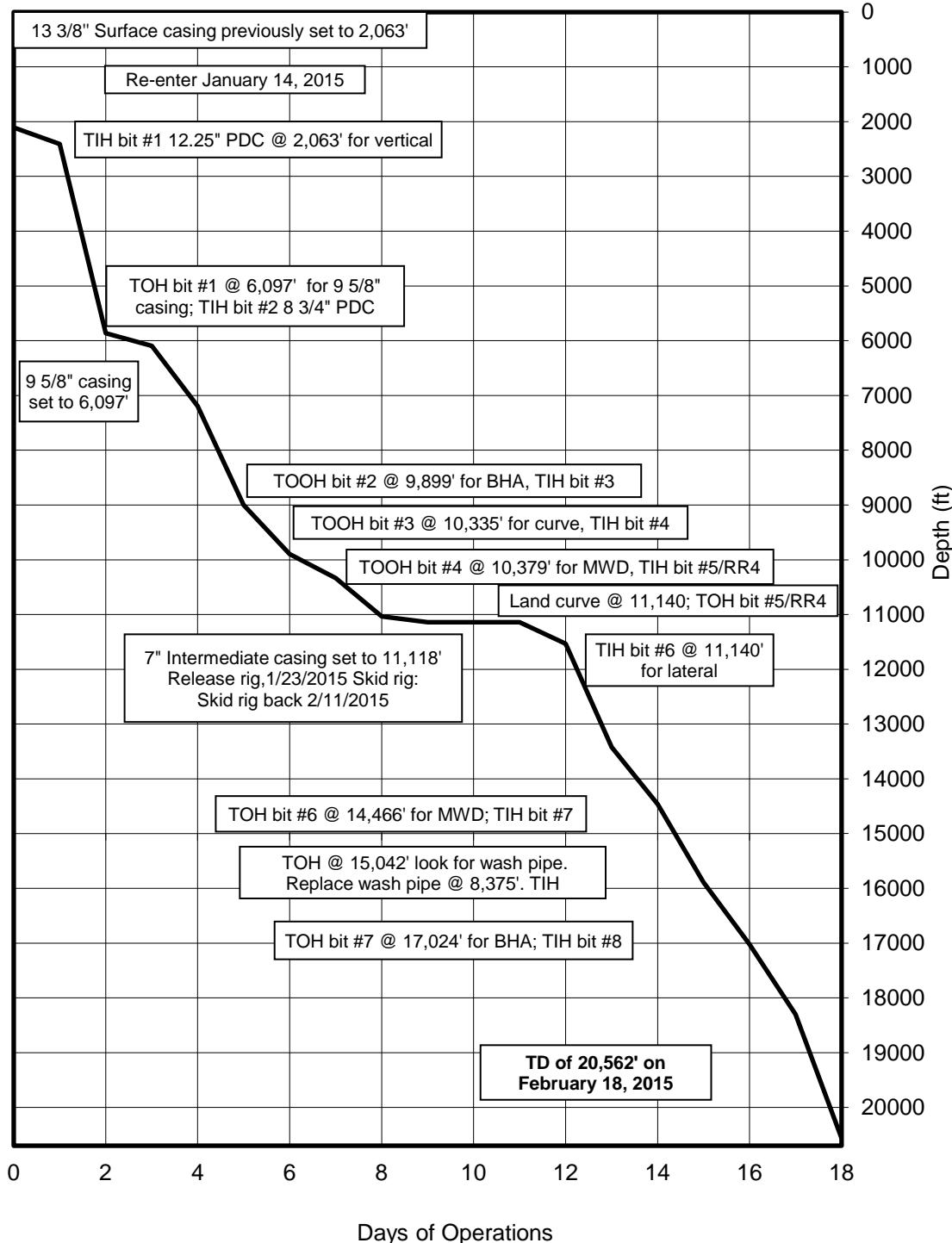
OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282.05
Checked By: D.D.K. Date: JAN-2014

Revision No.	Date	By	Description
REV 1	3/12/14	JAH	Moved wells on pad
REV 2	4/22/14	BHH	Moved wells on pad/revised pad
REV 3	5/2/14	BHH	Moved wells on pad/revised pad

TIME VS DEPTH

Oasis Petroleum North America, LLC
Chalmers 5300 21-19 10T



DAILY DRILLING SUMMARY

Day	Date	Depth (6000 Hrs)	24 Hr Footage	Bit #	WOB (Klbs) RT	RPM (RT)	WOB (Klbs) MM	RPM (MM)	PP	SPM 1	SPM 2	GPM	24 Hr Activity		Formation
0	1/14	2,107'	-	-	-	-	-	-	-	-	-	-	Rig accepted @ 2300 1/14/2015, Nipple up BOPS.		Surface
1	1/15	2,410'	303	1	12	60	-	-	3,250	95	95	669	Install choke line. Rig up cat walk, center stack, cellar grading, angle lifts, Geronimo line, top drive. Test BOPs. Install wear bushing. Service rig. Slip and cut. Pre-job/pre-spud safety meeting. Pick up BHA. TIH. Drill cement: float at 2,063' and shoe at 2,107'. FIT. Rig service. Rotate ahead to 2,410'.		Pierre
2	1/16	5,864'	3,454	1	10	60	-	-	3,100	95	95	669	Drill from 2,410' to 3,904'. Rig service. Drill from 3,904'-5,864'.		Dakota
3	1/17	6,097'	233	1	10	60	-	-	3,200	95	95	669	Drill from 5,864'-6,097'. Circulate and condition. Short trip. Pump dry job. TOH. Lay down BHA. Install and remove wear bushing, install rotating head. Rig up to run casing. Run casing. Service rig. Pick up 3rd party tools. Rig up cementers and hold prejob safety meeting. Primary cementing.		Dakota
4	1/18	7,193'	1,096	2	28	50	10	163	3500	80	80	563	Cement. Rig down cementers. Flush stack. Suck out cellar. Screw out of hanger, drain stack, install pack off, test pack off. Install wear bushing. Service top drive. Pick up BHA. TIH. Install rotating head. Pressure test. TIH. Drill out float. Drilling cement shoe @ 6,097'. Drill 15' formation. FIT test. Service rig. Rotary drilling 6,105'-7,193'.		Dunham Salt
5	1/19	9,000'	1,807	2	28	50	10	163	3500	80	80	563	Rotary drilling from 7,193' to 8,095'. Test BOPs. Service top drive. Function upper rams. Rotary drilling from 8,095 to 9,000'.		Charles
6	1/20	9,899'	899	2	54	60	-	163	3730	80	80	563	Drill and survey from 9,000 to 9,682'. Service top drive. Drill and survey from 9,682' to 9,899'. Circulate and condition, mix and send dry job. TOOH due to slow ROP. Pull rotating head and install trip nipple. Lay down BHA. Pick up BHA (new bit and motor). TIH.		Lodgepole
7	1/21	10,335'	436	3	25	45	-	163	3900	80	80	563	TIH. Slip and cut. Rig service. TH. Ream, washing last 500'. Rotary drilling 9,889'-10,335'. TOOH. Remove rotating head. Install trip nipple. Lay down BHA. Pick up 3rd party Schlumberger logging tools and wire line. Rig up. Hold prejob safety meeting with Schlumberger. Run open hole logs. Lay down 3rd party tools. Rig down Schlumberger. Pick up curve assembly. TIH. Remove trip nipple, install rotating head. Rig service.		Lodgepole
8	1/22	11,033'	698	4	20	25	30	149	3600	73	73	513	Rotary drilling/trough for 30 min @120. Rotary drilling sliding as needed 10335'-10,380'. Wait on 3rd party tools. Trouble shoot MWD. TOH. Pump dry job. Pull rotating head. Lay down BHA, MWD tool. TIH. Service top drive. Function upper pipes. Rotary drilling sliding as needed 10,380'-10,411'. Service rig. Slide and survey curve, rotating as needed,from 10,411- 11,033'.		Three Forks

DAILY DRILLING SUMMARY

Day	Date 2015	Depth (0600 Hrs)	24 Hr Footage	Bit #	WOB (Klbs) RT	RPM (RT)	WOB (Klbs) MM	RPM (MM)	PP	SPM 1	SPM 2	GPM	24 Hr Activity		Formation
9	1/23	11,140'	107	5/RR4	20	25	30	149	3600	73	73	513			Three Forks
10	1/24	11,140'	0	-	-	-	-	-	-	-	-	-			Three Forks
11	2/11	11,140'	0	-	-	-	-	-	-	-	-	-			Three Forks
12	2/12	11,535'	395	6	20	50	45	267	3600	96	-	334			Three Forks
13	2/13	13,423'	1,888	6	28	50	40	254	3900	90	-	317			Three Forks
14	2/14	14,465'	1,042	6	25	40	40	254	3950	90	-	317			Three Forks
15	2/15	15,887'	1,422	7	23	40	34	231	3900	82	-	289			Three Forks
16	2/16	17,024'	1,137	7	28	50	65	138	3900	80	-	282			Three Forks
17	2/17	18,300'	1,276	8	25	35	54	148	4000	86	-	303			Three Forks
18	2/18	20,562'	2,262	8	25	40	55	138	2500	80	-	282			Three Forks

DAILY MUD SUMMARY

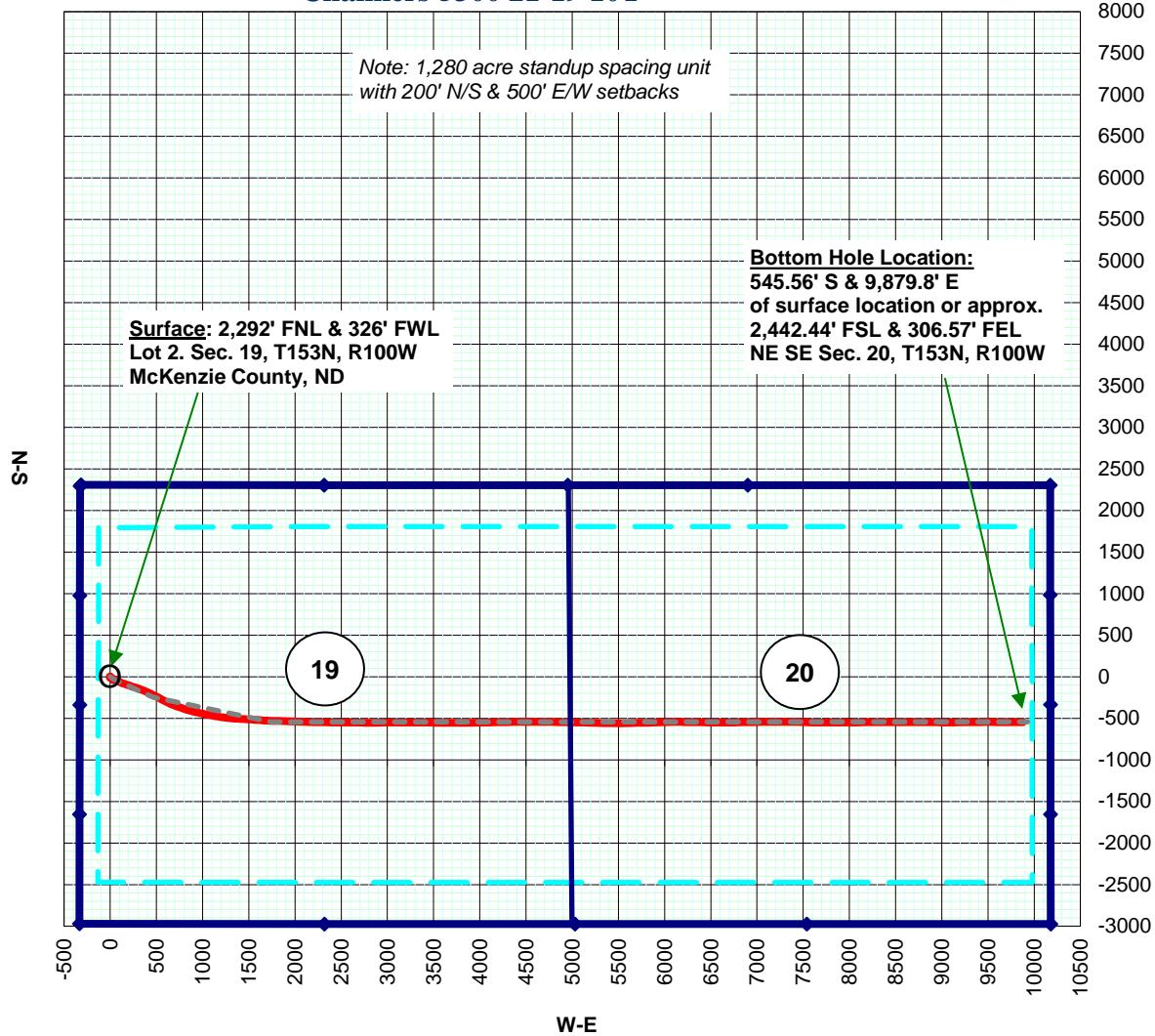
Day	Date	Mud Depth	Drilling Fluid	Mud WT (ppg)	Vis (sec/ qt)	PV (cP)	YP (lbs/ 100 ft ²)	Gels (lbs/ 100 ft ²)	600/ 300 (lbs/ 100 ft ²)	NAP/H ₂ O (ratio)	NAP/H ₂ O (% by vol)	Cake (API/ HTHP)	Cor. Solids (%)	Alk	pH	Excess Lime (lb/bbl)	Cl ⁻ (mg/L)	HGS/ LGS (%)	Salinity (ppm)	Electrical Stability	Gain/ Loss (bbls)
0	01/14	2,000'	invert	11	76	15	10	9/11/14	40/25	78.6/21.4	66/18	2	14	2.6	-	3.4	33k	12.4/1.6	232,029	534	-
1	01/15	2,694'	invert	11.5	78	19	13	14/20/22	51/32	72/28	59/23	3	18	0.9	-	1.2	36k	13.7/2.1	205,054	0	-/22
2	01/16	6,100'	invert	11.45	61	16	10	11/18/-	42/26	78.3/21.7	63/17.5	3	19.5	2.4	-	3.1	36k	12.5/4.8	253,184	470	-/27
3	01/17	6,100'	invert	10.6	58	15	11	11/18/-	41/26	78.3/21.7	63/17.5	3	19.5	2.4	-	3.1	36k	13.7/3.7	253,184	520	-/31
4	01/18	7,483'	invert	10.45	48	12	6	9/13/-	30/18	76.7/23.3	66/20	2	14	1.7	-	2.2	36k	9.8/2.0	228,776	450	-/39
5	01/19	9,119'	invert	10.45	48	13	10	10/14/-	36/23	77.4/22.6	65/19	2	16	2.3	-	3	45k	8.3/5.2	264,320	520	/5
6	01/20	9,899'	invert	10.5	54	13	9	10/14/-	35/22	79.8/20.2	67/17	2	13.7	2.1	-	2.7	45k	9.1/4.6	264,320	680	-/8
7	01/21	10,379'	invert	10.25	53	12	10	10/14/-	34/22	79.1/20.9	68/18	2	11.6	2.3	-	3	46k	8.8/2.8	264,320	670	-/3
8	01/22	11,135'	invert	10.35	52	13	12	11/14-	38/25	79.5/20.5	68/17.5	2	12.2	2.3	-	3	45k	9.1/3.1	264,320	675	-/29
9	01/23	11,140'	invert	10.35	52	13	12	11/14-	38/25	79.5/20.5	68/17.5	2	12.2	2.3	-	3	45k	9.1/3.1	264,320	675	-/-
10	01/24	11,140'	invert	10.35	52	13	12	11/14-	38/25	79.5/20.5	68/17.5	2	12.2	2.3	-	3	45k	9.1/3.1	264,320	675	-/-
11	02/11	11,140'	saltwater	9.8	28	2	1	-	5/3	-	0/89.9	-	10.1	-	8.5	-	156k	0.0/0.8	-	-	-/-
12	02/12	12,054'	saltwater	9.8	28	2	1	-	5/3	-	0/89.9	-	10.1	-	8.5	-	156k	0.0/0.8	-	-	-/-
13	02/13	13,423'	saltwater	9.8	28	2	1	-	5/3	-	0/89.9	-	10.1	-	8.5	-	156k	0.0/0.8	-	-	-/-
14	02/14	14,465'	saltwater	9.75	30	2	1	-	5/3	-	0/90.5	-	9.5	-	8	-	142k	-0.6	-	-	-/-
15	02/15	15,042'	saltwater	9.75	30	2	1	-	5/3	-	0/90.5	-	9.5	-	8	-	142k	-0.6	-	-	-/-
16	02/16	17,024'	saltwater	9.75	29	2	1	-	5/3	-	0/90.2	-	9.8	-	8	-	161k	-0.3	-	-	-/-
17	02/17	18,300'	saltwater	9.75	29	2	1	-	5/3	-	0/90.2	-	9.8	-	8	-	161k	-0.3	-	-	-/-
18	02/18	20,343'	saltwater	9.75	29	2	1	-	5/3	-	0/90.2	-	9.75	-	8	-	161k	-0.3	-	-	-/-

BOTTOM HOLE ASSEMBLY RECORD

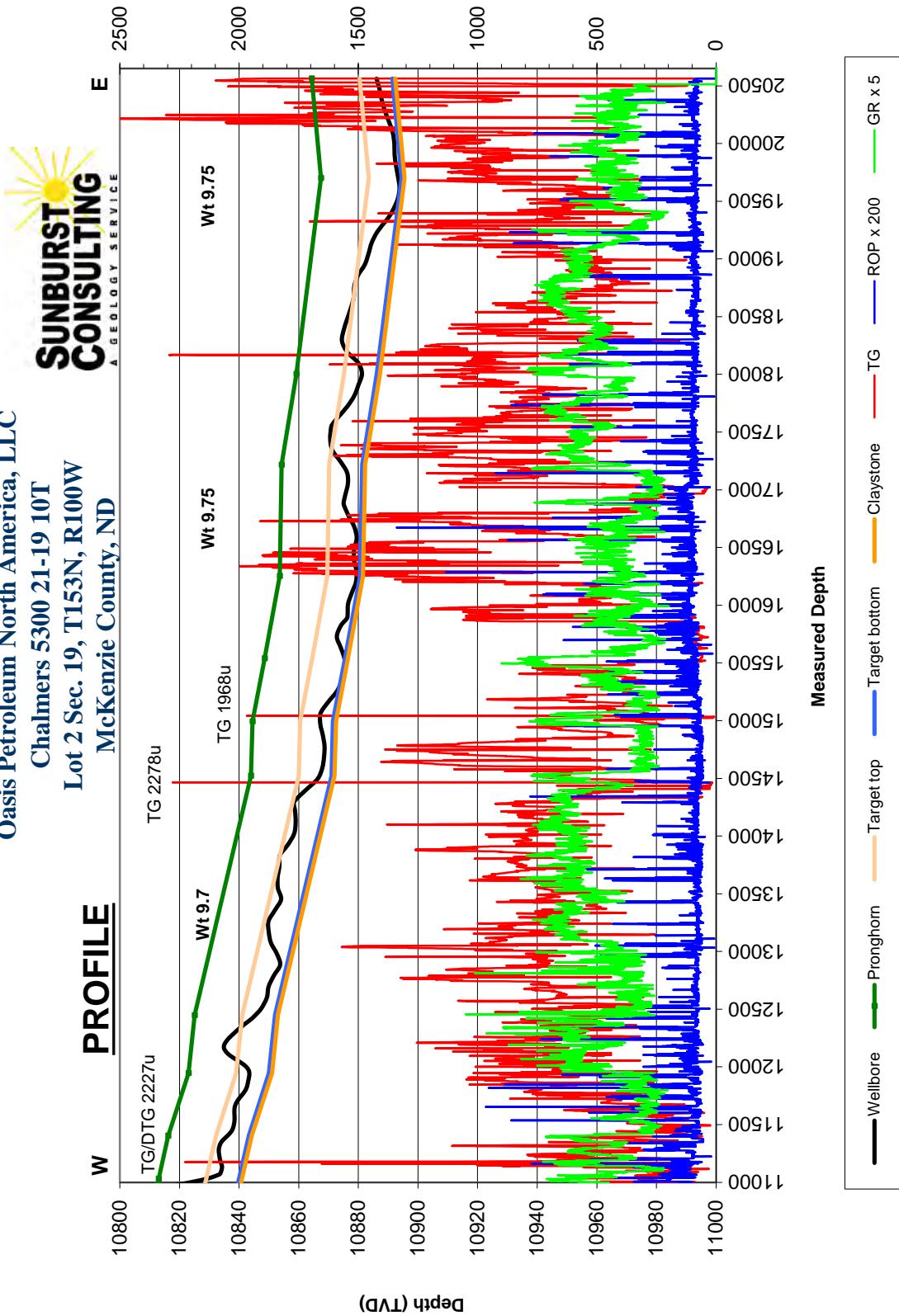
BHA Run	Depth In	Depth Out	Footage	Hours	Accum. Hours	Vert. Dev.	Bit Data						Motor Data							
							Bit #	Size (in.)	Type	Make	Model	Serial #	Jets	Hours	Motor #	Make	Model	Bend		
1	2,063'	6,097'	4,034'	29	29.00	Vertical	1	12 1/4	PDC	Varel	V619PD	4008019	5x20	29	1	NOV	6/5 5.0	2.12°	29	0.13
2	6,097'	9,899'	3,802'	51	80.00	Vertical	2	8 3/4	PDC	NOV	DSS16M-02	A202740	6x18	51	2	Ryan	6/7	1.50°	51	0.29
3	9,899'	10,335'	436'	5	85.00	Vertical	3	8 3/4	PDC	Varel	R616PDG2UX	4007475	6x20	5	3	NOV	7/8 5.0	2.38°	5	0.29
4	10,335'	10,379'	44'	1	86.00	Curve	4	8 3/4	PDC	Smith	MD1516	JJ8031	5x16	1	4	NOV	7/8 5.0	2.38°	1	0.29
5	10,379'	11,140'	761'	25	111.00	Curve	5/RR4	8 3/4	PDC	Smith	MD1516	JJ8031	5x16	25	5/RR4	NOV	7/8 5.0	2.38°	25	0.29
6	11,140'	14,466'	3,326'	44	155.00	Lateral	6	6	PDC	Smith	MDZ1613	JJ7637	3x22	44	6	Ryan	6/7 ML 8.0	1.50°	44	0.80
7	14,466'	17,024'	2,558'	35	190.00	Lateral	7	6	PDC	Varel	6-VMS13PZ	4008221	6x18	35	7	Ryan	6/7 ML 8.0	1.50°	35	0.80
8	17,024'	20,562'	3,538'	41	231.00	Lateral	8	6	PDC	Smith	Z613	JK1616	3x16 3x22	41	8	Baker	XLP/LS	1.50°	41	0.49

PLAN VIEW

Oasis Petroleum North America, LLC
Chalmers 5300 21-19 10T



Oasis Petroleum North America, LLC
 Chalmers 5300 21-19 10T
 Lot 2 Sec. 19, T153N, R100W
 McKenzie County, ND



FORMATION MARKERS & DIP ESTIMATES

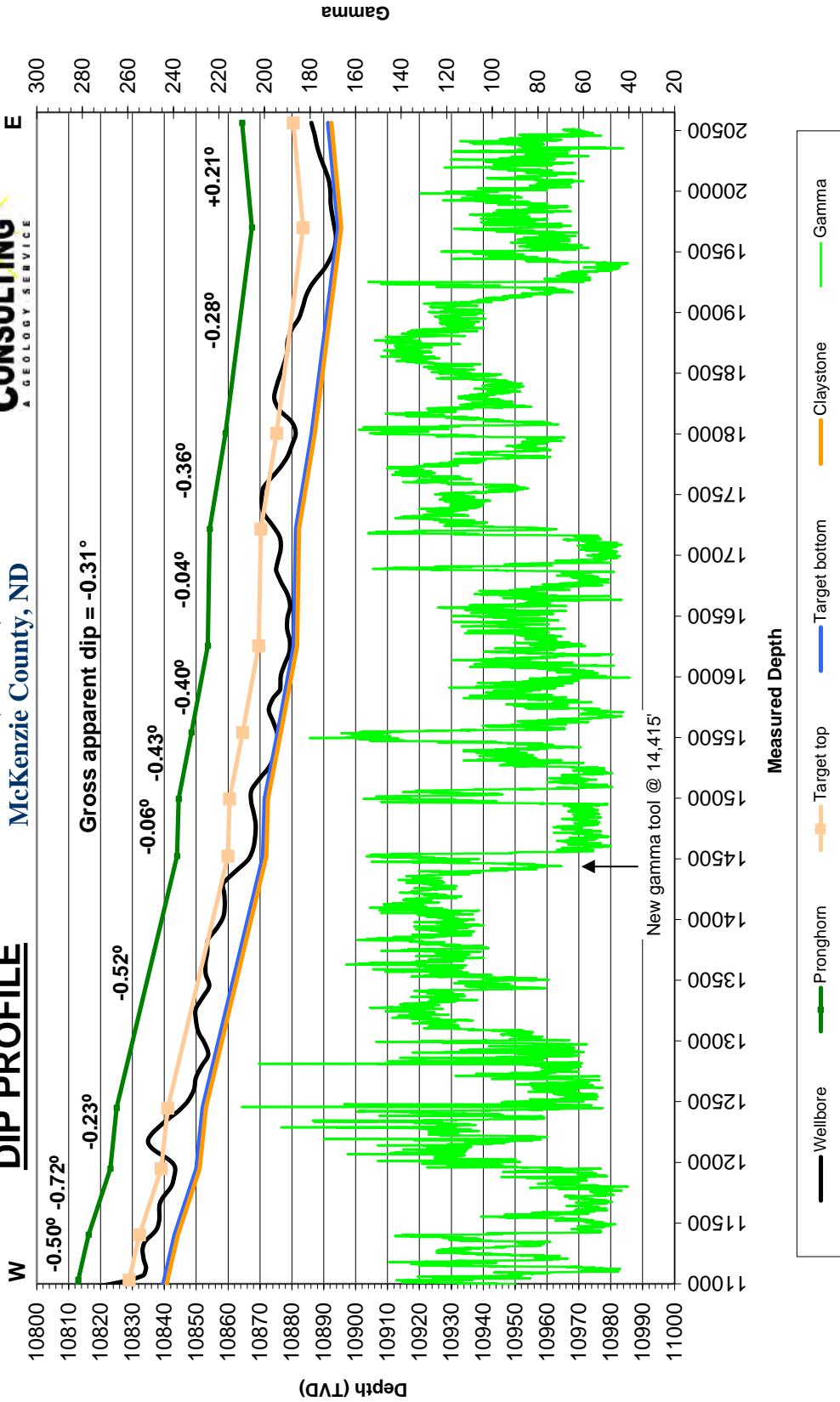
Oasis Petroleum North America, LLC - Chalmers 5300 21-19 10T

Dip Change Points	Marker	MD	TVD	TVD diff.	MD diff.	Dip	Dipping up/down	Type of Marker
Zone entry	11,031'	10,829.00						
E marker	11,403'	10,832.25	3.25	372.00	-0.50	Down	Gamma	
E marker	11,947'	10,839.04	6.79	544.00	-0.72	Down	Gamma	
E marker	12,448'	10,841.05	2.01	501.00	-0.23	Down	Gamma	
E marker	14,522'	10,859.99	18.93	2074.00	-0.52	Down	Gamma	
E marker	14,994'	10,860.48	0.49	472.00	-0.06	Down	Gamma	
Claystone	15,540'	10,864.55	4.07	546.00	-0.43	Down	Gamma	
Base cool marker	16,254'	10,869.60	5.05	714.00	-0.40	Down	Gamma	
E marker	17,217'	10,870.27	0.67	963.00	-0.04	Down	Gamma	
E marker	18,004'	10,875.21	4.95	787.00	-0.36	Down	Gamma	
Base cool marker	19,700'	10,883.50	8.29	1696.00	-0.28	Down	Gamma	
Cool marker between F & E	20,562'	10,880.41	-3.09	862.00	0.21	Up	Gamma	
Gross Dip								
Initial Target Contact	11,031'	10,829.00						
Projected Final Target Contact	20,562'	10,880.41	51.41	9531.00	-0.31	Down	Projection	

Oasis Petroleum North America, LLC
 Chalmers 5300 21-19 10T
 Lot 2 Sec. 19, T153N, R100W
 McKenzie County, ND



DIP PROFILE



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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America, LLC	
Well :	Chalmers 5300 21-19 10T	
County:	McKenzie	State: ND
QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
Footages:	2292	FN/SL: N
	327	FE/WL: W

Kick-off:	1/21/2015
Finish:	2/18/2015
Directional Supervision:	Ryan Directional Services

Date: 2/25/2015
 Time: 14:30
F9 to re-calculate

Proposed dir: 93.13

Minimum Curvature Method (SPE-3362)

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
Tie	2150.00	1.10	145.70	2149.91	-8.18	-2.64	-2.64	0.43
1	2167.00	1.20	148.60	2166.91	-8.47	-2.46	-1.99	0.68
2	2260.00	1.20	149.80	2259.89	-10.14	-1.46	-0.90	0.03
3	2354.00	1.20	102.40	2353.87	-11.20	0.00	0.61	1.03
4	2447.00	1.20	106.10	2446.85	-11.68	1.89	2.52	0.08
5	2540.00	1.30	49.00	2539.83	-11.26	3.62	4.23	1.29
6	2634.00	1.50	43.70	2633.80	-9.67	5.27	5.79	0.25
7	2727.00	0.90	331.90	2726.78	-8.15	5.77	6.20	1.60
8	2821.00	0.90	328.40	2820.77	-6.87	5.03	5.40	0.06
9	2914.00	1.00	322.80	2913.76	-5.60	4.16	4.46	0.15
10	3007.00	1.00	321.80	3006.75	-4.31	3.17	3.40	0.02
11	3101.00	1.10	323.30	3100.73	-2.94	2.12	2.28	0.11
12	3194.00	1.00	316.60	3193.71	-1.64	1.03	1.12	0.17
13	3287.00	0.40	333.70	3286.71	-0.76	0.33	0.37	0.68
14	3381.00	0.10	292.00	3380.71	-0.43	0.11	0.13	0.35
15	3474.00	0.20	334.60	3473.71	-0.26	-0.04	-0.02	0.15
16	3568.00	0.20	335.70	3567.71	0.04	-0.17	-0.18	0.00
17	3661.00	0.30	327.70	3660.70	0.39	-0.37	-0.39	0.11
18	3754.00	0.20	353.00	3753.70	0.76	-0.52	-0.56	0.16
19	3848.00	0.30	324.40	3847.70	1.12	-0.68	-0.75	0.17
20	3941.00	0.30	334.10	3940.70	1.54	-0.93	-1.02	0.05
21	4034.00	0.30	328.80	4033.70	1.97	-1.17	-1.27	0.03
22	4128.00	0.20	321.70	4127.70	2.31	-1.39	-1.52	0.11
23	4221.00	0.20	314.30	4220.70	2.55	-1.61	-1.75	0.03
24	4314.00	0.20	281.60	4313.70	2.69	-1.89	-2.03	0.12
25	4408.00	0.30	271.20	4407.70	2.73	-2.29	-2.44	0.12
26	4501.00	0.40	277.70	4500.70	2.78	-2.86	-3.01	0.12
27	4594.00	0.50	261.70	4593.69	2.77	-3.58	-3.73	0.17
28	4688.00	0.40	224.40	4687.69	2.47	-4.22	-4.35	0.32
29	4781.00	0.40	225.50	4780.69	2.01	-4.68	-4.78	0.01
30	4875.00	0.40	219.90	4874.69	1.53	-5.12	-5.20	0.04
31	4968.00	0.40	162.40	4967.68	0.97	-5.23	-5.28	0.41
32	5061.00	0.40	160.30	5060.68	0.36	-5.02	-5.03	0.02
33	5155.00	0.30	139.10	5154.68	-0.14	-4.75	-4.74	0.17
34	5248.00	0.40	135.10	5247.68	-0.55	-4.36	-4.33	0.11

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America, LLC	
Well :	Chalmers 5300 21-19 10T	
County:	McKenzie	State: ND
QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
Footages:	2292	FN/SL: N
	327	FE/WL: W

Kick-off:	1/21/2015
Finish:	2/18/2015
Directional Supervision:	Ryan Directional Services

Date: 2/25/2015
 Time: 14:30
F9 to re-calculate

Proposed dir: 93.13

Minimum Curvature Method (SPE-3362)

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
35	5341.00	0.50	134.50	5340.67	-1.07	-3.84	-3.78	0.11
36	5435.00	0.50	123.70	5434.67	-1.58	-3.21	-3.12	0.10
37	5528.00	0.40	136.10	5527.67	-2.04	-2.65	-2.53	0.15
38	5621.00	0.40	148.00	5620.67	-2.55	-2.25	-2.11	0.09
39	5715.00	0.40	163.00	5714.66	-3.14	-1.98	-1.81	0.11
40	5808.00	0.40	166.30	5807.66	-3.77	-1.81	-1.60	0.02
41	5901.00	0.40	175.30	5900.66	-4.41	-1.71	-1.46	0.07
42	5994.00	0.40	171.80	5993.66	-5.05	-1.63	-1.35	0.03
43	6049.00	0.40	156.90	6048.66	-5.42	-1.53	-1.23	0.19
44	6113.00	0.30	154.80	6112.65	-5.77	-1.37	-1.05	0.16
45	6175.00	0.50	152.20	6174.65	-6.16	-1.18	-0.84	0.32
46	6268.00	0.80	122.20	6267.65	-6.86	-0.44	-0.06	0.48
47	6362.00	1.00	141.70	6361.64	-7.86	0.63	1.06	0.39
48	6455.00	1.10	121.00	6454.62	-8.95	1.90	2.38	0.42
49	6548.00	1.00	143.70	6547.61	-10.07	3.14	3.69	0.46
50	6642.00	1.50	120.10	6641.58	-11.35	4.69	5.30	0.75
51	6735.00	1.10	130.70	6734.56	-12.54	6.42	7.10	0.50
52	6828.00	1.30	158.10	6827.54	-14.10	7.49	8.25	0.65
53	6922.00	1.30	161.60	6921.52	-16.10	8.23	9.09	0.08
54	7015.00	1.40	139.00	7014.49	-17.96	9.30	10.27	0.58
55	7109.00	1.30	127.40	7108.46	-19.47	10.90	11.95	0.31
56	7202.00	1.30	102.00	7201.44	-20.33	12.77	13.87	0.61
57	7295.00	1.30	106.90	7294.42	-20.86	14.82	15.93	0.12
58	7388.00	1.20	100.80	7387.39	-21.35	16.78	17.92	0.18
59	7482.00	1.10	111.50	7481.38	-21.86	18.59	19.75	0.25
60	7575.00	1.10	111.10	7574.36	-22.51	20.25	21.45	0.01
61	7669.00	0.90	114.40	7668.34	-23.14	21.77	23.00	0.22
62	7762.00	0.70	81.30	7761.34	-23.36	22.99	24.23	0.53
63	7855.00	0.70	101.60	7854.33	-23.39	24.11	25.35	0.27
64	7948.00	0.70	123.70	7947.32	-23.82	25.14	26.40	0.29
65	8042.00	0.60	137.70	8041.32	-24.50	25.95	27.25	0.20
66	8135.00	0.70	151.90	8134.31	-25.36	26.54	27.89	0.20
67	8229.00	0.50	195.00	8228.31	-26.26	26.71	28.10	0.51
68	8322.00	0.50	189.50	8321.30	-27.06	26.54	27.97	0.05
69	8415.00	0.20	296.50	8414.30	-27.38	26.32	27.78	0.63

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America, LLC	
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QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
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Kick-off:	1/21/2015
Finish:	2/18/2015
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 Time: 14:30
F9 to re-calculate

Proposed dir: 93.13

Minimum Curvature Method (SPE-3362)

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
70	8509.00	0.30	352.60	8508.30	-27.07	26.14	27.58	0.27
71	8602.00	0.30	308.40	8601.30	-26.67	25.92	27.34	0.24
72	8696.00	0.50	122.70	8695.30	-26.74	26.07	27.50	0.85
73	8789.00	0.50	111.20	8788.29	-27.11	26.79	28.23	0.11
74	8882.00	0.80	128.40	8881.29	-27.66	27.68	29.15	0.38
75	8976.00	0.70	129.20	8975.28	-28.43	28.64	30.15	0.11
76	9069.00	0.80	133.00	9068.27	-29.23	29.56	31.11	0.12
77	9162.00	0.70	139.70	9161.26	-30.11	30.40	32.00	0.14
78	9256.00	0.70	156.40	9255.26	-31.07	31.00	32.65	0.22
79	9349.00	0.50	166.50	9348.25	-31.99	31.32	33.02	0.24
80	9442.00	0.70	169.30	9441.25	-32.94	31.52	33.27	0.22
81	9536.00	0.70	174.40	9535.24	-34.07	31.68	33.50	0.07
82	9629.00	0.60	189.80	9628.23	-35.12	31.66	33.53	0.22
83	9723.00	0.70	179.90	9722.23	-36.18	31.57	33.50	0.16
84	9816.00	0.40	53.70	9815.23	-36.55	31.84	33.79	1.06
85	9909.00	1.00	66.30	9908.22	-36.04	32.84	34.76	0.66
86	10002.00	0.80	67.40	10001.21	-35.46	34.18	36.07	0.22
87	10095.00	0.80	48.40	10094.20	-34.78	35.27	37.12	0.28
88	10189.00	0.70	48.20	10188.19	-33.96	36.19	37.99	0.11
89	10282.00	0.90	42.20	10281.18	-33.04	37.10	38.85	0.23
90	10320.00	0.80	57.90	10319.18	-32.68	37.53	39.26	0.66
91	10351.00	3.70	85.80	10350.15	-32.49	38.71	40.42	9.73
92	10382.00	8.00	92.10	10380.98	-32.50	41.86	43.58	14.00
93	10413.00	12.10	96.80	10411.50	-32.96	47.25	48.98	13.48
94	10444.00	16.40	106.00	10441.54	-34.55	54.69	56.49	15.64
95	10475.00	20.10	114.80	10470.98	-38.00	63.73	65.71	14.85
96	10506.00	22.80	121.50	10499.84	-43.37	73.69	75.95	11.75
97	10537.00	22.80	125.60	10528.42	-50.01	83.70	86.30	5.12
98	10568.00	23.80	125.90	10556.89	-57.17	93.65	96.63	3.25
99	10600.00	27.80	120.00	10585.70	-64.69	105.35	108.72	14.84
100	10631.00	32.00	114.10	10612.57	-71.66	119.12	122.85	16.53
101	10662.00	35.20	111.40	10638.39	-78.28	134.94	139.01	11.39
102	10693.00	36.40	112.20	10663.53	-85.02	151.77	156.19	4.15
103	10724.00	39.50	110.70	10687.98	-91.98	169.52	174.29	10.43
104	10755.00	44.40	110.30	10711.03	-99.23	188.92	194.06	15.83

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SUNBURST CONSULTING, INC.

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Township:	153	N/S: N
Range:	100	E/W: W
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Kick-off:	1/21/2015
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No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
105	10786.00	48.50	110.70	10732.38	-107.10	209.96	215.50	13.26
106	10818.00	53.40	109.20	10752.53	-115.56	233.32	239.28	15.74
107	10849.00	58.20	108.60	10769.95	-123.86	257.57	263.95	15.57
108	10880.00	62.80	109.90	10785.21	-132.76	283.03	289.86	15.28
109	10911.00	66.70	111.70	10798.44	-142.72	309.23	316.56	13.63
110	10942.00	72.20	112.90	10809.31	-153.74	336.08	343.97	18.11
111	10973.00	76.00	116.50	10817.81	-166.20	363.15	371.68	16.58
112	11004.00	79.40	117.10	10824.41	-179.86	390.18	399.42	11.13
113	11036.00	81.00	117.40	10829.86	-194.29	418.21	428.20	5.08
114	11067.00	86.50	118.60	10833.23	-208.76	445.41	456.14	18.15
115	11080.00	88.80	119.60	10833.76	-215.07	456.76	467.82	19.29
116	11128.00	90.00	119.40	10834.27	-238.71	498.53	510.82	2.53
117	11159.00	90.80	120.60	10834.05	-254.21	525.38	538.47	4.65
118	11191.00	90.70	120.10	10833.63	-270.37	552.99	566.93	1.59
119	11222.00	90.10	119.10	10833.42	-285.69	579.94	594.68	3.76
120	11252.00	90.60	120.20	10833.23	-300.53	606.01	621.52	4.03
121	11283.00	89.60	118.20	10833.18	-315.65	633.07	649.36	7.21
122	11314.00	89.50	116.50	10833.42	-329.89	660.60	677.63	5.49
123	11346.00	88.60	114.30	10833.95	-343.61	689.50	707.24	7.43
124	11376.00	87.50	112.20	10834.97	-355.45	717.05	735.39	7.90
125	11407.00	87.80	110.30	10836.24	-366.67	745.92	764.83	6.20
126	11439.00	88.30	110.00	10837.33	-377.69	775.94	795.41	1.82
127	11470.00	89.40	108.40	10837.96	-387.88	805.21	825.19	6.26
128	11502.00	89.50	108.10	10838.26	-397.90	835.60	856.08	0.99
129	11533.00	89.80	107.20	10838.45	-407.30	865.14	886.09	3.06
130	11565.00	90.10	105.20	10838.48	-416.23	895.87	917.26	6.32
131	11596.00	90.10	105.30	10838.43	-424.38	925.77	947.57	0.32
132	11627.00	89.90	104.30	10838.43	-432.30	955.75	977.92	3.29
133	11658.00	89.50	103.40	10838.59	-439.72	985.84	1008.38	3.18
134	11690.00	88.70	103.40	10839.09	-447.14	1016.97	1039.87	2.50
135	11720.00	88.50	103.10	10839.82	-454.01	1046.16	1069.39	1.20
136	11751.00	88.00	101.50	10840.77	-460.61	1076.43	1099.98	5.41
137	11783.00	88.50	101.70	10841.75	-467.04	1107.77	1131.61	1.68
138	11814.00	89.00	101.50	10842.42	-473.28	1138.13	1162.27	1.74
139	11844.00	89.60	99.70	10842.79	-478.79	1167.61	1192.01	6.32

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SUNBURST CONSULTING, INC.

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QQ:	Lot 2	Section: 19
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No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
140	11875.00	89.50	99.70	10843.03	-484.02	1198.17	1222.81	0.32
141	11906.00	89.60	99.00	10843.28	-489.05	1228.75	1253.62	2.28
142	11937.00	89.80	97.20	10843.44	-493.42	1259.44	1284.50	5.84
143	11968.00	90.90	96.90	10843.25	-497.23	1290.21	1315.43	3.68
144	12000.00	92.10	95.80	10842.41	-500.76	1322.00	1347.37	5.09
145	12032.00	93.30	94.00	10840.91	-503.49	1353.84	1379.32	6.76
146	12063.00	93.60	94.00	10839.04	-505.65	1384.71	1410.26	0.97
147	12095.00	93.20	93.60	10837.14	-507.77	1416.59	1442.20	1.77
148	12126.00	91.80	93.70	10835.79	-509.74	1447.49	1473.17	4.53
149	12158.00	91.10	92.90	10834.98	-511.58	1479.43	1505.15	3.32
150	12189.00	88.90	94.00	10834.98	-513.45	1510.37	1536.15	7.93
151	12221.00	88.60	94.40	10835.68	-515.79	1542.28	1568.14	1.56
152	12253.00	87.70	95.30	10836.71	-518.49	1574.14	1600.11	3.98
153	12284.00	87.60	95.40	10837.98	-521.38	1604.98	1631.06	0.46
154	12316.00	87.60	94.70	10839.32	-524.20	1636.83	1663.01	2.19
155	12347.00	87.30	93.10	10840.70	-526.30	1667.73	1693.98	5.25
156	12379.00	87.00	93.30	10842.29	-528.09	1699.64	1725.94	1.13
157	12410.00	87.20	92.50	10843.86	-529.65	1730.56	1756.90	2.66
158	12442.00	88.00	91.50	10845.20	-530.77	1762.51	1788.86	4.00
159	12505.00	88.00	91.90	10847.40	-532.64	1825.44	1851.80	0.63
160	12600.00	89.70	92.20	10849.31	-536.03	1920.36	1946.76	1.82
161	12695.00	89.60	91.50	10849.89	-539.10	2015.31	2041.74	0.74
162	12790.00	88.30	91.90	10851.63	-541.92	2110.25	2136.69	1.43
163	12884.00	89.10	91.60	10853.76	-544.79	2204.18	2230.64	0.91
164	12979.00	92.20	91.10	10852.68	-547.03	2299.14	2325.57	3.31
165	13074.00	90.20	90.30	10850.69	-548.19	2394.10	2420.46	2.27
166	13169.00	90.70	90.90	10849.95	-549.18	2489.09	2515.37	0.82
167	13263.00	89.40	90.50	10849.87	-550.33	2583.08	2609.28	1.45
168	13358.00	88.00	90.80	10852.02	-551.41	2678.05	2704.16	1.51
169	13453.00	89.50	90.00	10854.09	-552.07	2773.02	2799.03	1.79
170	13548.00	91.80	90.00	10853.02	-552.07	2868.01	2893.88	2.42
171	13642.00	88.30	88.90	10852.93	-551.17	2961.99	2987.67	3.90
172	13737.00	91.00	90.00	10853.51	-550.26	3056.97	3082.46	3.07
173	13832.00	88.80	90.30	10853.68	-550.51	3151.97	3177.32	2.34
174	13927.00	87.90	89.60	10856.41	-550.42	3246.93	3272.14	1.20

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America, LLC	
Well :	Chalmers 5300 21-19 10T	
County:	McKenzie	State: ND
QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
Footages:	2292	FN/SL: N
	327	FE/WL: W

Kick-off:	1/21/2015
Finish:	2/18/2015
Directional Supervision:	Ryan Directional Services
Date:	2/25/2015
Time:	14:30
F9 to re-calculate	

Minimum Curvature Method (SPE-3362)

Proposed dir: 93.13

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
175	14021.00	89.60	90.60	10858.47	-550.59	3340.90	3365.98	2.10
176	14116.00	89.80	90.40	10858.96	-551.42	3435.89	3460.88	0.30
177	14211.00	90.40	90.70	10858.80	-552.33	3530.89	3555.78	0.71
178	14274.00	90.40	91.20	10858.36	-553.37	3593.88	3618.73	0.79
179	14306.00	88.50	91.20	10858.66	-554.04	3625.87	3650.71	5.94
180	14400.00	86.90	90.30	10862.44	-555.27	3719.78	3744.55	1.95
181	14495.00	88.40	89.10	10866.33	-554.77	3814.69	3839.30	2.02
182	14590.00	89.70	88.90	10867.91	-553.12	3909.67	3934.03	1.38
183	14685.00	89.60	88.50	10868.49	-550.96	4004.64	4028.75	0.43
184	14780.00	90.20	88.60	10868.65	-548.56	4099.61	4123.44	0.64
185	14874.00	90.50	88.80	10868.08	-546.43	4193.58	4217.16	0.38
186	14969.00	90.50	88.90	10867.25	-544.52	4288.56	4311.89	0.11
187	15064.00	89.40	89.60	10867.33	-543.28	4383.55	4406.67	1.37
188	15159.00	87.60	89.50	10869.82	-542.53	4478.51	4501.45	1.90
189	15253.00	88.80	89.40	10872.77	-541.63	4572.46	4595.21	1.28
190	15348.00	89.10	91.50	10874.51	-542.37	4667.43	4690.08	2.23
191	15443.00	89.60	90.30	10875.59	-543.87	4762.41	4785.00	1.37
192	15538.00	90.70	91.20	10875.34	-545.11	4857.40	4879.92	1.50
193	15632.00	90.80	90.80	10874.11	-546.75	4951.38	4973.85	0.44
194	15727.00	90.80	91.60	10872.79	-548.74	5046.35	5068.78	0.84
195	15822.00	87.60	91.60	10874.11	-551.39	5141.29	5163.73	3.37
196	15885.00	88.70	91.70	10876.15	-553.20	5204.23	5226.67	1.75
197	15917.00	90.40	90.90	10876.40	-553.93	5236.22	5258.65	5.87
198	16012.00	89.40	91.70	10876.56	-556.08	5331.19	5353.60	1.35
199	16107.00	89.10	91.40	10877.81	-558.65	5426.15	5448.56	0.45
200	16201.00	89.20	89.30	10879.20	-559.23	5520.13	5542.43	2.24
201	16296.00	90.60	88.80	10879.37	-557.65	5615.12	5637.19	1.56
202	16391.00	90.40	88.20	10878.54	-555.17	5710.08	5731.87	0.67
203	16486.00	89.50	88.00	10878.62	-552.02	5805.03	5826.51	0.97
204	16580.00	89.50	87.60	10879.44	-548.41	5898.95	5920.10	0.43
205	16675.00	91.40	87.80	10878.69	-544.60	5993.87	6014.66	2.01
206	16770.00	90.90	90.10	10876.79	-542.86	6088.83	6109.39	2.48
207	16801.00	91.10	90.20	10876.25	-542.94	6119.82	6140.34	0.72
208	16865.00	90.80	90.90	10875.19	-543.55	6183.81	6204.26	1.19
209	16896.00	89.50	91.70	10875.10	-544.25	6214.80	6235.25	4.92

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America, LLC	
Well :	Chalmers 5300 21-19 10T	
County:	McKenzie	State: ND
QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
Footages:	2292	FN/SL: N
	327	FE/WL: W

Kick-off:	1/21/2015
Finish:	2/18/2015
Directional Supervision:	Ryan Directional Services

Date: 2/25/2015
 Time: 14:30
F9 to re-calculate

Proposed dir: 93.13

Minimum Curvature Method (SPE-3362)

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
210	16959.00	89.50	90.20	10875.65	-545.30	6277.79	6298.20	2.38
211	17057.00	89.50	92.00	10876.51	-547.18	6375.76	6396.13	1.84
212	17152.00	90.90	91.60	10876.18	-550.16	6470.71	6491.10	1.53
213	17246.00	91.80	89.30	10873.96	-550.90	6564.68	6584.96	2.63
214	17341.00	91.40	89.10	10871.31	-549.58	6659.63	6679.70	0.47
215	17436.00	89.50	89.10	10870.56	-548.08	6754.61	6774.46	2.00
216	17531.00	90.20	89.40	10870.81	-546.84	6849.60	6869.24	0.80
217	17562.00	88.50	88.90	10871.16	-546.38	6880.60	6900.16	5.72
218	17626.00	88.00	89.30	10873.12	-545.38	6944.56	6963.98	1.00
219	17720.00	88.20	88.40	10876.24	-543.49	7038.49	7057.66	0.98
220	17815.00	88.90	89.10	10878.64	-541.42	7133.43	7152.35	1.04
221	17910.00	89.40	90.30	10880.05	-540.92	7228.42	7247.17	1.37
222	18005.00	89.20	89.60	10881.21	-540.84	7323.41	7342.02	0.77
223	18099.00	92.30	92.50	10879.98	-542.56	7417.36	7435.92	4.52
224	18194.00	92.20	91.80	10876.25	-546.12	7512.22	7530.84	0.74
225	18289.00	89.90	90.90	10874.51	-548.36	7607.17	7625.77	2.60
226	18384.00	89.40	90.20	10875.09	-549.27	7702.17	7720.67	0.91
227	18478.00	89.20	90.30	10876.24	-549.68	7796.16	7814.54	0.24
228	18573.00	89.30	90.30	10877.48	-550.18	7891.15	7909.42	0.11
229	18668.00	89.50	89.20	10878.48	-549.76	7986.14	8004.25	1.18
230	18763.00	90.30	88.50	10878.64	-547.86	8081.12	8098.98	1.12
231	18858.00	88.20	89.30	10879.89	-546.03	8176.09	8193.71	2.37
232	18952.00	89.00	89.60	10882.18	-545.13	8270.06	8287.48	0.91
233	19047.00	89.50	90.60	10883.43	-545.30	8365.05	8382.34	1.18
234	19142.00	89.20	89.90	10884.50	-545.71	8460.04	8477.21	0.80
235	19237.00	88.50	89.70	10886.41	-545.38	8555.02	8572.03	0.77
236	19332.00	88.00	89.70	10889.31	-544.88	8649.97	8666.82	0.53
237	19363.00	88.60	90.20	10890.23	-544.86	8680.96	8697.76	2.52
238	19426.00	88.80	90.20	10891.66	-545.08	8743.94	8760.66	0.32
239	19521.00	89.30	90.70	10893.23	-545.82	8838.93	8855.54	0.74
240	19616.00	90.00	91.30	10893.82	-547.48	8933.91	8950.47	0.97
241	19711.00	90.60	90.60	10893.32	-549.06	9028.89	9045.40	0.97
242	19806.00	90.20	89.00	10892.65	-548.72	9123.89	9140.24	1.74
243	19900.00	90.40	89.30	10892.16	-547.33	9217.87	9234.01	0.38
244	19995.00	89.70	88.70	10892.08	-545.67	9312.86	9328.76	0.97

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SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America, LLC	
Well :	Chalmers 5300 21-19 10T	
County:	McKenzie	State: ND
QQ:	Lot 2	Section: 19
Township:	153	N/S: N
Range:	100	E/W: W
Footages:	2292	FN/SL: N
	327	FE/WL: W

Kick-off:	1/21/2015
Finish:	2/18/2015
Directional Supervision:	Ryan Directional Services

Date: 2/25/2015
 Time: 14:30
F9 to re-calculate

Proposed dir: 93.13

Minimum Curvature Method (SPE-3362)

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
245	20090.00	90.90	89.60	10891.58	-544.26	9407.84	9423.53	1.58
246	20184.00	90.60	89.90	10890.35	-543.85	9501.84	9517.36	0.45
247	20279.00	91.10	90.80	10888.94	-544.43	9596.82	9612.23	1.08
248	20374.00	90.20	90.30	10887.86	-545.34	9691.81	9707.13	1.08
249	20469.00	90.70	90.10	10887.12	-545.68	9786.81	9802.00	0.57
250	20498.00	90.60	89.90	10886.79	-545.68	9815.80	9830.96	0.77
251	20562.00	90.60	89.90	10886.12	-545.56	9879.80	9894.85	0.00

DEVIATION SURVEYS

Depth	Inclination	Azimuth
160	0.50	291.60
251	1.10	273.60
344	1.10	265.20
428	0.50	251.80
515	0.40	230.40
599	0.40	181.20
687	0.40	162.50
773	0.70	152.70
860	0.90	158.00
945	0.90	153.00
1035	0.50	157.30
1125	0.20	32.50
1210	0.20	147.40
1301	0.20	201.60
1391	0.20	23.30
1477	0.20	116.10
1567	0.20	183.60
1658	0.20	236.70
1748	0.20	252.20
1838	0.20	251.10
1924	0.20	149.20
2014	0.20	138.60
2102	0.90	148.50

FORMATION TOPS & STRUCTURAL RELATIONSHIPS

Formation/ Zone	Subject Well:										Offset Wells:			
	Gl.: 2,051'	Sub: 25'	KB: 2,076'	Prog. Top	Datum (MSL)	Driller's Depth Top (MD)	Depth Top (TVD)	Datum (MSL)	Interval Thickness	Thickness to Target Landing	Dip To Prog.	Dip To Chalmers 5300 31-19H	Dip To Chalmers 5300 21-19 8T	Dip To Chalmers 5300 21-19 TT2
Kirby Lime	8,388'	-6,312'	8,387'	8,386'	-6,310'	150'	2,449'	2'	4'	0'	2'	-12'		
Charles Salt	8,534'	-6,458'	8,537'	8,536'	-6,460'	675'	2,299'	-2'	3'	-3'	-2'	10'		
Base of Last Salt	9,209'	-7,133'	9,212'	9,211'	-7,135'	224'	1,624'	-2'	-4'	-2'	-2'	-36'		
Mission Canyon	9,429'	-7,353'	9,436'	9,435'	-7,359'	562'	1,400'	-6'	-8'	-5'	-6'	-39'		
Lodgepole	9,993'	-7,917'	9,998'	9,997'	-7,921'	-	838'	-4'	-4'	-5'	-4'	-43'		
LPA	-	-	-	-	-	-	-	-	-	-	-	-		
LPB	-	-	-	-	-	-	-	-	-	-	-	-		
LP Fracture Zone	-	-	-	-	-	-	-	-	-	-	-	-		
LP D	-	-	10,405'	10,404'	-8,328'	165'	431'	-	-	-1'	-3'	-45'		
LP E	-	-	10,581'	10,569'	-8,493'	102'	266'	-	-	-5'	-7'	-31'		
LP F	-	-	10,703'	10,671'	-8,595'	46'	164'	-	-	-4'	-3'	-19'		
False Bakken	10,714'	-8,638'	10,764'	10,717'	-8,641'	2'	118'	-3'	-14'	-4'	-3'	-37'		
Scallion	-	-	10,767'	10,719'	-8,643'	8'	116'	-	-12'	-3'	-2'	-36'		
Upper Bakken Shale	10,724'	-8,648'	10,777'	10,727'	-8,651'	16'	108'	-3'	-14'	-4'	-3'	-36'		
Middle Bakken	10,740'	-8,664'	10,803'	10,743'	-8,667'	42'	92'	-3'	-13'	-4'	-4'	-36'		
Lower Bakken Shale	10,782'	-8,706'	10,880'	10,785'	-8,709'	11'	50'	-3'	-22'	-1'	-2'	-38'		
Pronghorn	10,790'	-8,714'	10,906'	10,796'	-8,720'	18'	39'	-6'	-19'	-1'	-6'	-37'		
Three Forks	10,810'	-8,734'	10,956'	10,814'	-8,738'	15'	21'	-4'	-18'	-1'	-4'	-39'		
Target Top	10,827'	-8,751'	11,031'	10,829'	-8,753'	6'	6'	-2'	-20'	-2'	-5'	-44'		
Landing Target	10,833'	-8,757'	11,100'	10,835'	-8,759'	3'	0'	-2'	-20'	-2'	-5'	-42'		
Base of Target	10,836'	-8,760'	-	10,838'	-8,762'	1'	-3'	-2'	-19'	-2'	-2'	-41'		
Claystone 1	10,837'	-8,761'	-	10,839'	-8,763'	-	-4'	-2'	-19'	-2'	-2'	-41'		

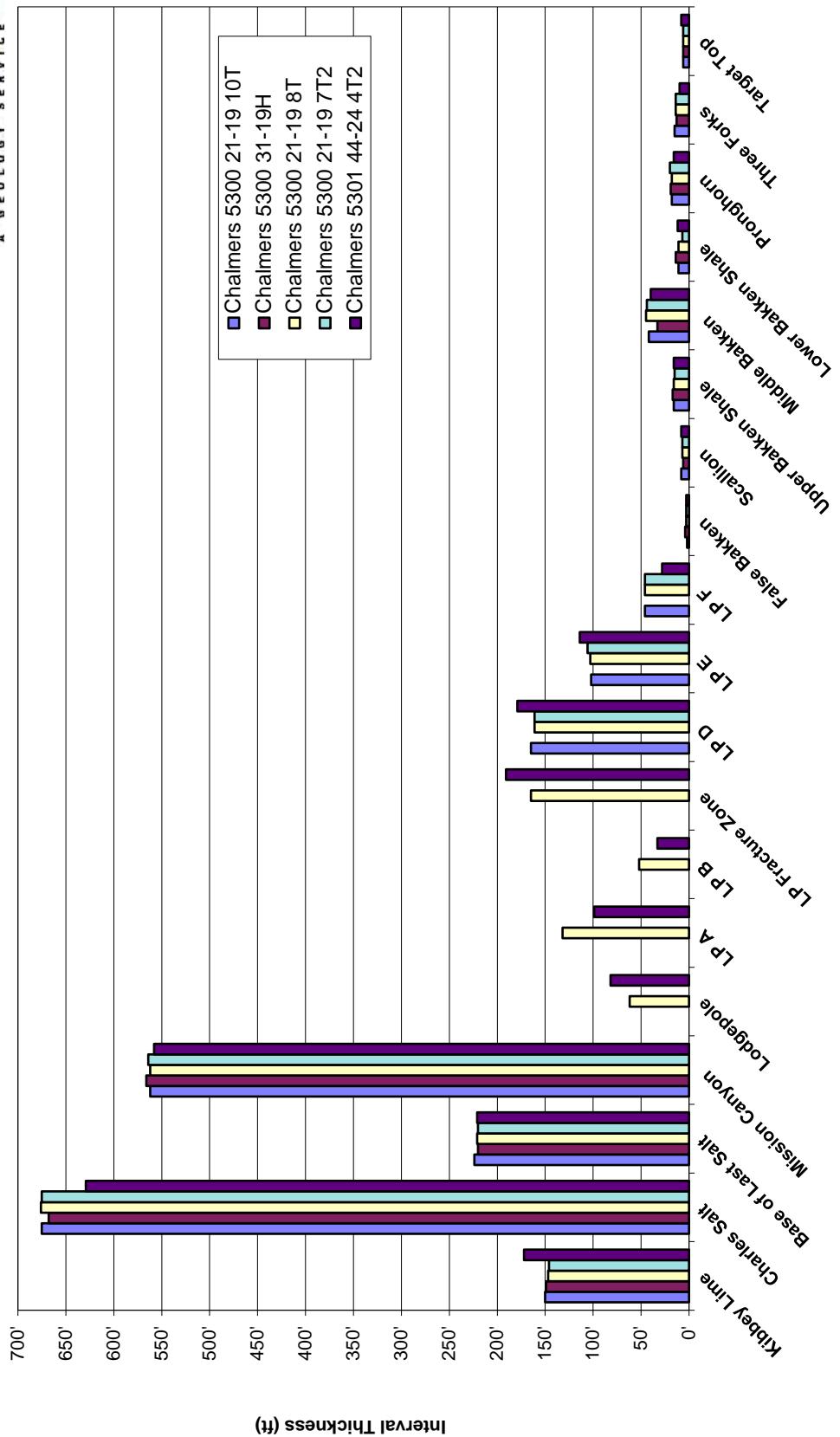
CONTROL DATA

Operator:		Oasis Petroleum North America, LLC		Oasis Petroleum North America, LLC		Oasis Petroleum North America, LLC	
Well Name:		Chalmers 5300 31-19H		Chalmers 5300 21-19 8T		Chalmers 5300 21-19 7T2	
Location:		NW SW Sec. 19 T153N R100W McKenzie County, ND		Lot 2, Sec. 19, T153N, R100W McKenzie County, ND		Lot 2, Sec. 19, T153N, R100W McKenzie County, ND	
Elevation:	~1/4 mile S of subject well KB: 1,929'	Shares pad with subject well KB: 2,076'		Shares pad with subject well KB: 2,076'		Shares pad with subject well KB: 2,076'	
Formation/ Zone	E-Log Top	Datum (MSL)	Interval Thickness	Thickness to Target Landing	TVD Top	Datum (MSL)	Interval Thickness
Kibbey Lime	8,243'	-6,314'	149'	2,425'	8,388'	-6,310'	147'
Charles Salt	8,392'	-6,463'	668'	2,276'	8,533'	-6,457'	676'
Base of Last Salt	9,060'	-7,131'	220'	1,608'	9,209'	-7,133'	221'
Mission Canyon	9,280'	-7,351'	566'	1,388'	9,430'	-7,354'	562'
Lodgepole	9,846'	-7,917'	-	822'	9,992'	-7,916'	62'
LP A	-	-	-	-	10,054'	-7,978'	132'
LP B	-	-	-	-	10,186'	-8,110'	52'
LP Fracture Zone	-	-	-	-	10,238'	-8,162'	165'
LP D	-	-	-	-	10,403'	-8,327'	161'
LP E	-	-	-	-	10,564'	-8,488'	103'
LP F	-	-	-	-	10,667'	-8,591'	46'
False Bakken	10,556'	-8,627'	4'	112'	10,713'	-8,637'	3'
Scallion	10,560'	-8,631'	6'	108'	10,716'	-8,640'	7'
Upper Bakken Shale	10,566'	-8,637'	17'	102'	10,723'	-8,647'	16'
Middle Bakken	10,583'	-8,654'	33'	85'	10,739'	-8,663'	45'
Lower Bakken Shale	10,616'	-8,687'	14'	52'	10,784'	-8,708'	11'
Pronghorn	10,630'	-8,701'	19'	38'	10,795'	-8,719'	18'
Three Forks	10,649'	-8,720'	13'	19'	10,813'	-8,737'	14'
Target Top	10,662'	-8,733'	6'	6'	10,827'	-8,751'	6'
Landing Target	10,668'	-8,739'	4'	0'	10,833'	-8,757'	3'
Base of Target	10,672'	-8,743'	1'	-4'	10,836'	-8,760'	1'
Claystone 1	10,673'	-8,744'	-	-5'	10,837'	-8,761'	-



INTERVAL THICKNESS

Oasis Petroleum North America, LLC - Chalmers 5300 21-19 10T



LANDING PROJECTION

Formation/Zone:	Proposed Target Landing From:				
	Chalmers 5300 31-19H	Chalmers 5300 21-19 8T	Chalmers 5300 21-19 T72	Chalmers 5301 44-24 4T2	Average of Offset Wells
Kibbey Lime	10,811'	10,833'	10,828'	10,805'	10,819'
Charles Salt	10,812'	10,836'	10,832'	10,783'	10,816'
Base of Last Salt	10,819'	10,835'	10,832'	10,829'	10,829'
Mission Canyon	10,823'	10,838'	10,836'	10,832'	10,832'
Lodgepole	10,819'	10,838'	10,834'	10,836'	10,832'
LP A	-	-	-	-	-
LP B	-	-	-	-	-
LP Fracture Zone	-	-	-	-	-
LP D	-	10,834'	10,833'	10,838'	10,835'
LP E	-	10,838'	10,837'	10,824'	10,833'
LP F	-	10,837'	10,833'	10,812'	10,827'
False Bakken	10,829'	10,837'	10,833'	10,830'	10,832'
Scallion	10,827'	10,836'	10,832'	10,829'	10,831'
Upper Bakken Shale	10,829'	10,837'	10,833'	10,829'	10,832'
Middle Bakken	10,828'	10,837'	10,834'	10,829'	10,832'
Lower Bakken	10,837'	10,834'	10,832'	10,831'	10,834'
Pronghorn	10,834'	10,834'	10,836'	10,830'	10,834'
Three Forks	10,833'	10,834'	10,834'	10,832'	10,833'
Target Top	10,835'	10,835'	10,835'	10,837'	10,836'
Target Landing	10,835'	10,835'	10,835'	10,835'	10,835'

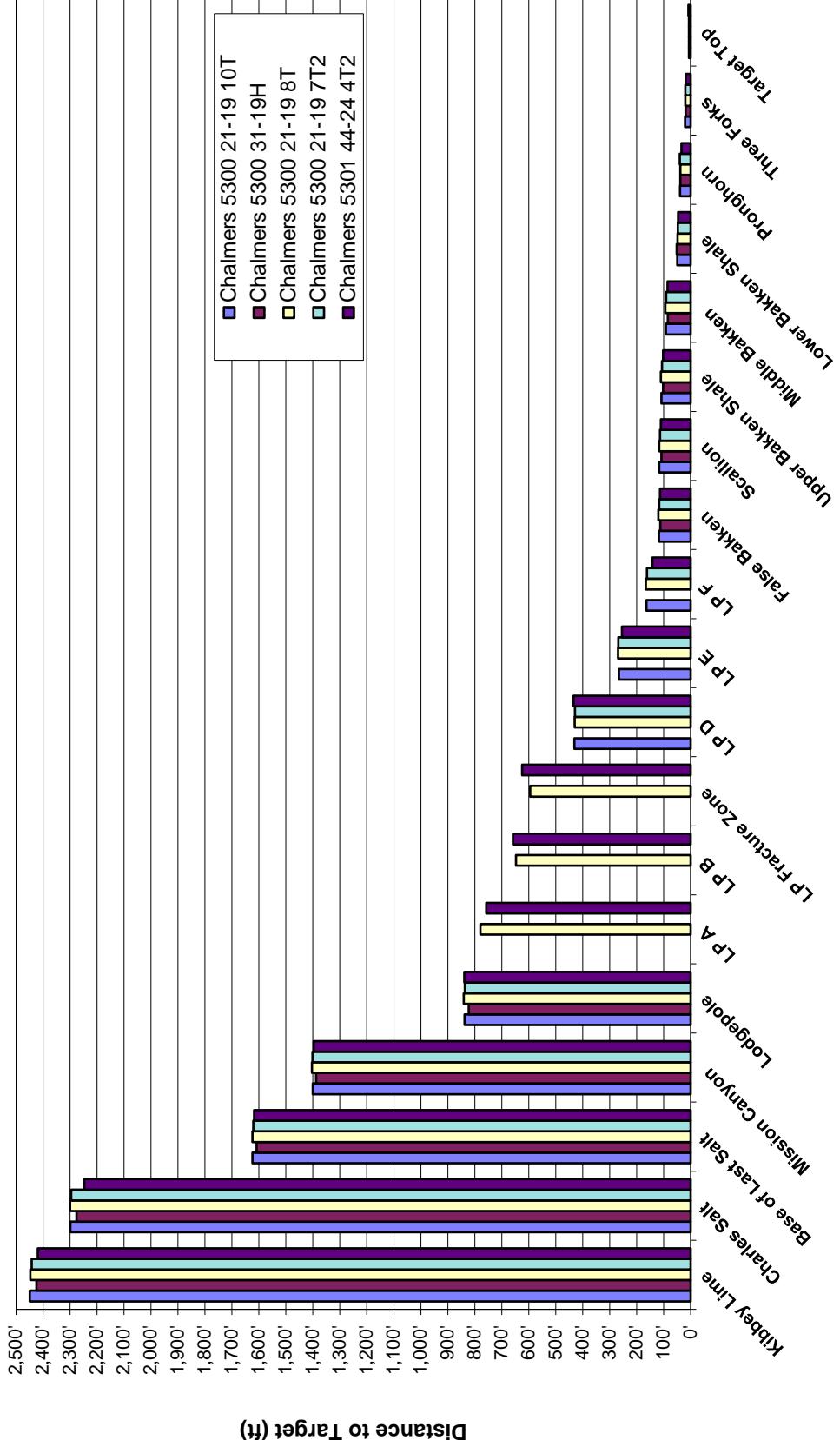
Current Landing Target (21` into the TF / 6' below Target Top): 10,835'

Landing targets are subject to change as new formation tops are available



ISOPACH TO TARGET

Oasis Petroleum North America, LLC - Chalmers 5300 21-19 10T



LITHOLOGY

**Oasis Petroleum North America, LLC
Chalmers 5300 21-19 10T**

Rig crews caught 30' sample intervals, under the supervision of Sunburst geologists, from 8,240' to the TD of the lateral at 20,562'. Formation tops and lithologic markers have been inserted into the sample descriptions below for reference. Sample descriptions begin in the Kibbey Formation just prior to the Kibbey Lime. Samples were examined wet and dry under a binocular microscope. Sample fluorescent cuts are masked by invert mud through intermediate casing. Quantifiers in order of increasing abundance are trace, rare, occasional, common and abundant.

Vertical Log Descriptions: **MD / TVD (MSL Datum)**

Drilling in the Kibbey Formation [Mississippian Big Snowy Group]

8,240-8,270 SILTSTONE: red brown, soft, sub blocky, calcareous cement, poorly cemented, no visible porosity, no visible oil stain; rare ANHYDRITE: milky pink, crystalline, soft, massive, earthy

8,270-8,300 SILTSTONE: red brown, soft, platy, calcareous cement, poorly cemented, no visible porosity, no visible oil stain; trace SILTY SANDSTONE: tan, off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

8,300-8,330 SILTSTONE: red brown, soft, platy, calcareous cement, poorly cemented, no visible porosity, no visible oil stain; trace SILTY SANDSTONE: tan, off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

8,330-8,360 SILTSTONE: red brown, soft, platy, calcareous cement, poorly cemented, no visible porosity, no visible oil stain; trace SILTY SANDSTONE: tan, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

Kibbey Lime **8,387' MD / 8,386' TVD (-6,310')**

8,360-8,390 SILTSTONE: red brown, soft, platy, calcareous cement, poorly cemented, no visible porosity, no visible oil stain; trace SILTY SANDSTONE: tan, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented; ANHYDRITE: off white, light gray, soft, amorphous texture

8,390-8,420 LIMESTONE: mudstone, light brown, light gray-gray brown, micro crystalline, firm-hard, argillaceous in part, dense, crystalline-chalky texture, no visible porosity; rare ANHYDRITE: off white, light gray, soft, amorphous texture; trace SILTSTONE: red brown, tan, light orange, soft, sub blocky, calcite cement, poorly cemented

8,420-8,450 SILTSTONE: dark-light brown, tan, light orange, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

8,450-8,480 SILTSTONE: dark-light brown, tan, light orange, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

8,480-8,510 SILTSTONE: light brown, tan, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan, off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

Charles Formation [Mississippian Madison Group]

8,537' MD / 8,536' TVD (-6,460')

8,510-8,540 SALT: clear-translucent, frosted, crystalline, firm, euhedral; trace LIMESTONE: mudstone, off white, gray, rare tan, fine crystalline, firm, laminated, crystalline-chalky texture, no visible porosity, no visible oil stain; trace SILTY SANDSTONE: as above

8,540-8,570 SALT: clear-translucent, frosted, crystalline, firm, euhedral; trace ARGILLACEOUS LIMESTONE: mudstone-wackestone, light-medium brown, tan, rare light-medium gray, rare gray tan, micro crystalline, friable, earthy

8,570-8,600 SALT: clear-translucent, frosted, crystalline, firm, euhedral

8,600-8,630 SALT: clear-translucent, frosted, crystalline, firm, euhedral

8,630-8,660 SALT: clear-translucent, frosted, crystalline, firm, euhedral; trace ARGILLACEOUS LIMESTONE: mudstone-wackestone, light-medium brown, tan, rare light-medium gray, rare gray tan, micro crystalline, friable, earthy

8,660-8,690 SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline

8,690-8,720 ANHYDRITE: off white, soft, amorphous texture; occasional ARGILLACEOUS LIMESTONE: mudstone-wackestone, light-medium brown, tan, rare light-medium gray, rare gray tan, micro crystalline, friable, earthy

8,720-8,750 ARGILLACEOUS LIMESTONE: mudstone-wackestone, light-medium brown, tan, rare light-medium gray, rare gray tan, micro crystalline, friable, earthy; rare SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline; trace ANHYDRITE: off white, soft, amorphous texture

8,750-8,780 LIMESTONE: mudstone, gray, off white, rare cream-tan, very fine crystalline, firm, laminated, crystalline-chalky texture, possible intercrystalline porosity, no visible oil stain; SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline

8,780-8,810 SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline; occasional LIMESTONE: mudstone, gray, off white, rare cream, very fine crystalline, firm, laminated, crystalline-chalky texture, possible intercrystalline porosity, no visible oil stain

8,810-8,840 LIMESTONE: mudstone, tan, cream, light brown, very fine crystalline, firm, laminated, crystalline, rare intercrystalline porosity, occasional even-spotty light-medium brown oil stain; trace DOLOMITE: medium-light brown, micro crystalline, firm, crystalline, occasional intercrystalline porosity, common medium-light brown spotty oil stain

8,840-8,870 SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline; rare DOLOMITE: medium-light brown, micro crystalline, firm, rare intercrystalline porosity, rare medium-light brown spotty oil stain

8,870-8,900 SALT: clear-translucent, frosted, crystalline, firm, euhedral, crystalline; occasional ANHYDRITE: off white, cream, soft, microcrystalline, anhedral, earthy; rare LIMESTONE: mudstone, tan, cream, light brown, very fine crystalline, firm, laminated, crystalline, rare intercrystalline porosity, occasional spotty light-medium brown oil stain

8,900-8,930 LIMESTONE: mudstone, light brown, light gray, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, rare even-spotty light-medium brown oil stain; common DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline

porosity, occasional even-spotty light-medium brown oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, anhedral, earthy

8,930-8,960 LIMESTONE: mudstone, light brown, light gray brown, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, rare even-spotty light-medium brown oil stain; common DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline porosity, occasional even-spotty light-medium brown oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, anhedral, earthy

8,960-8,990 LIMESTONE: mudstone, light brown, light gray brown, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, rare even-spotty light-medium brown oil stain; common DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline porosity, occasional even-spotty light-medium brown oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, anhedral, earthy

8,990-9,020 SALT: clear-translucent, frosted, crystalline, firm, euhedral; rare DOLOMITE: as above

9,020-9,050 DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy trace intercrystalline porosity, occasional spotty light-medium brown oil stain; occasional ANHYDRITE: off white, cream-light orange, soft, microcrystalline, anhedral, earthy; rare SALT: as above

9,050-9,080 ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous; occasional LIMESTONE: mudstone, light brown, light gray brown, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, trace spotty light-medium brown oil stain

9,080-9,110 LIMESTONE: mudstone, light brown, light gray brown, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, rare spotty light brown oil stain; trace DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, possible intercrystalline porosity, trace spotty light brown oil stain

9,110-9,140 LIMESTONE: mudstone, light brown, light gray brown, off white, microcrystalline, friable, laminated, earthy, trace intercrystalline porosity, rare spotty light brown oil stain; occasional DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline porosity, occasional spotty light brown oil stain; rare ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,140-9,170 DOLOMITE: as above; common LIMESTONE: as above; trace SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline

9,170-9,200 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline

Base Last Salt /Charles Formation]

9,212' MD / 9,211' TVD (-7,135')

9,200-9,230 DOLOMITE: mudstone, light brown, light gray brown, rare light gray, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline porosity, rare spotty light brown oil stain; occasional SALT: as above; trace ANHYDRITE: light pink, off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,230-9,260 DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, trace intercrystalline porosity, trace spotty light-medium brown oil stain; trace ANHYDRITE: as above

9,260-9,290 LIMESTONE: mudstone, light brown-brown, light gray brown, microcrystalline, firm, earthy-crystalline texture, possible intercrystalline porosity, trace spotty light brown oil stain; rare ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous; trace DOLOMITE: as above

9,290-9,320 LIMESTONE: mudstone, light brown-brown, gray brown, gray tan, microcrystalline, firm, earthy-crystalline texture, possible intercrystalline porosity, trace spotty light brown oil stain

9,320-9,350 LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm, earthy-crystalline texture, trace intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,350-9,380 LIMESTONE: mudstone, gray-light gray, gray brown, rare light brown, firm-friable, earthy-crystalline texture, trace intercrystalline porosity, trace disseminated pyrite, no visible oil stain

9,380-9,410 LIMESTONE: mudstone, medium brown, light brown-tan, trace light gray brown, firm-friable, crystalline texture, trace disseminated pyrite, rare fossil fragments, trace oolites, trace vugs, occasional intercrystalline porosity and trace vuggy porosity, occasional light-medium brown spotty visible oil stain; rare ARGILLACEOUS LIMESTONE: mudstone, light gray, firm, earthy-chalky texture, no visible porosity, no visible oil stain

Mission Canyon Formation [Mississippian Madison Group] 9,436' MD / 9,435' TVD (-7,359')

9,410-9,440 LIMESTONE: mudstone, medium brown, light brown-tan, trace light gray brown, firm-friable, crystalline texture, trace disseminated pyrite, rare fossil fragments, trace oolites, trace vugs, occasional intercrystalline porosity and trace vuggy porosity, common light-medium brown even-spotty oil stain

9,440-9,470 LIMESTONE: mudstone, medium brown, light brown-tan, trace light gray brown, firm-friable, crystalline texture, trace disseminated pyrite, rare fossil fragments, trace oolites, trace vugs, occasional intercrystalline porosity and trace vuggy porosity, common light-medium brown even-spotty oil stain; rare ARGILLACEOUS LIMESTONE: mudstone, light gray, firm, earthy-chalky texture, no visible porosity, no visible oil stain

9,470-9,500 LIMESTONE: mudstone-wackestone, light gray, light brown, gray brown, trace dark gray, firm-friable, earthy, rare crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain

9,500-9,530 LIMESTONE: mudstone-wackestone, light brown-dark brown, trace gray-tan gray, firm, earthy-crystalline texture, trace disseminated pyrite, trace fossil fragments, occasional intercrystalline porosity, common even dark-medium brown oil stain, rare spotty brown oil stain; trace ARGILLACEOUS LIMESTONE: as above

9,530-9,560 LIMESTONE: mudstone-wackestone, light brown-dark brown, trace gray-tan gray, firm, earthy-crystalline texture, trace disseminated pyrite, trace fossil fragments, occasional intercrystalline porosity, common even dark-medium brown oil stain, rare spotty brown oil stain; trace ARGILLACEOUS LIMESTONE: as above

9,560-9,590 LIMESTONE: mudstone, light gray, light brown, gray brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain

9,590-9,620 ARGILLACEOUS LIMESTONE: mudstone, light gray, occasional medium gray, rare gray tan, rare off white, trace dark gray, firm-friable, crystalline-chalky texture, trace disseminated pyrite, trace fossil fragments, trace light brown spotty oil stain

9,620-9,650 LIMESTONE: mudstone, light gray, light brown, gray brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain; trace ARGILLACEOUS LIMESTONE: as above

9,650-9,680 LIMESTONE: mudstone, light gray, light brown, gray brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain

9,680-9,710 LIMESTONE: mudstone, gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain; trace ARGILLACEOUS LIMESTONE: as above

9,710-9,740 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain; trace ARGILLACEOUS LIMESTONE: as above

9,740-9,770 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace intercrystalline porosity, trace spotty light brown oil stain; common ARGILLACEOUS LIMESTONE: mudstone, tan, light gray, firm, earthy-chalky texture, no visible porosity, no visible oil stain

9,770-9,800 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace intercrystalline porosity, trace spotty light brown oil stain

9,800-9,830 LIMESTONE: mudstone, cream, tan, gray, microcrystalline, friable-firm, dense, massive, trace laminated, occasional Algal laminated, earthy, trace calcite, trace pyrite, trace intercrystalline porosity, trace spotty oil stain; trace DOLOMITE: light brown gray, off white, microcrystalline, fine crystalline, rare intercrystalline porosity, argillaceous in part, trace light brown spotty oil stain

9,830-9,860 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, trace intercrystalline porosity, trace spotty light brown oil stain; trace DOLOMITE: light brown gray, off white, microcrystalline, fine crystalline, rare intercrystalline porosity, argillaceous in part, trace light brown spotty oil stain

9,860-9,890 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, rare intercrystalline porosity, trace spotty light brown oil stain

9,890-9,920 ARGILLACEOUS LIMESTONE: mudstone, light gray, occasional medium gray, rare gray tan, rare off white, trace dark gray, firm-friable, crystalline-chalky texture, trace disseminated pyrite, no visible porosity, no visible oil stain; LIMESTONE: mudstone, light-gray, rare off white, trace dark gray, trace brown, friable-firm, dense, earthy, possible intercrystalline porosity, trace light brown spotty oil stain

9,920-9,950 LIMESTONE: mudstone, light-gray, rare off white, trace brown, friable-firm, dense, earthy, trace spotty light brown oil stain

9,950-9,980 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments

Lodgepole /Mississippian Madison Group

9,998' MD / 9,997' TVD (-7,921')

9,980-10,010 LIMESTONE: mudstone, light gray-brown, trace dark gray, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, trace fossil fragments, no visible porosity, no visible oil stain; rare ARGILLACEOUS LIMESTONE: mudstone, light gray, occasional medium gray, rare gray tan, rare off white, trace dark gray, firm-friable, crystalline-chalky texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,010-10,040 ARGILLACEOUS LIMESTONE: mudstone, light gray, light brown gray, trace medium-dark gray, firm, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain

10,040-10,070 LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm, earthy, rare crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,070-10,100 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, rare gray brown, trace light brown, firm, earthy texture, rare disseminated pyrite, no visible porosity, no visible oil stain

10,100-10,130 ARGILLACEOUS LIMESTONE: mudstone, light gray, light brown gray, trace medium-dark gray, firm, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain

10,130-10,160 ARGILLACEOUS LIMESTONE: mudstone, light gray, light brown gray, trace medium-dark gray, firm, earthy, trace disseminated pyrite, no visible porosity, no visible oil stain

10,160-10,190 ARGILLACEOUS LIMESTONE: mudstone, gray tan, light gray-gray, gray brown, trace light brown, firm, earthy, trace crystalline texture, rare disseminated pyrite, no visible porosity, no visible oil stain

10,190-10,220 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,220-10,250 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,250-10,280 ARGILLACEOUS LIMESTONE: mudstone, light gray, gray tan, rare medium-dark gray, firm, earthy texture, rare disseminated pyrite, no visible porosity, no visible oil stain

10,280-10,310 ARGILLACEOUS LIMESTONE: mudstone, light gray, gray tan, rare medium-dark gray, firm, earthy texture, rare disseminated pyrite, no visible porosity, no visible oil stain

10,310-10,335 ARGILLACEOUS LIMESTONE: mudstone, light gray, gray tan, rare medium-dark gray, firm, earthy texture, rare disseminated pyrite, no visible porosity, no visible oil stain

10,335-10,370 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,370-10,400 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,400-10,430 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,430-10,460 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, gray brown, trace light brown, firm-friable, earthy, rarely crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,460-10,490 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, rare gray brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,490-10,520 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, rare gray brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,520-10,550 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, rare gray brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,550-10,580 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, rare gray brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,580-10,610 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,610-10,640 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,640-10,670 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,670-10,700 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,700-10,730 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

10,730-10,760 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, rare gray brown-light brown, firm, earthy, rarely crystalline texture, occasional disseminated pyrite, no visible porosity, no visible oil stain

False Bakken Member [Mississippian Madison Group] **10,764' MD / 10,717' TVD (-8,641')**

10,760-10,790 SHALE: black, black gray, hard, sub blocky-sub platy, earthy, pyritic, carbonaceous, fracture porosity, black oil stain

Scallion [Mississippian Madison Group] **10,767' MD / 10,719' TVD (-8,643')**

10,760-10,790 SHALE: black, black gray, hard, sub blocky-sub platy, earthy, pyritic, carbonaceous, fracture porosity, black oil stain

Upper Bakken Shale [Bakken Formation] **10,777' MD / 10,727' TVD (-8,651')**

10,760-10,790 SHALE: black, black gray, hard, sub blocky-sub platy, earthy, pyritic, carbonaceous, fracture porosity, black oil stain

Middle Bakken Member [Bakken Formation] **10,803' MD / 10,743' TVD (-8,667')**

10,790-10,820 SILTY SANDSTONE: light gray brown, light gray, rare light brown, very fine grained, firm, sub rounded, smooth, moderately sorted, calcite cement, moderately cement, trace disseminated, nodular pyrite, fair intercrystalline porosity, trace light brown spotty oil stain

10,820-18,850 SILTY SANDSTONE: light gray brown, light gray, rare light brown, very fine grained, firm, sub rounded, smooth, moderately sorted, calcite cement, moderately cement, trace disseminated, nodular pyrite, fair intercrystalline porosity, trace light brown spotty oil stain

10,850-10,880 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

Lower Bakken Shale /Bakken Formation]**10,880' MD / 10,785' TVD (-8,709')**

10,880-10,910 SHALE: black, black gray, hard, splintery, smooth, pyritic, carbonaceous, fracture porosity; trace SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

Pronghorn /Bakken Formation]**10,906' MD / 10,796' TVD (-8,720')**

10,910-10,940 SILTSTONE: dark gray, trace gray black, friable-firm, sub blocky-sub splintery, moderately dolomite cemented, trace disseminated and nodular pyrite, trace spotty light brown oil stain

Three Forks First Bench /Three Forks Formation]**10,956' MD / 10,814' TVD (-8,738')**

10,940-10,970 SILTSTONE: dark gray, trace gray black, friable-firm, sub blocky-sub splintery, moderately dolomite cemented, trace disseminated and nodular pyrite, trace spotty light brown oil stain; common DOLOMITE: mudstone, light brown-gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, possible intercrystalline porosity, trace light brown spotty oil stain

10,970-11,000 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,000-11,030 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,030-11,060 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,060-11,090 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,090-11,120 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,120-11,150 DOLOMITE: mudstone, light brown-light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: as above

11,150-11,180 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,180-11,210 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,210-11,240 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,240-11,270 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,270-11,300 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,300-11,330 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,330-11,360 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,360-11,390 DOLOMITE: mudstone, light brown gray, tan-cream, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; rare SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

11,390-11,420 DOLOMITE: mudstone, light brown gray, tan-cream, rare peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; occasional SHALE: light green-light gray green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain.

11,420-11,450 DOLOMITE: mudstone, light brown gray, tan-cream, rare peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, trace light brown spotty oil stain; occasional SHALE: light green-light gray green, firm, sub blocky, earthy, rare disseminated pyrite, possible intergranular porosity, no visible oil stain.

11,450-11,480 DOLOMITE: mudstone, light brown, common peach, rare tan-cream, firm, laminated, micro-sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; occasional SHALE: light green-light gray green, firm, sub-blocky, earthy, rare disseminated pyrite, possible intergranular porosity, no visible oil stain.

11,480-11,510 DOLOMITE: mudstone, light brown, common peach, rare tan-cream, firm, laminated, micro-sucrosic, rare disseminated pyrite, occasional intercristalline porosity, rare light brown spotty oil stain; occasional SHALE: light green-light gray green, firm, sub blocky, earthy, rare disseminated pyrite, possible intergranular porosity, no visible oil stain.

12,170-12,200 DOLOMITE: mudstone, light gray, common light brown, occasional peach, trace tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; occasional SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,200-12,230 DOLOMITE: mudstone, light gray, common tan cream, occasional peach, firm, laminated, micro-sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub-blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,230-12,260 DOLOMITE: mudstone, light gray, common tan cream, occasional peach, firm, laminated, micro-sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub-blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,260-12,290 DOLOMITE: mudstone, light gray brown, common tan cream, occasional peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,290-12,320 DOLOMITE: mudstone, light gray brown, common tan cream, occasional peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,320-12,350 DOLOMITE: mudstone, light gray brown, common tan cream, occasional peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; occasional SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,350-12,380 DOLOMITE: mudstone, light gray brown, common tan cream, occasional peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; occasional SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,380-12,410 DOLOMITE: mudstone, tan-cream, rare peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,410-12,440 DOLOMITE: mudstone, tan-cream, rare peach, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,440-12,470 DOLOMITE: mudstone, light gray brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,470-12,500 DOLOMITE: mudstone, light gray brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,500-12,530 DOLOMITE: mudstone, light orange brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,530-12,560 DOLOMITE: mudstone, light orange brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,560-12,590 DOLOMITE: mudstone, light gray brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,590-12,620 DOLOMITE: mudstone, light gray brown, occasional peach, rare tan-cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,620-12,650 DOLOMITE: mudstone, white-cream, occasional peach, rare light brown gray, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,650-12,680 DOLOMITE: mudstone, white-cream, occasional peach, rare light brown gray, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,680-12,710 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,710-12,740 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,740-12,770 DOLOMITE: mudstone, tan-cream, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,770-12,800 DOLOMITE: mudstone, light brown, tan, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, common spotty-rare even light brown oil stain; rare SHALE: light green-light gray green, mint green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

12,800-12,830 DOLOMITE: mudstone, light brown, tan, trace pink, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, common spotty-rare even light brown oil stain; rare SHALE: light green-light gray green, mint green, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain

15,470-15,500 CLAYSTONE: light gray, common gray brown, trace off white-white, firm, sub blocky, earthy, common disseminated pyrite, no visible porosity, no visible oil stain

15,500-15,530 CLAYSTONE: light gray, common gray brown, trace off white-white, firm, sub blocky, earthy, common disseminated pyrite, no visible porosity, no visible oil stain

15,530-15,560 CLAYSTONE: light gray, common gray brown, trace off white-white, firm, sub blocky, earthy, common disseminated pyrite, no visible porosity, no visible oil stain

15,560-15,590 DOLOMITE: mudstone, light gray brown, occasional tan cream, occasional peach, rare off white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,590-15,620 DOLOMITE: mudstone, light gray brown, occasional tan cream, occasional peach, rare off white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,620-15,650 DOLOMITE: mudstone, light gray brown, occasional tan cream, occasional peach, rare off white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,650-15,680 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,680-15,710 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,710-15,740 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,740-15,770 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,770-15,800 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

15,800-15,830 DOLOMITE: mudstone, tan-cream, occasional peach, rare light brown gray, trace white, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut

20,450-20,480 DOLOMITE: mudstone, light gray, light brown-light brown gray, rare cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut fluorescence

20,480-20,510 DOLOMITE: mudstone, light gray, light brown-light brown gray, rare cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut fluorescence

20,510-20,540 DOLOMITE: mudstone, light gray, light brown-light brown gray, rare cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut fluorescence

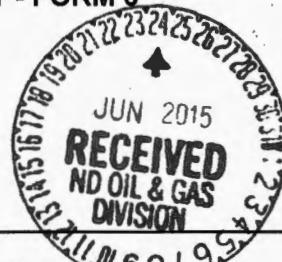
20,540-20,562 DOLOMITE: mudstone, light gray, light brown-light brown gray, rare cream, firm, laminated, micro sucrosic, rare disseminated pyrite, occasional intercrystalline porosity, rare light brown spotty oil stain; rare SHALE: light green-light gray green, rare light gray, firm, sub blocky, earthy, occasional disseminated pyrite, possible intergranular porosity, no visible oil stain; pale yellow streaming cut fluorescence



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
SEN 2468 (04-2010)

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



Well File No.
28637

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"/> Added Horizontal Leg	<input type="checkbox"/> Extended Horizontal Leg		
<input type="checkbox"/> Gas Well	<input type="checkbox"/> SWD Well	<input type="checkbox"/> Water Supply Well	<input type="checkbox"/> Other:				
Well Name and Number Chalmers 5300 21-19 10T				Spacing Unit Description Sec. 19/20 T153N R100W			
Operator Oasis Petroleum North America LLC		Telephone Number (281) 404-9591		Field Baker			
Address 1001 Fannin, Suite 1500				Pool Bakken			
City Houston	State TX	Zip Code 77002	Permit Type				
<input type="checkbox"/> Wildcat					<input checked="" type="checkbox"/> Development	<input type="checkbox"/> Extension	

LOCATION OF WELL

At Surface 2292 F N L	326 F WL	Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W	County McKenzie
Spud Date December 4, 2015	Date TD Reached February 19, 2015	Drilling Contractor and Rig Number Nabors B22		KB Elevation (Ft) 2076	Graded Elevation (Ft) 2051	

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)

PERFORATION & OPEN HOLE INTERVALS

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft) Lateral 1- 11118' to 20558'							Name of Zone (If Different from Pool Name)	
Date Well Completed (SEE INSTRUCTIONS) May 16, 2015			Producing Method Flowing		Pumping-Size & Type of Pump			Well Status (Producing or Shut-In) Producing
Date of Test 05/16/2015	Hours Tested 24	Choke Size 56 /64	Production for Test	Oil (Bbls) 1819	Gas (MCF) 1546	Water (Bbls) 3375	Oil Gravity-API (Corr.) °	Disposition of Gas Sold
Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI) 1000		Calculated 24-Hour Rate	Oil (Bbls) 1819	Gas (MCF) 1546	Water (Bbls) 3375	Gas-Oil Ratio 850	

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 04/08/2015	Stimulated Formation Three Forks	Top (Ft) 11118	Bottom (Ft) 20558	Stimulation Stages 36	Volume 214367	Volume Units Barrels
Type Treatment Sand Frac	Acid %	Lbs Proppant 3828642	Maximum Treatment Pressure (PSI) 9063		Maximum Treatment Rate (BBLS/Min) 75.0	

Details

100 Mesh White: 265265

40/70 Ceramic: 1428560

30/50 Ceramic: 2134817

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

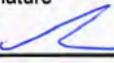
Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)	

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 jswenson@oasispetroleum.com	Date 06/23/2015
Signature 	Printed Name Jennifer Swenson	Title Regulatory Specialist

Industrial Commission of North Dakota
Oil and Gas Division

Well or Facility No

28637

Verbal Approval To Purchase and Transport Oil Tight Hole Yes

OPERATOR

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

WELL INFORMATION

Well Name CHALMERS 5300 21-19 10T	Inspector Richard Dunn
Well Location QQ Sec Twp Rng	County MCKENZIE
LOT2 19 153 N 100 W	Field BAKER
Footages 2292 Feet From the N Line	Pool BAKKEN
327 Feet From the W Line	
Date of First Production Through Permanent Wellhead	5/13/2015
	This Is Not The First Sales

PURCHASER / TRANSPORTER

Purchaser OASIS PETROLEUM MARKETING LLC	Transporter HOFMANN TRUCKING, LLC
---	---

TANK BATTERY

Central Tank Battery Number : 228633-01
--

SALES INFORMATION **This Is Not The First Sales**

ESTIMATED BARRELS TO BE SOLD		ACTUAL BARRELS SOLD		DATE
15000	BBLS	232	BBLS	5/14/2015
	BBLS		BBLS	

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 **5/13/2015**
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.
28637



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date March 31, 2015	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
Approximate Start Date		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input checked="" type="checkbox"/> Other	Change well status to CONFIDENTIAL

Well Name and Number
Chalmers 5300 21-19 10T

Footages 2292 F N L	327	Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W
Field Baker	Pool BAKKEN	County McKenzie			

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

Name of Contractor(s)

Address

City

State

Zip Code

DETAILS OF WORK

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

This well has not been completed.

OFF CONFIDENTIAL 10/01/15.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date March 31, 2015	
Email Address jswenson@oasispetroleum.com		

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 4/08/15	
By 	
Title Engineering Technician	



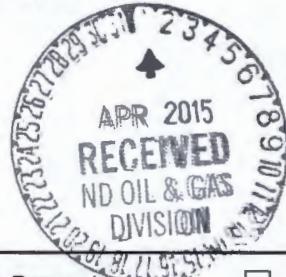
SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date March 31, 2015	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date	<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input type="checkbox"/> Other	Waiver from tubing/packer requirement



Well File No.
28637

**Well Name and Number
Chalmers 5300 21-19 10T**

Footages 2292 F N L	327 326 F W L	Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W
Field Baker	Pool Bakken	County McKenzie			

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

Name of Contractor(s)

Address

City

State

Zip Code

DETAILS OF WORK

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 Oasis Petroleum North America LLC		Telephone Number 281-404-9436
Address 1001 Fannin, Suite 1500		
City Houston		State TX
Signature 		Printed Name Jennifer Swenson
Title Regulatory Specialist		Date March 31, 2015
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date	<i>April 11, 2015</i>
By	<i>J. M. W.</i>
Title	PETROLEUM ENGINEER



Directional Survey Certification

Operator: Oasis Petroleum LLC **Well Name:** Chalmers 5300 21-19 10B **API:** 33-053-06022

Enseco Job#: S14009-02 **Job Type:** MWD D&I **County, State:** McKenzie County, N. Dakota

Well Surface Hole Location (SHL): Lot 2 , Sec. 19, T1153N, R100W (2,292' FNL & 326 FWL)

Latitude: 48° 03' 40.65 N **Longitude:** 103° 36' 10.11 W **Datum:** Nad 83

Final MWD Report Date: Dec. 05, 2014 **MWD Survey Run Date:** Dec. 03, 2014 to Dec. 05, 2014

Tied In to Surveys Provided By: Enseco Directional Drilling D&I MWD **MD:** Surface

MWD Surveyed from 00 ft **to** 2,150.0 ft **MD** **Survey Type:** Positive Pulse D&I MWD **Sensor to Bit:** 35 ft

Rig Contractor: Nabors **Rig Number:** B22 **RKB Height:** 2,079.0 ft **GL Elevation:** 2,054.0 ft

MWD Surveyor Name: David Hopper

"The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Enseco Energy Services USA Corp. I am authorized and qualified to review the data, calculations and this report and that the report represents a true and correct Directional Survey of this well based on the original data corrected to True North and obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method."

Jonathan Hovland, Well Planner

Enseco Representative Name, Title

Jonathan Hovland

Signature

December 9th 2014

Date Signed

On this the day of , 20 , before me personally appeared First & Last Name, to me known as the person described in and who executed the foregoing instrument and acknowledged the (s)he executed the same as his/her free act and deed.

Seal: _____

Notary Public

Commission Expiry



Enseco Survey Report

09 December, 2014

Continental Resources

McKenzie County, N. Dakota
Lot 2 Sec.19 Twp.153N Rge.100W
Chalmers 5300 21-19 10B
Job # S14009-02
API#: 33-053-06022

Survey: Final Surveys Vertical Section





Survey Report



Company:	Continental Resources	Local Co-ordinate Reference:	Well Chalmers 5300 21-19 10B
Project:	McKenzie County, N. Dakota	Ground Level Elevation:	2,054.00usft
Site:	Lot 2 Sec.19 Twp.153N Rge.100W	Wellhead Elevation:	KB 25 @ 2079.00usft (Nabors B22)
Well:	Chalmers 5300 21-19 10B	North Reference:	True
Wellbore:	Job # S14009-02	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys Vertical Section	Database:	EDM5000

Project	McKenzie County, N. Dakota		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	North Dakota Northern Zone		Using geodetic scale factor

Site	Lot 2 Sec.19 Twp.153N Rge.100W		
Site Position:		Northing:	402,374.71 usft
From:	Lat/Long	Easting:	1,209,981.92 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "

Well	Chalmers 5300 21-19 10B		API#: 33-053-06022
Well Position	+N/-S +E/-W	33.44 usft 0.00 usft	Northing: 402,408.11 usft Easting: 1,209,983.27 usft
Position Uncertainty		0.00 usft	Wellhead Elevation: 2,079.00 usft

Wellbore	Job # S14009-02				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/9/2014	8.181	72.957	56,376

Design:	Final Surveys Vertical Section	Survey Error Model:	Standard ISCWSA MWD Tool
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)
		0.00	0.00
			+E/-W (usft)
			0.00
			Direction (°)
			197.87



Survey Report



Company:	Continental Resources	Local Co-ordinate Reference:	Well Chalmers 5300 21-19 10B
Project:	McKenzie County, N. Dakota	Ground Level Elevation:	2,054.00usft
Site:	Lot 2 Sec.19 Twp.153N Rge.100W	Wellhead Elevation:	KB 25 @ 2079.00usft (Nabors B22)
Well:	Chalmers 5300 21-19 10B	North Reference:	True
Wellbore:	Job # S14009-02	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys Vertical Section	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N-S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie-in from Surface										
0.00	0.00	0.00	0.00	2,079.00	0.00	0.00	0.00	0.00	0.00	0.00
160.00	0.50	291.60	160.00	1,919.00	0.26	-0.65	-0.05	0.31	0.31	0.00
251.00	1.10	273.60	250.99	1,828.01	0.46	-1.89	0.14	0.71	0.66	-19.78
344.00	1.10	265.20	343.97	1,735.03	0.44	-3.67	0.71	0.17	0.00	-9.03
428.00	0.50	251.80	427.96	1,651.04	0.26	-4.82	1.23	0.74	-0.71	-15.95
515.00	0.40	230.40	514.96	1,564.04	-0.05	-5.42	1.71	0.22	-0.11	-24.60
599.00	0.40	181.20	598.96	1,480.04	-0.53	-5.65	2.24	0.40	0.00	-58.57
687.00	0.40	162.50	686.96	1,392.04	-1.13	-5.56	2.79	0.15	0.00	-21.25
773.00	0.70	152.70	772.95	1,306.05	-1.89	-5.23	3.40	0.36	0.35	-11.40
860.00	0.90	158.00	859.94	1,219.06	-2.99	-4.73	4.30	0.24	0.23	6.09
945.00	0.90	153.00	944.93	1,134.07	-4.21	-4.18	5.29	0.09	0.00	-5.88
1,035.00	0.50	157.30	1,034.93	1,044.07	-5.20	-3.71	6.09	0.45	-0.44	4.78
1,125.00	0.20	32.50	1,124.93	954.07	-5.43	-3.47	6.23	0.71	-0.33	-138.67
1,210.00	0.20	147.40	1,209.93	869.07	-5.43	-3.31	6.18	0.40	0.00	135.18
1,301.00	0.20	201.60	1,300.92	778.08	-5.71	-3.28	6.44	0.20	0.00	59.56
1,391.00	0.20	23.30	1,390.92	688.08	-5.71	-3.28	6.44	0.44	0.00	-198.11
1,477.00	0.20	116.10	1,476.92	602.08	-5.64	-3.09	6.32	0.34	0.00	107.91
1,567.00	0.20	183.60	1,566.92	512.08	-5.87	-2.95	6.49	0.25	0.00	75.00
1,658.00	0.20	236.70	1,657.92	421.08	-6.11	-3.10	6.77	0.20	0.00	58.35
1,748.00	0.20	252.20	1,747.92	331.08	-6.25	-3.38	6.98	0.06	0.00	17.22
1,838.00	0.20	251.10	1,837.92	241.08	-6.35	-3.68	7.17	0.00	0.00	-1.22
1,924.00	0.20	149.20	1,923.92	155.08	-6.52	-3.74	7.36	0.36	0.00	-118.49
2,014.00	0.20	138.60	2,013.92	65.08	-6.78	-3.56	7.54	0.04	0.00	-11.78
2,102.00	0.90	148.50	2,101.92	-22.92	-7.48	-3.09	8.07	0.80	0.80	11.25
Last MWD Survey										
2,150.00	1.10	145.70	2,149.91	-70.91	-8.18	-2.64	8.60	0.43	0.42	-5.83

Survey Annotations										
Local Coordinates										
MD (usft)	TVD (usft)	+N-S (usft)	+E/W (usft)	Comment						
0.00	0.00	0.00	0.00	Tie-in from Surface						
2,150.00	2,149.91	-8.18	-2.64	Last MWD Survey						



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

Friday, March 06, 2015

State of North Dakota

Subject: **Surveys**

Re: **Oasis**
Chalmers 5300 21-19 10T
McKenzie, ND

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

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight Line Projection
Mike McCammond	MWD Operator	O.H.	2150'	11080'	01/15/15	01/22/15	MWD	11140'
Matt Aesoph	MWD Operator	O.H.	11080'	20498'	02/11/15	02/18/15	MWD	20562'

If any other information is required please contact the undersigned at the letterhead address or phone number.

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

Douglas Hudson
Well Planner



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

Ryan Directional Services, Inc.
19510 Oil Center Blvd.
Houston, Texas 77073
Bus: 281.443.1414
Fax: 281.443.1676

Thursday, January 22, 2015

State of North Dakota
County of McKenzie

Subject: **Survey Certification Letter**

Survey Company: Ryan Directional Services, Inc.
Job Number: 8546
Survey Job Type: Ryan MWD
Customer: Oasis Petroleum
Well Name: Chalmers 5300 21-19 10T
Rig Name: Nabors B-22

Surface: 48 03' 40.65" N / 103 36' 10.11" W
A.P.I. No: 33-053-06022
Location: McKenzie, North Dakota
RKB Height: 2076'
Distance to Bit: 60'

<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole Number</i>	<i>Start Depth</i>	<i>End Depth</i>	<i>Start Date</i>	<i>End Date</i>	<i>Type of</i>	<i>TD Straight Line Projection</i>
Mike McCommend	MWD Supervisor	OH	2167'	11080'	01/15/15	01/22/15	MWD	11140'

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Ryan Directional Services, Inc. I am authorized and qualified to review the data, calculations and these reports; the reports represents true and correct Directional Surveys of this well based on the original data, the minimum curvature method, corrected to True North and obtained at the well site.


Mike McCommend
MWD Supervisor
Ryan Directional Services, Inc.



Ryan Directional Services, Inc.
19510 Oil Center Blvd.
Houston, Texas 77073
Bus: 281.443.1414
Fax: 281.443.1676

Wednesday, February 18, 2015

State of North Dakota
County of McKenzie County

Subject: **Survey Certification Letter**

Survey Company: Ryan Directional Services, Inc.
Job Number: 8558
Survey Job Type: Ryan MWD
Customer: Oasis Petroleum
Well Name: Chalmers 5300 21-19 10T
Rig Name: Nabors B22

Surface: 48° 03' 40.65" N, 103° 36' 10.11" W
A.P.I. No: 33-053-06022
Location: McKenzie County, North Dakota
RKB Height: 25'
Distance to Bit: 64'

<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole Number</i>	<i>Start Depth</i>	<i>End Depth</i>	<i>Start Date</i>	<i>End Date</i>	<i>Type of</i>	<i>TD Straight Line Projection</i>
Matt Aesoph	MWD Supervisor	OH	11140'	20498'	02/11/15	02/18/15	MWD	20562'

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Ryan Directional Services, Inc. I am authorized and qualified to review the data, calculations and these reports; the reports represents true and correct Directional Surveys of this well based on the original data, the minimum curvature method, corrected to True North and obtained at the well site.


Matt Aesoph
MWD Supervisor
Ryan Directional Services, Inc.



SURVEY REPORT

Customer: Oasis Petroleum
 Well Name: Chalmers 5300 21-19 10T
 Rig #: Nabors B-22
 API #: 33-053-06022
 Calculation Method: Minimum Curvature Calculation

MWD Operator: McCommand / Maldonaldo
 Directional Drillers: RPM
 Survey Corrected To: True North
 Vertical Section Direction: 93.13
 Total Correction: 8.17
 Temperature Forecasting Model (Chart Only): Logarithmic

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
Tie in to Gyro Surveys									
Tie In	2150	1.10	145.70	0.00	2149.91	-2.64	-8.18	-2.64	0.43
1	2167	1.20	148.60	77.00	2166.91	-1.99	-8.47	-2.46	0.68
2	2260	1.20	149.80	77.00	2259.89	-0.90	-10.14	-1.46	0.03
3	2354	1.20	102.40	86.00	2353.87	0.61	-11.20	0.00	1.03
4	2447	1.20	106.10	89.00	2446.85	2.52	-11.68	1.89	0.08
5	2540	1.30	49.00	95.00	2539.83	4.23	-11.26	3.62	1.29
6	2634	1.50	43.70	91.00	2633.80	5.79	-9.67	5.27	0.25
7	2727	0.90	331.90	98.00	2726.78	6.20	-8.15	5.77	1.60
8	2821	0.90	328.40	104.00	2820.77	5.40	-6.87	5.03	0.06
9	2914	1.00	322.80	107.00	2913.76	4.46	-5.60	4.16	0.15
10	3007	1.00	321.80	111.00	3006.75	3.40	-4.31	3.17	0.02
11	3101	1.10	323.30	114.00	3100.73	2.28	-2.94	2.12	0.11
12	3194	1.00	316.60	116.00	3193.71	1.12	-1.64	1.03	0.17
13	3287	0.40	333.70	122.00	3286.71	0.37	-0.76	0.33	0.68
14	3381	0.10	292.00	123.00	3380.71	0.13	-0.43	0.11	0.35
15	3474	0.20	334.60	125.00	3473.71	-0.02	-0.26	-0.04	0.15
16	3568	0.20	335.70	127.00	3567.71	-0.18	0.04	-0.17	0.00
17	3661	0.30	327.70	129.00	3660.70	-0.39	0.39	-0.37	0.11
18	3754	0.20	353.00	131.00	3753.70	-0.56	0.76	-0.52	0.16
19	3848	0.30	324.40	132.00	3847.70	-0.75	1.12	-0.68	0.17
20	3941	0.30	334.10	134.00	3940.70	-1.02	1.54	-0.93	0.05
21	4034	0.30	328.80	131.00	4033.70	-1.27	1.97	-1.17	0.03
22	4128	0.20	321.70	132.00	4127.70	-1.52	2.31	-1.39	0.11
23	4221	0.20	314.30	134.00	4220.70	-1.75	2.55	-1.61	0.03
24	4314	0.20	281.60	138.00	4313.70	-2.03	2.69	-1.89	0.12
25	4408	0.30	271.20	138.00	4407.70	-2.44	2.73	-2.29	0.12
26	4501	0.40	277.70	141.00	4500.70	-3.01	2.78	-2.86	0.12
27	4594	0.50	261.70	143.00	4593.69	-3.73	2.77	-3.58	0.17
28	4688	0.40	224.40	145.00	4687.69	-4.35	2.47	-4.22	0.32
29	4781	0.40	225.50	147.00	4780.69	-4.78	2.01	-4.68	0.01
30	4875	0.40	219.90	149.00	4874.69	-5.20	1.53	-5.12	0.04
31	4968	0.40	162.40	149.00	4967.68	-5.28	0.97	-5.23	0.41
32	5061	0.40	160.30	150.00	5060.68	-5.03	0.36	-5.02	0.02
33	5155	0.30	139.10	152.00	5154.68	-4.74	-0.14	-4.75	0.17
34	5248	0.40	135.10	149.00	5247.68	-4.33	-0.55	-4.36	0.11
35	5341	0.50	134.50	150.00	5340.67	-3.78	-1.07	-3.84	0.11
36	5435	0.50	123.70	154.00	5434.67	-3.12	-1.58	-3.21	0.10
37	5528	0.40	136.10	156.00	5527.67	-2.53	-2.04	-2.65	0.15
38	5621	0.40	148.00	158.00	5620.67	-2.11	-2.55	-2.25	0.09
39	5715	0.40	163.00	161.00	5714.66	-1.81	-3.14	-1.98	0.11
40	5808	0.40	166.30	161.00	5807.66	-1.60	-3.77	-1.81	0.02
41	5901	0.40	175.30	163.00	5900.66	-1.46	-4.41	-1.71	0.07
42	5994	0.40	171.80	163.00	5993.66	-1.35	-5.05	-1.63	0.03
43	6049	0.40	156.90	163.00	6048.66	-1.23	-5.42	-1.53	0.19
44	6113	0.30	154.80	116.00	6112.65	-1.05	-5.77	-1.37	0.16
45	6175	0.50	152.20	116.00	6174.65	-0.84	-6.16	-1.18	0.32
46	6268	0.80	122.20	123.00	6267.65	-0.06	-6.86	-0.44	0.48
47	6362	1.00	141.70	131.00	6361.64	1.06	-7.86	0.63	0.39
48	6455	1.10	121.00	136.00	6454.62	2.38	-8.95	1.90	0.42
49	6548	1.00	143.70	141.00	6547.61	3.69	-10.07	3.14	0.46
50	6642	1.50	120.10	145.00	6641.58	5.30	-11.35	4.69	0.75
51	6735	1.10	130.70	150.00	6734.56	7.10	-12.54	6.42	0.50
52	6828	1.30	158.10	154.00	6827.54	8.25	-14.10	7.49	0.65
53	6922	1.30	161.60	158.00	6921.52	9.09	-16.10	8.23	0.08
54	7015	1.40	139.00	161.00	7014.49	10.27	-17.96	9.30	0.58
55	7109	1.30	127.40	165.00	7108.46	11.95	-19.47	10.90	0.31
56	7202	1.30	102.00	168.00	7201.44	13.87	-20.33	12.77	0.61
57	7295	1.30	106.90	170.00	7294.42	15.93	-20.86	14.82	0.12
58	7388	1.20	100.80	170.00	7387.39	17.92	-21.35	16.78	0.18
59	7482	1.10	111.50	174.00	7481.38	19.75	-21.86	18.59	0.25
60	7575	1.10	111.10	177.00	7574.36	21.45	-22.51	20.25	0.01
61	7669	0.90	114.40	179.00	7668.34	23.00	-23.14	21.77	0.22
62	7762	0.70	81.30	181.00	7761.34	24.23	-23.36	22.99	0.53
63	7855	0.70	101.60	181.00	7854.33	25.35	-23.39	24.11	0.27
64	7948	0.70	123.70	183.00	7947.32	26.40	-23.82	25.14	0.29
65	8042	0.60	137.70	185.00	8041.32	27.25	-24.50	25.95	0.20

**SURVEY REPORT**

Customer: **Oasis Petroleum**
 Well Name: **Chalmers 5300 21-19 10T**
 Rig #: **Nabors B-22**
 API #: **33-053-06022**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **McCommand / Maldonaldo**
 Directional Drillers: **RPM**
 Survey Corrected To: **True North**
 Vertical Section Direction: **93.13**
 Total Correction: **8.17**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
66	8135	0.70	151.90	186.00	8134.31	27.89	-25.36	26.54	0.20
67	8229	0.50	195.00	188.00	8228.31	28.10	-26.26	26.71	0.51
68	8322	0.50	189.50	190.00	8321.30	27.97	-27.06	26.54	0.05
69	8415	0.20	296.50	190.00	8414.30	27.78	-27.38	26.32	0.63
70	8509	0.30	352.60	194.00	8508.30	27.58	-27.07	26.14	0.27
71	8602	0.30	308.40	194.00	8601.30	27.34	-26.67	25.92	0.24
72	8696	0.50	122.70	194.00	8695.30	27.50	-26.74	26.07	0.85
73	8789	0.50	111.20	195.00	8788.29	28.23	-27.11	26.79	0.11
74	8882	0.80	128.40	197.00	8881.29	29.15	-27.66	27.68	0.38
75	8976	0.70	129.20	199.00	8975.28	30.15	-28.43	28.64	0.11
76	9069	0.80	133.00	201.00	9068.27	31.11	-29.23	29.56	0.12
77	9162	0.70	139.70	201.00	9161.26	32.00	-30.11	30.40	0.14
78	9256	0.70	156.40	204.00	9255.26	32.65	-31.07	31.00	0.22
79	9349	0.50	166.50	204.00	9348.25	33.02	-31.99	31.32	0.24
80	9442	0.70	169.30	206.00	9441.25	33.27	-32.94	31.52	0.22
81	9536	0.70	174.40	208.00	9535.24	33.50	-34.07	31.68	0.07
82	9629	0.60	189.80	210.00	9628.23	33.53	-35.12	31.66	0.22
83	9723	0.70	179.90	204.00	9722.23	33.50	-36.18	31.57	0.16
84	9816	0.40	53.70	210.00	9815.23	33.79	-36.55	31.84	1.06
85	9909	1.00	66.30	188.00	9908.22	34.76	-36.04	32.84	0.66
86	10002	0.80	67.40	192.00	10001.21	36.07	-35.46	34.18	0.22
87	10095	0.80	48.40	195.00	10094.20	37.12	-34.78	35.27	0.28
88	10189	0.70	48.20	194.00	10188.19	37.99	-33.96	36.19	0.11
89	10282	0.90	42.20	197.00	10281.18	38.85	-33.04	37.10	0.23
90	10320	0.80	57.90	197.00	10319.18	39.26	-32.68	37.53	0.66
91	10351	3.70	85.80	186.00	10350.15	40.42	-32.49	38.71	9.73
92	10382	8.00	92.10	185.00	10380.98	43.58	-32.50	41.86	14.00
93	10413	12.10	96.80	185.00	10411.50	48.98	-32.96	47.25	13.48
94	10444	16.40	106.00	186.00	10441.54	56.49	-34.55	54.69	15.64
95	10475	20.10	114.80	188.00	10470.98	65.71	-38.00	63.73	14.85
96	10506	22.80	121.50	190.00	10499.84	75.95	-43.37	73.69	11.75
97	10537	22.80	125.60	194.00	10528.42	86.30	-50.01	83.70	5.12
98	10568	23.80	125.90	194.00	10556.89	96.63	-57.17	93.65	3.25
99	10600	27.80	120.00	192.00	10585.70	108.72	-64.69	105.35	14.84
100	10631	32.00	114.10	194.00	10612.57	122.85	-71.66	119.12	16.53
101	10662	35.20	111.40	194.00	10638.39	139.01	-78.28	134.94	11.39
102	10693	36.40	112.20	194.00	10663.53	156.19	-85.02	151.77	4.15
103	10724	39.50	110.70	195.00	10687.98	174.29	-91.98	169.52	10.43
104	10755	44.40	110.30	195.00	10711.03	194.06	-99.23	188.92	15.83
105	10786	48.50	110.70	195.00	10732.38	215.50	-107.10	209.96	13.26
106	10818	53.40	109.20	197.00	10752.53	239.28	-115.56	233.32	15.74
107	10849	58.20	108.60	197.00	10769.95	263.95	-123.86	257.57	15.57
108	10880	62.80	109.90	197.00	10785.21	289.86	-132.76	283.03	15.28
109	10911	66.70	111.70	197.00	10798.44	316.56	-142.72	309.23	13.63
110	10942	72.20	112.90	197.00	10809.31	343.97	-153.74	336.08	18.11
111	10973	76.00	116.50	199.00	10817.81	371.68	-166.20	363.15	16.58
112	11004	79.40	117.10	199.00	10824.41	399.42	-179.86	390.18	11.13
113	11036	81.00	117.40	199.00	10829.86	428.20	-194.29	418.21	5.08
114	11067	86.50	118.60	201.00	10833.23	456.14	-208.76	445.41	18.15
115	11080	88.80	119.60	201.00	10833.76	467.82	-215.07	456.76	19.29
116	11080	88.80	119.60	201.00	10833.76	467.82	-215.07	456.76	0.00
117	11128	90.00	119.40	219.00	10834.27	510.82	-238.71	498.53	2.53
118	11159	90.80	120.60	215.00	10834.05	538.47	-254.21	525.38	4.65
119	11191	90.70	120.10	215.00	10833.63	566.93	-270.37	552.99	1.59
120	11222	90.10	119.10	213.00	10833.42	594.68	-285.69	579.94	3.76
121	11252	90.60	120.20	213.00	10833.23	621.52	-300.53	606.01	4.03
122	11283	89.60	118.20	212.00	10833.18	649.36	-315.65	633.07	7.21
123	11314	89.50	116.50	213.00	10833.42	677.63	-329.89	660.60	5.49
124	11346	88.60	114.30	213.00	10833.95	707.24	-343.61	689.50	7.43
125	11376	87.50	112.20	215.00	10834.97	735.39	-355.45	717.05	7.90
126	11407	87.80	110.30	217.00	10836.24	764.83	-366.67	745.92	6.20
127	11439	88.30	110.00	217.00	10837.33	795.41	-377.69	775.94	1.82
128	11470	89.40	108.40	217.00	10837.96	825.19	-387.88	805.21	6.26
129	11502	89.50	108.10	221.00	10838.26	856.08	-397.90	835.60	0.99
130	11533	89.80	107.20	221.00	10838.45	886.09	-407.30	865.14	3.06



SURVEY REPORT

Customer: **Oasis Petroleum**
 Well Name: **Chalmers 5300 21-19 10T**
 Rig #: **Nabors B-22**
 API #: **33-053-06022**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **McCommand / Maldonaldo**
 Directional Drillers: **RPM**
 Survey Corrected To: **True North**
 Vertical Section Direction: **93.13**
 Total Correction: **8.17**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
131	11565	90.10	105.20	221.00	10838.48	917.26	-416.23	895.87	6.32
132	11596	90.10	105.30	222.00	10838.43	947.57	-424.38	925.77	0.32
133	11627	89.90	104.30	221.00	10838.43	977.92	-432.30	955.75	3.29
134	11658	89.50	103.40	221.00	10838.59	1008.38	-439.72	985.84	3.18
135	11690	88.70	103.40	222.00	10839.09	1039.87	-447.14	1016.97	2.50
136	11720	88.50	103.10	222.00	10839.82	1069.39	-454.01	1046.16	1.20
137	11751	88.00	101.50	222.00	10840.77	1099.98	-460.61	1076.43	5.41
138	11783	88.50	101.70	224.00	10841.75	1131.61	-467.04	1107.77	1.68
139	11814	89.00	101.50	224.00	10842.42	1162.27	-473.28	1138.13	1.74
140	11844	89.60	99.70	222.00	10842.79	1192.01	-478.79	1167.61	6.32
141	11875	89.50	99.70	226.00	10843.03	1222.81	-484.02	1198.17	0.32
142	11906	89.60	99.00	226.00	10843.28	1253.62	-489.05	1228.75	2.28
143	11937	89.80	97.20	226.00	10843.44	1284.50	-493.42	1259.44	5.84
144	11968	90.90	96.90	228.00	10843.25	1315.43	-497.23	1290.21	3.68
145	12000	92.10	95.80	228.00	10842.41	1347.37	-500.76	1322.00	5.09
146	12032	93.30	94.00	228.00	10840.91	1379.32	-503.49	1353.84	6.76
147	12063	93.60	94.00	226.00	10839.04	1410.26	-505.65	1384.71	0.97
148	12095	93.20	93.60	228.00	10837.14	1442.20	-507.77	1416.59	1.77
149	12126	91.80	93.70	228.00	10835.79	1473.17	-509.74	1447.49	4.53
150	12158	91.10	92.90	230.00	10834.98	1505.15	-511.58	1479.43	3.32
151	12189	88.90	94.00	230.00	10834.98	1536.15	-513.45	1510.37	7.93
152	12221	88.60	94.40	230.00	10835.68	1568.14	-515.79	1542.28	1.56
153	12253	87.70	95.30	231.00	10836.71	1600.11	-518.49	1574.14	3.98
154	12284	87.60	95.40	231.00	10837.98	1631.06	-521.38	1604.98	0.46
155	12316	87.60	94.70	231.00	10839.32	1663.01	-524.20	1636.83	2.19
156	12347	87.30	93.10	233.00	10840.70	1693.98	-526.30	1667.73	5.25
157	12379	87.00	93.30	235.00	10842.29	1725.94	-528.09	1699.64	1.13
158	12410	87.20	92.50	233.00	10843.86	1756.90	-529.65	1730.56	2.66
159	12442	88.00	91.50	235.00	10845.20	1788.86	-530.77	1762.51	4.00
160	12505	88.00	91.90	235.00	10847.40	1851.80	-532.64	1825.44	0.63
161	12600	89.70	92.20	239.00	10849.31	1946.76	-536.03	1920.36	1.82
162	12695	89.60	91.50	240.00	10849.89	2041.74	-539.10	2015.31	0.74
163	12790	88.30	91.90	240.00	10851.63	2136.69	-541.92	2110.25	1.43
164	12884	89.10	91.60	242.00	10853.76	2230.64	-544.79	2204.18	0.91
165	12979	92.20	91.10	242.00	10852.68	2325.57	-547.03	2299.14	3.31
166	13074	90.20	90.30	244.00	10850.69	2420.46	-548.19	2394.10	2.27
167	13169	90.70	90.90	246.00	10849.95	2515.37	-549.18	2489.09	0.82
168	13263	89.40	90.50	246.00	10849.87	2609.28	-550.33	2583.08	1.45
169	13358	88.00	90.80	248.00	10852.02	2704.16	-551.41	2678.05	1.51
170	13453	89.50	90.00	248.00	10854.09	2799.03	-552.07	2773.02	1.79
171	13548	91.80	90.00	249.00	10853.02	2893.88	-552.07	2868.01	2.42
172	13642	88.30	88.90	248.00	10852.93	2987.67	-551.17	2961.99	3.90
173	13737	91.00	90.00	249.00	10853.51	3082.46	-550.26	3056.97	3.07
174	13832	88.80	90.30	249.00	10853.68	3177.32	-550.51	3151.97	2.34
175	13927	87.90	89.60	251.00	10856.41	3272.14	-550.42	3246.93	1.20
176	14021	89.60	90.60	251.00	10858.47	3365.98	-550.59	3340.90	2.10
177	14116	89.80	90.40	253.00	10858.96	3460.88	-551.42	3435.89	0.30
178	14211	90.40	90.70	255.00	10858.80	3555.78	-552.33	3530.89	0.71
179	14274	90.40	91.20	251.00	10858.36	3618.73	-553.37	3593.88	0.79
180	14306	88.50	91.20	251.00	10858.66	3650.71	-554.04	3625.87	5.94
181	14400	86.90	90.30	253.00	10862.44	3744.55	-555.27	3719.78	1.95
182	14495	88.40	89.10	248.00	10866.33	3839.30	-554.77	3814.69	2.02
183	14590	89.70	88.90	249.00	10867.91	3934.03	-553.12	3909.67	1.38
184	14685	89.60	88.50	251.00	10868.49	4028.75	-550.96	4004.64	0.43
185	14780	90.20	88.60	251.00	10868.65	4123.44	-548.56	4099.61	0.64
186	14874	90.50	88.80	253.00	10868.08	4217.16	-546.43	4193.58	0.38
187	14969	90.50	88.90	251.00	10867.25	4311.89	-544.52	4288.56	0.11
188	15064	89.40	89.60	253.00	10867.33	4406.67	-543.28	4383.55	1.37
189	15159	87.60	89.50	255.00	10869.82	4501.45	-542.53	4478.51	1.90
190	15253	88.80	89.40	253.00	10872.77	4595.21	-541.63	4572.46	1.28
191	15348	89.10	91.50	255.00	10874.51	4690.08	-542.37	4667.43	2.23
192	15443	89.60	90.30	255.00	10875.59	4785.00	-543.87	4762.41	1.37
193	15538	90.70	91.20	257.00	10875.34	4879.92	-545.11	4857.40	1.50
194	15632	90.80	90.80	257.00	10874.11	4973.85	-546.75	4951.38	0.44
195	15727	90.80	91.60	258.00	10872.79	5068.78	-548.74	5046.35	0.84

**SURVEY REPORT**

Customer: **Oasis Petroleum**
 Well Name: **Chalmers 5300 21-19 10T**
 Rig #: **Nabors B-22**
 API #: **33-053-06022**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **McCommand / Maldonaldo**
 Directional Drillers: **RPM**
 Survey Corrected To: **True North**
 Vertical Section Direction: **93.13**
 Total Correction: **8.17**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
196	15822	87.60	91.60	258.00	10874.11	5163.73	-551.39	5141.29	3.37
197	15885	88.70	91.70	257.00	10876.15	5226.67	-553.20	5204.23	1.75
198	15917	90.40	90.90	258.00	10876.40	5258.65	-553.93	5236.22	5.87
199	16012	89.40	91.70	260.00	10876.56	5353.60	-556.08	5331.19	1.35
200	16107	89.10	91.40	260.00	10877.81	5448.56	-558.65	5426.15	0.45
201	16201	89.20	89.30	260.00	10879.20	5542.43	-559.23	5520.13	2.24
202	16296	90.60	88.80	260.00	10879.37	5637.19	-557.65	5615.12	1.56
203	16391	90.40	88.20	260.00	10878.54	5731.87	-555.17	5710.08	0.67
204	16486	89.50	88.00	262.00	10878.62	5826.51	-552.02	5805.03	0.97
205	16580	89.50	87.60	262.00	10879.44	5920.10	-548.41	5898.95	0.43
206	16675	91.40	87.80	260.00	10878.69	6014.66	-544.60	5993.87	2.01
207	16770	90.90	90.10	260.00	10876.79	6109.39	-542.86	6088.83	2.48
208	16801	91.10	90.20	260.00	10876.25	6140.34	-542.94	6119.82	0.72
209	16865	90.80	90.90	260.00	10875.19	6204.26	-543.55	6183.81	1.19
210	16896	89.50	91.70	262.00	10875.10	6235.25	-544.25	6214.80	4.92
211	16959	89.50	90.20	262.00	10875.65	6298.20	-545.30	6277.79	2.38
212	17057	89.50	92.00	257.00	10876.51	6396.13	-547.18	6375.76	1.84
213	17152	90.90	91.60	257.00	10876.18	6491.10	-550.16	6470.71	1.53
214	17246	91.80	89.30	257.00	10873.96	6584.96	-550.90	6564.68	2.63
215	17341	91.40	89.10	257.00	10871.31	6679.70	-549.58	6659.63	0.47
216	17436	89.50	89.10	258.00	10870.56	6774.46	-548.08	6754.61	2.00
217	17531	90.20	89.40	257.00	10870.81	6869.24	-546.84	6849.60	0.80
218	17562	88.50	88.90	258.00	10871.16	6900.16	-546.38	6880.60	5.72
219	17626	88.00	89.30	258.00	10873.12	6963.98	-545.38	6944.56	1.00
220	17720	88.20	88.40	257.00	10876.24	7057.66	-543.49	7038.49	0.98
221	17815	88.90	89.10	257.00	10878.64	7152.35	-541.42	7133.43	1.04
222	17910	89.40	90.30	230.00	10880.05	7247.17	-540.92	7228.42	1.37
223	18005	89.20	89.60	260.00	10881.21	7342.02	-540.84	7323.41	0.77
224	18099	92.30	92.50	260.00	10879.98	7435.92	-542.56	7417.36	4.52
225	18194	92.20	91.80	260.00	10876.25	7530.84	-546.12	7512.22	0.74
226	18289	89.90	90.90	258.00	10874.51	7625.77	-548.36	7607.17	2.60
227	18384	89.40	90.20	260.00	10875.09	7720.67	-549.27	7702.17	0.91
228	18478	89.20	90.30	260.00	10876.24	7814.54	-549.68	7796.16	0.24
229	18573	89.30	90.30	262.00	10877.48	7909.42	-550.18	7891.15	0.11
230	18668	89.50	89.20	262.00	10878.48	8004.25	-549.76	7986.14	1.18
231	18763	90.30	88.50	264.00	10878.64	8098.98	-547.86	8081.12	1.12
232	18858	88.20	89.30	262.00	10879.89	8193.71	-546.03	8176.09	2.37
233	18952	89.00	89.60	262.00	10882.18	8287.48	-545.13	8270.06	0.91
234	19047	89.50	90.60	262.00	10883.43	8382.34	-545.30	8365.05	1.18
235	19142	89.20	89.90	260.00	10884.50	8477.21	-545.71	8460.04	0.80
236	19237	88.50	89.70	260.00	10886.41	8572.03	-545.38	8555.02	0.77
237	19332	88.00	89.70	262.00	10889.31	8666.82	-544.88	8649.97	0.53
238	19363	88.60	90.20	262.00	10890.23	8697.76	-544.86	8680.96	2.52
239	19426	88.80	90.20	262.00	10891.66	8760.66	-545.08	8743.94	0.32
240	19521	89.30	90.70	262.00	10893.23	8855.54	-545.82	8838.93	0.74
241	19616	90.00	91.30	262.00	10893.82	8950.47	-547.48	8933.91	0.97
242	19711	90.60	90.60	262.00	10893.32	9045.40	-549.06	9028.89	0.97
243	19806	90.20	89.00	262.00	10892.65	9140.24	-548.72	9123.89	1.74
244	19900	90.40	89.30	262.00	10892.16	9234.01	-547.33	9217.87	0.38
245	19995	89.70	88.70	262.00	10892.08	9328.76	-545.67	9312.86	0.97
246	20090	90.90	89.60	260.00	10891.58	9423.53	-544.26	9407.84	1.58
247	20184	90.60	89.90	262.00	10890.35	9517.36	-543.85	9501.84	0.45
248	20279	91.10	90.80	262.00	10888.94	9612.23	-544.43	9596.82	1.08
249	20374	90.20	90.30	260.00	10887.86	9707.13	-545.34	9691.81	1.08
250	20469	90.70	90.10	262.00	10887.12	9802.00	-545.68	9786.81	0.57
251	20498	90.60	89.90	262.00	10886.79	9830.96	-545.68	9815.80	0.77
Projection	20562	90.60	89.90	262.00	10886.12	9894.85	-545.56	9879.80	0.00



SUNDY 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
SFSN 5749 (08-2006)



Well File No.
28637

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date December 31, 2014	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		<input checked="" 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	Name and Formation Change

Well Name and Number Chalmers 5300 21-19 10B				
Footages	Qtr-Qtr	Section	Township	Range
2292 F N L	326 F W L	LOT2	19	153 N 100 W
Field	Pool	County McKenzie		
	Bakken			

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 respectfully requests to make the following changes to the above referenced well:

Name Change: Chalmers 5300 21-19 10T

Formation Change: Three Forks

Surface Hole Location Change: 2292' FNL & 327' FWL (old SHL 2292' FNL & 326' FWL)

Surface casing changed to 2121' from 2126'

Casing Depth Change: 2561 FNL & 778 FWL; MD 11086 TVD 10817

Bottom Hole Depth Change: 2336 FSL & 250 FEL; MD 20631 TVD 10884

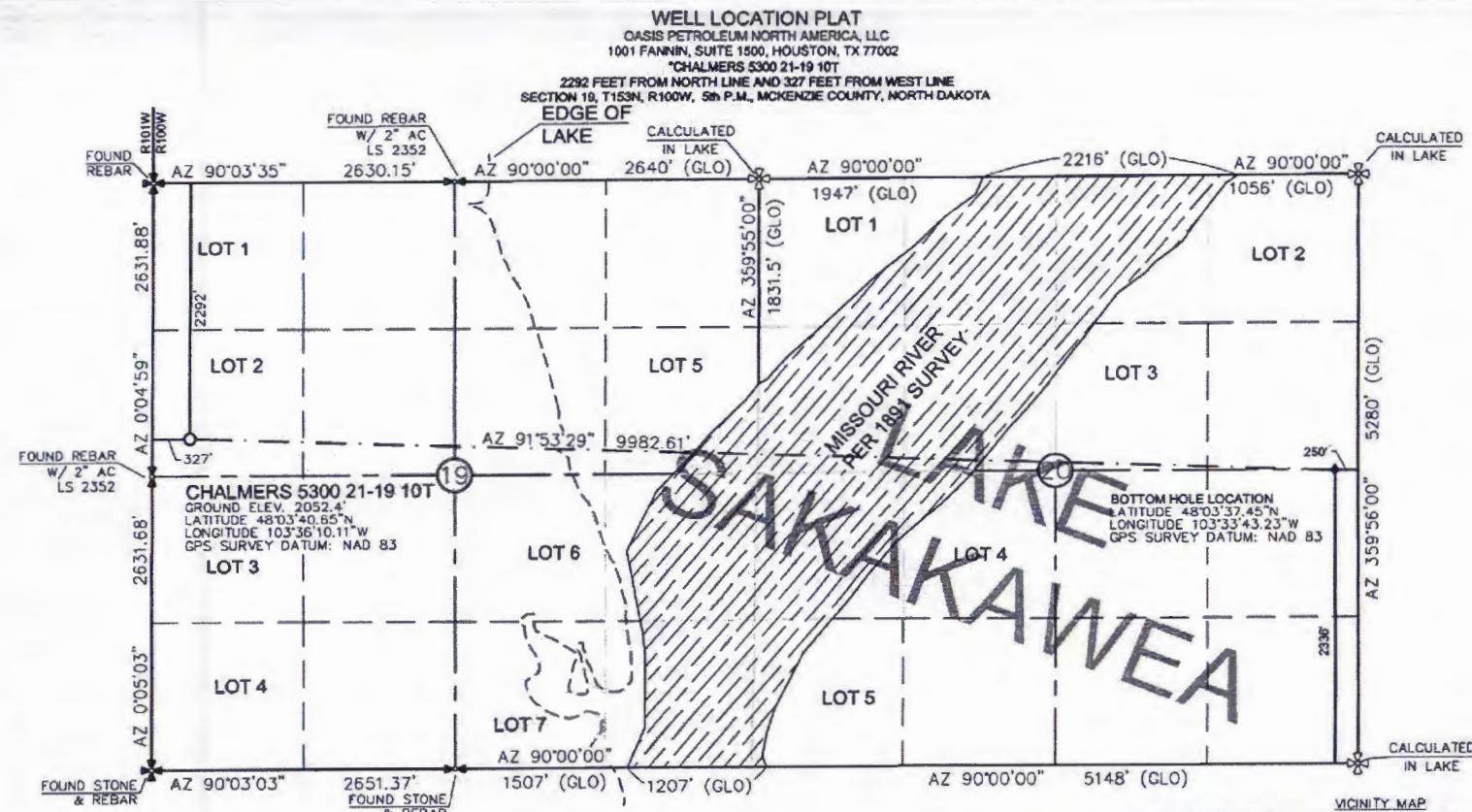
CC 25.00 1-5-15 KB

Attached are revised drill plan, well summary, directional plan and plot

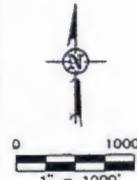
CC 25.00

Company Oasis Petroleum North America LLC		Telephone Number 281-404-9591
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Chelsea Covington</i>	Printed Name Chelsea Covington	
Title Regulatory Assistant	Date December 31, 2014	
Email Address ccovington@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 1-02-2014	
By <i>David Burns</i>	
Title David Burns Engineering Tech.	

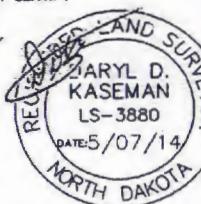


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- MONUMENT — RECOVERED
- MONUMENT — NOT RECOVERED

DARYL D. KASEMAN LS-3880



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Project No.: J054-2014-05	Date: 05/07/14
OASIS PETROLEUM NORTH AMERICA, LLC	
WELL LOCATION PLAT	
SECTION 19, T153N, R100W, 5th P.M.	
MCKENZIE COUNTY, NORTH DAKOTA	
Driver By: B. SAWYER	Chkd By: J. BROWN
Interstate Engineering, Inc. 425 East Main Street Bismarck, Montana 59270 Ph: (406) 437-5617 Fax: (406) 437-5618 www.interstateengineering.com One office to serve you from Denver to Bismarck	

DRILLING PLAN															
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND										
WELL NAME	Chalmers 5300 21-19 10T			RIG	B 22										
WELL TYPE	Horizontal Three Forks			Surface Location (survey plat):	2292' FNL										
LOCATION	SW NW 19-153N-100W			327' FWL											
EST. T.D.	20,631'			GROUND ELEV:	2,046'	Sub Height: 25'									
TOTAL LATERAL:	9,545'			KB ELEV:	2,071'										
MARKER	TVD	Subsea TVD	LOGS:	Type	Interval										
Pierre	NDIC MAP	2,021	50	OH Log: Request a Sondry for an Open Hole Log Waiver: Oasis Chalmers 5300 31-19H 1,850' to 8 sec 19 153N 100W											
Greenhorn		4,624	-2553	CBL/GR: Above top of cement/GR to base of casing											
Mowry		5,029	-2958	MWD GR: KOP to lateral TD											
Dakota		5,417	-3346												
Rierdon		6,463	-4392	DEVIATION: Surf: 3 deg. max., 1 deg / 100'; sny every 500'											
Dunham Salt		6,891	-4820	Prod: 5 deg. max., 1 deg / 100'; sny every 100'											
Dunham Salt Base		6,980	-4889												
Pine Salt		7,257	-5186												
Pine Salt Base		7,290	-5219												
Opeche Salt		7,351	-5280												
Opeche Salt Base		7,426	-5355												
Amsden		7,862	-5591												
Tyler		7,828	-5757												
Otter/Base Minnelusa		8,032	-5961	DST'S: None planned											
Kibbey Lime		8,383	-6312												
Charles Salt		8,529	-6458	CORES: None planned											
Base Last Salt		9,204	-7133												
Mission Canyon		9,424	-7353												
Lodgepole		9,988	-7917												
False Bakken		10,709	-8538	MUDLOGGING: Two-Man: Begin 200' above Kibbey											
Upper Bakken Shale		10,719	-8648	30' samples in curve and lateral											
Middle Bakken		10,735	-8684												
Lower Bakken Shale		10,777	-8706												
Pronghorn		10,785	-8714												
Three Forks		10,805	-8734												
Top of Target		10,822	-8751												
Landing Target		10,828	-8757												
Claystone		10,832	-8761	BOP: 11" 5000 psi blind, pipe & annular											
Est. Dip Rate:	-0.35														
Max. Anticipated BHP:	4073			Surface Formation: Glacial till											
MUD:	Interval	Type	WT	VIS	WL	Remarks									
Surface:	0' -	2,121'	FW	8.4-9.0	28-32	NC	Circ Mud Tanks								
Intermediate:	2,121' -	11,086'	Invert	9.5-10.4	40-50	30+HHP	Circ Mud Tanks								
Laterall:	11,086' -	20,631'	Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks								
CASING:	Size	WT ppf	Hole	Depth	Cement	WOC	Remarks								
Surface:	13-3/8"	54.5#	17-1/2"	2,121'	To Surface	12	100' into Pierre								
Intermediate: (Dakota)	9-5/8"	40#	12-1/4"	6,463'	To Surface	24	Set Casing across Dakota								
Intermediate:	7"	29/32#	8-3/4"	11,088'	3017	24	1500' above Dakota								
Production Liner:	4.5"	11.6#	6"	20,631'	TOL @ 10,290'		50' above KOP								
PROBABLE PLUGS, IF REQ'D:															
OTHER:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI	Build Rate: 12 Deg/100'								
	Surface: 2,121	2,121	2292 FNL	327 FWL	SEC. 19 T153N R100W										
	KOP: 10,340'	10,340'	2327 FNL	385 FVL	SEC. 19 T153N R100W										
	EOC: 11,086'	10,817'	2561 FNL	778 FVL	SEC. 19 T153N R100W	119.8									
	Casing Point: 11,086'	10,817'	2561 FNL	778 FVL	SEC. 19 T153N R100W	119.8									
	Middle Bakken Lateral TD: 20,631'	10,884'	2338 FSL	230 FEL	SEC. 20 T153N R100W	90.0									
Comments:															
Request a Sondry for an Open Hole Log Waiver: Oasis Chalmers 5300 31-19H 1,850' to 8 sec 19 153N 100W															
No free 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)															
OASIS PETROLEUM															
Geology: N. Gabelman	2/4/2014			Engineering: TR 12/29/14											
Revised Geo: N. Gabelman	12/31/2014			Revised: TR 12/31/14											

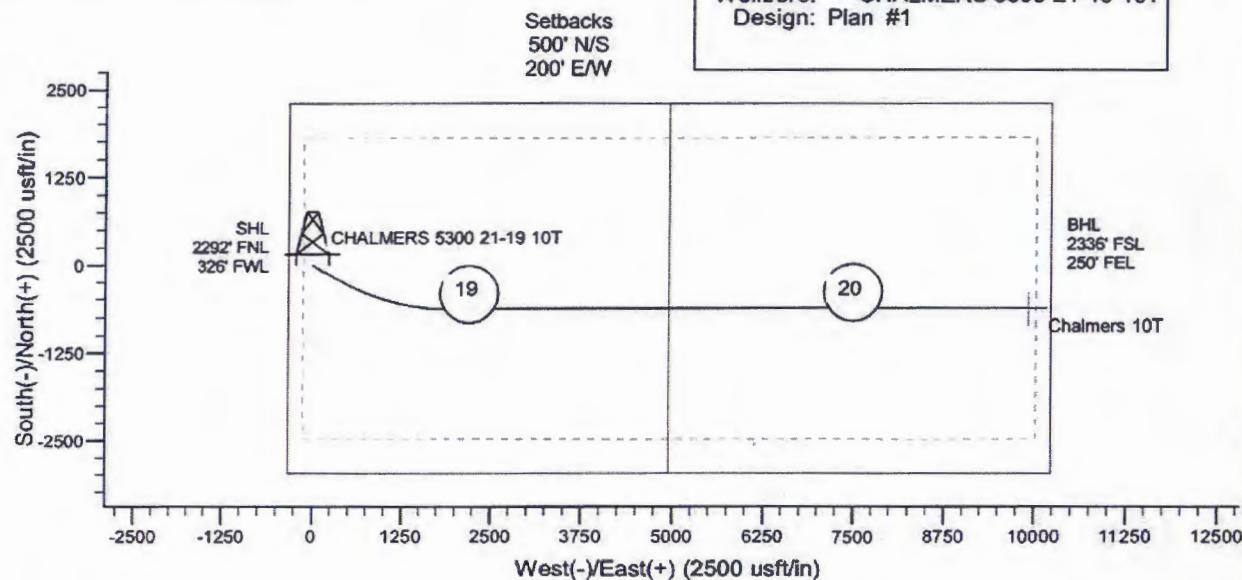


Azimuths to True North
Magnetic North: 8.31°

Magnetic Field Strength: 56462.1nT
Dip Angle: 73.00°
Date: 2/17/2014
Model: IGRF2010



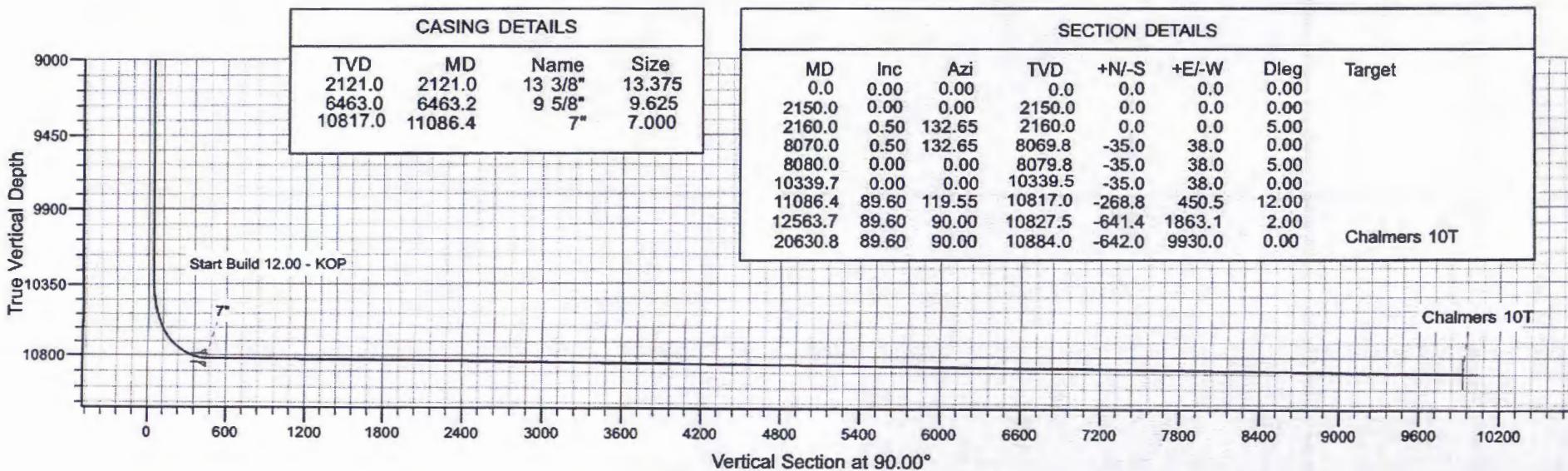
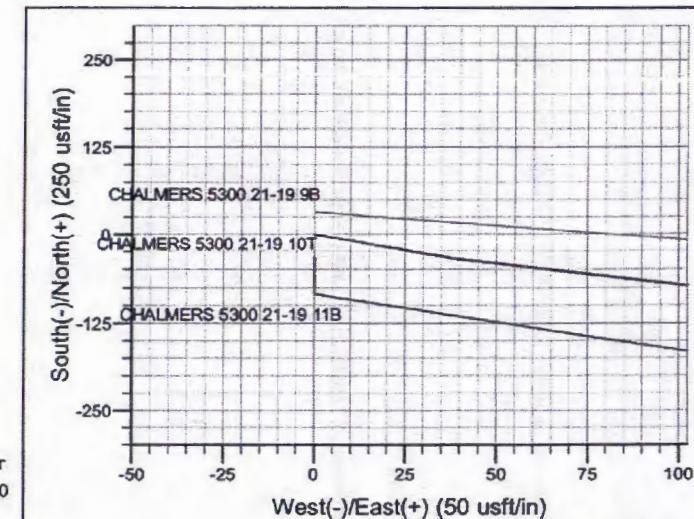
Project: Indian Hills
Site: 153N-100W-19/20
Well: CHALMERS 5300 21-19 10T
Wellbore: CHALMERS 5300 21-19 10T
Design: Plan #1



SITE DETAILS: 153N-100W-19/20

Well Centre Latitude: 48° 3' 40.650 N
Longitude: 103° 36' 10.110 W

Positional Uncertainty: 0.0
Convergence: -2.31
Local North: True



**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10T
Section 19 T153N R100W
McKenzie County, ND**

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' - 2121'	54.5	J-55	STC	12.615"	12.459"	4100	5470	6840

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - 2121'	13-3/8", 54.5#, J-55, LTC, 8rd	1130 / 1.13	2730 / 1.90	514 / 2.57

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 9 ppg fluid on backside (2121' setting depth).
- b) Burst pressure based on 13 ppg fluid with no fluid on backside (2121' setting depth).
- c) Based on string weight in 9 ppg fluid at 2121' TVD plus 100k# overpull. (Buoyed weight equals 100k lbs.)

Cement volumes are based on 13-3/8" casing set in 17-1/2" 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: 714 sks (369 bbls), 11.5 lb/gal, 2.97 cu. Ft./sk Varicem Cement with 0.125 l/sk Lost Circulation Additive

Tail Slurry: 300 sks (62 bbls), 13.0 lb/gal, 2.01 cu.ft./sk Varicem with .125 lb/sk Lost Circulation Agent

**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10T
Section 19 T153N R100W
McKenzie County, ND**

Contingency INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' - 6463'	36	HCL-80	LTC	8.835"	8.75"	5450	7270	9090

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - 6463'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.14	3520 / 1.28	453 / 1.53

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 10.4 ppg fluid on backside (6463' setting depth).
- b) Burst pressure calculated from a gas kick coming from the production zone (Bakken Pool) at 9,000psi and a subsequent breakdown at the 9-5/8" shoe, based on a 15.2#/ft fracture gradient. Backup of 9 ppg fluid..
- c) Tension based on string weight in 10.4 ppg fluid at 6463' TVD plus 100k# overpull. (Buoyed weight equals 196k lbs.)

Cement volumes are based on 9-5/8" casing set in 12-1/4 " hole with 10% excess to circulate cement back to surface.

Pre-flush (Spacer): 20 bbls Chem wash

Lead Slurry: 565 sks (292 bbls), 2.90 ft³/sk, 11.5 lb/gal Conventional system with 94 lb/sk cement, 4% D079 extender, 2% D053 expanding agent, 2% CaCl₂ and 0.250 lb/sk D130 lost circulation control agent.

Tail Slurry: 624 sks (129 bbls), 1.16 ft³/sk 15.8 lb/gal Conventional system with 94 lb/sk cement, 0.25% CaCl₂, and 0.250 lb/sk lost circulation control agent

**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10T
Section 19 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' - 11086'	32	HCP-110	LTC	6.094"	6.000***	6730	8970	9870

**Special Drift 7"32# to 6.0"

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) / c
0' - 8458'	8458'	7", 32#, P-110, LTC, 8rd	11820 / 2.10*	12460 / 1.28	897 / 2.23
5431' - 6683'	1252'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.47**	12460 / 1.32	

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 10817' TVD.
- c) Based on string weight in 10 ppg fluid, (301k lbs buoyed weight) plus 100k lbs overpull.

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

Mix and pump the following slurry

Pre-flush (Spacer): **100 bbls** Saltwater
20 bbls Tuned Spacer III

Lead Slurry: **187 sks** (86 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive

Tail Slurry: **574 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
Chalmers 5300 21-19 10T
Section 19 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10290' - 20631'	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
10290' - 20631'	10341	4-1/2", 13.5 lb, P-110, BTC	10670 / 1.98	12410 / 1.28	443 / 2.01

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10884' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10884' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 119k lbs.) plus 100k lbs overpull.

Oasis

Indian Hills

153N-100W-19/20

CHALMERS 5300 21-19 10T

T153N R100W SECTION 19

CHALMERS 5300 21-19 10T

Plan: Plan #1

Standard Planning Report

29 December, 2014

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T							
Company:	Oasis	TVD Reference:	WELL @ 2071.0usft (Original Well Elev)							
Project:	Indian Hills	MD Reference:	WELL @ 2071.0usft (Original Well Elev)							
Site:	153N-100W-19/20	North Reference:	True							
Well:	CHALMERS 5300 21-19 10T	Survey Calculation Methods:	Minimum Curvature							
Wellbore:	CHALMERS 5300 21-19 10T									
Design:	Plan #1									
Project	Indian Hills									
Map System:	US State Plane 1983	System Datum:	Mean Sea Level							
Geo Datum:	North American Datum 1983									
Map Zone:	North Dakota Northern Zone									
Site	153N-100W-19/20									
Site Position:		Northing:	402,776.24 usft							
From:	Lat/Long	Easting:	1,209,956.00 usft							
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in							
			Latitude:							
			48° 3' 44.270 N							
			Longitude:							
			103° 36' 10.700 W							
			Grid Convergence:							
			-2.31 °							
Well	CHALMERS 5300 21-19 10T									
Well Position	+N-S +E-W	Northing: Easting:	402,408.11 usft 1,209,983.26 usft							
Position Uncertainty	2.0 usft	Wellhead Elevation:	Latitude: Longitude: Ground Level:	48° 3' 40.650 N 103° 36' 10.110 W 2,046.0 usft						
Wellbore	CHALMERS 5300 21-19 10T									
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)					
	IGRF2010	2/17/2014	8.31	73.00	56,462					
Design	Plan #1									
Audit Notes:										
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0					
Vertical Section:		Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)					
		0.0	0.0	0.0	90.00					
Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	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
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,160.0	0.50	132.65	2,160.0	0.0	0.0	5.00	5.00	0.00	0.00	132.65
6,070.0	0.50	132.65	8,069.8	-35.0	38.0	0.00	0.00	0.00	0.00	0.00
8,080.0	0.00	0.00	8,079.8	-35.0	38.0	5.00	-5.00	0.00	0.00	180.00
10,339.7	0.00	0.00	10,339.5	-35.0	38.0	0.00	0.00	0.00	0.00	0.00
11,086.4	89.60	119.55	10,817.0	-288.8	450.5	12.00	12.00	0.00	0.00	119.55
12,583.7	89.60	90.00	10,827.5	-641.4	1,863.1	2.00	0.00	-2.00	-90.11	
20,630.8	89.60	90.00	10,884.0	-842.0	9,930.0	0.00	0.00	0.00	0.00	Chalmers 10T

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T						
Company:	Oasis	TVD Reference:	WELL @ 2071.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2071.0usft (Original Well Elev)						
Site:	153N-100W-19/20	North Reference:	True						
Well:	CHALMERS 5300 21-19 10T	Survey Calculation Method:	Minimum Curvature						
Wellbore:	CHALMERS 5300 21-19 10T								
Design:	Plan #1								
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 5.00									
2,160.0	0.50	132.65	2,160.0	0.0	0.0	0.0	5.00	5.00	0.00
Start 5682.9 hold at 2160.0 MD									
2,200.0	0.50	132.65	2,200.0	-0.3	0.3	0.3	0.00	0.00	0.00
2,300.0	0.50	132.65	2,300.0	-0.9	0.9	0.9	0.00	0.00	0.00
2,400.0	0.50	132.65	2,400.0	-1.4	1.6	1.6	0.00	0.00	0.00
2,500.0	0.50	132.65	2,500.0	-2.0	2.2	2.2	0.00	0.00	0.00
2,600.0	0.50	132.65	2,600.0	-2.6	2.9	2.9	0.00	0.00	0.00
2,700.0	0.50	132.65	2,700.0	-3.2	3.5	3.5	0.00	0.00	0.00
2,800.0	0.50	132.65	2,800.0	-3.8	4.1	4.1	0.00	0.00	0.00
2,900.0	0.50	132.65	2,900.0	-4.4	4.8	4.8	0.00	0.00	0.00
3,000.0	0.50	132.65	3,000.0	-5.0	5.4	5.4	0.00	0.00	0.00
3,100.0	0.50	132.65	3,100.0	-5.6	6.1	6.1	0.00	0.00	0.00
3,200.0	0.50	132.65	3,200.0	-6.2	6.7	6.7	0.00	0.00	0.00
3,300.0	0.50	132.65	3,300.0	-6.8	7.3	7.3	0.00	0.00	0.00
3,400.0	0.50	132.65	3,400.0	-7.4	8.0	8.0	0.00	0.00	0.00
3,500.0	0.50	132.65	3,499.9	-8.0	8.6	8.6	0.00	0.00	0.00
3,800.0	0.50	132.65	3,599.9	-8.5	9.3	9.3	0.00	0.00	0.00
3,700.0	0.50	132.65	3,699.9	-9.1	9.9	9.9	0.00	0.00	0.00
3,800.0	0.50	132.65	3,799.9	-9.7	10.6	10.6	0.00	0.00	0.00
3,900.0	0.50	132.65	3,899.9	-10.3	11.2	11.2	0.00	0.00	0.00
4,000.0	0.50	132.65	3,999.9	-10.9	11.8	11.8	0.00	0.00	0.00
4,100.0	0.50	132.65	4,099.9	-11.5	12.5	12.5	0.00	0.00	0.00
4,200.0	0.50	132.65	4,199.9	-12.1	13.1	13.1	0.00	0.00	0.00
4,300.0	0.50	132.65	4,299.9	-12.7	13.8	13.8	0.00	0.00	0.00
4,400.0	0.50	132.65	4,399.9	-13.3	14.4	14.4	0.00	0.00	0.00
4,500.0	0.50	132.65	4,499.9	-13.9	15.1	15.1	0.00	0.00	0.00
4,600.0	0.50	132.65	4,599.9	-14.5	15.7	15.7	0.00	0.00	0.00
4,700.0	0.50	132.65	4,699.9	-15.0	16.3	16.3	0.00	0.00	0.00
4,800.0	0.50	132.65	4,799.9	-15.6	17.0	17.0	0.00	0.00	0.00
4,900.0	0.50	132.65	4,899.9	-18.2	17.6	17.6	0.00	0.00	0.00
5,000.0	0.50	132.65	4,999.9	-18.8	18.3	18.3	0.00	0.00	0.00
5,100.0	0.50	132.65	5,099.9	-17.4	18.9	18.9	0.00	0.00	0.00
5,200.0	0.50	132.65	5,199.9	-18.0	19.5	19.5	0.00	0.00	0.00
5,300.0	0.50	132.65	5,299.9	-18.6	20.2	20.2	0.00	0.00	0.00
5,400.0	0.50	132.65	5,399.9	-19.2	20.8	20.8	0.00	0.00	0.00
5,500.0	0.50	132.65	5,499.9	-19.8	21.5	21.5	0.00	0.00	0.00
5,600.0	0.50	132.65	5,599.9	-20.4	22.1	22.1	0.00	0.00	0.00
5,700.0	0.50	132.65	5,699.9	-21.0	22.8	22.8	0.00	0.00	0.00
5,800.0	0.50	132.65	5,799.9	-21.5	23.4	23.4	0.00	0.00	0.00
5,900.0	0.50	132.65	5,899.9	-22.1	24.0	24.0	0.00	0.00	0.00
6,000.0	0.50	132.65	5,999.9	-22.7	24.7	24.7	0.00	0.00	0.00
6,100.0	0.50	132.65	6,099.8	-23.3	25.3	25.3	0.00	0.00	0.00
6,200.0	0.50	132.65	6,199.8	-23.9	26.0	26.0	0.00	0.00	0.00
6,300.0	0.50	132.65	6,299.8	-24.5	26.6	26.6	0.00	0.00	0.00
6,400.0	0.50	132.65	6,399.8	-25.1	27.2	27.2	0.00	0.00	0.00
6,483.2	0.50	132.65	6,483.0	-25.5	27.7	27.7	0.00	0.00	0.00
9 5/8"									
6,500.0	0.50	132.65	6,499.8	-25.7	27.9	27.9	0.00	0.00	0.00
6,600.0	0.50	132.65	6,599.8	-26.3	28.5	28.5	0.00	0.00	0.00
6,700.0	0.50	132.65	6,699.8	-26.9	29.2	29.2	0.00	0.00	0.00
6,800.0	0.50	132.65	6,799.8	-27.5	29.8	29.8	0.00	0.00	0.00
6,900.0	0.50	132.65	6,899.8	-28.1	30.5	30.5	0.00	0.00	0.00
7,000.0	0.50	132.65	6,999.8	-28.6	31.1	31.1	0.00	0.00	0.00

Planning Report

Database:	OpenWellsCompass - EDM Prod			Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T				
Company:	Oasis			TVD Reference:	WELL @ 2071.0usft (Original Well Elev)				
Project:	Indian Hills			MD Reference:	WELL @ 2071.0usft (Original Well Elev)				
Site:	153N-100W-19/20			North Reference:	True				
Well:	CHALMERS 5300 21-19 10T			Survey Calculation Method:	Minimum Curvature				
Wellbore:	CHALMERS 5300 21-19 10T			Design:	Plan #1				
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,100.0	0.50	132.65	7,099.8	-29.2	31.7	31.7	0.00	0.00	0.00
7,200.0	0.50	132.65	7,199.8	-29.8	32.4	32.4	0.00	0.00	0.00
7,300.0	0.50	132.65	7,299.8	-30.4	33.0	33.0	0.00	0.00	0.00
7,400.0	0.50	132.65	7,399.8	-31.0	33.7	33.7	0.00	0.00	0.00
7,500.0	0.50	132.65	7,499.8	-31.6	34.3	34.3	0.00	0.00	0.00
7,600.0	0.50	132.65	7,599.8	-32.2	35.0	35.0	0.00	0.00	0.00
7,700.0	0.50	132.65	7,699.8	-32.8	35.6	35.6	0.00	0.00	0.00
7,800.0	0.50	132.65	7,799.8	-33.4	36.2	36.2	0.00	0.00	0.00
7,842.8	0.50	132.65	7,842.6	-33.6	36.5	36.5	0.00	0.00	0.00
Start Drop -5.00									
7,852.8	0.50	132.65	7,852.6	-33.7	36.6	36.6	0.00	0.00	0.00
Start 2486.9 hold at 7862.8 MD									
7,900.0	0.50	132.65	7,899.8	-34.0	36.9	36.9	0.00	0.00	0.00
8,000.0	0.50	132.65	7,999.8	-34.6	37.5	37.5	0.00	0.00	0.00
8,070.0	0.50	132.65	8,069.8	-35.0	38.0	38.0	0.00	0.00	0.00
8,080.0	0.00	0.00	8,079.8	-35.0	38.0	38.0	5.00	-5.00	0.00
10,339.7	0.00	0.00	10,339.5	-35.0	38.0	38.0	0.00	0.00	0.00
Start Build 12.00 - KOP									
10,400.0	7.23	119.55	10,399.6	-36.9	41.3	41.3	12.00	12.00	0.00
10,500.0	19.23	119.55	10,496.8	-48.1	61.2	61.2	12.00	12.00	0.00
10,600.0	31.23	119.55	10,587.1	-69.1	98.2	98.2	12.00	12.00	0.00
10,700.0	43.23	119.55	10,666.5	-98.9	150.7	150.7	12.00	12.00	0.00
10,800.0	55.23	119.55	10,731.7	-136.2	216.5	216.5	12.00	12.00	0.00
10,900.0	67.23	119.55	10,779.8	-179.3	292.8	292.8	12.00	12.00	0.00
11,000.0	79.23	119.65	10,808.6	-226.5	375.8	375.8	12.00	12.00	0.00
11,086.4	89.60	119.55	10,817.0	-268.8	450.5	450.5	12.00	12.00	0.00
Start DLS 2.00 TFO -90.10 - EOC -7°									
11,100.0	89.60	119.28	10,817.0	-275.5	462.3	462.3	2.00	0.00	-2.00
11,200.0	89.60	117.28	10,817.7	-322.9	550.4	550.4	2.00	0.00	-2.00
11,300.0	89.59	115.28	10,818.5	-367.2	640.0	640.0	2.00	0.00	-2.00
11,400.0	89.59	113.28	10,819.2	-408.3	731.2	731.2	2.00	0.00	-2.00
11,500.0	89.59	111.28	10,819.9	-446.2	823.7	823.7	2.00	0.00	-2.00
11,600.0	89.59	109.28	10,820.6	-480.8	917.5	917.5	2.00	0.00	-2.00
11,700.0	89.59	107.28	10,821.3	-512.2	1,012.5	1,012.5	2.00	0.00	-2.00
11,800.0	89.59	105.28	10,822.0	-540.2	1,108.4	1,108.4	2.00	0.00	-2.00
11,900.0	89.59	103.28	10,822.8	-564.9	1,205.3	1,205.3	2.00	0.00	-2.00
12,000.0	89.59	101.28	10,823.5	-586.1	1,303.0	1,303.0	2.00	0.00	-2.00
12,100.0	89.59	99.28	10,824.2	-604.0	1,401.4	1,401.4	2.00	0.00	-2.00
12,200.0	89.59	97.28	10,824.9	-618.4	1,500.4	1,500.4	2.00	0.00	-2.00
12,300.0	89.59	95.28	10,825.7	-629.3	1,599.8	1,599.8	2.00	0.00	-2.00
12,400.0	89.59	93.28	10,826.4	-636.8	1,699.5	1,699.5	2.00	0.00	-2.00
12,500.0	89.60	91.28	10,827.1	-640.7	1,799.4	1,799.4	2.00	0.00	-2.00
12,583.7	89.60	90.00	10,827.5	-641.4	1,863.1	1,863.1	2.00	0.00	-2.00
12,590.2	89.60	90.00	10,827.7	-641.4	1,889.6	1,889.6	0.00	0.00	0.00
Start 8045.4 hold at 12690.2 MD									
12,600.0	89.60	90.00	10,827.8	-641.4	1,899.4	1,899.4	0.00	0.00	0.00
12,700.0	89.60	90.00	10,828.5	-641.5	1,999.4	1,999.4	0.00	0.00	0.00
12,800.0	89.60	90.00	10,829.2	-641.5	2,099.4	2,099.4	0.00	0.00	0.00
12,900.0	89.60	90.00	10,829.9	-641.5	2,199.4	2,199.4	0.00	0.00	0.00
13,000.0	89.60	90.00	10,830.6	-641.5	2,299.4	2,299.4	0.00	0.00	0.00
13,100.0	89.60	90.00	10,831.3	-641.5	2,399.4	2,399.4	0.00	0.00	0.00
13,200.0	89.60	90.00	10,832.0	-641.5	2,499.4	2,499.4	0.00	0.00	0.00
13,300.0	89.60	90.00	10,832.7	-641.5	2,599.4	2,599.4	0.00	0.00	0.00
13,400.0	89.60	90.00	10,833.4	-641.5	2,699.4	2,699.4	0.00	0.00	0.00

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T
Company:	Oasis	TVD Reference:	WELL @ 2071.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0usft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10T	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10T		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
13,500.0	89.60	90.00	10,834.1	-641.5	2,799.4	2,799.4	0.00	0.00	0.00	0.00
13,600.0	89.60	90.00	10,834.8	-641.5	2,899.4	2,899.4	0.00	0.00	0.00	0.00
13,700.0	89.60	90.00	10,835.5	-641.5	2,999.4	2,999.4	0.00	0.00	0.00	0.00
13,800.0	89.60	90.00	10,836.2	-641.5	3,099.4	3,099.4	0.00	0.00	0.00	0.00
13,900.0	89.60	90.00	10,836.9	-641.5	3,199.4	3,199.4	0.00	0.00	0.00	0.00
14,000.0	89.60	90.00	10,837.6	-641.5	3,299.4	3,299.4	0.00	0.00	0.00	0.00
14,100.0	89.60	90.00	10,838.3	-641.6	3,399.4	3,399.4	0.00	0.00	0.00	0.00
14,200.0	89.60	90.00	10,839.0	-641.6	3,499.4	3,499.4	0.00	0.00	0.00	0.00
14,300.0	89.60	90.00	10,839.7	-641.6	3,599.4	3,599.4	0.00	0.00	0.00	0.00
14,400.0	89.60	90.00	10,840.4	-641.6	3,699.4	3,699.4	0.00	0.00	0.00	0.00
14,500.0	89.60	90.00	10,841.1	-641.6	3,799.4	3,799.4	0.00	0.00	0.00	0.00
14,600.0	89.60	90.00	10,841.8	-641.6	3,899.3	3,899.3	0.00	0.00	0.00	0.00
14,700.0	89.60	90.00	10,842.5	-641.6	3,999.3	3,999.3	0.00	0.00	0.00	0.00
14,800.0	89.60	90.00	10,843.2	-641.6	4,099.3	4,099.3	0.00	0.00	0.00	0.00
14,900.0	89.60	90.00	10,843.9	-641.6	4,199.3	4,199.3	0.00	0.00	0.00	0.00
15,000.0	89.60	90.00	10,844.6	-641.6	4,299.3	4,299.3	0.00	0.00	0.00	0.00
15,100.0	89.60	90.00	10,845.3	-641.6	4,399.3	4,399.3	0.00	0.00	0.00	0.00
15,200.0	89.60	90.00	10,846.0	-641.6	4,499.3	4,499.3	0.00	0.00	0.00	0.00
15,300.0	89.60	90.00	10,846.7	-641.6	4,599.3	4,599.3	0.00	0.00	0.00	0.00
15,400.0	89.60	90.00	10,847.4	-641.6	4,699.3	4,699.3	0.00	0.00	0.00	0.00
15,500.0	89.60	90.00	10,848.1	-641.6	4,799.3	4,799.3	0.00	0.00	0.00	0.00
15,600.0	89.60	90.00	10,848.8	-641.7	4,899.3	4,899.3	0.00	0.00	0.00	0.00
15,700.0	89.60	90.00	10,849.5	-641.7	4,999.3	4,999.3	0.00	0.00	0.00	0.00
16,800.0	89.60	90.00	10,850.2	-641.7	5,099.3	5,099.3	0.00	0.00	0.00	0.00
15,900.0	89.60	90.00	10,850.9	-641.7	5,199.3	5,199.3	0.00	0.00	0.00	0.00
16,000.0	89.60	90.00	10,851.6	-641.7	5,299.3	5,299.3	0.00	0.00	0.00	0.00
18,100.0	89.60	90.00	10,852.3	-641.7	5,399.3	5,399.3	0.00	0.00	0.00	0.00
16,200.0	89.60	90.00	10,853.0	-641.7	5,499.3	5,499.3	0.00	0.00	0.00	0.00
16,300.0	89.60	90.00	10,853.7	-641.7	5,599.3	5,599.3	0.00	0.00	0.00	0.00
16,400.0	89.60	90.00	10,854.4	-641.7	5,699.3	5,699.3	0.00	0.00	0.00	0.00
16,500.0	89.60	90.00	10,855.1	-641.7	5,799.3	5,799.3	0.00	0.00	0.00	0.00
18,600.0	89.60	90.00	10,855.8	-641.7	5,899.3	5,899.3	0.00	0.00	0.00	0.00
16,700.0	89.60	90.00	10,856.5	-641.7	5,999.3	5,999.3	0.00	0.00	0.00	0.00
16,800.0	89.60	90.00	10,857.2	-641.7	6,099.3	6,099.3	0.00	0.00	0.00	0.00
18,900.0	89.60	90.00	10,857.9	-641.7	6,199.3	6,199.3	0.00	0.00	0.00	0.00
17,000.0	89.60	90.00	10,858.6	-641.7	6,299.3	6,299.3	0.00	0.00	0.00	0.00
17,100.0	89.60	90.00	10,859.3	-641.8	6,399.3	6,399.3	0.00	0.00	0.00	0.00
17,200.0	89.60	90.00	10,860.0	-641.8	6,499.3	6,499.3	0.00	0.00	0.00	0.00
17,300.0	89.60	90.00	10,860.7	-641.8	6,599.3	6,599.3	0.00	0.00	0.00	0.00
17,400.0	89.60	90.00	10,861.4	-641.8	6,699.3	6,699.3	0.00	0.00	0.00	0.00
17,500.0	89.60	90.00	10,862.1	-641.8	6,799.3	6,799.3	0.00	0.00	0.00	0.00
17,600.0	89.60	90.00	10,862.8	-641.8	6,899.3	6,899.3	0.00	0.00	0.00	0.00
17,700.0	89.60	90.00	10,863.5	-641.8	6,999.3	6,999.3	0.00	0.00	0.00	0.00
17,800.0	89.60	90.00	10,864.2	-641.8	7,099.3	7,099.3	0.00	0.00	0.00	0.00
17,900.0	89.60	90.00	10,864.9	-641.8	7,199.3	7,199.3	0.00	0.00	0.00	0.00
18,000.0	89.60	90.00	10,865.6	-641.8	7,299.3	7,299.3	0.00	0.00	0.00	0.00
18,100.0	89.60	90.00	10,866.3	-641.8	7,399.3	7,399.3	0.00	0.00	0.00	0.00
18,200.0	89.60	90.00	10,867.0	-641.8	7,499.3	7,499.3	0.00	0.00	0.00	0.00
18,300.0	89.60	90.00	10,867.7	-641.8	7,599.3	7,599.3	0.00	0.00	0.00	0.00
18,400.0	89.60	90.00	10,868.4	-641.8	7,699.3	7,699.3	0.00	0.00	0.00	0.00
18,500.0	89.60	90.00	10,869.1	-641.8	7,799.3	7,799.3	0.00	0.00	0.00	0.00
18,600.0	89.60	90.00	10,869.8	-641.9	7,899.3	7,899.3	0.00	0.00	0.00	0.00
18,700.0	89.60	90.00	10,870.5	-641.9	7,999.2	7,999.2	0.00	0.00	0.00	0.00
18,800.0	89.60	90.00	10,871.2	-641.9	8,099.2	8,099.2	0.00	0.00	0.00	0.00
18,900.0	89.60	90.00	10,871.9	-641.9	8,199.2	8,199.2	0.00	0.00	0.00	0.00

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T
Company:	Oasis	TVD Reference:	WELL @ 2071.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0usft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10T	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10T		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate ('/100ft)	Build Rate ('/100ft)	Turn Rate ('/100ft)	
19,000.0	89.60	90.00	10,872.6	-841.9	8,299.2	8,299.2	0.00	0.00	0.00	
19,100.0	89.60	90.00	10,873.3	-841.9	8,399.2	8,399.2	0.00	0.00	0.00	
19,200.0	89.60	90.00	10,874.0	-841.9	8,499.2	8,499.2	0.00	0.00	0.00	
19,300.0	89.60	90.00	10,874.7	-841.9	8,599.2	8,599.2	0.00	0.00	0.00	
19,400.0	89.60	90.00	10,875.4	-841.9	8,699.2	8,699.2	0.00	0.00	0.00	
19,500.0	89.80	90.00	10,876.1	-841.9	8,799.2	8,799.2	0.00	0.00	0.00	
19,600.0	89.60	90.00	10,876.8	-841.9	8,899.2	8,899.2	0.00	0.00	0.00	
19,700.0	89.60	90.00	10,877.5	-841.9	8,999.2	8,999.2	0.00	0.00	0.00	
19,800.0	89.60	90.00	10,878.2	-841.9	9,099.2	9,099.2	0.00	0.00	0.00	
19,900.0	89.60	90.00	10,878.9	-841.9	9,199.2	9,199.2	0.00	0.00	0.00	
20,000.0	89.60	90.00	10,879.6	-842.0	9,299.2	9,299.2	0.00	0.00	0.00	
20,100.0	89.60	90.00	10,880.3	-842.0	9,399.2	9,399.2	0.00	0.00	0.00	
20,200.0	89.60	90.00	10,881.0	-842.0	9,499.2	9,499.2	0.00	0.00	0.00	
20,300.0	89.60	90.00	10,881.7	-842.0	9,599.2	9,599.2	0.00	0.00	0.00	
20,400.0	89.60	90.00	10,882.4	-842.0	9,699.2	9,699.2	0.00	0.00	0.00	
20,500.0	89.60	90.00	10,883.1	-842.0	9,799.2	9,799.2	0.00	0.00	0.00	
20,600.0	89.60	90.00	10,883.8	-842.0	9,899.2	9,899.2	0.00	0.00	0.00	
20,630.8	89.60	90.00	10,884.0	-842.0	9,930.0	9,930.0	0.00	0.00	0.00	
Chalmers 10T										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Chalmers 10T - plan hits target center - Point	0.00	0.00	10,884.0	-842.0	9,930.0	401,366.59	1,219,879.34	48° 3' 34.286 N	103° 33' 43.923 W	

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)						
2,121.0	2,121.0 13 3/8"		13.375	17.500						
6,463.2	6,463.0 9 5/8"		9.625	12.250						
11,088.4	10,817.0 7"		7.000	8.750						

Planning Report

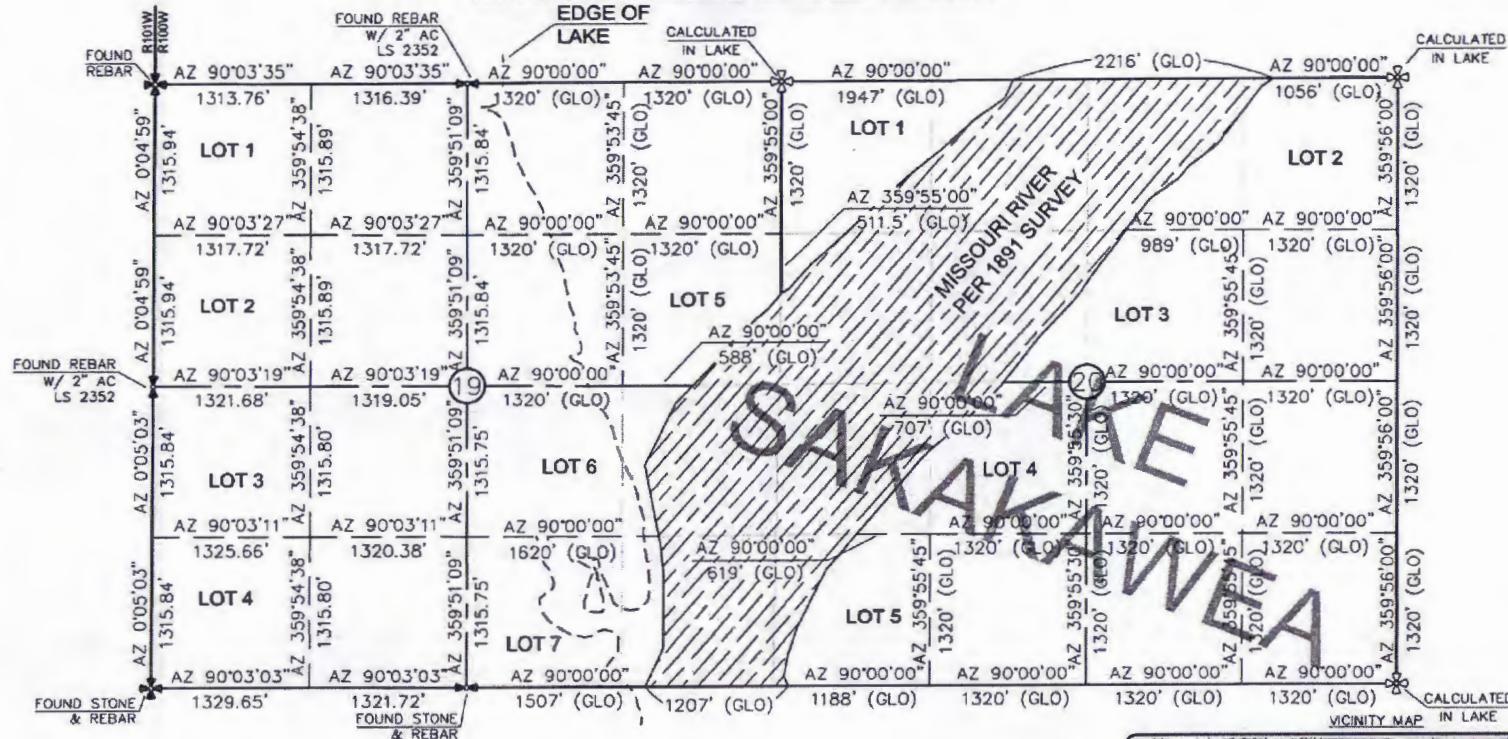
Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10T
Company:	Oasis	TVD Reference:	WELL @ 2071.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0usft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10T	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10T		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,021.0	2,021.0	Pierre				
4,624.1	4,624.0	Greenhorn				
5,029.1	5,029.0	Mowry				
5,417.1	5,417.0	Dakota				
6,463.2	6,463.0	Rierdon				
6,891.2	6,891.0	Dunham Salt				
6,960.2	6,960.0	Dunham Salt Base				
7,257.2	7,257.0	Pine Salt				
7,290.2	7,290.0	Pine Salt Base				
7,351.2	7,351.0	Opeche Salt				
7,426.2	7,426.0	Opeche Salt Base				
7,662.2	7,662.0	Amsden				
7,828.2	7,828.0	Tyler				
8,032.2	8,032.0	Otter/Base Minnelusa				
8,384.2	8,384.0	Kibbey Lime				
8,534.2	8,534.0	Charles Salt				
9,209.2	9,209.0	Base Last Salt				
9,429.2	9,429.0	Mission Canyon				
9,993.2	9,993.0	Lodgepole				
10,757.5	10,708.0	False Bakken				
10,773.5	10,718.0	Upper Bakken Shale				
10,800.5	10,732.0	Middle Bakken				
10,887.1	10,768.0	Lower Bakken Shale				
10,900.6	10,780.0	Pronghorn				
10,958.3	10,799.0	Threeforks				
11,014.2	10,811.0	Threeforks(Top of Target)				
11,793.2	10,822.0	Threeforks(Base of Target)				
11,793.2	10,822.0	Claystone				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N-S (usft)	+E-W (usft)		
2,150.0	2,150.0	0.0	0.0		Start Build 5.00
2,160.0	2,160.0	0.0	0.0		Start 5682.9 hold at 2160.0 MD
7,842.8	7,842.6	-33.6	36.5		Start Drop -5.00
7,852.8	7,852.6	-33.7	36.6		Start 2466.9 hold at 7852.8 MD
10,339.7	10,339.5	-35.0	38.0		Start Build 12.00 - KOP
11,086.4	10,817.0	-268.8	450.5		Start DLS 2.00 TFO -90.10 - EOC
12,590.2	10,827.7	-641.4	1,889.8		Start 8045.4 hold at 12590.2 MD
20,635.6					TD at 20835.8

SECTION BREAKDOWN
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"CHALMERS 5300 21-19 10T"

2292 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
SECTIONS 19 & 20, 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
5/07/14 AND THE ORIGINAL
DOCUMENTS ARE STORED AT THE
OFFICES OF INTERSTATE ENGINEERING,
INC.

ALL AZIMUTHS ARE BASED ON G.P.S.
OBSERVATIONS. THE ORIGINAL SURVEY OF THIS
AREA FOR THE GENERAL LAND OFFICE (G.L.O.)
WAS 1891. 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'.

- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

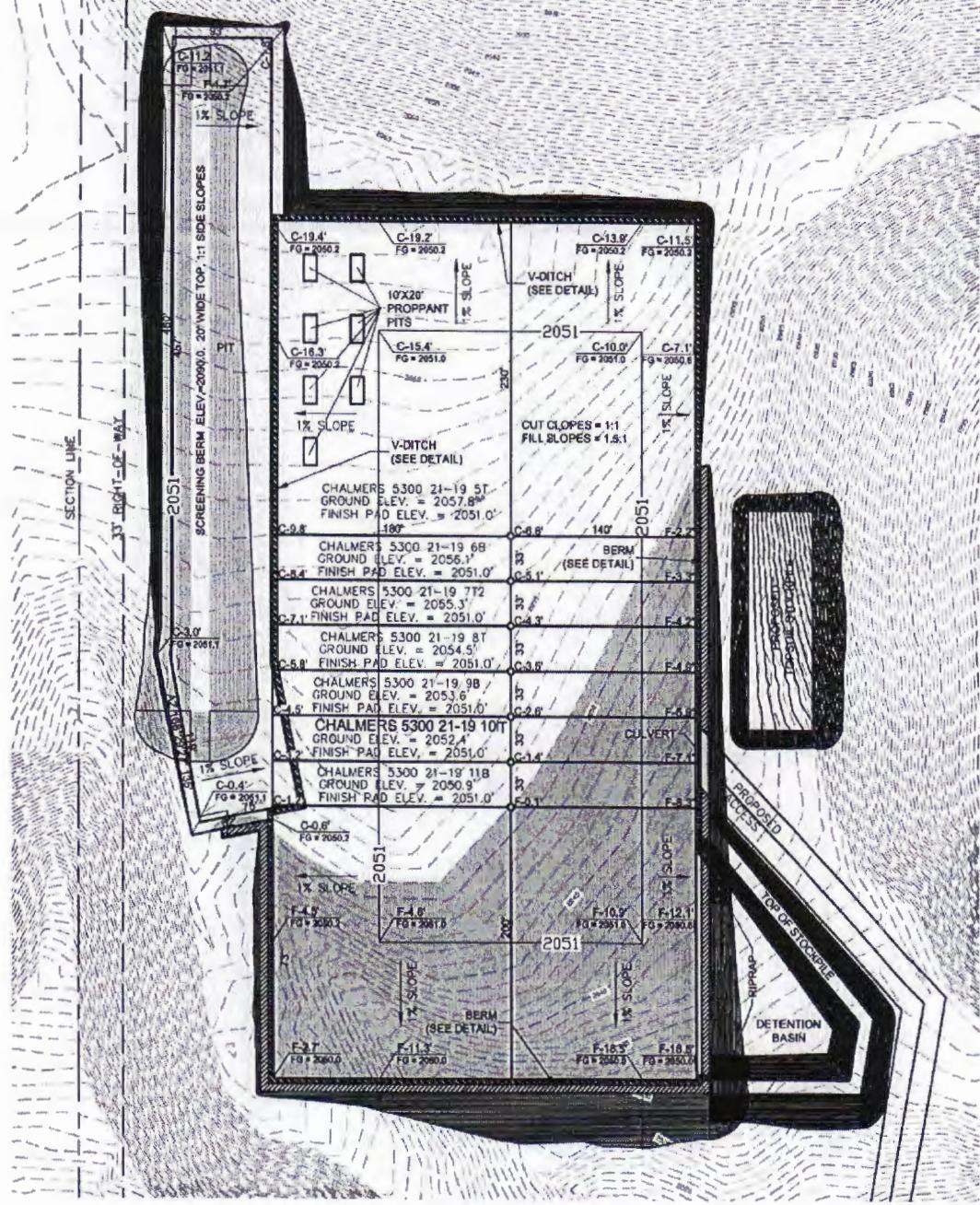


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Project No.	Date	By	Description
OASIS PETROLEUM NORTH AMERICA, LLC	2/17/14	LS	LAND SURVEY
SECTION BREAKDOWN	4/22/14	BLW	LAND SURVEY
SECTIONS 19 & 20, T153N, R100W	4/22/14	BLW	LAND SURVEY
MCKENZIE COUNTY, NORTH DAKOTA	4/22/14	BLW	LAND SURVEY
Drawn By: B.M.	4/22/14		
Checked By: D.R.	4/22/14		

PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 *CHALMERS 5300 21-19 10T
 2292 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
 SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



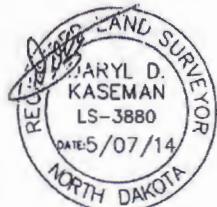
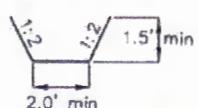
NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2 : Screening berm is to be built after drilling operations are complete.

THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS., REGISTRATION NUMBER 3880 ON 5/07/14, AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.



V-DITCH DETAIL



Proposed Contours - BERM
 Original Contours - DITCH

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

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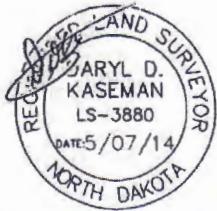
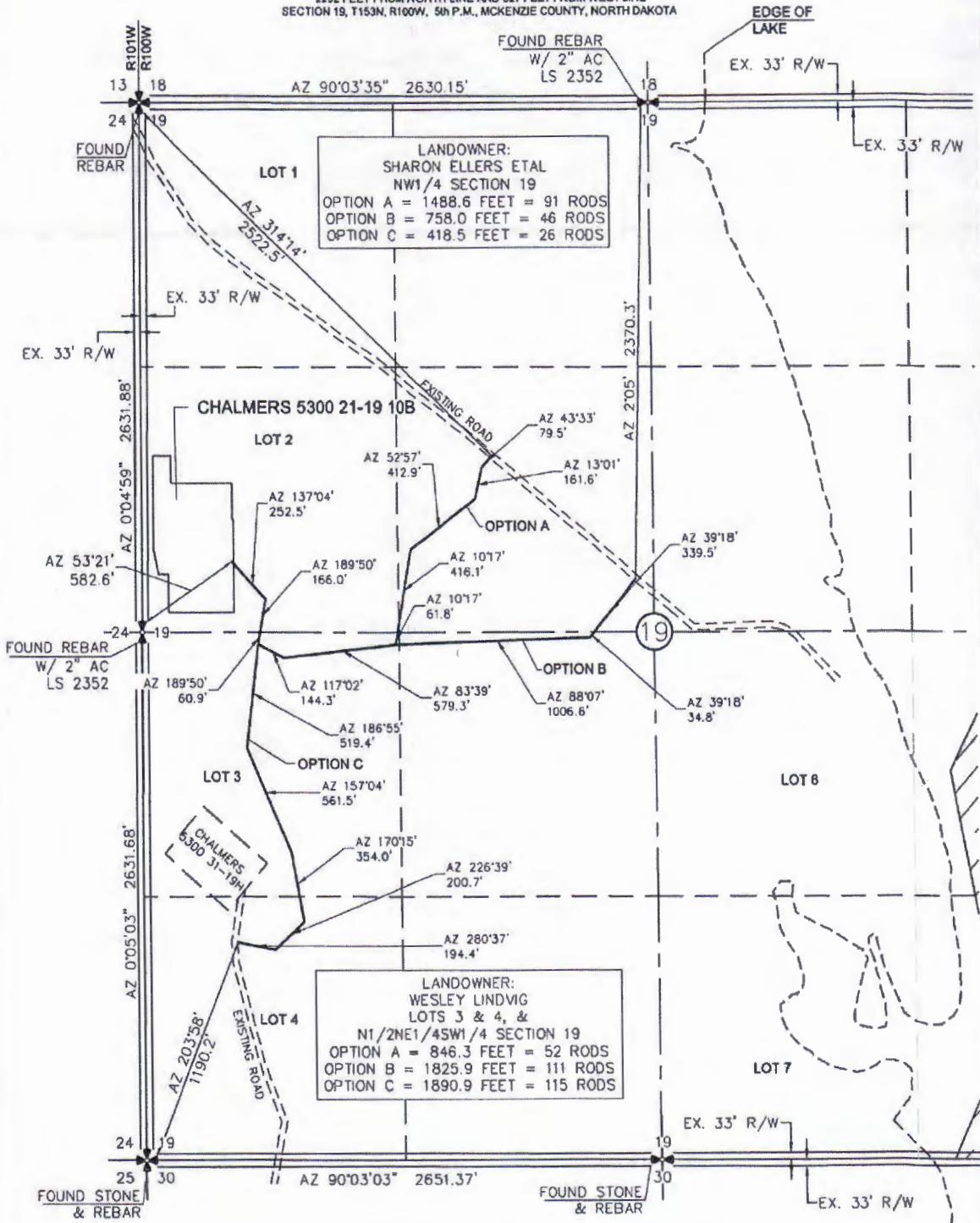
Interstate Engineering, Inc.
 P.O. Box 844
 425 East Main Street
 Sidney, Montana 59270
 Ph (406) 433-6817
 Fax (406) 433-6818
www.interstateeng.com
 Other offices in Missoula, Montana and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD LAYOUT
 SECTION 19, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA
 Drawn By: B.H.M. Project No.: 513-06-292-09
 Checked By: G.D.S. Date: JUL 2014

Printed No.	Date	By	Description
REV 1	5/7/14	J.W.	Moved wells on pad
REV 2	6/22/14	GWH	Moved wells on pad/revised pad
REV 3	6/24/14	GWH	Moved wells on pad/revised pad

Sheet 1 of 10 sheets for Job 513-06-292-09 Rev 3-19-14. Drawn 5-21-14. Last Rev 5-21-14. 11-14 ac.

ACCESS APPROACH
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 *CHALMERS 5300 21-19 10†
 2292 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
 SECTION 19, 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 5/07/14, 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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0 500
 1" = 500'

SHEET NO.	INTERSTATE ENGINEERING	OASIS PETROLEUM NORTH AMERICA, LLC ACCESS APPROACH SECTION 19, T153N, R100W MCKENZIE COUNTY, NORTH DAKOTA	Revision No. REV 1 REV 2 REV 3	Date 3/12/14 4/22/14 5/2/14	By JAS BHD BHD	Description WORKED HILLS ON PAD WORKED HILLS ON PAD/REVISED PAD WORKED HILLS ON PAD/REVISED PAD
			Drawn By: B.H.D. Checked By: D.D.K.	Project No.: B1548-28409 Date: JUN 2014		

WELL LOCATION SITE QUANTITIES

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"CHALMERS 5300 21-19 9B"

2259 FEET FROM NORTH LINE AND 327 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2053.6
WELL PAD ELEVATION	2051.0
EXCAVATION	67,041
PLUS PIT	<u>22,050</u>
	89,091
EMBANKMENT	26,714
PLUS SHRINKAGE (25%)	<u>6,679</u>
	33,393
STOCKPILE PIT	22,050
STOCKPILE TOP SOIL (6")	5,434
BERMS	1,007 LF = 326 CY
DITCHES	1,768 LF = 270 CY
SCREENING BERM	27,464 CY
STOCKPILE MATERIAL	694
DISTURBED AREA FROM PAD	6.74 ACRES

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

CUT END SLOPES AT 1:1

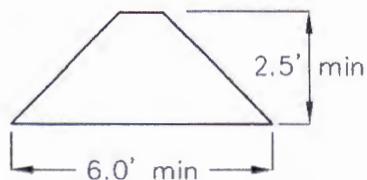
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

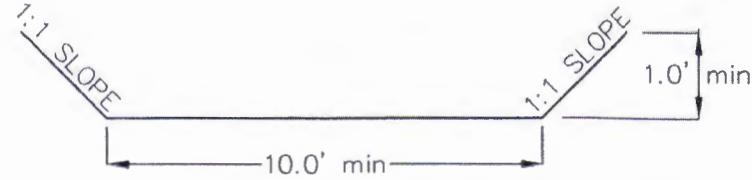
2259' FNL

327' FWL

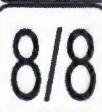
BERM DETAIL



DITCH DETAIL



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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 Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC

QUANTITIES

SECTION 19, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282-04
Checked By: D.D.K. Date: JAN 2014

Revision No.	Date	By	Description
REV 1	3/12/14	JVS	MOVED WELLS ON PAD
REV 2	4/22/14	BHH	MOVED WELLS ON PAD/REVISED PAD
REV 3	5/2/14	BHH	MOVED WELLS ON PAD/REVISED PAD



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.

28637



TH

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date July 29, 2014	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03. Approximate Start Date		<input checked="" 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 type="checkbox"/> Other	Change casing

Well Name and Number
Chalmers 5300 21-19 10B

Footages	Qtr-Qtr	Section	Township	Range
2292 F N L	326 F W L	LOT2	19	153 N 100 W
Field	Pool Bakken		County	McKenzie

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 respectfully requests permission to make the following changes to the above referenced well:

- Surface casing changed to 13 3/8" and depth changed to 2,126'
- Contingency 9 5/8" casing added

Attached are revised drill plan, well summary, directional plan and plot

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Heather McCowan</i>	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 29, 2014	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <i>8-15-14</i>	
By <i>Hannah Eubank</i>	
Title Petroleum Resource Specialist	

Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10B
Sec. 19 T153N R100W
McKenzie County, North Dakota

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' to 2,126'	54.5	J-55	STC	12.615"	12.459"	4,100	5,470	6,840

Interval	Description	Collapse	Burst	Tension	Cost per ft
		(psi) a	(psi) b	(1000 lbs) c	
0' to 2,126'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.14	2730 / 2.74	514 / 2.57	

API Rating & Safety Factor

- a) Collapse pressure based on full casing evacuation with 9 ppg fluid on backside (2126' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2126' setting depth).
- c) Tension based on string weight in 9 ppg fluid at 2126' TVD plus 100k# overpull. (Buoyed weight equals 100k 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: **629 sks** (325 bbls) 2.9 yield conventional system with 94 lb/sk cement, .25 lb/sk D130 Lost Circulation Control Agent, 2% CaCL2, 4% D079 Extender, and 2% D053 Expanding Agent.

Tail Slurry: **374 sks** (77 bbls) 1.16 yield conventional system with 94 lb/sk cement, .25 lb/sk Lost Circulation Control Agent, and .25% CaCL2.

**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10B
Sec. 19 T153N R100W
McKenzie County, North Dakota**

INTERMEDIATE CASING AND CEMENT DESIGN

Intermediate Casing Design

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' - 6000'	40	HCL-80	LTC	8.835"	8.75"**	5,450	7,270	9,090

**Special Drift

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' - 6000'	9-5/8", 40#, HCL-80, LTC, 8rd	3090 / 3.96*	5750 / 1.23	837 / 2.75

API Rating & Safety Factor

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

Cement volumes are estimates based on 9-5/8" casing set in an 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: **540 sks** (280 bbls) Conventional system with 75 lb/sk cement, 0.5lb/sk lost circulation, 10% expanding agent, 2% extender, 2% CaCl₂, 0.2% anti foam, and 0.4% fluid loss

Tail Slurry: **373 sks** (77 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 foam, and 0.1% retarder

**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10B
Sec. 19 T153N R100W
McKenzie County, North Dakota**

INTERMEDIATE CASING AND CEMENT DESIGN

Intermediate Casing Design

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' - 6741'	29	P-110	LTC	6.184"	6.059"	5980	7970	8770
7"	6741' - 10272'	32	HCP-110	LTC	6.094"	6.000"**	6730	8970	9870
7"	10272' - 11033'	29	P-110	LTC	6.184"	6.059"	5980	7970	8770

**Special Drift

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' - 6741'	7", 29#, P-110, LTC, 8rd	8530 / 2.43*	11220 / 1.19	797 / 2.09
6741' - 10272'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.21*	12460 / 1.29	
6741' - 10272'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.28**	12460 / 1.29	
10272' - 11033'	7", 29#, P-110, LTC, 8rd	8530 / 1.51*	11220 / 1.15	

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 10,807' TVD.
- c. Based on string weight in 10 ppg fluid, 280k lbs buoyed weight) plus 100k lbs overpull.

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

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

Lead Slurry: **219 sks** (86 bbls) 2.21 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, 0.5lb/sk D130 LCM

Tail Slurry: **602 sks** (165 bbls) 1.54 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, 0.5 lb/sk LCM

**Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10B
Sec. 19 T153N R100W
McKenzie County, North Dakota**

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10222' - 20516'	11.6	P-110	BTC	4.000"	3.875"	2270	3020	3780

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10222' - 20516'	4-1/2", 11.6 lb, P-110, BTC	7560 / 1.41	10690 / 1.10	385 / 1.90

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10807' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10807' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 102k 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

28637

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

Date: 6/23/2014

RE: CORES AND SAMPLES

Well Name: CHALMERS 5300 21-19 10B Well File No.: 28637
Location: LOT2 19-153-100 County: MCKENZIE
Permit Type: Development - HORIZONTAL
Field: BAKER Target Horizon: BAKKEN

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



SUNDY NOTICES AND REPORTS ON WELLS - FORM 20

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.
28637

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date February 24, 2014
<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	Waiver to rule Rule 43-02-03-31

**Well Name and Number
Chalmers 5300 21-19 10B**

Footages		Qtr-Qtr	Section	Township	Range
2292 F N L	326 F W L	LOT2	19	153 N	100 W
Field	Pool		County		
	Bakken		McKenzie		

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

Name of Contractor(s)

Address

DETAILS OF WORK

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

The Oasis Petroleum/ Chalmers 5300 31-19H (NDIC 20407) located within a mile of the subject well

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

Company Oasis Petroleum North America LLC		Telephone Number 281-404-9491
Address 1001 Fannin, Suite 1500		
City Houston		State TX
Signature 		Printed Name Brandi Terry
Title Regulatory Specialist		Date March 27, 2014
Email Address bterry@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date	6-16-2014
By	<i>Stephen Fried</i>
Title	Geologist



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Well File No.

28637

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Notice of Intent

Approximate Start Date

February 24, 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

Suspension of Drilling

Well Name and Number

Chalmers 5300 21-19 10B

Footages	2292 F N L	326 F WL	Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W
Field	Pool Bakken			County	McKenzie	

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

Advanced Energy Services

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

DETAILS OF WORK

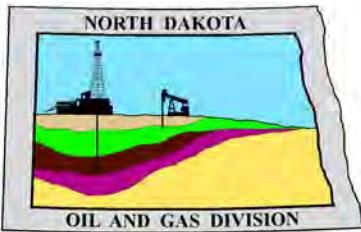
Oasis Petroleum North America LLC requests permission for suspension of drilling for up to 90 days for the referenced well under NDAC 43-02-03-55. Oasis Petroleum North America LLC intends to drill the surface hole with freshwater based drilling mud and set surface casing with a small drilling rig and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

Notify NDIC inspector Richard Dunn at 701-770-3554 with spud and TD info.

Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9491	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Brandi Terry	
Title Regulatory Specialist	Date March 27, 2014	
Email Address bterry@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 6/16/14	
By Nathaniel Erbele	
Title Petroleum Resource Specialist	



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

June 16, 2014

Brandi Terry
Regulatory Specialist
OASIS PETROLEUM NORTH AMERICA LLC
1001 Fannin Suite 1500
Houston, TX 77002

**RE: HORIZONTAL WELL
CHALMERS 5300 21-19 10B
LOT2 Section 19-153N-100W
McKenzieCounty
Well File # 28637**

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 19 & 20 T153N R100W.

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 the proximity of Lake Sakakawea to the well site, a dike is required surrounding the entire location. 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: 9972' east.

Location Construction Commencement (Three Day Waiting Period)

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

Permit Fee & Notification

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

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

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

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

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

Surface casing cement

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

Logs

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

Thank you for your cooperation.

Sincerely,

Nathaniel Erbele
Petroleum Resource Specialist



APPLICATION FOR PERMIT TO DRILL HORIZONTAL WELL - FORM 1H

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

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Type of Work New Location	Type of Well Oil & Gas	Approximate Date Work Will Start 03 / 01 / 2014	Confidential Status No
Operator OASIS PETROLEUM NORTH AMERICA LLC		Telephone Number 281-404-9491	
Address 1001 Fannin Suite 1500		City Houston	State TX Zip Code 77002

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

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

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

Well Name CHALMERS				Well Number 5300 21-19 10B			
Surface Footages 2292 F N L 326 F W L		Qtr-Qtr LOT2	Section 19	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Footages 2502 F N L 819 F W L		Qtr-Qtr SWNW	Section 19	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Coordinates From Well Head 210 S From WH 493 E From WH		Azimuth 111.4 °	Longstring Total Depth 11033 Feet MD 10749 Feet TVD				
Bottom Hole Footages From Nearest Section Line 2637 F N L 213 F E L		Qtr-Qtr SENE	Section 20	Township 153 N	Range 100 W	County McKenzie	
Bottom Hole Coordinates From Well Head 345 S From WH 9959 E From WH		KOP Lateral 1 10272 Feet MD	Azimuth Lateral 1 90.0 °	Estimated Total Depth Lateral 1 20516 Feet MD 10807 Feet TVD			
Latitude of Well Head 48 ° 03 ' 40.65 "	Longitude of Well Head -103 ° 36 ' 10.11 "	NAD Reference NAD83		Description of Spacing Unit: Sections 19 & 20 T153N R100W (Subject to NDIC Approval)			
Ground Elevation 2052 Feet Above S.L.	Acres in Spacing/Drilling Unit 1280	Spacing/Drilling Unit Setback Requirement 500 Feet N/S 200 Feet E/W		Industrial Commission Order 23752			
North Line of Spacing/Drilling Unit 10498 Feet	South Line of Spacing/Drilling Unit 10513 Feet	East Line of Spacing/Drilling Unit 5280 Feet		West Line of Spacing/Drilling Unit 5263 Feet			
Objective Horizons Bakken						Pierre Shale Top 2021	
Proposed Surface Casing	Size 9 - 5/8 "	Weight 36 Lb./Ft.	Depth 2150 Feet	Cement Volume 632 Sacks	NOTE: Surface hole must be drilled with fresh water and surface casing must be cemented back to surface.		
Proposed Longstring Casing	Size 7 - "	Weight(s) 29/32 Lb./Ft.	Longstring Total Depth 11033 Feet MD 10749 Feet TVD		Cement Volume 790 Sacks	Cement Top 3917 Feet	Top Dakota Sand 5417 Feet
Base Last Charles Salt (If Applicable) 9209 Feet		NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.					
Proposed Logs Triple Combo: KOP-KibbyGR/Res to BSC GR-To Surf CND thru Dakota							
Drilling Mud Type (Vertical Hole - Below Surface Casing) Invert				Drilling Mud Type (Lateral) Salt Water Gel			
Survey Type in Vertical Portion of Well MWD Every 100 Feet		Survey Frequency: Build Section 30 Feet		Survey Frequency: Lateral 90 Feet		Survey Contractor Ryan	

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

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

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

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

See Page 2 for Comments section and signature block.

COMMENTS, ADDITIONAL INFORMATION, AND/OR LIST OF ATTACHMENTS**Documents forwarded by email: Drill plan with drilling fluids, Well Summary with casing/cement plans, Directional Plan & Plot, Plats**

Lateral 2

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

Lateral 3

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

Lateral 4

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

Lateral 5

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

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

Date

03 / 27 / 2014

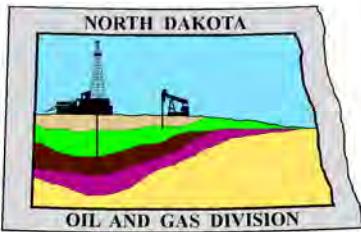
ePermit

Printed Name
Brandi TerryTitle
Regulatory Specialist**FOR STATE USE ONLY**

Permit and File Number 28637	API Number 33 - 053 - 06022
Field BAKER	
Pool BAKKEN	Permit Type DEVELOPMENT

FOR STATE USE ONLY

Date Approved 6 / 16 / 2014
By Nathaniel Erbele
Title Petroleum Resource Specialist



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

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.

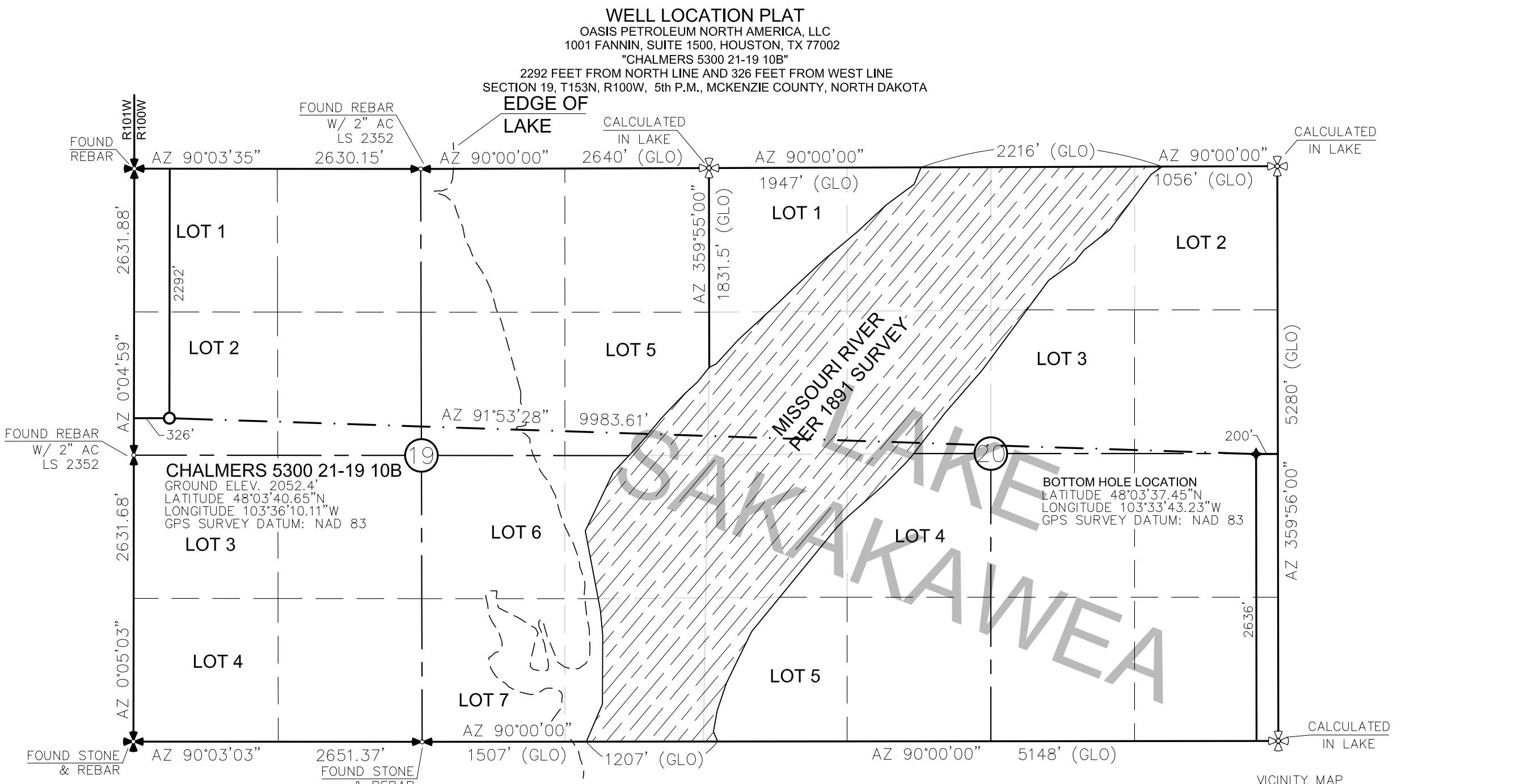
As previously stated in our March 13, 2014 letter, North Dakota Administrative Code Section 33-20-02.1-01 states in part that every person who transports solid waste (which includes oil and gas exploration and production wastes) is required to have a valid permit issued by the North Dakota Department 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.

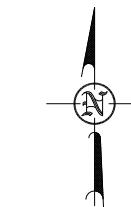
Sincerely,

Bruce E. Hicks

Assistant Director



THIS DOCUMENT WAS ORIGINALLY ISSUED
AND SEALED BY DARYL D. KASEMAN,
PLS, REGISTRATION NUMBER 3880 ON
3/13/14 AND THE ORIGINAL
DOCUMENTS ARE STORED AT THE
OFFICES OF INTERSTATE ENGINEERING,
INC.

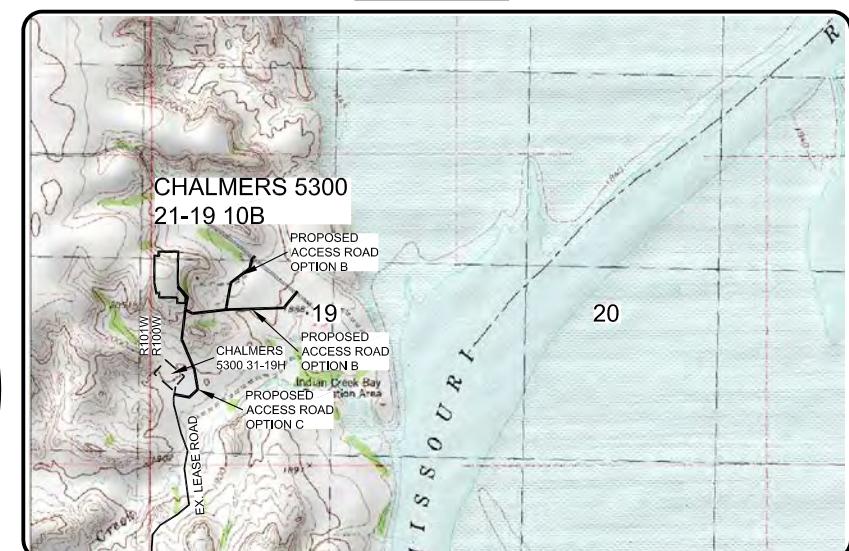
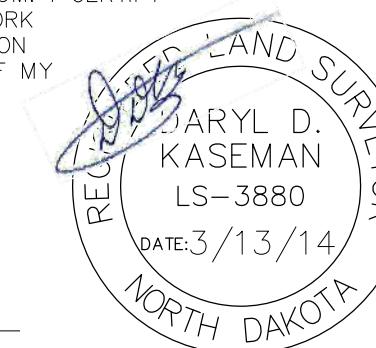


- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

DARYL D. KASEMAN LS-3880

STAKED ON 1/29/14
VERTICAL CONTROL DATUM WAS BASED UPON
CONTROL POINT 16 WITH AN ELEVATION OF 2014.2'

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

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 Minnesota, North Dakota and South Dakota



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OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: B.H.H
Checked By: D.D.K
Project No.: S13-09-282-05
Date: JAN 2014

© 2013 S13-09-282-05 Oasis Petroleum - 3/13/14 2:14 PM Josh schmitz
Chalmers CAD Revised CHALMERS 10B.wsg - 3/13/14 2:14 PM Josh schmitz

Professionals you need, people you trust

SHEET NO.

DRILLING PLAN							
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND		
WELL NAME	Chalmers 5300 21-19 10B			RIG	B 25		
WELL TYPE	Horizontal Middle Bakken			LOCATION	SW NW 19-153N-100W		
EST. T.D.	20,516'			Surface Location (survey plat):	2292' FNL	326' FWL	
TOTAL LATERAL:	9,483'			GROUND ELEV:	2,046'	Sub Height: 25'	
MARKER	TVD	Subsea TVD	LOGS:	Type	Interval		
Pierre	NDIC MAP	2,021	50	OH Logs: Request a Sundry for an Open Hole Log Waiver: Oasis Chalmers 5300 31-19H 1,850' to S sec 19 153N 100W			
Greenhorn		4,624	-2,553	CBL/GR: Above top of cement/GR to base of casing			
Mowry		5,029	-2,958	MWD GR: KOP to lateral TD			
Dakota		5,417	-3,346				
Rierdon		6,463	-4,392	DEVIATION:	Surf: 3 deg. max., 1 deg / 100'; svry every 500' Prod: 5 deg. max., 1 deg / 100'; svry every 100'		
Dunham Salt		6,891	-4,820				
Dunham Salt Base		6,960	-4,889				
Pine Salt		7,257	-5,186				
Pine Salt Base		7,290	-5,219				
Opecche Salt		7,351	-5,280				
Opecche Salt Base		7,426	-5,355				
Amsden		7,662	-5,591				
Tyler		7,828	-5,757				
Otter/Base Minnelusa		8,032	-5,961	DST'S:	None planned		
Kibbey Lime		8,384	-6,313				
Charles Salt		8,534	-6,463	CORES:	None planned		
Base Last Salt		9,209	-7,138				
Mission Canyon		9,429	-7,358				
Lodgepole		9,993	-7,922				
False Bakken		10,706	-8,635				
Upper Bakken Shale		10,716	-8,645	MUDLOGGING:	Two-Man: Begin 200' above Kibbey 30' samples in curve and lateral		
Middle Bakken (Top of Target)		10,743	-8,672				
Middle Bakken (Base of target)		10,754	-8,683				
Lower Bakken Shale		10,766	-8,695				
Threeforks		10,799	-8,728				
 BOP: 11" 5000 psi blind, pipe & annular							
Est. Dip Rate:	-0.35						
Max. Anticipated BHP:	4665			Surface Formation: Glacial till			
MUD:	Interval	Type	WT	Vis	WL	Remarks	
Surface:	0' -	2,150' FW	8.4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,150' -	11,033' Invert	9.5-10.4	40-50	30+HtHp	Circ Mud Tanks	
Laterals:	11,033' -	20,516' Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks	
CASING:	Size	Wt pfp	Hole	Depth	Cement	WOC	Remarks
Surface:	9-5/8"	36#	13-1/2"	2,150'	To Surface	12	100' into Pierre
Intermediate:	7"	29/32#	8-3/4"	11,033'	3917	24	1500' above Dakota
Production Liner:	4.5"	11.6#	6"	20,516'	TOL @ 10,222'		50' above KOP
PROBABLE PLUGS, IF REQ'D:							
OTHER:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI	
Surface:	2,150	2,150	2292 FNL	326 FWL	SEC. 19 T153N R100W	Survey Company:	
KOP:	10,272'	10,272'	2324 FNL	364 FWL	SEC. 19 T153N R100W	Build Rate: 12 deg / 100'	
EOC:	11,019'	10,749'	2497 FNL	806 FWL	SEC. 19 T153N R100W	111.4	
Casing Point:	11,033'	10,749'	2502 FNL	819 FWL	SEC. 19 T153N R100W	111.4	
Middle Bakken Lateral TD:	20,516'	10,807'	2636 FSL	200 FEL	SEC. 20 T153N R100W	90.0	
Comments: Request a Sundry for an Open Hole Log Waiver: Oasis Chalmers 5300 31-19H 1,850' to S sec 19 153N 100W							
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	2/4/2014			Engineering: DAD 6/11/14			

Oasis Petroleum
Well Summary
Chalmers 5300 21-19 10B
Section 19 T153N R100W
McKenzie County, 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' - 2150'	36	J-55	LTC	8.921"	8.765"	3400	4530	5660

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - 2150'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.00	3520 / 3.49	453 / 2.71

API Rating & Safety Factor

- a) Based on full casing evacuation with 9 ppg fluid on backside (2150' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2150' setting depth).
- c) Based on string weight in 9 ppg fluid at 2150' TVD plus 100k# overpull. (Buoyed weight equals 67k 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: **459 sks** (243 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
Chalmers 5300 21-19 10B
Section 19 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' - 6691'	29	P-110	LTC	6.184"	6.059"	5980	7970	8770
7"	6691' - 10272'	32	HCP-110	LTC	6.094"	6.000"**	6730	8970	9870
7"	10272' - 11033'	29	P-110	LTC	6.184"	6.059"	5980	7970	8770

**Special Drift 7" 32# to 6.0"

Interval	Length	Description	Collapse	Burst	Tension
			(psi) a	(psi) b	(1000 lbs) c
0' - 6691'	6691'	7", 29#, P-110, LTC, 8rd	8530 / 2.45*	11220 / 1.19	797 / 2.09
6691' - 10272'	3581'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.21*	12460 / 1.29	
6691' - 10272'	3581'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.04**	12460 / 1.29	
10272' - 11033'	761'	7", 29#, P-110, LTC, 8rd	8530 / 1.52*	11220 / 1.16	

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 10749' TVD.
- c) Based on string weight in 10 ppg fluid, (280k 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: **186 sks** (84 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive

Tail Slurry: **604 sks** (167 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
Chalmers 5300 21-19 10B
Section 19 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10222' - 20516	11.6	P-110	BTC	4.000"	3.875"	2270	3020	3780

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c
10222' - 20516	10294	4-1/2", 11.6 lb, P-110, BTC	7560 / 1.41	10690 / 1.10	385 / 1.89

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10807' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10807' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 103k lbs.) plus 100k lbs overpull.

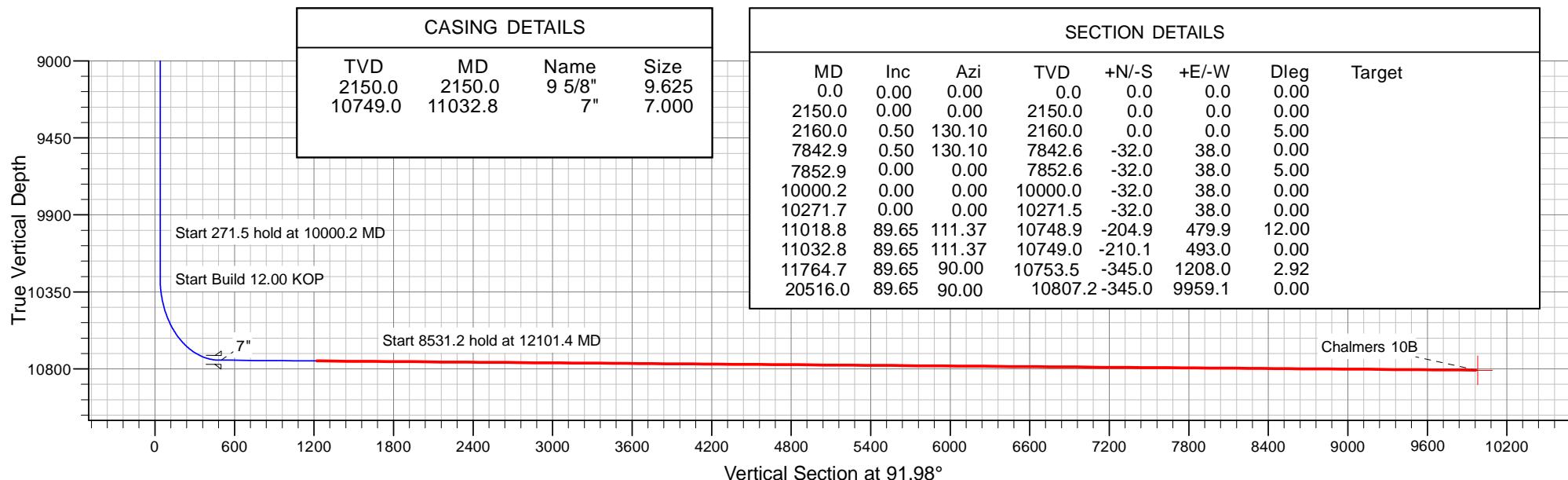
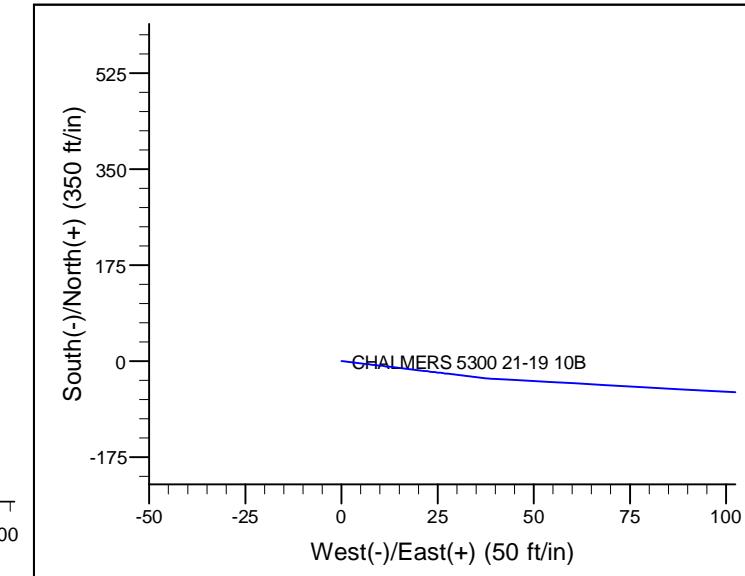
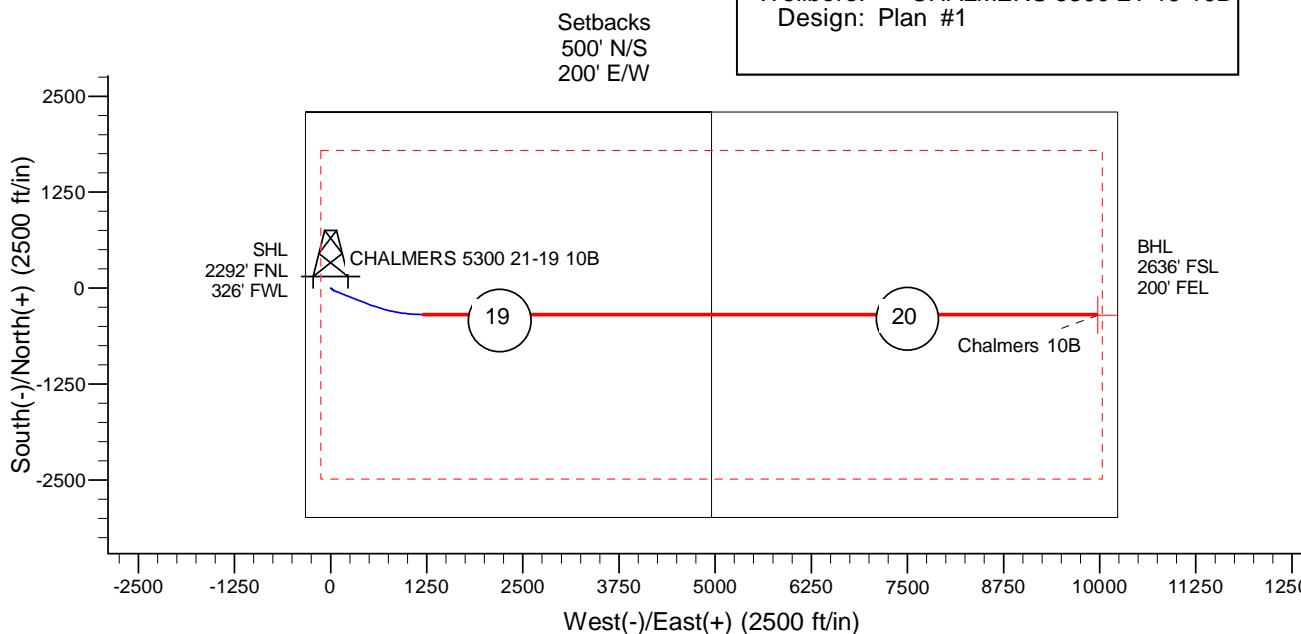
Azimuths to True North
 Magnetic North: 8.17°
 Magnetic Field Strength: 56490.5nT
 Dip Angle: 72.96°
 Date: 2/17/2014
 Model: IGRF200510



Project: Indian Hills
 Site: 153N-100W-19/20
 Well: CHALMERS 5300 21-19 10B
 Wellbore: CHALMERS 5300 21-19 10B
 Design: Plan #1

SITE DETAILS: 153N-100W-19/20

Well Centre Latitude: 48° 3' 40.650 N
 Longitude: 103° 36' 10.110 W
 Positional Uncertainty: 0.0
 Convergence: -2.31
 Local North: True



Oasis

**Indian Hills
153N-100W-19/20
CHALMERS 5300 21-19 10B**

CHALMERS 5300 21-19 10B

Plan: Plan #1

Standard Planning Report

11 June, 2014

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #1		

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

Site	153N-100W-19/20
Site Position:	Northing: 402,777.74 ft
From: Lat/Long	Easting: 1,209,962.51 ft
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in

Latitude: 48° 3' 44.270 N
Longitude: 103° 36' 10.700 W
Grid Convergence: -2.31 °

Well	CHALMERS 5300 21-19 10B
Well Position	+N/-S -366.8 ft Northing: 402,409.61 ft Latitude: 48° 3' 40.650 N
	+E/-W 40.1 ft Easting: 1,209,987.78 ft Longitude: 103° 36' 10.110 W
Position Uncertainty	0.0 ft Wellhead Elevation: Ground Level: 2,046.0 ft

Wellbore	CHALMERS 5300 21-19 10B
Magnetics	Model Name IGRF200510 Sample Date 2/17/2014 Declination (°) 8.17 Dip Angle (°) 72.96 Field Strength (nT) 56,490

Design	Plan #1
Audit Notes:	
Version:	Phase: PROTOTYPE Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (ft) +N/-S (ft) +E/-W (ft) Direction (°)
	0.0 0.0 0.0 91.98

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
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,160.0	0.50	130.10	2,160.0	0.0	0.0	5.00	5.00	0.00	130.10	
7,842.9	0.50	130.10	7,842.6	-32.0	38.0	0.00	0.00	0.00	0.00	
7,852.9	0.00	0.00	7,852.6	-32.0	38.0	5.00	-5.00	0.00	180.00	
10,000.2	0.00	0.00	10,000.0	-32.0	38.0	0.00	0.00	0.00	0.00	
10,271.7	0.00	0.00	10,271.5	-32.0	38.0	0.00	0.00	0.00	0.00	
11,018.8	89.65	111.37	10,748.9	-204.9	479.9	12.00	12.00	0.00	111.37	
11,032.8	89.65	111.37	10,749.0	-210.0	493.0	0.00	0.00	0.00	0.00	
11,764.7	89.65	90.00	10,753.5	-345.0	1,208.0	2.92	0.00	-2.92	269.93	
20,516.0	89.65	90.00	10,807.2	-345.0	9,959.1	0.00	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #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
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,021.0	0.00	0.00	2,021.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre									
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 5.00 - 9 5/8"									
2,160.0	0.50	130.10	2,160.0	0.0	0.0	0.0	5.00	5.00	0.00
Start 5682.9 hold at 2160.0 MD									
2,200.0	0.50	130.10	2,200.0	-0.3	0.3	0.3	0.00	0.00	0.00
2,300.0	0.50	130.10	2,300.0	-0.8	1.0	1.0	0.00	0.00	0.00
2,400.0	0.50	130.10	2,400.0	-1.4	1.6	1.7	0.00	0.00	0.00
2,500.0	0.50	130.10	2,500.0	-1.9	2.3	2.4	0.00	0.00	0.00
2,600.0	0.50	130.10	2,600.0	-2.5	3.0	3.1	0.00	0.00	0.00
2,700.0	0.50	130.10	2,700.0	-3.1	3.6	3.7	0.00	0.00	0.00
2,800.0	0.50	130.10	2,800.0	-3.6	4.3	4.4	0.00	0.00	0.00
2,900.0	0.50	130.10	2,900.0	-4.2	5.0	5.1	0.00	0.00	0.00
3,000.0	0.50	130.10	3,000.0	-4.7	5.6	5.8	0.00	0.00	0.00
3,100.0	0.50	130.10	3,100.0	-5.3	6.3	6.5	0.00	0.00	0.00
3,200.0	0.50	130.10	3,200.0	-5.9	7.0	7.2	0.00	0.00	0.00
3,300.0	0.50	130.10	3,300.0	-6.4	7.6	7.9	0.00	0.00	0.00
3,400.0	0.50	130.10	3,400.0	-7.0	8.3	8.5	0.00	0.00	0.00
3,500.0	0.50	130.10	3,499.9	-7.6	9.0	9.2	0.00	0.00	0.00
3,600.0	0.50	130.10	3,599.9	-8.1	9.6	9.9	0.00	0.00	0.00
3,700.0	0.50	130.10	3,699.9	-8.7	10.3	10.6	0.00	0.00	0.00
3,800.0	0.50	130.10	3,799.9	-9.2	11.0	11.3	0.00	0.00	0.00
3,900.0	0.50	130.10	3,899.9	-9.8	11.6	12.0	0.00	0.00	0.00
4,000.0	0.50	130.10	3,999.9	-10.4	12.3	12.7	0.00	0.00	0.00
4,100.0	0.50	130.10	4,099.9	-10.9	13.0	13.4	0.00	0.00	0.00
4,200.0	0.50	130.10	4,199.9	-11.5	13.7	14.0	0.00	0.00	0.00
4,300.0	0.50	130.10	4,299.9	-12.1	14.3	14.7	0.00	0.00	0.00
4,400.0	0.50	130.10	4,399.9	-12.6	15.0	15.4	0.00	0.00	0.00
4,500.0	0.50	130.10	4,499.9	-13.2	15.7	16.1	0.00	0.00	0.00
4,600.0	0.50	130.10	4,599.9	-13.7	16.3	16.8	0.00	0.00	0.00
4,624.1	0.50	130.10	4,624.0	-13.9	16.5	17.0	0.00	0.00	0.00
Greenhorn									

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #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)
4,700.0	0.50	130.10	4,699.9	-14.3	17.0	17.5	0.00	0.00	0.00
4,800.0	0.50	130.10	4,799.9	-14.9	17.7	18.2	0.00	0.00	0.00
4,900.0	0.50	130.10	4,899.9	-15.4	18.3	18.8	0.00	0.00	0.00
5,000.0	0.50	130.10	4,999.9	-16.0	19.0	19.5	0.00	0.00	0.00
5,029.1	0.50	130.10	5,029.0	-16.2	19.2	19.7	0.00	0.00	0.00
Mowry									
5,100.0	0.50	130.10	5,099.9	-16.6	19.7	20.2	0.00	0.00	0.00
5,200.0	0.50	130.10	5,199.9	-17.1	20.3	20.9	0.00	0.00	0.00
5,300.0	0.50	130.10	5,299.9	-17.7	21.0	21.6	0.00	0.00	0.00
5,400.0	0.50	130.10	5,399.9	-18.2	21.7	22.3	0.00	0.00	0.00
5,417.1	0.50	130.10	5,417.0	-18.3	21.8	22.4	0.00	0.00	0.00
Dakota									
5,500.0	0.50	130.10	5,499.9	-18.8	22.3	23.0	0.00	0.00	0.00
5,600.0	0.50	130.10	5,599.9	-19.4	23.0	23.7	0.00	0.00	0.00
5,700.0	0.50	130.10	5,699.9	-19.9	23.7	24.3	0.00	0.00	0.00
5,800.0	0.50	130.10	5,799.9	-20.5	24.3	25.0	0.00	0.00	0.00
5,900.0	0.50	130.10	5,899.9	-21.1	25.0	25.7	0.00	0.00	0.00
6,000.0	0.50	130.10	5,999.9	-21.6	25.7	26.4	0.00	0.00	0.00
6,100.0	0.50	130.10	6,099.8	-22.2	26.3	27.1	0.00	0.00	0.00
6,200.0	0.50	130.10	6,199.8	-22.7	27.0	27.8	0.00	0.00	0.00
6,300.0	0.50	130.10	6,299.8	-23.3	27.7	28.5	0.00	0.00	0.00
6,400.0	0.50	130.10	6,399.8	-23.9	28.3	29.1	0.00	0.00	0.00
6,463.2	0.50	130.10	6,463.0	-24.2	28.8	29.6	0.00	0.00	0.00
Rierdon									
6,500.0	0.50	130.10	6,499.8	-24.4	29.0	29.8	0.00	0.00	0.00
6,600.0	0.50	130.10	6,599.8	-25.0	29.7	30.5	0.00	0.00	0.00
6,700.0	0.50	130.10	6,699.8	-25.5	30.3	31.2	0.00	0.00	0.00
6,800.0	0.50	130.10	6,799.8	-26.1	31.0	31.9	0.00	0.00	0.00
6,891.2	0.50	130.10	6,891.0	-26.6	31.6	32.5	0.00	0.00	0.00
Dunham Salt									
6,900.0	0.50	130.10	6,899.8	-26.7	31.7	32.6	0.00	0.00	0.00
6,960.2	0.50	130.10	6,960.0	-27.0	32.1	33.0	0.00	0.00	0.00
Dunham Salt Base									
7,000.0	0.50	130.10	6,999.8	-27.2	32.3	33.3	0.00	0.00	0.00
7,100.0	0.50	130.10	7,099.8	-27.8	33.0	34.0	0.00	0.00	0.00
7,200.0	0.50	130.10	7,199.8	-28.4	33.7	34.6	0.00	0.00	0.00
7,257.2	0.50	130.10	7,257.0	-28.7	34.1	35.0	0.00	0.00	0.00
Pine Salt									
7,290.2	0.50	130.10	7,290.0	-28.9	34.3	35.3	0.00	0.00	0.00
Pine Salt Base									
7,300.0	0.50	130.10	7,299.8	-28.9	34.3	35.3	0.00	0.00	0.00
7,351.2	0.50	130.10	7,351.0	-29.2	34.7	35.7	0.00	0.00	0.00
Opeche Salt									
7,400.0	0.50	130.10	7,399.8	-29.5	35.0	36.0	0.00	0.00	0.00
7,426.2	0.50	130.10	7,426.0	-29.6	35.2	36.2	0.00	0.00	0.00
Opeche Salt Base									
7,500.0	0.50	130.10	7,499.8	-30.0	35.7	36.7	0.00	0.00	0.00
7,600.0	0.50	130.10	7,599.8	-30.6	36.3	37.4	0.00	0.00	0.00
7,662.2	0.50	130.10	7,662.0	-31.0	36.8	37.8	0.00	0.00	0.00
Amsden									
7,700.0	0.50	130.10	7,699.8	-31.2	37.0	38.1	0.00	0.00	0.00
7,800.0	0.50	130.10	7,799.8	-31.7	37.7	38.8	0.00	0.00	0.00
7,828.2	0.50	130.10	7,828.0	-31.9	37.9	39.0	0.00	0.00	0.00
Tyler									

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #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)	
7,842.9	0.50	130.10	7,842.6	-32.0	38.0	39.1	0.00	0.00	0.00	
Start Drop -5.00										
7,852.9	0.00	0.00	7,852.6	-32.0	38.0	39.1	5.00	-5.00	0.00	
Start 2147.4 hold at 7852.9 MD										
7,900.0	0.00	0.00	7,899.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,999.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,032.2	0.00	0.00	8,032.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Otter/Base Minnelusa										
8,100.0	0.00	0.00	8,099.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,199.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,299.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,384.2	0.00	0.00	8,384.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Kibbey Lime										
8,400.0	0.00	0.00	8,399.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,499.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,534.2	0.00	0.00	8,534.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Charles Salt										
8,600.0	0.00	0.00	8,599.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,699.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,799.8	-32.0	38.0	39.1	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,899.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,999.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,099.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,199.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,209.2	0.00	0.00	9,209.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Base Last Salt										
9,300.0	0.00	0.00	9,299.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,399.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,429.2	0.00	0.00	9,429.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Mission Canyon										
9,500.0	0.00	0.00	9,499.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,599.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,699.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,799.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,899.8	-32.0	38.0	39.1	0.00	0.00	0.00	
9,993.2	0.00	0.00	9,993.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Lodgepole										
10,000.2	0.00	0.00	10,000.0	-32.0	38.0	39.1	0.00	0.00	0.00	
Start 271.5 hold at 10000.2 MD										
10,100.0	0.00	0.00	10,099.8	-32.0	38.0	39.1	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,199.8	-32.0	38.0	39.1	0.00	0.00	0.00	
10,271.7	0.00	0.00	10,271.5	-32.0	38.0	39.1	0.00	0.00	0.00	
Start Build 12.00 KOP										
10,275.0	0.40	111.37	10,274.8	-32.0	38.0	39.1	12.00	12.00	0.00	
10,300.0	3.40	111.37	10,299.8	-32.3	38.8	39.9	12.00	12.00	0.00	
10,325.0	6.40	111.37	10,324.7	-33.1	40.8	41.9	12.00	12.00	0.00	
10,350.0	9.40	111.37	10,349.4	-34.3	44.0	45.1	12.00	12.00	0.00	
10,375.0	12.40	111.37	10,374.0	-36.1	48.4	49.6	12.00	12.00	0.00	
10,400.0	15.40	111.37	10,398.2	-38.2	54.0	55.3	12.00	12.00	0.00	
10,425.0	18.40	111.37	10,422.2	-40.9	60.7	62.1	12.00	12.00	0.00	
10,450.0	21.40	111.37	10,445.7	-44.0	68.7	70.1	12.00	12.00	0.00	
10,475.0	24.40	111.37	10,468.7	-47.5	77.7	79.3	12.00	12.00	0.00	
10,500.0	27.40	111.37	10,491.2	-51.5	87.9	89.6	12.00	12.00	0.00	
10,525.0	30.40	111.37	10,513.1	-55.9	99.1	101.0	12.00	12.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #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)
10,550.0	33.40	111.37	10,534.3	-60.7	111.4	113.5	12.00	12.00	0.00
10,575.0	36.40	111.37	10,554.8	-65.9	124.7	127.0	12.00	12.00	0.00
10,600.0	39.40	111.37	10,574.5	-71.5	139.0	141.4	12.00	12.00	0.00
10,625.0	42.40	111.37	10,593.4	-77.5	154.3	156.9	12.00	12.00	0.00
10,650.0	45.40	111.37	10,611.4	-83.8	170.4	173.2	12.00	12.00	0.00
10,675.0	48.40	111.37	10,628.5	-90.5	187.4	190.4	12.00	12.00	0.00
10,700.0	51.40	111.37	10,644.6	-97.4	205.2	208.5	12.00	12.00	0.00
10,725.0	54.40	111.37	10,659.7	-104.7	223.8	227.3	12.00	12.00	0.00
10,750.0	57.40	111.37	10,673.7	-112.2	243.1	246.8	12.00	12.00	0.00
10,775.0	60.40	111.37	10,686.6	-120.0	263.0	267.0	12.00	12.00	0.00
10,800.0	63.40	111.37	10,698.4	-128.1	283.5	287.8	12.00	12.00	0.00
10,817.7	65.52	111.37	10,706.0	-133.9	298.4	302.8	12.00	12.00	0.00
False Bakken									
10,825.0	66.40	111.37	10,709.0	-136.3	304.6	309.2	12.00	12.00	0.00
10,843.3	68.60	111.37	10,716.0	-142.5	320.4	325.1	12.00	12.00	0.00
Upper Bakken Shale									
10,850.0	69.40	111.37	10,718.4	-144.8	326.2	331.0	12.00	12.00	0.00
10,875.0	72.40	111.37	10,726.6	-153.4	348.2	353.3	12.00	12.00	0.00
10,900.0	75.40	111.37	10,733.5	-162.1	370.5	375.9	12.00	12.00	0.00
10,925.0	78.40	111.37	10,739.2	-171.0	393.2	398.9	12.00	12.00	0.00
10,946.4	80.97	111.37	10,743.0	-178.7	412.8	418.8	12.00	12.00	0.00
Middle Bakken (Top of Target)									
10,950.0	81.40	111.37	10,743.6	-180.0	416.1	422.1	12.00	12.00	0.00
10,975.0	84.40	111.37	10,746.6	-189.0	439.2	445.5	12.00	12.00	0.00
11,000.0	87.40	111.37	10,748.4	-198.1	462.5	469.0	12.00	12.00	0.00
11,018.8	89.65	111.37	10,748.9	-204.9	479.9	486.7	12.00	12.00	0.00
Start 14.0 hold at 11018.8 MD EOC									
11,032.8	89.65	111.37	10,749.0	-210.0	493.0	500.0	0.00	0.00	0.00
Start DLS 2.00 TFO 269.93 - 7"									
11,100.0	89.65	109.41	10,749.4	-233.5	556.0	563.7	2.92	0.00	-2.92
11,200.0	89.65	106.49	10,750.0	-264.3	651.1	659.9	2.92	0.00	-2.92
11,300.0	89.64	103.57	10,750.6	-290.2	747.7	757.3	2.92	0.00	-2.92
11,400.0	89.64	100.65	10,751.3	-311.2	845.4	855.7	2.92	0.00	-2.92
11,500.0	89.64	97.73	10,751.9	-327.1	944.1	954.9	2.92	0.00	-2.92
11,600.0	89.64	94.81	10,752.5	-338.1	1,043.5	1,054.6	2.92	0.00	-2.92
11,700.0	89.65	91.89	10,753.1	-343.9	1,143.3	1,154.6	2.92	0.00	-2.92
11,764.7	89.65	90.00	10,753.5	-345.0	1,208.0	1,219.2	2.92	0.00	-2.92
11,800.0	89.65	90.00	10,753.7	-345.0	1,243.3	1,254.5	0.00	0.00	0.00
11,900.0	89.65	90.00	10,754.4	-345.0	1,343.3	1,354.5	0.00	0.00	0.00
12,000.0	89.65	90.00	10,755.0	-345.0	1,443.3	1,454.4	0.00	0.00	0.00
12,100.0	89.65	90.00	10,755.6	-345.0	1,543.3	1,554.3	0.00	0.00	0.00
12,101.4	89.65	90.00	10,755.6	-345.0	1,544.7	1,555.7	0.00	0.00	0.00
Start 8531.2 hold at 12101.4 MD									
12,200.0	89.65	90.00	10,756.2	-345.0	1,643.3	1,654.3	0.00	0.00	0.00
12,300.0	89.65	90.00	10,756.8	-345.0	1,743.3	1,754.2	0.00	0.00	0.00
12,400.0	89.65	90.00	10,757.4	-345.0	1,843.3	1,854.2	0.00	0.00	0.00
12,500.0	89.65	90.00	10,758.0	-345.0	1,943.3	1,954.1	0.00	0.00	0.00
12,600.0	89.65	90.00	10,758.7	-345.0	2,043.3	2,054.0	0.00	0.00	0.00
12,700.0	89.65	90.00	10,759.3	-345.0	2,143.3	2,154.0	0.00	0.00	0.00
12,800.0	89.65	90.00	10,759.9	-345.0	2,243.3	2,253.9	0.00	0.00	0.00
12,900.0	89.65	90.00	10,760.5	-345.0	2,343.3	2,353.8	0.00	0.00	0.00
13,000.0	89.65	90.00	10,761.1	-345.0	2,443.3	2,453.8	0.00	0.00	0.00
13,100.0	89.65	90.00	10,761.7	-345.0	2,543.3	2,553.7	0.00	0.00	0.00
13,200.0	89.65	90.00	10,762.3	-345.0	2,643.3	2,653.7	0.00	0.00	0.00

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19/20	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #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)
13,300.0	89.65	90.00	10,762.9	-345.0	2,743.3	2,753.6	0.00	0.00	0.00
13,400.0	89.65	90.00	10,763.6	-345.0	2,843.3	2,853.5	0.00	0.00	0.00
13,500.0	89.65	90.00	10,764.2	-345.0	2,943.3	2,953.5	0.00	0.00	0.00
13,600.0	89.65	90.00	10,764.8	-345.0	3,043.3	3,053.4	0.00	0.00	0.00
13,700.0	89.65	90.00	10,765.4	-345.0	3,143.3	3,153.3	0.00	0.00	0.00
13,800.0	89.65	90.00	10,766.0	-345.0	3,243.3	3,253.3	0.00	0.00	0.00
13,900.0	89.65	90.00	10,766.6	-345.0	3,343.3	3,353.2	0.00	0.00	0.00
14,000.0	89.65	90.00	10,767.2	-345.0	3,443.3	3,453.2	0.00	0.00	0.00
14,100.0	89.65	90.00	10,767.9	-345.0	3,543.3	3,553.1	0.00	0.00	0.00
14,200.0	89.65	90.00	10,768.5	-345.0	3,643.3	3,653.0	0.00	0.00	0.00
14,300.0	89.65	90.00	10,769.1	-345.0	3,743.3	3,753.0	0.00	0.00	0.00
14,400.0	89.65	90.00	10,769.7	-345.0	3,843.3	3,852.9	0.00	0.00	0.00
14,500.0	89.65	90.00	10,770.3	-345.0	3,943.3	3,952.9	0.00	0.00	0.00
14,600.0	89.65	90.00	10,770.9	-345.0	4,043.3	4,052.8	0.00	0.00	0.00
14,700.0	89.65	90.00	10,771.5	-345.0	4,143.3	4,152.7	0.00	0.00	0.00
14,800.0	89.65	90.00	10,772.2	-345.0	4,243.3	4,252.7	0.00	0.00	0.00
14,900.0	89.65	90.00	10,772.8	-345.0	4,343.3	4,352.6	0.00	0.00	0.00
15,000.0	89.65	90.00	10,773.4	-345.0	4,443.3	4,452.5	0.00	0.00	0.00
15,100.0	89.65	90.00	10,774.0	-345.0	4,543.3	4,552.5	0.00	0.00	0.00
15,200.0	89.65	90.00	10,774.6	-345.0	4,643.3	4,652.4	0.00	0.00	0.00
15,300.0	89.65	90.00	10,775.2	-345.0	4,743.3	4,752.4	0.00	0.00	0.00
15,400.0	89.65	90.00	10,775.8	-345.0	4,843.3	4,852.3	0.00	0.00	0.00
15,500.0	89.65	90.00	10,776.4	-345.0	4,943.3	4,952.2	0.00	0.00	0.00
15,600.0	89.65	90.00	10,777.1	-345.0	5,043.3	5,052.2	0.00	0.00	0.00
15,700.0	89.65	90.00	10,777.7	-345.0	5,143.3	5,152.1	0.00	0.00	0.00
15,800.0	89.65	90.00	10,778.3	-345.0	5,243.2	5,252.0	0.00	0.00	0.00
15,900.0	89.65	90.00	10,778.9	-345.0	5,343.2	5,352.0	0.00	0.00	0.00
16,000.0	89.65	90.00	10,779.5	-345.0	5,443.2	5,451.9	0.00	0.00	0.00
16,100.0	89.65	90.00	10,780.1	-345.0	5,543.2	5,551.9	0.00	0.00	0.00
16,200.0	89.65	90.00	10,780.7	-345.0	5,643.2	5,651.8	0.00	0.00	0.00
16,300.0	89.65	90.00	10,781.4	-345.0	5,743.2	5,751.7	0.00	0.00	0.00
16,400.0	89.65	90.00	10,782.0	-345.0	5,843.2	5,851.7	0.00	0.00	0.00
16,500.0	89.65	90.00	10,782.6	-345.0	5,943.2	5,951.6	0.00	0.00	0.00
16,600.0	89.65	90.00	10,783.2	-345.0	6,043.2	6,051.6	0.00	0.00	0.00
16,700.0	89.65	90.00	10,783.8	-345.0	6,143.2	6,151.5	0.00	0.00	0.00
16,800.0	89.65	90.00	10,784.4	-345.0	6,243.2	6,251.4	0.00	0.00	0.00
16,900.0	89.65	90.00	10,785.0	-345.0	6,343.2	6,351.4	0.00	0.00	0.00
17,000.0	89.65	90.00	10,785.6	-345.0	6,443.2	6,451.3	0.00	0.00	0.00
17,100.0	89.65	90.00	10,786.3	-345.0	6,543.2	6,551.2	0.00	0.00	0.00
17,200.0	89.65	90.00	10,786.9	-345.0	6,643.2	6,651.2	0.00	0.00	0.00
17,300.0	89.65	90.00	10,787.5	-345.0	6,743.2	6,751.1	0.00	0.00	0.00
17,400.0	89.65	90.00	10,788.1	-345.0	6,843.2	6,851.1	0.00	0.00	0.00
17,500.0	89.65	90.00	10,788.7	-345.0	6,943.2	6,951.0	0.00	0.00	0.00
17,600.0	89.65	90.00	10,789.3	-345.0	7,043.2	7,050.9	0.00	0.00	0.00
17,700.0	89.65	90.00	10,789.9	-345.0	7,143.2	7,150.9	0.00	0.00	0.00
17,800.0	89.65	90.00	10,790.6	-345.0	7,243.2	7,250.8	0.00	0.00	0.00
17,900.0	89.65	90.00	10,791.2	-345.0	7,343.2	7,350.8	0.00	0.00	0.00
18,000.0	89.65	90.00	10,791.8	-345.0	7,443.2	7,450.7	0.00	0.00	0.00
18,100.0	89.65	90.00	10,792.4	-345.0	7,543.2	7,550.6	0.00	0.00	0.00
18,200.0	89.65	90.00	10,793.0	-345.0	7,643.2	7,650.6	0.00	0.00	0.00
18,300.0	89.65	90.00	10,793.6	-345.0	7,743.2	7,750.5	0.00	0.00	0.00
18,400.0	89.65	90.00	10,794.2	-345.0	7,843.2	7,850.4	0.00	0.00	0.00
18,500.0	89.65	90.00	10,794.8	-345.0	7,943.2	7,950.4	0.00	0.00	0.00
18,600.0	89.65	90.00	10,795.5	-345.0	8,043.2	8,050.3	0.00	0.00	0.00
18,700.0	89.65	90.00	10,796.1	-345.0	8,143.2	8,150.3	0.00	0.00	0.00

Oasis Petroleum

Planning Report

Database: OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company: Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project: Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site: 153N-100W-19/20	North Reference:	True
Well: CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore: CHALMERS 5300 21-19 10B		
Design: Plan #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)
18,800.0	89.65	90.00	10,796.7	-345.0	8,243.2	8,250.2	0.00	0.00	0.00
18,900.0	89.65	90.00	10,797.3	-345.0	8,343.2	8,350.1	0.00	0.00	0.00
19,000.0	89.65	90.00	10,797.9	-345.0	8,443.2	8,450.1	0.00	0.00	0.00
19,100.0	89.65	90.00	10,798.5	-345.0	8,543.2	8,550.0	0.00	0.00	0.00
19,200.0	89.65	90.00	10,799.1	-345.0	8,643.2	8,649.9	0.00	0.00	0.00
19,300.0	89.65	90.00	10,799.8	-345.0	8,743.2	8,749.9	0.00	0.00	0.00
19,400.0	89.65	90.00	10,800.4	-345.0	8,843.2	8,849.8	0.00	0.00	0.00
19,500.0	89.65	90.00	10,801.0	-345.0	8,943.2	8,949.8	0.00	0.00	0.00
19,600.0	89.65	90.00	10,801.6	-345.0	9,043.2	9,049.7	0.00	0.00	0.00
19,700.0	89.65	90.00	10,802.2	-345.0	9,143.2	9,149.6	0.00	0.00	0.00
19,800.0	89.65	90.00	10,802.8	-345.0	9,243.2	9,249.6	0.00	0.00	0.00
19,900.0	89.65	90.00	10,803.4	-345.0	9,343.2	9,349.5	0.00	0.00	0.00
20,000.0	89.65	90.00	10,804.0	-345.0	9,443.2	9,449.5	0.00	0.00	0.00
20,100.0	89.65	90.00	10,804.7	-345.0	9,543.2	9,549.4	0.00	0.00	0.00
20,200.0	89.65	90.00	10,805.3	-345.0	9,643.2	9,649.3	0.00	0.00	0.00
20,300.0	89.65	90.00	10,805.9	-345.0	9,743.2	9,749.3	0.00	0.00	0.00
20,400.0	89.65	90.00	10,806.5	-345.0	9,843.2	9,849.2	0.00	0.00	0.00
20,500.0	89.65	90.00	10,807.1	-345.0	9,943.2	9,949.1	0.00	0.00	0.00
20,516.0	89.65	90.00	10,807.2	-345.0	9,959.1	9,965.1	0.00	0.00	0.00

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Chalmers 10B	0.00	0.00	10,807.6	-352.3	9,974.9	401,655.73	1,219,940.43	48° 3' 37.147 N	103° 33' 43.260 W	
- plan misses target center by 17.4ft at 20516.0ft MD (10807.2 TVD, -345.0 N, 9959.1 E)										
- Point										

Casing Points									
Measured Depth (ft)	Vertical Depth (ft)	Name				Casing Diameter (in)	Hole Diameter (in)		
2,150.0	2,150.0 9 5/8"					9.625	13.500		
11,032.8	10,749.0 7"					7.000	8.750		

Oasis Petroleum

Planning Report

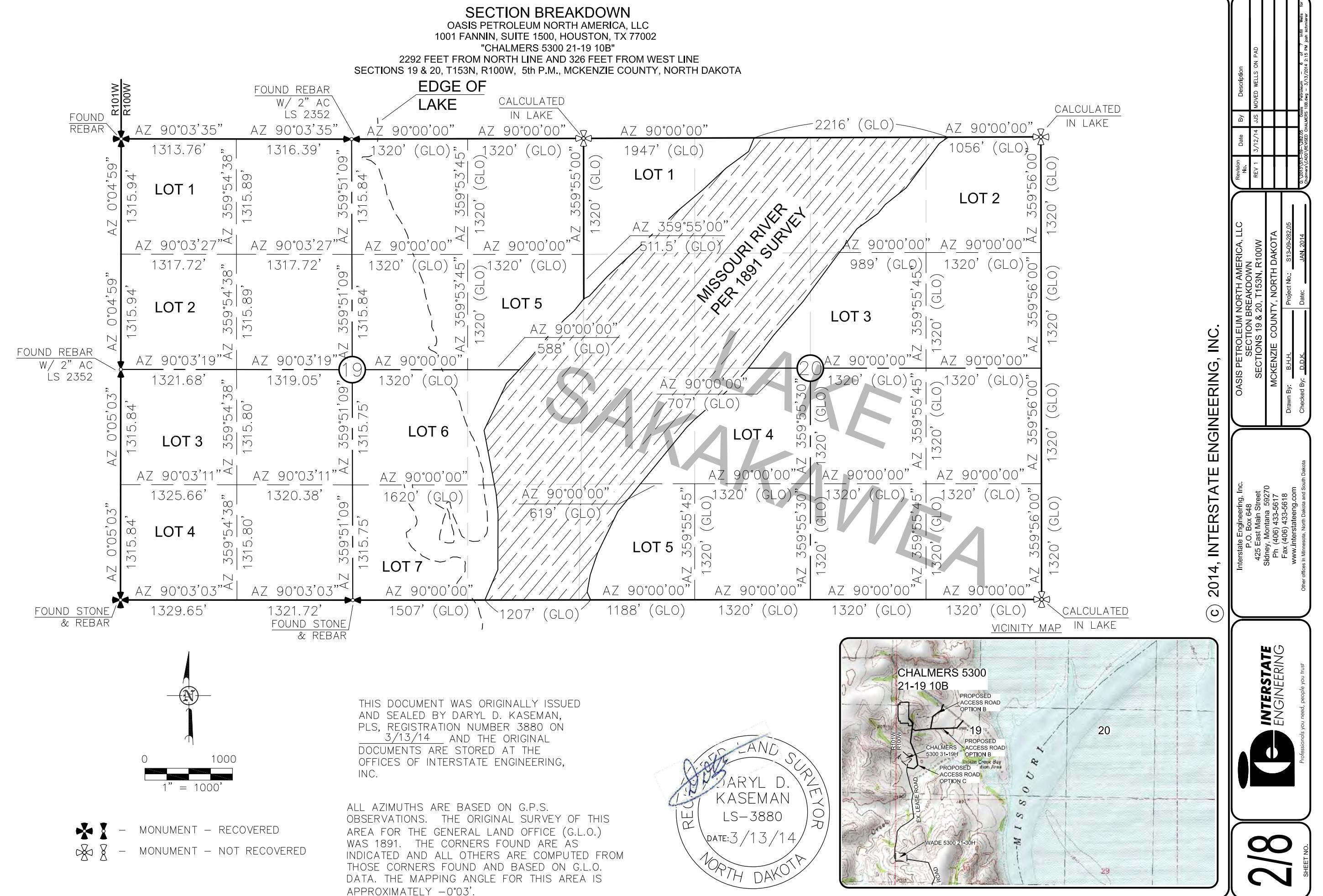
Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well CHALMERS 5300 21-19 10B
Company:	Oasis	TVD Reference:	WELL @ 2071.0ft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2071.0ft (Original Well Elev)
Site:	153N-100W-19 10B	North Reference:	True
Well:	CHALMERS 5300 21-19 10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	CHALMERS 5300 21-19 10B		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,021.0	2,021.0	Pierre			
4,624.1	4,624.0	Greenhorn			
5,029.1	5,029.0	Mowry			
5,417.1	5,417.0	Dakota			
6,463.2	6,463.0	Rierdon			
6,891.2	6,891.0	Dunham Salt			
6,960.2	6,960.0	Dunham Salt Base			
7,257.2	7,257.0	Pine Salt			
7,290.2	7,290.0	Pine Salt Base			
7,351.2	7,351.0	Opeche Salt			
7,426.2	7,426.0	Opeche Salt Base			
7,662.2	7,662.0	Amsden			
7,828.2	7,828.0	Tyler			
8,032.2	8,032.0	Otter/Base Minnelusa			
8,384.2	8,384.0	Kibbey Lime			
8,534.2	8,534.0	Charles Salt			
9,209.2	9,209.0	Base Last Salt			
9,429.2	9,429.0	Mission Canyon			
9,993.2	9,993.0	Lodgepole			
10,817.7	10,706.0	False Bakken			
10,843.3	10,716.0	Upper Bakken Shale			
10,946.4	10,743.0	Middle Bakken (Top of Target)			

Plan Annotations

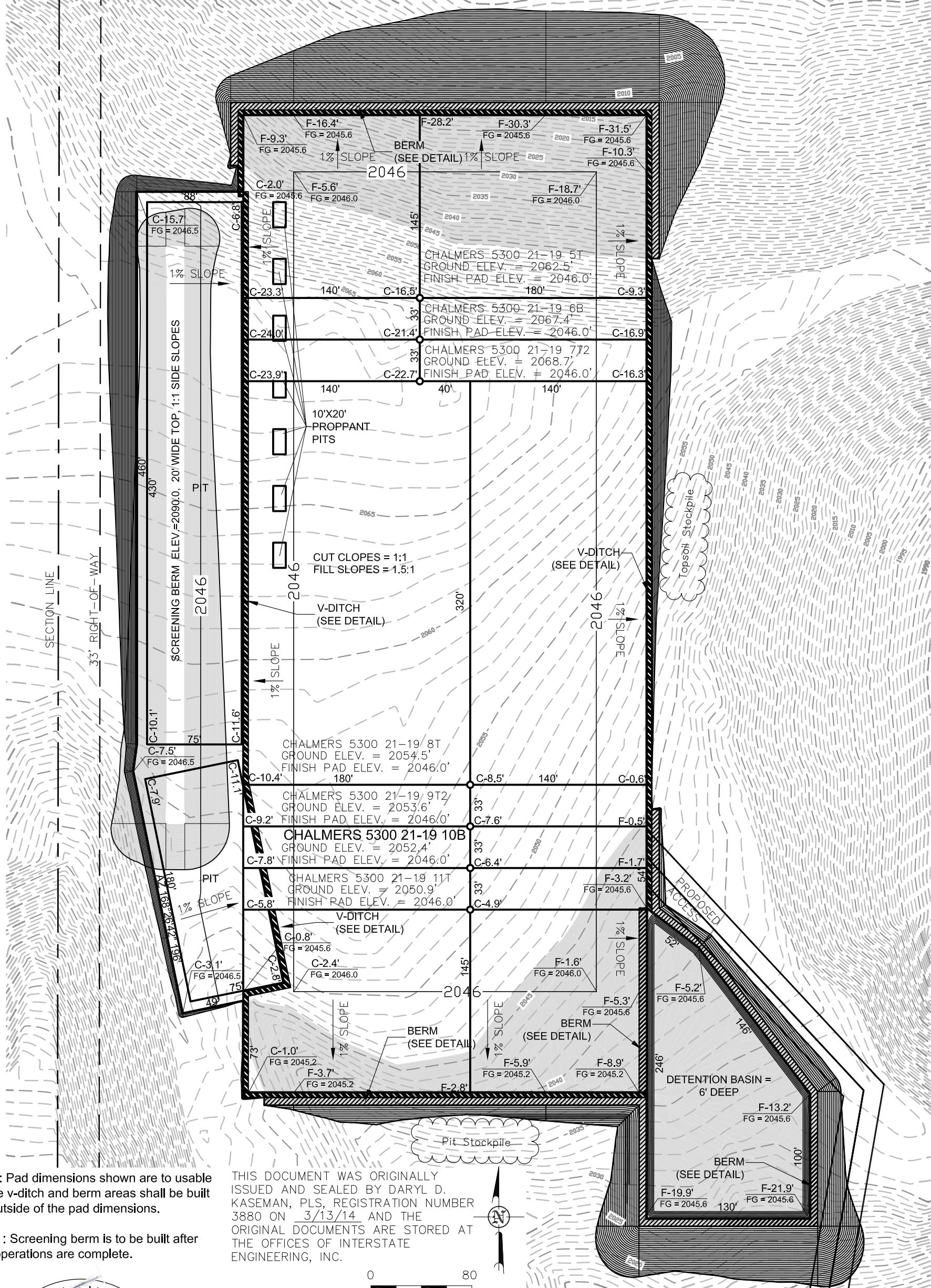
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			Comment
		+N/-S (ft)	+E/-W (ft)		
2,150.0	2,150.0	0.0	0.0	Start Build 5.00	
2,160.0	2,160.0	0.0	0.0	Start 5682.9 hold at 2160.0 MD	
7,842.9	7,842.6	-32.0	38.0	Start Drop -5.00	
7,852.9	7,852.6	-32.0	38.0	Start 2147.4 hold at 7852.9 MD	
10,000.2	10,000.0	-32.0	38.0	Start 271.5 hold at 10000.2 MD	
10,271.7	10,271.5	-32.0	38.0	Start Build 12.00 KOP	
11,018.8	10,748.9	-204.9	479.9	Start 14.0 hold at 11018.8 MD EOC	
11,032.8	10,749.0	-210.0	493.0	Start DLS 2.00 TFO 269.93	
12,101.4	10,755.6	-345.0	1,544.7	Start 8531.2 hold at 12101.4 MD	
20,532.0	10,807.3	-345.0	9,975.2	TD at 20532	



PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"CHALMERS 5300 21-19 10B"

2292 FEET FROM NORTH LINE AND 326 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



3/8



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OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282.05
Checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD

OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282.05
Checked By: D.D.K. Date: JAN, 2014

3/13/14 092800 CADD REVISED CHALMERS 10B.dwg - 3/13/2014 2:15 PM josh schmierer

WELL LOCATION SITE QUANTITIES

OASIS PETROLEUM NORTH AMERICA, LLC

1001 FANNIN, SUITE 1500, HOUSTON, TX 77002

"CHALMERS 5300 21-19 10B"

2292 FEET FROM NORTH LINE AND 326 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2052.4
WELL PAD ELEVATION	2046.0
EXCAVATION	119,687
PLUS PIT	<u>22,050</u>
	141,737
EMBANKMENT	53,703
PLUS SHRINKAGE (30%)	<u>16,111</u>
	69,814
STOCKPILE PIT	22,050
STOCKPILE TOP SOIL (6")	7,335
BERMS	1,373 LF = 445 CY
DITCHES	2,044 LF = 313 CY
DETENTION AREA	4,751 CY
SCREENING BERM	27,464 CY
STOCKPILE MATERIAL	19,693
DISTURBED AREA FROM PAD	9.09 ACRES

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

CUT END SLOPES AT 1:1

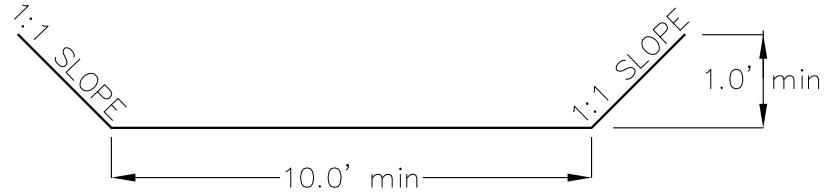
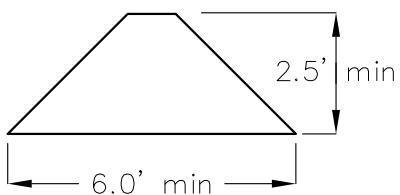
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

2292' FNL

326' FWL

BERM DETAIL



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QUANTITIES

SECTION 19, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282.05

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

Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD

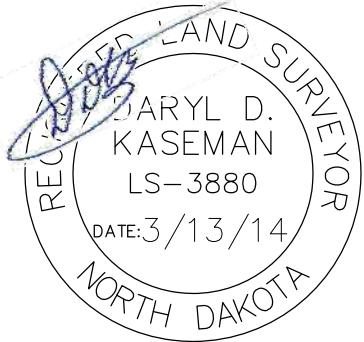
CROSS SECTIONS

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

"CHALMERS 5300 21-19 10B"

2292 FEET FROM NORTH LINE AND 326 FEET FROM WEST LINE
SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

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SCALE
HORIZ 1"=200'
VERT 1"=50'

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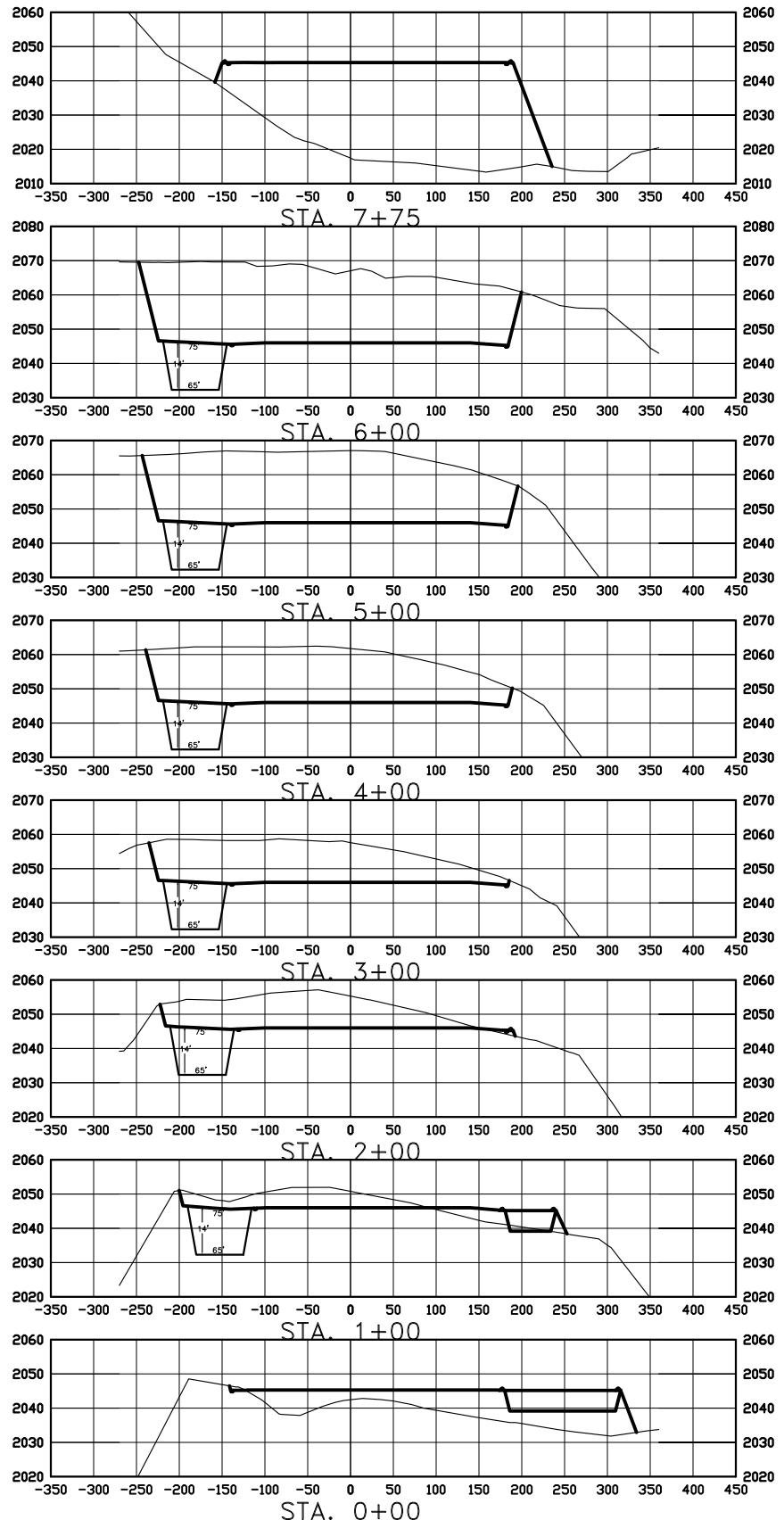
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PAD CROSS SECTIONS
SECTION 19, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

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

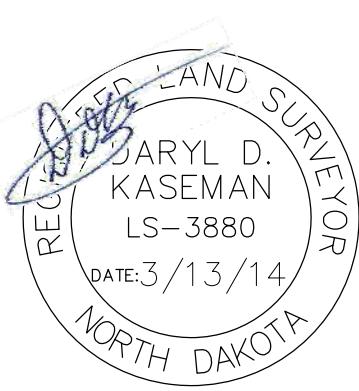
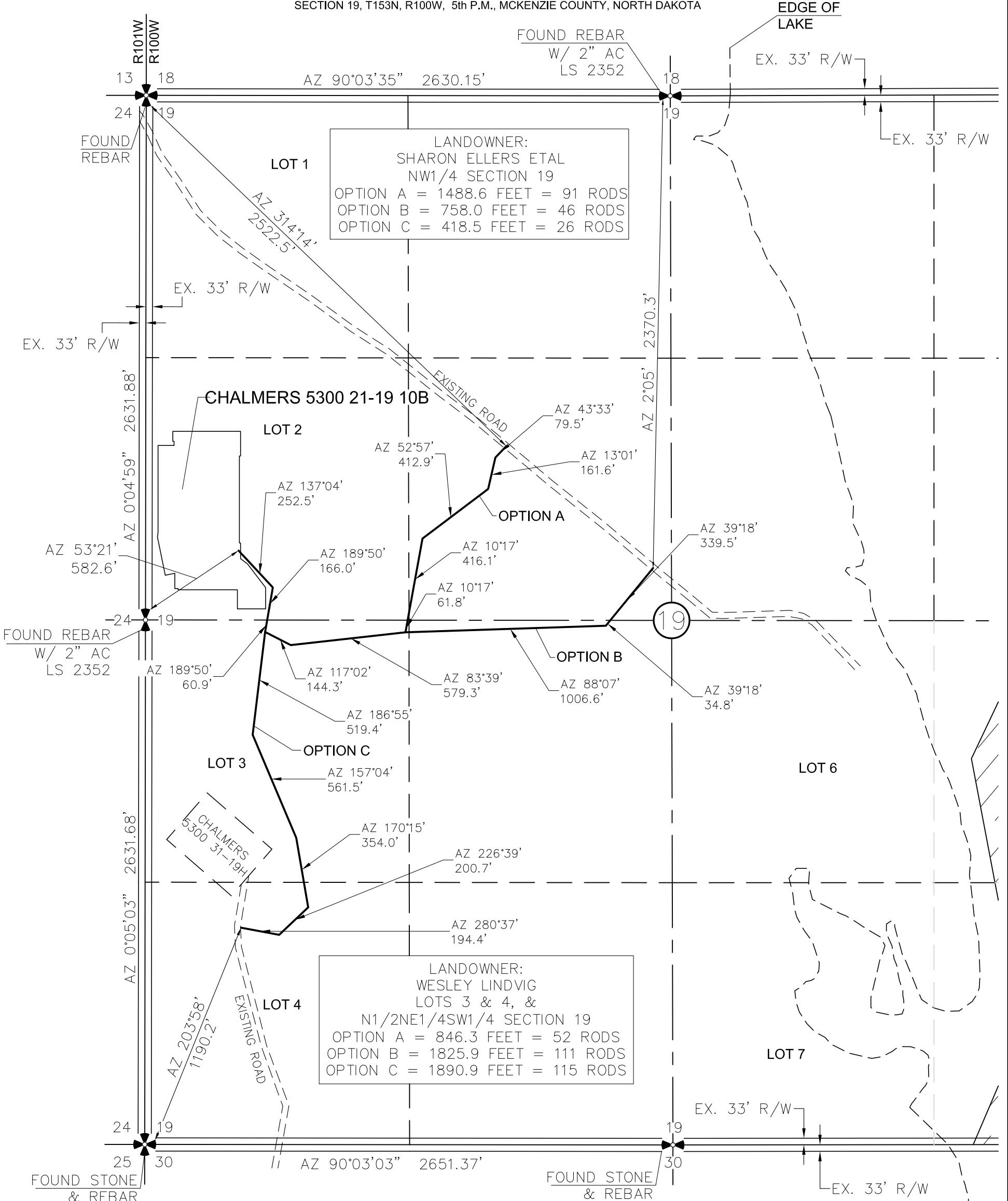
Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD



STA. 0+00

ACCESS APPROACH
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "CHALMERS 5300 21-19 10B"

2292 FEET FROM NORTH LINE AND 326 FEET FROM WEST LINE
 SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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

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 SECTION 19, T153N, R100W

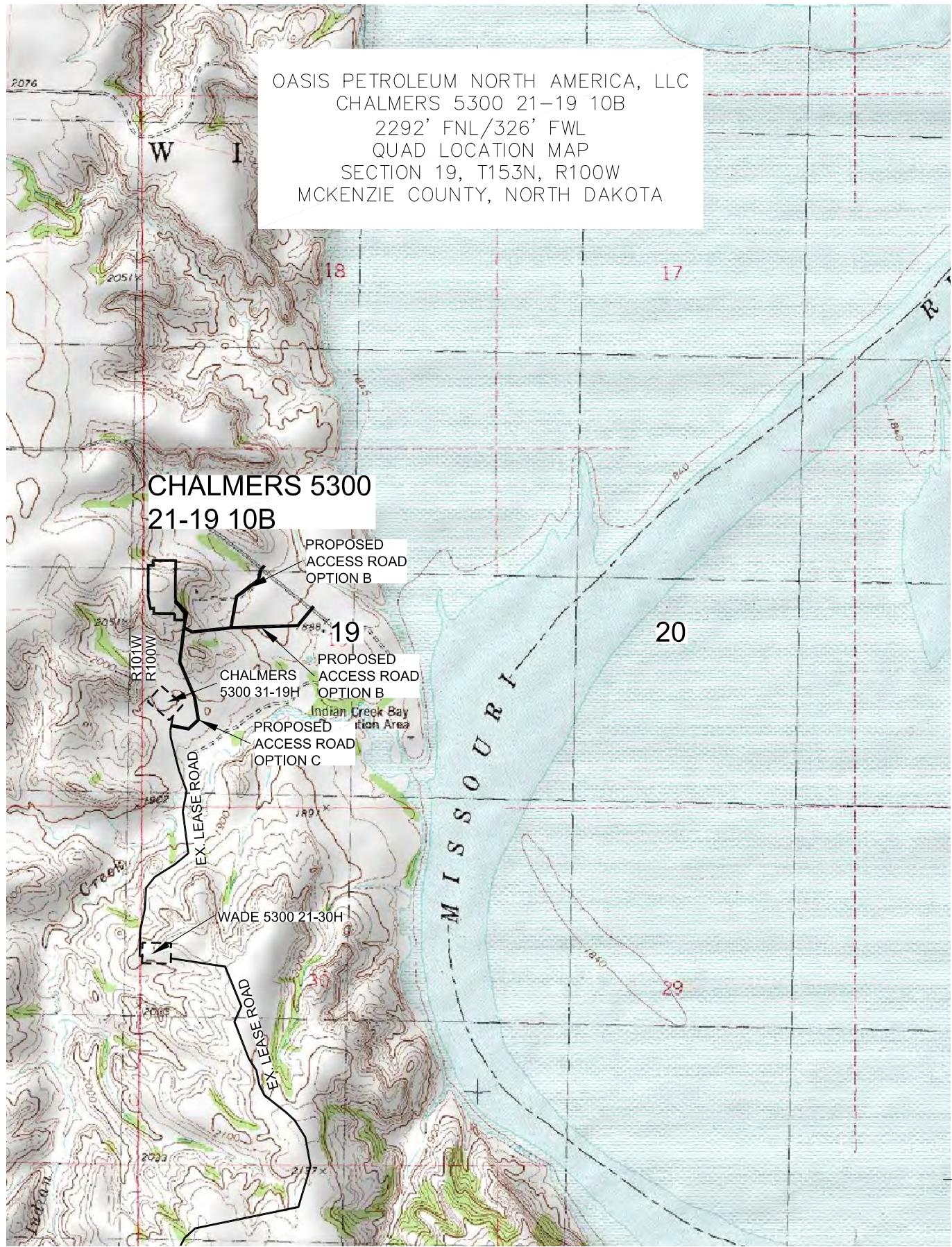
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S13-09-282.05
 Checked By: D.D.K. Date: JAN, 2014

Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD

O:\2013\SLI-09\282.05 Oasis Petroleum - 6 of 7 Infill Wells for Chalmers\CAD\REVISED CHALMERS 10B.dwg - 3/13/2014 2:15 PM josh schmierer

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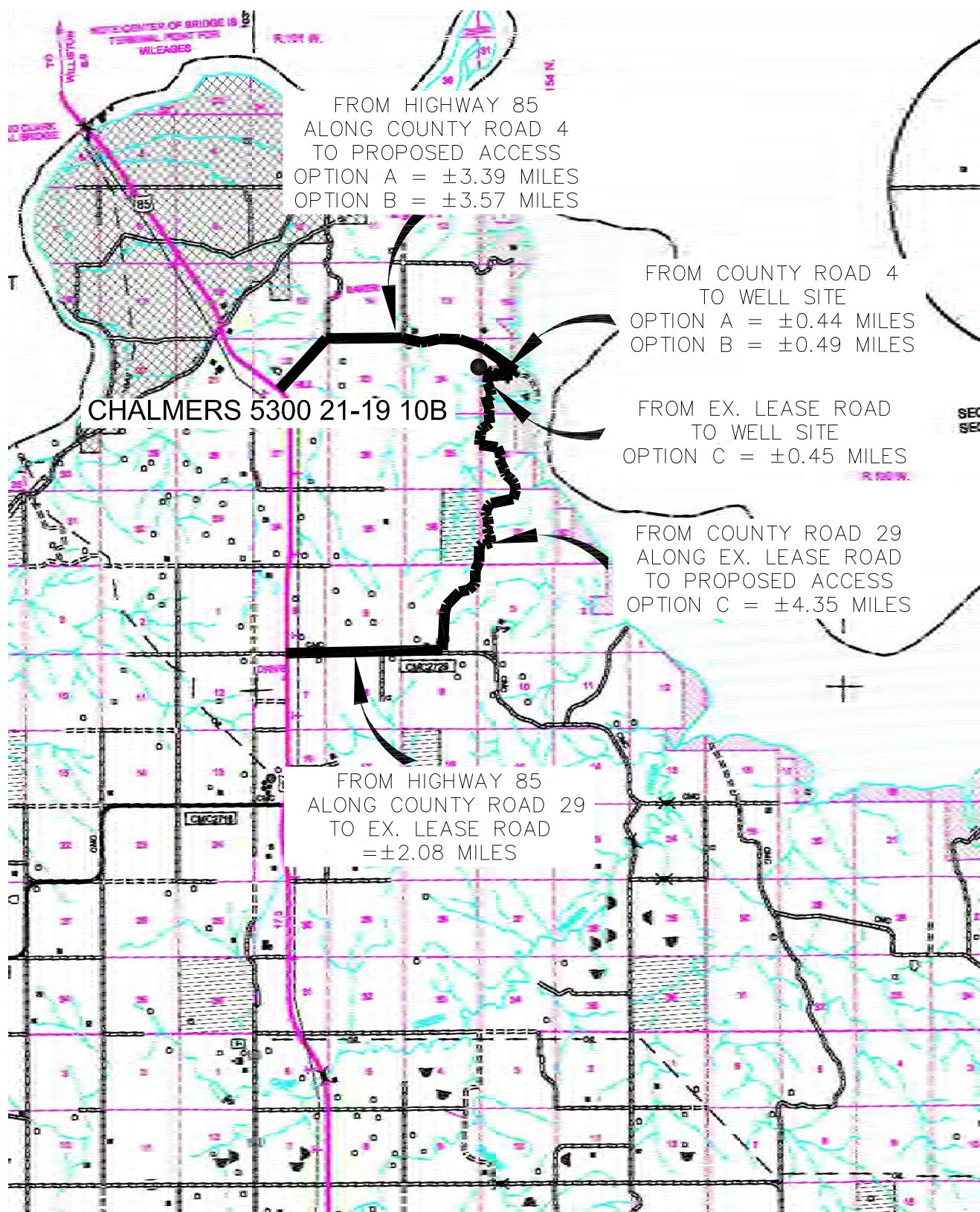
OASIS PETROLEUM NORTH AMERICA, LLC
QUAD LOCATION MAP
SECTION 19, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S13-09-282.05
Checked By:	D.D.K.	Date:	JAN, 2014

Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD

COUNTY ROAD MAP
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "CHALMERS 5300 21-19 10B"
 2292 FEET FROM NORTH LINE AND 326 FEET FROM WEST LINE
 SECTION 19, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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SCALE: 1" = 2 MILE

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OASIS PETROLEUM NORTH AMERICA, LLC
 COUNTY ROAD MAP
 SECTION 19, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S13-09-282.05
Checked By:	D.D.K.	Date:	JAN. 2014

Revision No.	Date	By	Description
REV 1	3/12/14	JJS	MOVED WELLS ON PAD



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.

April 3, 2014
McKenzie County
Aaron Chisolm – address@co.mckenzie.nd.us

Chalmers 5300 21-19 5T Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 6B Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 7T2 Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 8T Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 9T2 Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 10B Lot 2 Section 19 T153N R100W
Chalmers 5300 21-19 11T Lot 2 Sections 19 T153N R100W

Chelsea Covington
Chelsea Covington
Regulatory Assistant
Oasis Petroleum North America, LLC



June 10, 2014

Re: Un-Occupied Trailer House and Seasonal Cabin.

Brandi,

Just to follow up with past conversations about the dwellings east of our proposed Chalmer 5300 21-19 well site. The white trailer is unlivable, it has no water, power or sewer. The cabin is seasonal at best and has not been used for several years. If I can be of further assistance please advise.

Thank you,

A handwritten signature in blue ink, appearing to read "JD DeMorrett".

JD DeMorrett

Sr. Staff Landman for Oasis Petroleum North America, LLC

PO Box 1126 Williston ND- Office 701-577-1600 Fax 701-577-1692