



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.
29242

SEP 23 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 September 9, 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 checked="" 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

Kline Federal 5300 11-18 5B

Footages	Qtr-Qtr	Section	Township	Range
1050 F N L	277 F W L	LOT1	18	153 N 100 W
Field Baker	Pool Bakken	County McKenzie		

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

Address	City	State	Zip Code

DETAILS OF WORK

Effective 09/09/2016 the above referenced well was converted to rod pump.

End of Tubing: 2-7/8" L-80 tubing @ 10098'

Pump: 2-1/2" x 2.0" x 24' insert pump @ 9965.02'

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 September 22, 2016
Email Address jswenson@oasispetroleum.com	

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 11-2-2016	
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.
29242

FEB 22 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 December 6, 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 checked="" 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 Kline Federal 5300 11-18 5B				
Footages 1050 F N L	Qtr-Qtr 277 F W L	Section LOT1	Township 18	Range 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)			
Address		City	State
			Zip Code

DETAILS OF WORK

Effective 12/06/2015 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 10098'

Pump: ESP @ 9884'

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 February 19, 2016
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY	
<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 3-8-2016	
By 	
Title TAYLOR ROTH	
Engineering Technician	



WELL COMPLETION OR RECOMPLETION REPORT - FORM 6

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

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

A circular stamp with a double-lined border containing the date 'SEP 2015' at the top. The word 'RECEIVED' is stamped in large, bold, capital letters in the center. Below it, 'ND OIL & GAS DIVISION' is stamped in smaller capital letters. The outer edge of the stamp features a sequence of numbers: 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

Well File No. 29242

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 Kline Federal 5300 11-18 5B				Spacing Unit Description Sec. 17/18 T153N R100W			
Operator Oasis Petroleum North America		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

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- 11083' to 20891'							Name of Zone (If Different from Pool Name)	
Date Well Completed (SEE INSTRUCTIONS) August 25, 2015			Producing Method Flowing		Pumping-Size & Type of Pump			Well Status (Producing or Shut-In) Producing
Date of Test 08/25/2015	Hours Tested 24	Choke Size 45 /64	Production for Test	Oil (Bbls) 998	Gas (MCF) 1082	Water (Bbls) 3731	Oil Gravity-API (Corr.) °	Disposition of Gas Sold
Flowing Tubing Pressure (PSI)		Flowing Casing Pressure (PSI)		Calculated 24-Hour Rate	Oil (Bbls) 998	Gas (MCF) 1082	Water (Bbls) 3731	Gas-Oil Ratio 1084

GEOLOGICAL MARKERS

PLUG BACK INFORMATION

CORES CUT

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

Drill Stem Test

Well Specific Stimulations

Date Stimulated 07/16/2015	Stimulated Formation Bakken		Top (Ft) 110853	Bottom (Ft) 20891	Stimulation Stages 36	Volume 209044	Volume Units Barrels
Type Treatment Sand Frac	Acid %	Lbs Proppant 4192230	Maximum Treatment Pressure (PSI) 9205		Maximum Treatment Rate (BBLS/Min) 73.0		
Details 100 Mesh White: 296000 40/70 White: 1554520 30/50 White: 1755330 30/50 Resin Coated: 497700 20/40 Resin Coated: 88680							
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 09/29/2015
Signature 	Printed Name Jennifer Swenson	Title Regulatory Specialist



AUTHORIZATION TO PURCHASE AND TRANSPORT OIL FROM LEASE - Form 8

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



Well File No.
29242
NDIC CTB No.
To be assigned

129242

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND FOUR COPIES.

Well Name and Number KLINE FEDERAL 5300 11-18 5B	Qtr-Qtr LOT1	Section 18	Township 153	Range 100	County McKenzie
--	-----------------	---------------	-----------------	--------------	--------------------

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

Address 1001 Fannin, Suite 1500	City Houston	State TX	Zip Code 77002
---	------------------------	--------------------	--------------------------

Name of First Purchaser Oasis Petroleum Marketing LLC	Telephone Number (281) 404-9627	% Purchased 100%	Date Effective August 22, 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 August 22, 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	28%	August 22, 2015
Other Transporters Transporting From This Lease	% Transported	Date Effective
		August 22, 2015
Comments		

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Date August 22, 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 Oil & Gas Production Analyst		

Industrial Commission of North Dakota
Oil and Gas Division

Well or Facility No

29242

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 KLINE FEDERAL 5300 11-18 5B	Inspector Richard Dunn
Well Location QQ Sec Twp Rng	County MCKENZIE
LOT1 18 153 N 100 W	Field BAKER
Footages 1050 Feet From the N Line	Pool BAKKEN
277 Feet From the W Line	
Date of First Production Through Permanent Wellhead	This Is Not The First Sales

PURCHASER / TRANSPORTER

Purchaser Kinder Morgan	Transporter Kinder Morgan
-----------------------------------	-------------------------------------

TANK BATTERY

Single Well Tank Battery Number :

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

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

DETAILS

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

Start Date **8/25/2015**
Date Approved **8/25/2015**
Approved By **Richard Dunn**

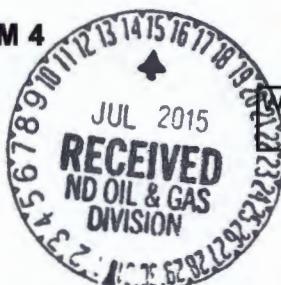


SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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.

29242



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

 Notice of Intent

Approximate Start Date

July 14, 2015

 Report of Work Done

Date Work Completed

 Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.

Approximate Start Date

 Drilling Prognosis Spill Report Redrilling or Repair Shooting Casing or Liner Acidizing Plug Well Fracture Treatment Supplemental History Change Production Method Temporarily Abandon Reclamation Other

Waiver from tubing/packer requirement

Well Name and Number

Kline Federal 5300 11-18 5B

Footages 1050	277	Qtr-Qtr.	Section	Township	Range
1080 F N L	263 F W L	LOT1	18	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)

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	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date July 14, 2015	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date <i>July 31, 2015</i>	
By 	
Title PETROLEUM ENGINEER	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Well File No.
29242



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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date August 9th, 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 Kline Federal 5300 11-18 5B					
Footages	1050	227	Qtr-Qtr	Section	Township
1000 F N L	263 F W L	Lot1	18	153 N	100 W
Field	Pool	County			
Baker	BAKKEN	McKenzie			

24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)	City	State	Zip Code
Address			

DETAILS OF WORK

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

This well has not been completed

OFF CONFIDENTIAL 2/10/16

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 August 10, 2015	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8/12/15	
By 	
Title Engineering Technician	



Oasis Petroleum North America, LLC

Kline Federal 5300 11-18 5B

1,050' FNL & 277' FWL

Lot 1 Section 18, T153N, R100W

Baker Field / Middle Bakken

McKenzie County, North Dakota

BOTTOM HOLE LOCATION:

1,137.92' south & 9,944.75' east of surface location or approx.

2,187.92' FNL & 325.56' FEL, Lot 1. Section 17, T153N, R100W

Prepared for:

Curtis Johnson

Oasis Petroleum North America, LLC

1001 Fannin, Suite 1500

Houston, TX 77002

Prepared by:

Dillon Johnson, Matt Hegland

PO Box 80507; Billings, MT 59108

(406) 259-4124

geology@sunburstconsulting.com

www.sunburstconsulting.com

WELL EVALUATION

Oasis Petroleum North America, LLC
Kline Federal 5300 11-18 5B



Figure 1. Xtreme 21 drilling Oasis Petroleum North America, LLC *Kline Federal 5300 11-18 5B* during May 2015 in Williams County, North Dakota.

INTRODUCTION

The **Oasis Petroleum, North America, Kline Federal 5300 11-18 5B** [Lot 1, Section 18, T153N, R100W] is located approximately 4 miles south of Williston in McKenzie County, North Dakota. The *Kline Federal 5300 11-18 5B* is a horizontal Middle Bakken well within the Williston Basin consisting of one 9,773' lateral drilled toward the East. Geologically, the Williston Basin is an intracratonic, structural, and sedimentary basin located at the western edge of the Canadian Shield. Within the basin, the Middle Bakken Formation (Late Devonian to early Mississippian) consists of four members: the basal pronghorn member (formerly recognized as the Sanish Siltstone) which underlies lower and upper organic-rich shale members deposited above and below the clastic and coastal-carbonate middle member which consists of calcareous and dolomitic silty sandstone and siltstone shore facies.

ENGINEERING

The *Kline Federal 5300 11-18 5B* surface, vertical and curve were drilled earlier in 2015 by a different drilling rig. Extreme 21 returned to the location in May 2015 to drill the laterals of the *Kline Federal 5300 11-18 5B, 3T, 2B*. The Kline Federal 5300 11-18 5B was re-entered on May 15, 2015. To start the lateral, a 6" Baker Hughes PDC bit, Ryan Directional Services MWD tool, and a 1.5° adjustable Baker Hughes mud motor were used. The complete BHA accomplishment are tabulated in an appendix (BHA Record) to this report. The well reached total depth (TD) at 20,895' MD at 07:15 hrs CDT on May 20, 2015, generating an exposure of 9,773' linear feet of 6" hole through the *Middle Bakken* target interval. The bottom hole location (BHL) lies 1,137.92' south & 9,944.75' east of surface location or approximately 2,187.92' FNL & 325.56' FEL Lot 1. Sec. 17, T153N, R100W.

GEOLOGY

Lithology

Sunburst Geology, Inc. was not present for the vertical and curve holes therefore there is no information for formations and members prior to intermediate casing being set.

Target Middle Bakken Member

While the curve was being drilled the middle member was drilled at 10,936' MD, 10,725' TVD (-8,657'). The Middle Bakken displayed gamma counts ranging from 70-130 API. The middle member was composed of a light brown gray to light gray, silty sandstone. It was apparent that samples observed higher in the member were often light brown or off white in color, while the lower portion of the member were predominantly gray to dark gray. Throughout the Middle Bakken trace amounts of both disseminated and nodular pyrite were observed. The silty sandstone was most often very fine grained, but occasionally fine grained. Samples were observed as being moderately, occasionally well cemented with. The Middle Bakken displayed a *trace spotty and occasionally even, light brown oil stain and trace intergranular porosity.*

Figure 2. Silty sandstone, observed in the upper portion of the target interval.



Gas and Oil Shows

Hydrocarbon shows at the beginning of the lateral were relatively low to begin the lateral. During the first ~2,000' of lateral operations the wellbore remained primarily near the base if not below the target zone. While drilling this interval background gasses rarely exceeded 400 units, but connection and survey gasses regularly exceeded 1,000 units. Fluorescent cuts throughout this period of drilling were poor, with most reacting slowly with a pale yellow diffuse. Although shows were poor, there was a small amount of light green oil observed on the shakers. This light green oil was observed throughout the entire lateral. As the wellbore reached the top of the target interval hydrocarbon shows increased for a brief interval. This brief period of gas shows increasing occurred twice while drilling along the upper portion of the target zone. The first from 13,170'-13,510', and also from 14,030'-14,450'. Although these optimistic shows were intermittent, samples displayed a more promising oil staining than that observed in lower samples. Samples along the upper portion displayed a light to medium brown even oil staining. Fluorescent cuts were also slightly more promising than those observed lower in zone were. Cuts were described as moderate, pale yellow, streaming, becoming diffuse. While drilling from 15,190'-16,050' there were issues with the gas detection, this caused shows to read very low. When the system was repaired gas shows immediately climbed. From this point to 20,895' (TD) the most promising shows of the lateral were observed. For the remainder of the well, despite of the wellbore was high

or low in zone, background gasses 1,200-2,000 units, while connection gasses regularly exceeded 5,000 units. Unfortunately, due to heavy contamination from drill lube there were no fluorescent cut performed during this interval. Although hydrocarbon shows remained consistent despite of position within the target zone, the most promising oil staining remained to be in the upper most portion of the target interval. In the future this upper portion should be targeted for a more promising well.

GEOSTEERING

The potential pay zone of the *Cook 5300 12-13 8B* was identified by evaluating gamma data collected while drilling the *Oasis Petroleum, Kline Federal 5300 41-18 11T2*. The target was determined to be 10' thick, be 13' below the Upper Bakken Shale and 20' above the Lower Bakken Shale. The target was identified by having a warm gamma marker at the very top of target, moderate markers throughout the target zone and a cool marker at the base of zone. The target interval was not based on high porosity but rather creating a safe interval for drilling a lateral with minimal risks of contacting the shale. Over all the structure's dip rate was very similar to what was expected with a gross apparent dip of 0.2° down.

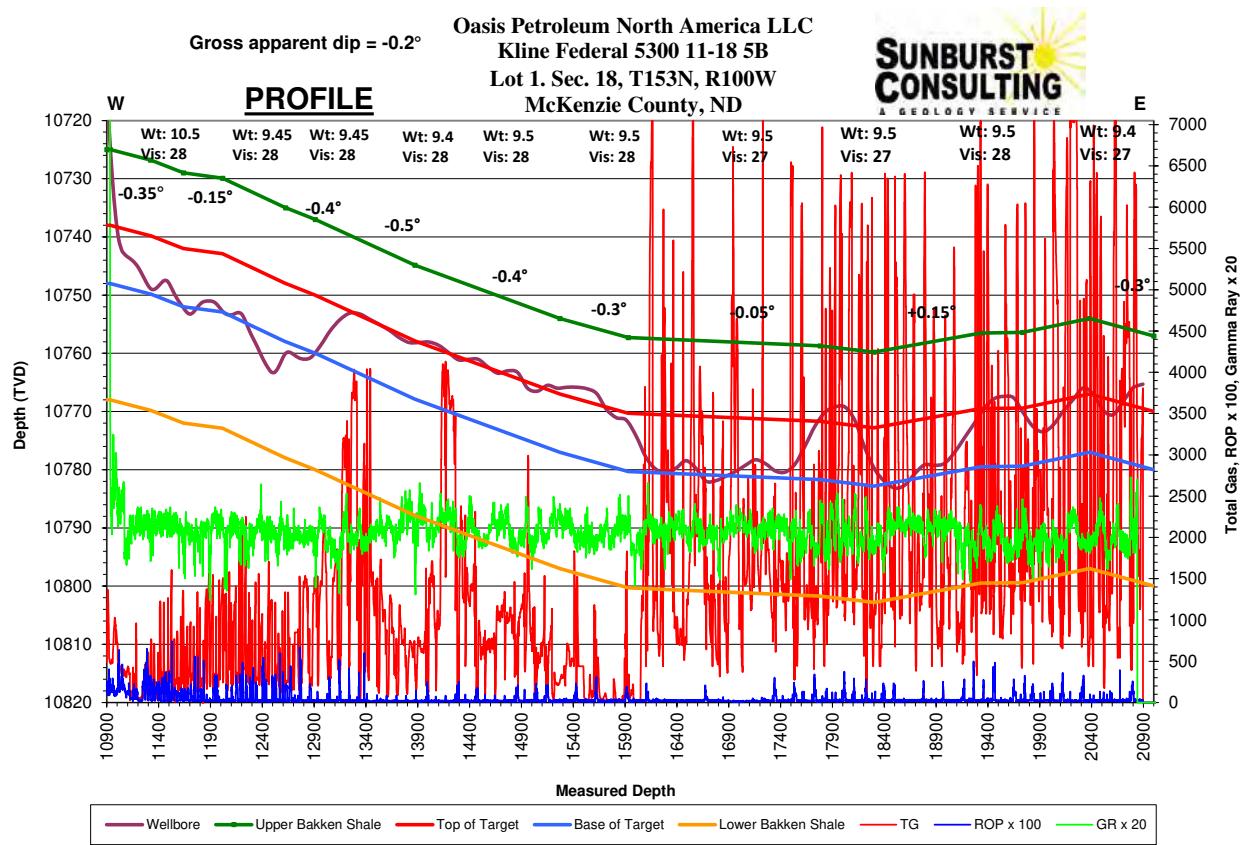


Figure 3. Cross-sectional interpretation of the *Kline Federal 5300 11-18 5B* borehole with estimated dip based on lithology, MWD data, drill rate, and regional structural data.

SUMMARY

The **Oasis Petroleum North America, LLC** *Kline Federal 5300 11-18 5B* lateral hole was drilled by Xtreme 21 from re-entry to TD in 6 days. The *Kline Federal 5300 11-18 5B* reached a total depth of 20,895' MD on May 20, 2015. Geologic data, hydrocarbon gas measurements, and sample examination obtained during the *Kline Federal 5300 11-18 5B* indicate an encouraging hydrocarbon system in the Middle Bakken. Positive connection and survey shows were recorded throughout the lateral. Samples from the target zone consisted of light brown-off white, silty sandstone. A trace, light brown oil stain that yielded a *slow, white, poor, diffuse to streaming cut fluorescence*. Lateral operations were successful in exposing 9,773' of potentially productive Middle Bakken target zone rock to the wellbore. The well was within the targeted zone for 83% of the lateral.

Respectfully submitted,
Dillon Johnson
Well-site Geologist
Sunburst Consulting, Inc.
May 20, 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>	Kline Federal 5300 11-18 5B
<u>API #:</u>	33-053-06223
<u>WELL FILE #:</u>	29242
<u>SURFACE LOCATION:</u>	1,050' FNL & 277' FWL Lot 1 Section 18, T153N, R100W
<u>FIELD/ OBJECTIVE:</u>	Baker Field / Middle Bakken
<u>COUNTY, STATE</u>	McKenzie County, North Dakota
<u>BASIN:</u>	Williston
<u>WELL TYPE:</u>	Middle Bakken Horizontal
<u>ELEVATION:</u>	GL: 2,052' KB: 2,068'
<u>RE-ENTRY DATE:</u>	May 15, 2015
<u>BOTTOM HOLE LOCATION:</u>	1,137.92' south & 9,944.75' east of surface location or approx. 2,187.92' FNL & 325.56' FEL, Lot 1. Section 17, T153N, R100W
<u>CLOSURE COORDINATES:</u>	Closure Azimuth: 96.53° Closure Distance: 10,009.64'
<u>TOTAL DEPTH / DATE:</u>	20,895' on May 20, 2015 83% within target interval
<u>TOTAL DRILLING DAYS:</u>	6 days
<u>CONTRACTOR:</u>	Xtreme #21

<u>PUMPS:</u>	Continental-Emsco F1600 (12" stroke length; 5 1/2" liners) Output: 0.0838 bbls/stk at 95% efficiency
<u>TOOLPUSHERS:</u>	Josh Barkell, Allen Franklin
<u>FIELD SUPERVISORS:</u>	Bruce Jorgenson, Marty Amsbaugh
<u>CHEMICAL COMPANY:</u>	Mi Swaco
<u>MUD ENGINEER:</u>	Chris Mooren
<u>MUD TYPE:</u>	Salt water in lateral
<u>PROSPECT GEOLOGIST:</u>	Curtis Johnson
<u>WELLSITE GEOLOGISTS:</u>	Dillon Johnson, Matt Hegland
<u>GEOSTEERING SYSTEM:</u>	Sunburst Digital Wellsite Geological System
<u>ROCK SAMPLING:</u>	50' from 11,122' - 20,895' (TD)
<u>SAMPLE EXAMINATION:</u>	Binocular microscope & fluoroscope
<u>SAMPLE CUTS:</u>	Trichloroethylene
<u>GAS DETECTION:</u>	MSI (Mudlogging Systems, Inc.) TGC - total gas with chromatograph Serial Number(s): ML-488
<u>DIRECTIONAL DRILLERS:</u>	RPM Consulting, Inc. Marty Amsbaugh, Bruce Jorgenson
<u>MWD:</u>	Gyro/data in vertical in curve Ryan Directional Service in lateral Sammy Hayman, John Lanclos, Nick Brochu, Carlo Marrufo, David Foley
<u>CASING:</u>	Surface: 13 3/8" 45# set to 2,139' Surface: 9 5/8" 36# set to 6,101' Intermediate: 7" 32# set to 11,067'
<u>SAFETY/ H₂S MONITORING:</u>	Oilind Safety

SECTION BREAKDOWN

OASIS PETROLEUM NORTH AMERICA, LLC

1001 FANNIN SUITE 1500, HOUSTON, TX 77002

"KLINE FEDERAL 5300 11-8 58"

SECTIONS 17 & 18, T153N, R100W, SDN P.M., MCKENZIE COUNTY, NORTH DAKOTA

1080 FEET FROM NORTH LINE AND 283 FEET FROM WEST LINE

FOUND REBAR
W/ 2^{AC}
LS 2352

FOUND 4^{AC}
CORP. OF ENG.

CALCULATED
IN LAKE

CALCULATED
IN LAKE

CALCULATED
IN LAKE

FOUND REBAR
W/ 2^{AC}
LS 2352

FOUND 4^{AC}
CORP. OF ENG.

CALCULATED
IN LAKE

CALCULATED
IN LAKE

CALCULATED
IN LAKE

AZ 89°47'43" AZ 89°47'43" AZ 89°49'00" AZ 89°49'00" AZ 90°00'00" AZ 90°00'00"
1310.63" 1312.45" 1314.27" 1320' (GLO) 1320' (GLO) 1320' (GLO)
AZ 89°51'41" AZ 89°51'41" AZ 89°49'00" AZ 89°49'00" AZ 90°00'00" AZ 90°00'00"
1310.75" 1315.36" 1320' (GLO) 1320' (GLO) 1320' (GLO) 1320' (GLO)

AZ 89°49'00" AZ 89°49'00" AZ 90°00'00" AZ 90°00'00" AZ 90°00'00" AZ 90°00'00"
1320' (GLO) 1320' (GLO) 1320' (GLO) 1320' (GLO) 1320' (GLO) 1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

1320' (GLO)

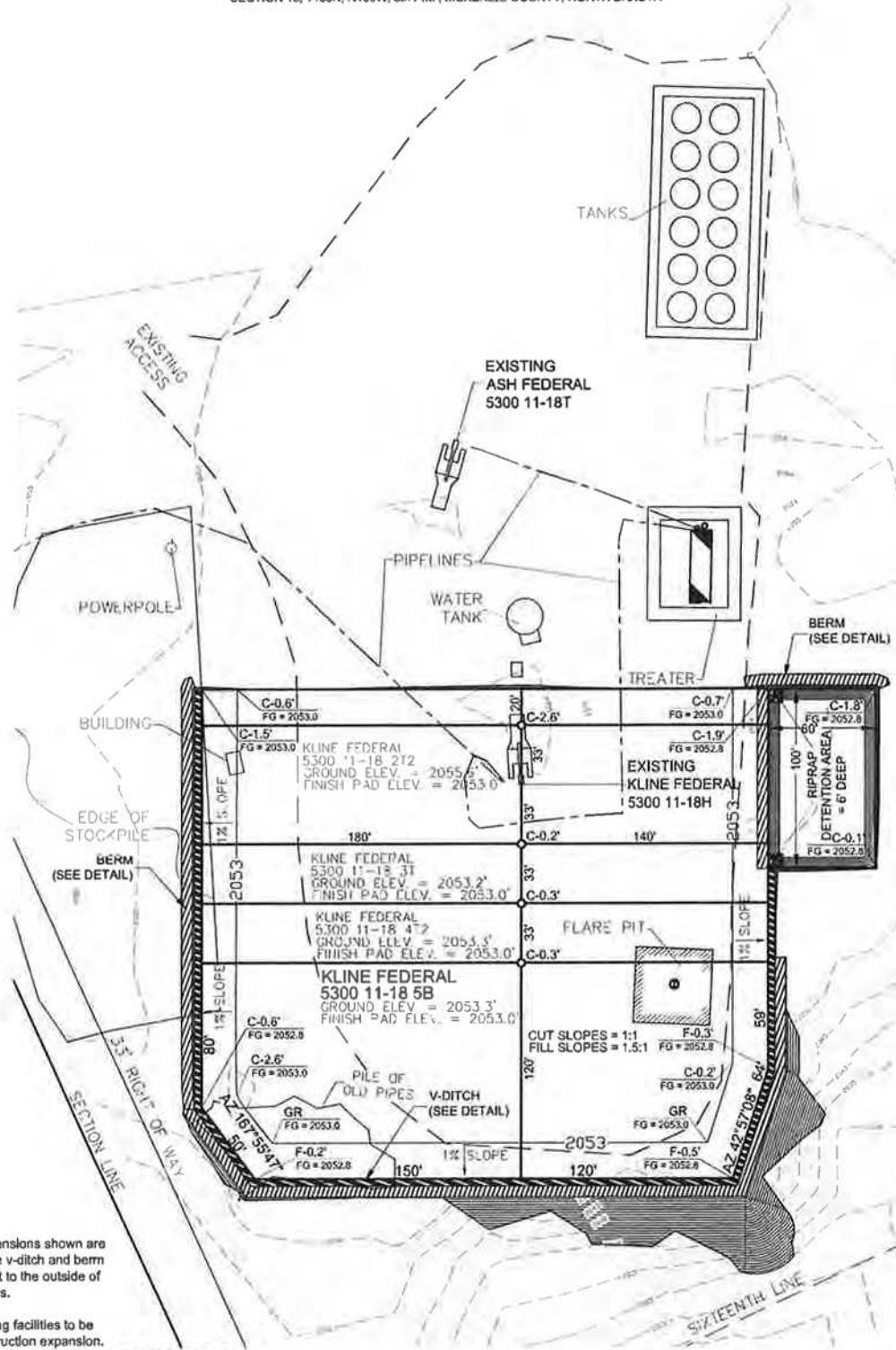
1320' (GLO)

1320' (GLO)

PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 11-18 SB"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

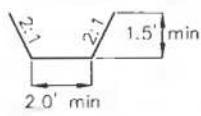


NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2: All existing facilities to be removed on construction expansion.

NOTE 3: Cuttings will be hauled to approved disposal site.

V-DITCH DETAIL

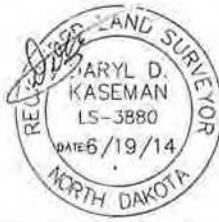


Proposed Contours
Original Contours

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

© 2014, INTERSTATE ENGINEERING, INC.

THIS DOCUMENT WAS
ORIGINALLY ISSUED AND SEALED
BY DARYL D. KASEMAN, PLS.
REGISTRATION NUMBER 3880 ON
6/19/14, AND THE
ORIGINAL DOCUMENTS ARE
STORED AT THE OFFICES OF
INTERSTATE ENGINEERING, INC.



0
1' = 60'

3/8

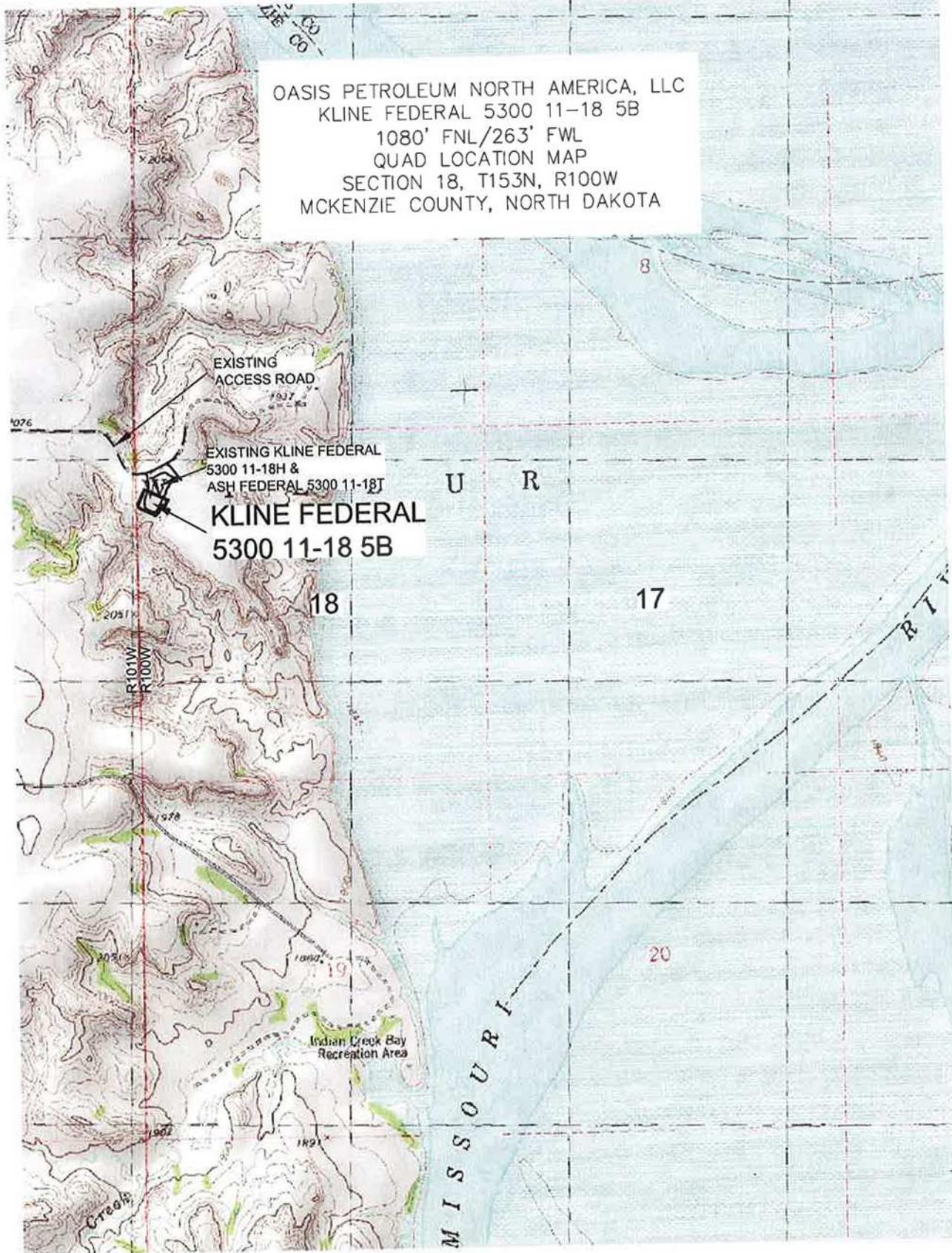


Interstate Engineering, Inc.
P.O. Box 545
425 East Main Street
Sloven, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.interstateeng.com

OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: SJW Checked By: DOK Printed By: SJW
Date: APRIL 2014 Date: APRIL 2014

Permit No.	Date	By	Description



© 2014, INTERSTATE ENGINEERING, INC.

5/8



Professionals you need, people you trust

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

OASIS PETROLEUM NORTH AMERICA, LLC
QUAD LOCATION MAP
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.L. Project No.: S1449-127.03
Checked By: D.O.K. Date: APRIL 2014

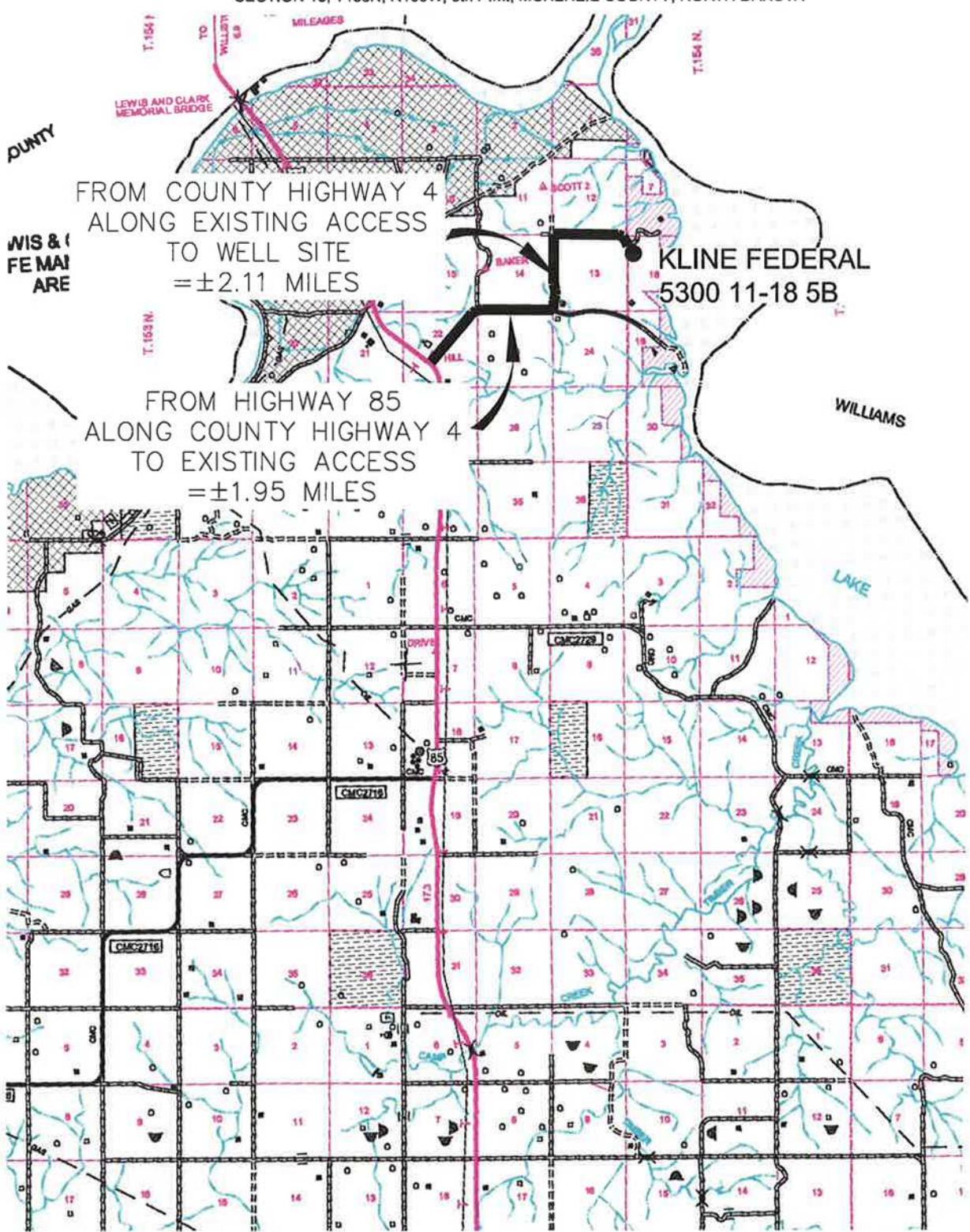
Revision No.	Date	By	Description
REV 1	4/16/14	BHL	MIXED WELLS

COUNTY ROAD MAP

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

"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



© 2014, INTERSTATE ENGINEERING, INC.

6/8



SHEET NO.

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

Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

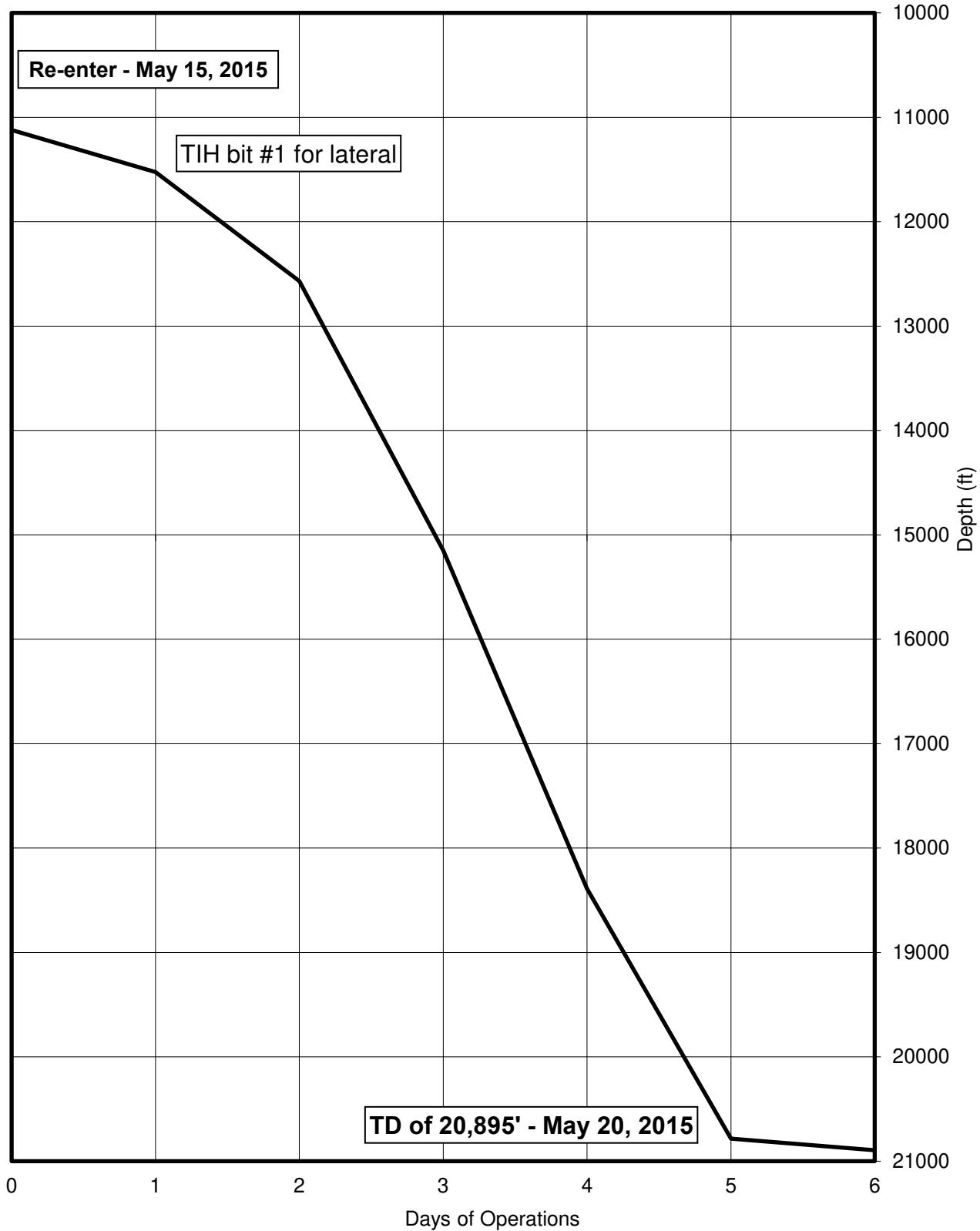
Drawn By: B.H.J. Project No.: S14-09-127.03
Checked By: D.D.K. Date: APR 2014

Revision No.	Date	By	Description
REV 1	4/18/14	B.H.J.	WORKED WELLS

TIME VS. DEPTH

Oasis Petroleum North America, LLC

Kline Federal 5300 11-18 5B



MORNING REPORT 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 Summary		Formation
													Rig up, Nipple up. Test BOP. Pick up BHAs. pick up drill pipe.	Pick up drill pipe. Drill out cement. Lubricate rig. Drill F/11,1122'-11,491'. Lubricate rig. Drill F/11,491'-11,526'. Trouble shoot problems with hydraulic pump and blower on top drive.	
0	5/15	11,122'	-	-	-	-	-	-	-	-	-	-	Rig up, Nipple up. Test BOP. Pick up BHAs. pick up drill pipe.	Pick up drill pipe. Drill out cement. Lubricate rig. Drill F/11,1122'-11,491'. Lubricate rig. Drill F/11,491'-11,526'. Trouble shoot problems with hydraulic pump and blower on top drive.	Middle Bakken
1	5/16	11,526'	404	1	9	41	17	327	3300	0	88	317	Drill F/11,526'-12,568'. Lubricate rig. Troubleshoot planetary lube pump & blower motor.	Drill F/11,526'-12,568'. Lubricate rig. Troubleshoot planetary lube pump & blower motor.	Middle Bakken
2	5/17	12,568'	1042	1	13	41	21	327	3400	88	0	317	Drill F/12,568'-13,377'. Lubricate rig, draw works. Drill F/13,377'-15,150'.	Drill F/12,568'-13,377'. Lubricate rig, draw works. Drill F/13,377'-15,150'.	Middle Bakken
3	5/18	15,150'	2582	1	20	46	30	327	3950	89	0	317	Drill F/15,150'-17,225'. Lubricate rig. Drill F/17,225'-18,390'.	Drill F/15,150'-17,225'. Lubricate rig. Drill F/17,225'-18,390'.	Middle Bakken
4	5/19	18,390'	3240	1	16	50	-	-	3200	-	-	-	Drill F/18,390'-19,620'. Lubricate rig. Drill F/19,620'-20,784'.	Drill F/18,390'-19,620'. Lubricate rig. Drill F/19,620'-20,784'.	Middle Bakken
5	5/20	20,784'	2394	1	20	40	50	314	4100	85	0	305	Drill F/ 20,784'-20,895'. Circulate and condition mud. Wiper trip.. TOOH to pick up liner.	Drill F/ 20,784'-20,895'. Circulate and condition mud. Wiper trip.. TOOH to pick up liner.	Middle Bakken
6	5/21	20,895'	111	1	20	40	50	314	4100	85	0	305			Middle Bakken

DAILY MUD SUMMARY

BOTTOM HOLE ASSEMBLY RECORD

Bit #	Bit Data					Motor Data					Reason For Removal
	Size (in.)	Type	Make	Model	Depth In	Depth Out	Footage	Hours	Σ hrs	Vert. Dev.	
1	6	PDC	Halliburton	MM64	11,122'	20,895'	9,773'	89	89	Lateral	Baker XLP 1.5 1.03 TD lateral



PLAN VIEW

Note: 1,280 acre laydown spacing unit with 500' N/S & 200' E/W setbacks

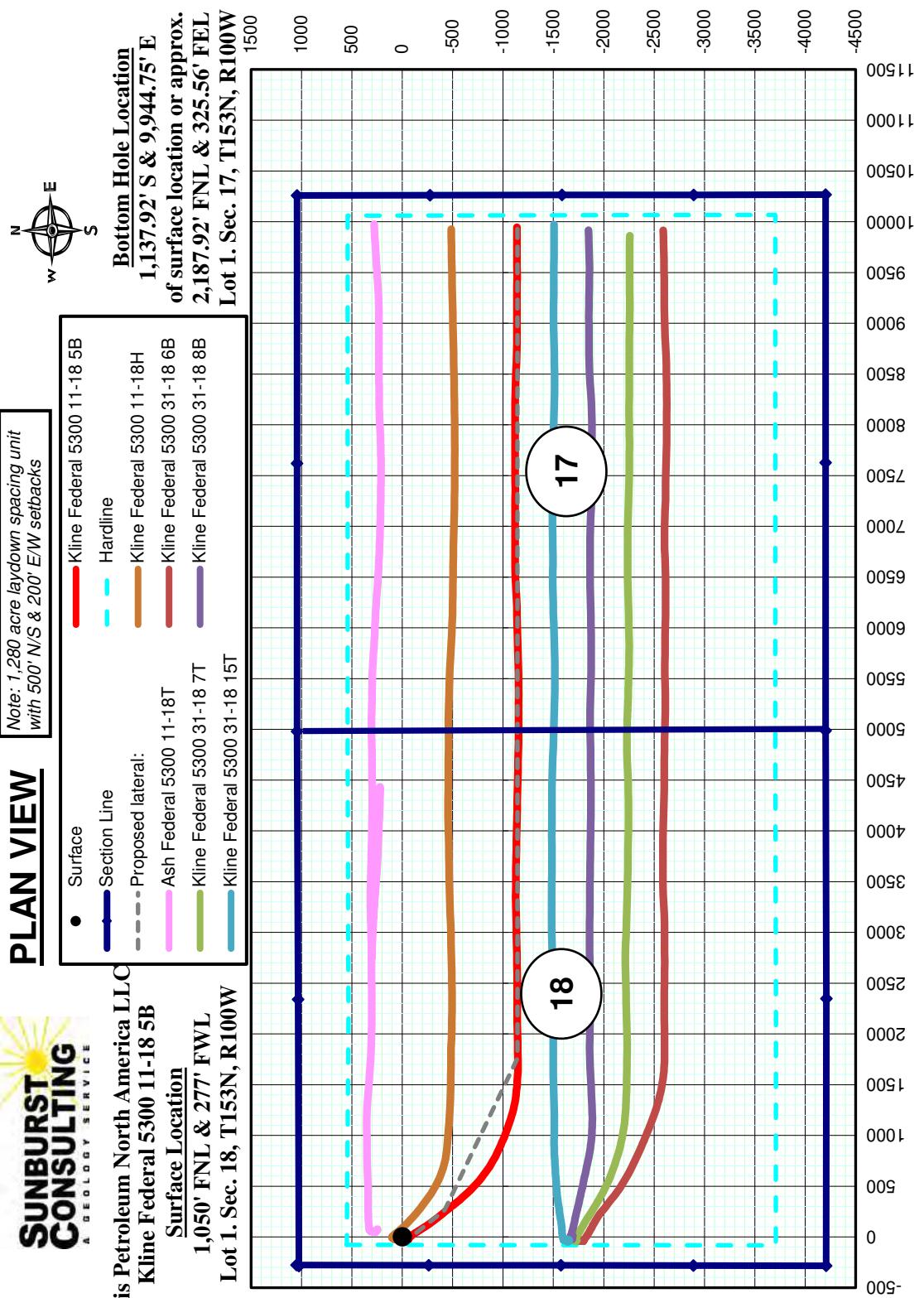
Oasis Petroleum North America LLC

Kline Federal 5300 11-18 5B

Surface Location

1,050' FNL & 277' FWL
at 1. Sec. 18. T153N. R100W

Lot 1, Sec. 18, T153N, R100W

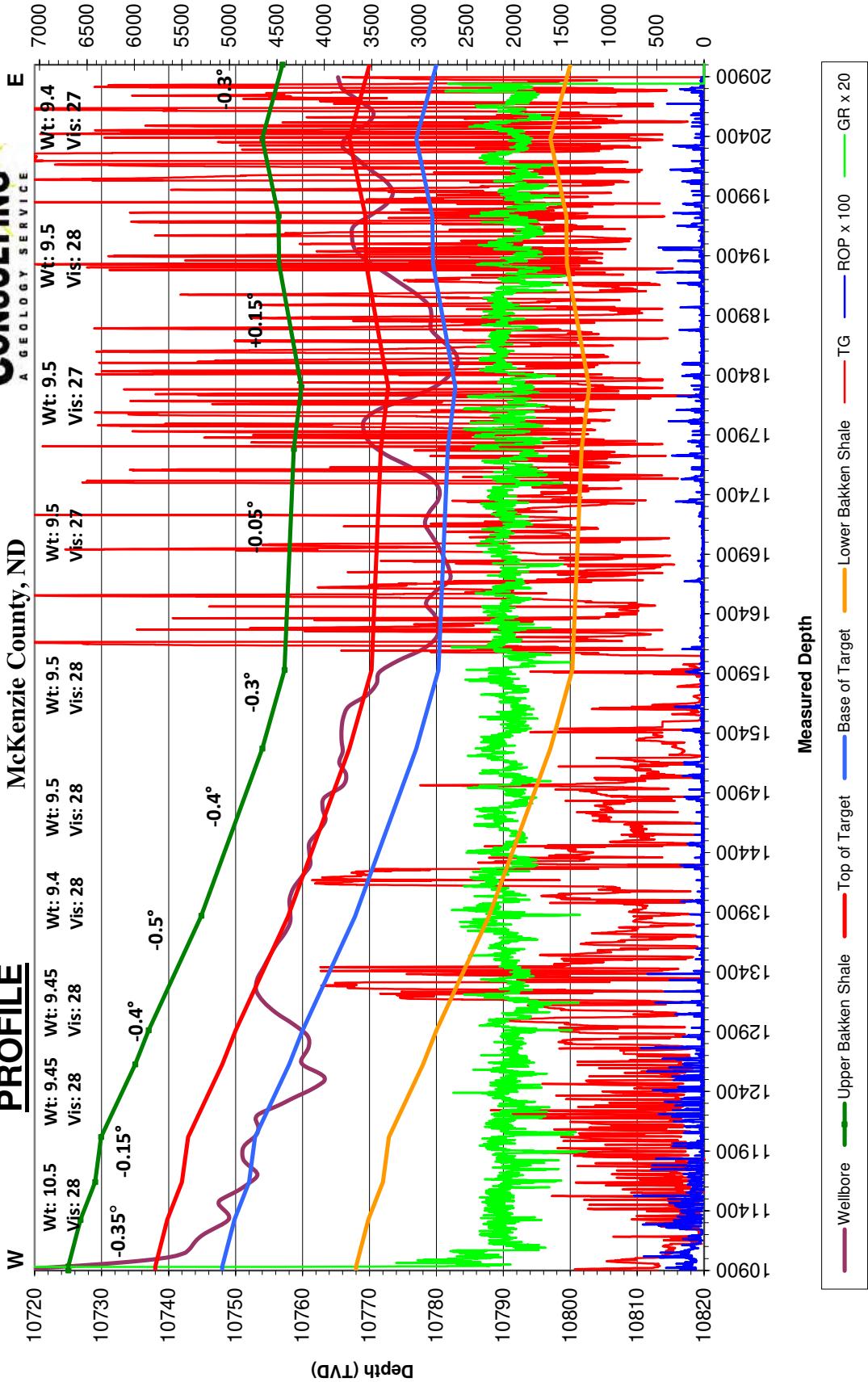




Oasis Petroleum North America LLC
Kline Federal 5300 11-18 5B
Lot 1. Sec. 18, T153N, R100W
McKenzie County, ND

PROFILE

Gross apparent dip = -0.2°



FORMATION MARKERS & DIP ESTIMATES

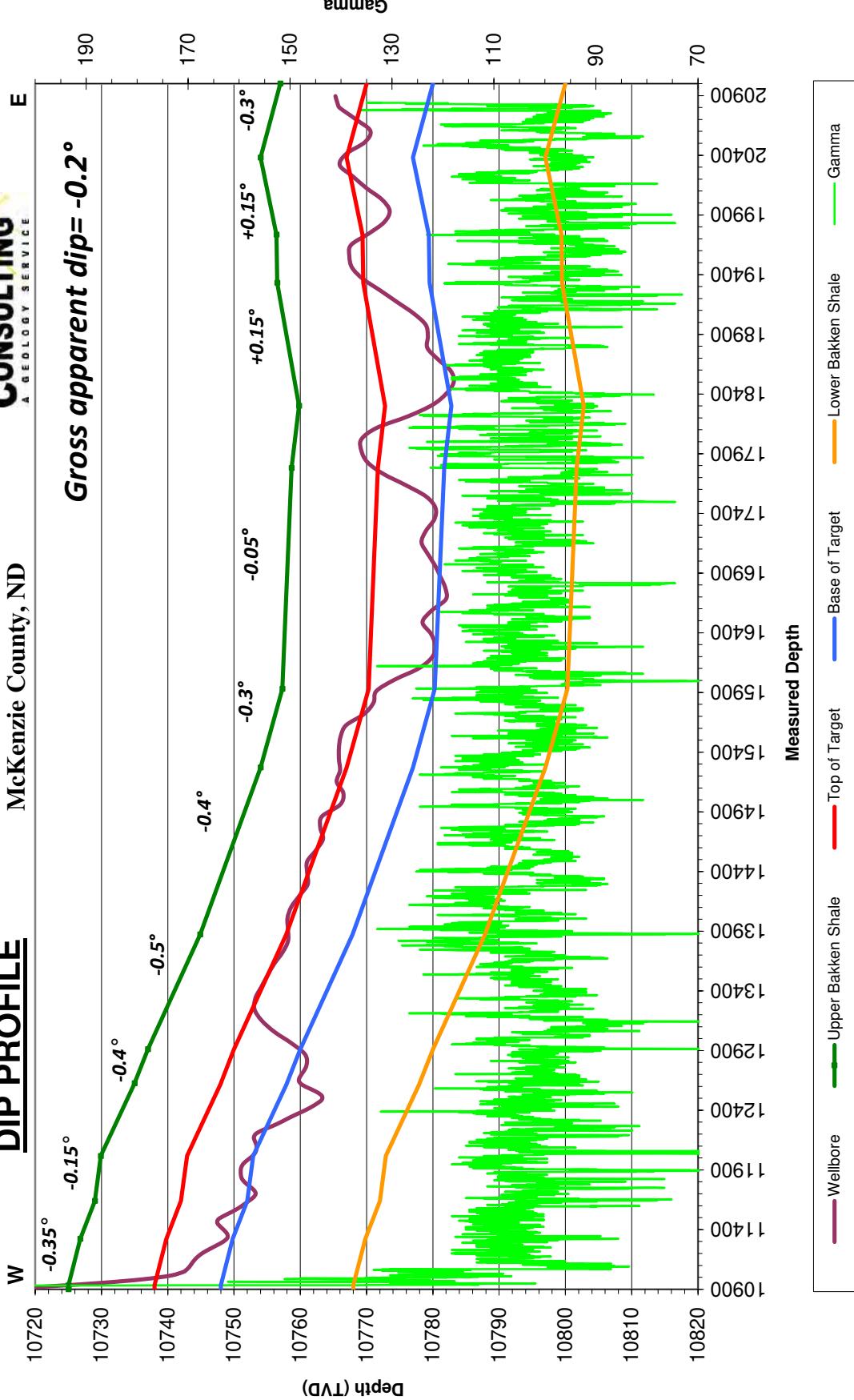
Oasis Petroleum North America LLC - Kline Federal 5300 11-18 5B

Dip Change Points	MD	TVD	TVD diff.	MD diff.	Dip	Dipping up/down	Type of Marker
Marker							
Target entry	10,932'	10,725.00					Gamma
Cool near base of target	11,322'	10,726.84	1.84	390.00	-0.27	Down	Gamma
Cool near base of target	11,640'	10,729.00	2.16	318.00	-0.39	Down	Gamma
Cool near base of target	12,016'	10,729.90	0.90	376.00	-0.14	Down	Gamma
Moderate below target	12,625'	10,735.00	5.10	609.00	-0.48	Down	Gamma
Cool near base of target	12,910'	10,737.00	2.00	285.00	-0.40	Down	Gamma
Cool at top of target	13,871'	10,744.87	7.87	961.00	-0.47	Down	Gamma
Warm at top of target	15,270'	10,754.00	9.13	1399.00	-0.37	Down	Gamma
Warm at top of target	15,930'	10,757.30	3.30	660.00	-0.29	Down	Gamma
Cool near center of target	18,300'	10,759.80	2.50	2370.00	-0.06	Down	Gamma
Warm at top of target	19,330'	10,756.50	-3.30	1030.00	0.18	Up	Gamma
Warm at top of target	19,733'	10,756.40	-0.10	403.00	0.01	Up	Gamma
Cool above target	20,380'	10,754.00	-2.40	647.00	0.21	Up	Gamma
Warm 4' above target	20,895'	10,757.00	3.00	515.00	-0.33	Down	Gamma
Gross Dip							
Initial Target Contact	10,932'	10,725.00					
Projected Final Target Contact	20,895'	10,757.00	32.00	9963.00	-0.18	Down	Projection

Oasis Petroleum North America LLC
 Kline Federal 5300 11-18 5B
 Lot 1. Sec. 18, T153N, R100W
 McKenzie County, ND



DIP PROFILE



<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

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

No.	MD	INC	TRUE				DLS/ 100
			AZM	TVD	N-S	E-W	
Tie	141.00	0.30	279.40	141.00	0.06	-0.36	-0.36
1	233.00	0.50	268.80	233.00	0.09	-1.00	-1.00
2	327.00	0.50	300.80	326.99	0.29	-1.76	-1.76
3	420.00	0.50	319.90	419.99	0.81	-2.37	-2.37
4	513.00	0.70	339.90	512.99	1.65	-2.83	-2.83
5	604.00	0.50	357.70	603.98	2.57	-3.03	-3.03
6	695.00	0.60	19.20	694.98	3.42	-2.89	-2.89
7	788.00	0.50	3.50	787.97	4.28	-2.71	-2.71
8	880.00	0.60	26.10	879.97	5.12	-2.47	-2.47
9	971.00	0.10	80.00	970.97	5.56	-2.18	-2.18
10	1063.00	0.10	148.70	1062.97	5.51	-2.06	-2.06
11	1157.00	0.50	321.10	1156.97	5.75	-2.28	-2.28
12	1247.00	0.50	322.20	1246.96	6.37	-2.77	-2.77
13	1338.00	0.70	327.00	1337.96	7.15	-3.31	-3.31
14	1432.00	0.70	349.30	1431.95	8.20	-3.73	-3.73
15	1526.00	0.30	5.40	1525.95	9.00	-3.82	-3.82
16	1620.00	0.30	78.90	1619.95	9.30	-3.55	-3.55
17	1714.00	0.90	72.80	1713.94	9.56	-2.60	-2.60
18	1808.00	1.10	66.70	1807.93	10.14	-1.07	-1.07
19	1902.00	1.10	79.10	1901.91	10.67	0.64	0.64
20	1996.00	1.10	98.40	1995.89	10.70	2.42	2.42
21	2082.00	1.50	114.40	2081.87	10.12	4.27	4.27
22	2179.00	1.70	116.90	2178.83	8.94	6.70	6.70
23	2274.00	1.40	179.00	2273.80	7.15	7.98	7.98
24	2368.00	1.00	204.40	2367.78	5.25	7.66	7.66
25	2462.00	0.90	227.70	2461.77	4.01	6.78	6.78
26	2556.00	1.10	233.70	2555.76	2.98	5.50	5.50
27	2651.00	2.10	271.60	2650.72	2.48	3.03	3.03
28	2745.00	1.00	294.00	2744.68	2.87	0.56	0.56
29	2839.00	1.10	291.90	2838.67	3.54	-1.03	-1.03
30	2933.00	1.70	288.80	2932.64	4.32	-3.19	-3.19
31	3028.00	1.20	255.60	3027.61	4.53	-5.48	-5.48
32	3122.00	1.20	243.10	3121.59	3.84	-7.31	-7.31
33	3216.00	1.10	251.40	3215.57	3.11	-9.05	-9.05
34	3310.00	1.00	259.80	3309.56	2.67	-10.71	-10.71
35	3405.00	1.00	202.50	3404.54	1.76	-11.84	-11.84
36	3499.00	1.10	187.50	3498.53	0.11	-12.27	-12.27
37	3593.00	0.90	184.30	3592.51	-1.52	-12.45	-12.45

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

[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		
38	3687.00	0.80	180.70	3686.50	-2.92	-12.51	-12.51	0.12
39	3781.00	0.70	188.30	3780.50	-4.14	-12.60	-12.60	0.15
40	3875.00	0.60	197.90	3874.49	-5.18	-12.84	-12.84	0.16
41	3969.00	0.50	200.90	3968.49	-6.03	-13.13	-13.13	0.11
42	4063.00	0.50	204.40	4062.48	-6.78	-13.45	-13.45	0.03
43	4158.00	0.30	232.70	4157.48	-7.31	-13.82	-13.82	0.29
44	4252.00	0.20	256.20	4251.48	-7.50	-14.17	-14.17	0.15
45	4346.00	0.20	339.20	4345.48	-7.39	-14.39	-14.39	0.28
46	4441.00	0.70	109.60	4440.48	-7.43	-13.90	-13.90	0.89
47	4535.00	0.80	119.80	4534.47	-7.95	-12.79	-12.79	0.18
48	4629.00	0.40	113.50	4628.46	-8.40	-11.92	-11.92	0.43
49	4723.00	0.30	67.10	4722.46	-8.44	-11.39	-11.39	0.31
50	4816.00	0.80	122.70	4815.46	-8.69	-10.62	-10.62	0.73
51	4910.00	0.60	133.00	4909.45	-9.38	-9.71	-9.71	0.25
52	5005.00	0.00	144.80	5004.45	-9.72	-9.35	-9.35	0.63
53	5099.00	0.40	283.00	5098.45	-9.65	-9.67	-9.67	0.43
54	5193.00	0.90	184.90	5192.44	-10.31	-10.05	-10.05	1.10
55	5287.00	1.50	187.60	5286.42	-12.27	-10.28	-10.28	0.64
56	5381.00	1.80	183.90	5380.38	-14.96	-10.54	-10.54	0.34
57	5476.00	2.00	185.50	5475.33	-18.10	-10.80	-10.80	0.22
58	5570.00	2.40	180.50	5569.26	-21.70	-10.97	-10.97	0.47
59	5664.00	2.50	181.30	5663.18	-25.72	-11.04	-11.04	0.11
60	5759.00	1.50	192.10	5758.12	-29.00	-11.35	-11.35	1.12
61	5853.00	1.40	199.40	5852.09	-31.29	-11.98	-11.98	0.22
62	5947.00	1.00	203.80	5946.07	-33.12	-12.70	-12.70	0.44
63	6041.00	0.60	215.10	6040.06	-34.28	-13.31	-13.31	0.46
64	6135.00	0.50	210.40	6134.05	-35.03	-13.80	-13.80	0.12
65	6229.00	0.40	299.50	6228.05	-35.22	-14.29	-14.29	0.68
66	6324.00	0.80	335.50	6323.04	-34.46	-14.86	-14.86	0.56
67	6418.00	1.30	344.20	6417.03	-32.83	-15.42	-15.42	0.56
68	6512.00	0.80	249.00	6511.02	-32.04	-16.32	-16.32	1.69
69	6606.00	0.80	280.80	6605.01	-32.16	-17.58	-17.58	0.47
70	6700.00	0.80	311.10	6699.00	-31.60	-18.72	-18.72	0.44
71	6794.00	1.00	257.60	6792.99	-31.35	-20.02	-20.02	0.88
72	6889.00	1.20	253.10	6887.97	-31.81	-21.78	-21.78	0.23
73	6983.00	1.20	262.60	6981.95	-32.23	-23.70	-23.70	0.21
74	7077.00	0.90	267.80	7075.94	-32.38	-25.41	-25.41	0.33
75	7171.00	1.10	285.60	7169.92	-32.17	-27.02	-27.02	0.39

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

[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		
76	7265.00	0.50	37.30	7263.92	-31.60	-27.64	-27.64	1.45
77	7359.00	0.90	56.90	7357.91	-30.87	-26.77	-26.77	0.49
78	7454.00	1.20	48.60	7452.89	-29.80	-25.40	-25.40	0.35
79	7548.00	1.10	56.10	7546.87	-28.65	-23.91	-23.91	0.19
80	7642.00	1.00	60.50	7640.86	-27.74	-22.45	-22.45	0.14
81	7736.00	1.10	82.10	7734.84	-27.21	-20.84	-20.84	0.43
82	7830.00	1.40	100.30	7828.82	-27.30	-18.82	-18.82	0.53
83	7924.00	0.60	90.70	7922.81	-27.51	-17.20	-17.20	0.87
84	8019.00	0.90	83.40	8017.80	-27.43	-15.96	-15.96	0.33
85	8113.00	1.10	158.90	8111.79	-28.18	-14.90	-14.90	1.31
86	8207.00	1.40	182.20	8205.77	-30.17	-14.62	-14.62	0.62
87	8301.00	1.20	178.50	8299.74	-32.30	-14.64	-14.64	0.23
88	8395.00	1.40	179.60	8393.72	-34.44	-14.60	-14.60	0.21
89	8489.00	1.30	180.70	8487.69	-36.65	-14.61	-14.61	0.11
90	8584.00	1.40	185.90	8582.66	-38.88	-14.74	-14.74	0.17
91	8678.00	1.40	186.80	8676.64	-41.17	-14.99	-14.99	0.02
92	8772.00	1.50	200.90	8770.61	-43.46	-15.57	-15.57	0.39
93	8866.00	1.50	205.50	8864.57	-45.72	-16.54	-16.54	0.13
94	8960.00	1.50	203.40	8958.54	-47.95	-17.56	-17.56	0.06
95	9055.00	1.50	206.10	9053.51	-50.21	-18.60	-18.60	0.07
96	9149.00	1.40	216.50	9147.48	-52.24	-19.82	-19.82	0.30
97	9243.00	1.30	222.30	9241.45	-53.95	-21.22	-21.22	0.18
98	9337.00	1.10	228.00	9335.43	-55.34	-22.61	-22.61	0.25
99	9432.00	0.90	224.90	9430.42	-56.48	-23.81	-23.81	0.22
100	9526.00	0.60	224.90	9524.41	-57.35	-24.68	-24.68	0.32
101	9620.00	0.50	231.90	9618.41	-57.96	-25.35	-25.35	0.13
102	9714.00	0.50	227.10	9712.40	-58.49	-25.98	-25.98	0.04
103	9808.00	0.40	224.00	9806.40	-59.00	-26.50	-26.50	0.11
104	9902.00	0.10	241.70	9900.40	-59.28	-26.80	-26.80	0.33
105	9997.00	0.10	357.40	9995.40	-59.24	-26.88	-26.88	0.18
106	10091.00	0.40	354.90	10089.40	-58.83	-26.91	-26.91	0.32
107	10149.00	0.40	6.90	10147.40	-58.42	-26.91	-26.91	0.14
108	10168.00	0.40	2.60	10166.40	-58.29	-26.90	-26.90	0.16
109	10199.00	1.30	101.70	10197.39	-58.26	-26.55	-26.55	4.58
110	10231.00	4.80	115.50	10229.34	-58.91	-24.98	-24.98	11.10
111	10262.00	8.40	117.70	10260.13	-60.52	-21.81	-21.81	11.64
112	10293.00	12.10	123.50	10290.63	-63.36	-17.09	-17.09	12.38
113	10325.00	15.30	132.10	10321.72	-68.05	-11.16	-11.16	11.83

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	AZM	TVD	TRUE			DLS/ 100
					N-S	E-W	SECT	
114	10356.00	18.50	136.20	10351.38	-74.34	-4.72	-4.72	11.01
115	10387.00	21.70	136.00	10380.49	-82.02	2.67	2.67	10.32
116	10419.00	25.20	138.00	10409.84	-91.34	11.34	11.34	11.22
117	10450.00	28.30	142.20	10437.52	-102.05	20.26	20.26	11.71
118	10482.00	31.30	145.60	10465.29	-114.91	29.61	29.61	10.76
119	10513.00	34.90	148.40	10491.26	-129.11	38.81	38.81	12.61
120	10544.00	38.90	148.60	10516.04	-144.98	48.53	48.53	12.91
121	10576.00	42.10	148.20	10540.37	-162.68	59.42	59.42	10.03
122	10607.00	46.00	148.10	10562.65	-180.98	70.80	70.80	12.58
123	10639.00	49.30	147.50	10584.20	-200.99	83.40	83.40	10.41
124	10670.00	53.00	147.10	10603.64	-221.30	96.44	96.44	11.98
125	10701.00	55.80	145.70	10621.69	-242.29	110.39	110.39	9.75
126	10733.00	58.00	144.70	10639.16	-264.30	125.69	125.69	7.36
127	10764.00	59.10	143.90	10655.34	-285.77	141.13	141.13	4.18
128	10796.00	61.50	142.90	10671.19	-308.08	157.70	157.70	7.98
129	10827.00	63.90	142.10	10685.41	-329.93	174.47	174.47	8.07
130	10858.00	66.50	141.50	10698.41	-352.05	191.87	191.87	8.57
131	10890.00	68.70	141.90	10710.60	-375.26	210.21	210.21	6.97
132	10921.00	72.20	142.20	10720.98	-398.30	228.17	228.17	11.33
133	10953.00	75.80	141.90	10729.80	-422.55	247.08	247.08	11.29
134	10984.00	80.00	141.50	10736.29	-446.33	265.86	265.86	13.61
135	11015.00	84.60	142.10	10740.45	-470.46	284.86	284.86	14.96
136	11047.00	88.30	141.00	10742.43	-495.47	304.71	304.71	12.06
137	11058.00	88.80	140.80	10742.70	-504.01	311.65	311.65	4.90
138	11084.00	89.00	142.40	10743.20	-524.38	327.79	327.79	6.20
139	11115.00	89.50	140.80	10743.61	-548.67	347.05	347.05	5.41
140	11146.00	88.90	139.90	10744.04	-572.54	366.83	366.83	3.49
141	11176.00	89.00	139.30	10744.59	-595.38	386.27	386.27	2.03
142	11207.00	88.20	138.20	10745.35	-618.68	406.70	406.70	4.39
143	11238.00	88.10	138.20	10746.35	-641.77	427.35	427.35	0.32
144	11269.00	88.00	135.50	10747.41	-664.38	448.54	448.54	8.71
145	11300.00	88.30	134.20	10748.41	-686.23	470.50	470.50	4.30
146	11331.00	89.50	133.20	10749.00	-707.64	492.91	492.91	5.04
147	11362.00	90.60	133.50	10748.97	-728.92	515.45	515.45	3.68
148	11393.00	91.00	130.80	10748.54	-749.72	538.43	538.43	8.80
149	11424.00	91.20	130.10	10747.95	-769.83	562.02	562.02	2.35
150	11455.00	90.50	127.90	10747.49	-789.33	586.11	586.11	7.45
151	11486.00	89.00	126.40	10747.62	-808.05	610.81	610.81	6.84

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

[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		
152	11517.00	87.60	126.70	10748.54	-826.51	635.70	635.70	4.62
153	11547.00	88.30	125.00	10749.61	-844.06	660.00	660.00	6.12
154	11578.00	88.00	123.50	10750.62	-861.50	685.61	685.61	4.93
155	11609.00	88.90	121.50	10751.45	-878.15	711.75	711.75	7.07
156	11640.00	88.30	120.10	10752.21	-894.02	738.37	738.37	4.91
157	11671.00	89.00	119.20	10752.94	-909.35	765.30	765.30	3.68
158	11702.00	89.80	118.10	10753.27	-924.21	792.50	792.50	4.39
159	11733.00	91.30	117.00	10752.97	-938.55	819.99	819.99	6.00
160	11764.00	91.20	115.60	10752.29	-952.28	847.77	847.77	4.53
161	11795.00	91.20	114.50	10751.64	-965.40	875.85	875.85	3.55
162	11825.00	90.50	113.20	10751.20	-977.53	903.28	903.28	4.92
163	11856.00	90.10	113.30	10751.04	-989.77	931.76	931.76	1.33
164	11886.00	90.00	113.20	10751.01	-1001.61	959.33	959.33	0.47
165	11917.00	89.80	112.70	10751.06	-1013.70	987.87	987.87	1.74
166	11949.00	89.10	110.80	10751.37	-1025.55	1017.59	1017.59	6.33
167	11980.00	88.70	109.60	10751.97	-1036.26	1046.68	1046.68	4.08
168	12012.00	88.70	109.70	10752.69	-1047.01	1076.81	1076.81	0.31
169	12044.00	89.50	109.10	10753.19	-1057.64	1106.99	1106.99	3.12
170	12075.00	89.80	108.50	10753.38	-1067.63	1136.33	1136.33	2.16
171	12107.00	90.20	107.60	10753.38	-1077.55	1166.76	1166.76	3.08
172	12139.00	90.60	106.60	10753.16	-1086.96	1197.34	1197.34	3.37
173	12171.00	90.00	104.90	10752.99	-1095.64	1228.14	1228.14	5.63
174	12202.00	88.90	103.30	10753.29	-1103.19	1258.20	1258.20	6.26
175	12233.00	87.40	102.00	10754.29	-1109.98	1288.43	1288.43	6.40
176	12265.00	87.60	101.00	10755.69	-1116.35	1319.76	1319.76	3.18
177	12297.00	87.90	99.50	10756.94	-1122.04	1351.22	1351.22	4.78
178	12329.00	88.10	97.70	10758.06	-1126.82	1382.84	1382.84	5.66
179	12361.00	87.70	96.60	10759.23	-1130.80	1414.57	1414.57	3.66
180	12392.00	87.80	96.30	10760.45	-1134.28	1445.35	1445.35	1.02
181	12424.00	88.20	94.90	10761.57	-1137.40	1477.18	1477.18	4.55
182	12455.00	88.40	94.20	10762.49	-1139.86	1508.07	1508.07	2.35
183	12486.00	88.90	94.50	10763.22	-1142.21	1538.97	1538.97	1.88
184	12518.00	90.90	93.50	10763.27	-1144.44	1570.89	1570.89	6.99
185	12549.00	91.60	93.30	10762.60	-1146.28	1601.83	1601.83	2.35
186	12581.00	92.60	92.70	10761.42	-1147.96	1633.76	1633.76	3.64
187	12613.00	91.50	91.50	10760.28	-1149.13	1665.72	1665.72	5.09
188	12644.00	90.30	90.10	10759.79	-1149.56	1696.71	1696.71	5.95
189	12675.00	89.30	88.70	10759.90	-1149.24	1727.71	1727.71	5.55

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				DLS/ 100
			AZM	TVD	N-S	E-W	
190	12771.00	89.50	88.80	10760.91	-1147.14	1823.68	1823.68
191	12866.00	90.70	88.90	10760.74	-1145.24	1918.66	1918.66
192	12962.00	91.80	88.50	10758.65	-1143.06	2014.61	2014.61
193	13057.00	91.30	88.90	10756.08	-1140.90	2109.55	2109.55
194	13153.00	91.00	89.90	10754.15	-1139.90	2205.52	2205.52
195	13247.00	90.30	90.30	10753.08	-1140.06	2299.52	2299.52
196	13342.00	89.50	90.40	10753.25	-1140.64	2394.51	2394.51
197	13436.00	89.40	89.70	10754.15	-1140.72	2488.51	2488.51
198	13532.00	89.50	89.40	10755.07	-1139.97	2584.50	2584.50
199	13626.00	89.30	89.30	10756.06	-1138.90	2678.49	2678.49
200	13723.00	89.20	88.90	10757.33	-1137.38	2775.47	2775.47
201	13817.00	89.80	89.00	10758.15	-1135.66	2869.45	2869.45
202	13912.00	90.20	88.70	10758.15	-1133.75	2964.43	2964.43
203	14008.00	89.90	89.40	10758.06	-1132.16	3060.42	3060.42
204	14103.00	89.40	89.00	10758.64	-1130.83	3155.40	3155.40
205	14198.00	89.10	88.20	10759.89	-1128.51	3250.37	3250.37
206	14292.00	89.40	89.40	10761.12	-1126.54	3344.34	3344.34
207	14387.00	90.70	90.80	10761.03	-1126.71	3439.33	3439.33
208	14483.00	89.30	90.60	10761.03	-1127.88	3535.32	3535.32
209	14577.00	89.10	91.00	10762.35	-1129.20	3629.30	3629.30
210	14672.00	89.60	91.00	10763.42	-1130.85	3724.28	3724.28
211	14766.00	90.90	91.00	10763.01	-1132.49	3818.27	3818.27
212	14861.00	88.80	90.80	10763.26	-1133.99	3913.25	3913.25
213	14959.00	88.00	91.10	10766.00	-1135.61	4011.20	4011.20
214	15055.00	91.40	92.00	10766.50	-1138.21	4107.14	4107.14
215	15151.00	89.80	90.90	10765.50	-1140.64	4203.10	4203.10
216	15246.00	89.60	91.10	10765.99	-1142.29	4298.09	4298.09
217	15340.00	90.60	91.40	10765.83	-1144.34	4392.06	4392.06
218	15434.00	89.40	90.90	10765.83	-1146.23	4486.04	4486.04
219	15530.00	90.30	91.10	10766.08	-1147.91	4582.03	4582.03
220	15625.00	88.70	91.00	10766.91	-1149.65	4677.00	4677.00
221	15720.00	88.00	91.00	10769.65	-1151.30	4771.95	4771.95
222	15815.00	90.30	91.30	10771.06	-1153.21	4866.91	4866.91
223	15911.00	89.20	90.00	10771.47	-1154.30	4962.90	4962.90
224	16007.00	87.50	89.90	10774.24	-1154.22	5058.86	5058.86
225	16103.00	88.10	90.40	10777.92	-1154.47	5154.79	5154.79
226	16200.00	89.50	90.30	10779.95	-1155.06	5251.76	5251.76
227	16296.00	90.00	90.00	10780.37	-1155.31	5347.76	5347.76

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

[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		
228	16392.00	90.80	89.50	10779.70	-1154.89	5443.76	5443.76	0.98
229	16488.00	90.70	89.00	10778.45	-1153.64	5539.74	5539.74	0.53
230	16584.00	87.70	88.00	10779.79	-1151.12	5635.69	5635.69	3.29
231	16680.00	89.70	89.00	10781.97	-1148.61	5731.62	5731.62	2.33
232	16775.00	90.40	88.40	10781.88	-1146.46	5826.60	5826.60	0.97
233	16872.00	90.50	88.60	10781.12	-1143.92	5923.56	5923.56	0.23
234	16968.00	90.50	88.50	10780.28	-1141.49	6019.53	6019.53	0.10
235	17064.00	90.80	89.40	10779.19	-1139.73	6115.50	6115.50	0.99
236	17158.00	90.30	87.70	10778.29	-1137.35	6209.46	6209.46	1.89
237	17254.00	88.90	86.30	10778.96	-1132.33	6305.33	6305.33	2.06
238	17351.00	89.60	87.80	10780.23	-1127.34	6402.18	6402.18	1.71
239	17446.00	90.20	88.00	10780.40	-1123.85	6497.12	6497.12	0.67
240	17541.00	91.50	88.70	10778.99	-1121.12	6592.07	6592.07	1.55
241	17636.00	92.20	89.70	10775.92	-1119.79	6687.01	6687.01	1.28
242	17732.00	91.90	90.10	10772.49	-1119.63	6782.95	6782.95	0.52
243	17828.00	90.90	89.90	10770.14	-1119.63	6878.92	6878.92	1.06
244	17924.00	90.20	89.40	10769.22	-1119.04	6974.91	6974.91	0.90
245	18021.00	89.80	90.70	10769.22	-1119.12	7071.91	7071.91	1.40
246	18117.00	87.40	90.60	10771.57	-1120.21	7167.86	7167.86	2.50
247	18213.00	87.00	90.60	10776.25	-1121.22	7263.74	7263.74	0.42
248	18310.00	88.60	90.00	10779.98	-1121.72	7360.67	7360.67	1.76
249	18406.00	88.90	89.40	10782.07	-1121.22	7456.64	7456.64	0.70
250	18502.00	89.80	89.80	10783.16	-1120.55	7552.63	7552.63	1.03
251	18596.00	90.80	90.10	10782.67	-1120.47	7646.63	7646.63	1.11
252	18692.00	91.50	89.90	10780.74	-1120.47	7742.61	7742.61	0.76
253	18787.00	90.40	89.70	10779.17	-1120.14	7837.60	7837.60	1.18
254	18885.00	89.50	89.90	10779.25	-1119.80	7935.59	7935.59	0.94
255	18980.00	90.90	89.80	10778.92	-1119.55	8030.59	8030.59	1.48
256	19075.00	91.30	89.40	10777.10	-1118.88	8125.57	8125.57	0.60
257	19172.00	91.70	91.00	10774.56	-1119.22	8222.53	8222.53	1.70
258	19267.00	91.30	91.90	10772.07	-1121.63	8317.47	8317.47	1.04
259	19363.00	91.80	92.40	10769.47	-1125.23	8413.37	8413.37	0.74
260	19458.00	90.20	91.60	10767.82	-1128.54	8508.29	8508.29	1.88
261	19553.00	90.30	93.00	10767.40	-1132.35	8603.21	8603.21	1.48
262	19648.00	89.40	92.10	10767.65	-1136.58	8698.11	8698.11	1.34
263	19744.00	87.40	90.20	10770.33	-1138.51	8794.05	8794.05	2.87
264	19839.00	89.80	89.80	10772.65	-1138.51	8889.01	8889.01	2.56
265	19934.00	89.20	89.90	10773.48	-1138.26	8984.01	8984.01	0.64

<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	5/15/2015
Well:	Kline Federal 5300 11-18 5B	Finish:	5/20/2015
Surface Coordinates:	1,050' FNL & 277' FWL		
Surface Location:	Lot 1, Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	RPM Consulting, Inc.

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

[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		
266	20029.00	92.20	89.50	10772.32	-1137.76	9078.99	9078.99	3.19
267	20125.00	90.60	90.20	10769.98	-1137.51	9174.96	9174.96	1.82
268	20221.00	91.80	90.70	10767.97	-1138.26	9270.93	9270.93	1.35
269	20317.00	90.60	91.00	10765.95	-1139.69	9366.90	9366.90	1.29
270	20413.00	88.20	89.30	10766.96	-1139.94	9462.88	9462.88	3.06
271	20509.00	88.50	89.00	10769.72	-1138.51	9558.83	9558.83	0.44
272	20605.00	90.50	90.10	10770.56	-1137.76	9654.82	9654.82	2.38
273	20701.00	92.10	90.20	10768.38	-1138.01	9750.79	9750.79	1.67
274	20797.00	90.80	89.90	10765.95	-1138.10	9846.76	9846.76	1.39
275	20829.00	90.30	89.90	10765.65	-1138.04	9878.75	9878.75	1.56
276	20895.00	90.30	89.90	10765.30	-1137.92	9944.75	9944.75	0.00

FORMATION TOPS & STRUCTURAL RELATIONSHIPS

		Subject Well:						
Formation/ Marker	Prog. Top	Prog. Datum (MSL)	Driller's Depth Top (MD)	Driller's Depth Top (TVD)	Datum (MSL)	Interval Thickness	Thickness to Target	Dip To Prog.
Operator: Well Name: Location:	Oasis Petroleum North America, LLC Kline Federal 5300 11-18 5B 1,050' FNL & 277' FWL Lot 1 Section 18, T153N, R100W							
Elevation:	GL: 2,052'	Sub: 16	KB: 2,068'					
Kibbey Lime	8,366'	-6,298'	8,353'	8,351'	-6,283'	154'	2,394'	15'
First Charles Salts	8,516'	-6,448'	8,507'	8,505'	-6,437'	620'	2,240'	11'
Upper Berenton	9,167'	-7,099'	9,127'	9,125'	-7,057'	72'	1,620'	42'
Base Last Salt	9,215'	-7,147'	9,199'	9,197'	-7,129'	34'	1,548'	18'
Ratcliffe	9,263'	-7,195'	9,233'	9,231'	-7,163'	193'	1,514'	32'
Mission Canyon	9,439'	-7,371'	9,426'	9,424'	-7,356'	558'	1,321'	15'
Lodgepole	10,001'	-7,933'	9,984'	9,982'	-7,914'	712'	763'	19'
False Bakken	10,697'	-8,629'	10,848'	10,694'	-8,626'	10'	51'	3'
Upper Bakken Shale	10,707'	-8,639'	10,874'	10,704'	-8,636'	21'	41'	3'
Middle Bakken	10,721'	-8,653'	10,936'	10,725'	-8,657'	20'		-4'

LITHOLOGY

Rig crews caught lagged samples in 50' intervals under the supervision of a Sunburst geologist. A detailed list of sampling intervals is included in the well data summary page. Sample or gamma ray/ROP marker tops have been inserted in the sample descriptions below for reference. Samples were examined wet and dry conditions under a binocular microscope and checked for hydrocarbon cut fluorescence with Entron. Sample descriptions began in the Middle Bakken. The drilling fluid was salt water brine solution in the lateral.

LATERAL HOLE

Middle Bakken **10,936' MD; 10,725' TVD (-8,657')**

11,122-11,150 SILTY SANDSTONE: medium-dark gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace spotty brown oil stain, slow pale yellow diffuse cut fluorescence

11,150-11,200 SILTY SANDSTONE: medium-dark gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace spotty brown oil stain, slow pale yellow diffuse cut fluorescence

11,200-11,250 SILTY SANDSTONE: medium-dark gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace spotty brown oil stain, slow pale yellow diffuse cut fluorescence

11,250-11,300 SILTY SANDSTONE: medium gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace spotty brown oil stain, slow pale yellow diffuse cut fluorescence

11,300-11,350 SILTY SANDSTONE: medium gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare spotty brown oil stain, moderate pale yellow diffuse cut fluorescence

11,350-11,400 SILTY SANDSTONE: light-medium gray brown, off white, occasional tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare spotty brown oil stain, moderate pale yellow diffuse cut fluorescence

11,400-11,450 SILTY SANDSTONE: light-medium gray brown, occasional off white, rare tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare spotty brown oil stain, moderate pale yellow diffuse cut fluorescence

11,450-11,500 SILTY SANDSTONE: light-medium gray brown, occasional off white, rare tan, very fine grained, firm, sub angular, moderately well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare spotty brown oil stain, moderate white diffuse cut fluorescence

11,500-11,550 SILTY SANDSTONE: light brown, light brown gray, light gray, rare dark gray, trace off white, very fine grained, firm, sub angular, occasional sub rounded, moderately-well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,550-11,600 SILTY SANDSTONE: light brown, light brown gray, cream, light-medium gray, rare dark gray, trace off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,600-11,650 SILTY SANDSTONE: light brown, light-medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,650-11,700 SILTY SANDSTONE: light brown, light brown gray, light gray, rare dark gray, trace off white, very fine grained, firm, sub angular, occasional sub rounded, moderately-well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,700-11,750 SILTY SANDSTONE: light-medium gray, dark gray, off white, very fine grained, firm, sub angular, trace sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,750-11,800 SILTY SANDSTONE: off white, light brown, light-medium gray, dark gray, very fine grained, firm, sub angular, trace sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

11,800-11,850 SILTY SANDSTONE: light brown, light-medium gray, dark gray, off white, rare cream, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

11,850-11,900 SILTY SANDSTONE: light brown, light brown gray, light gray, rare dark gray, trace off white, very fine grained, firm, sub angular, occasional sub rounded, moderately-well sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

11,900-11,950 SILTY SANDSTONE: light brown, light-medium gray, light brown gray, dark gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

11,950-12,000 SILTY SANDSTONE: off white, light brown, light-medium gray, dark gray, very fine grained, firm, sub angular, trace sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,000-12,050 SILTY SANDSTONE: light brown, light-medium gray, light brown gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,050-12,100 SILTY SANDSTONE: medium brown gray, off white, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,100-12,150 SILTY SANDSTONE: light-medium brown gray, off white, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,150-12,200 SILTY SANDSTONE: light-medium brown gray, off white, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,200-12,250 SILTY SANDSTONE: tan, light-medium brown gray, occasional off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,250-12,300 SILTY SANDSTONE: tan, medium gray brown, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,300-12,350 SILTY SANDSTONE: light-medium gray brown, off white, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,350-12,400 SILTY SANDSTONE: tan, common off white, common light-medium gray brown, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slow pale yellow streaming becoming diffuse cut fluorescence

12,400-12,450 SILTY SANDSTONE: off white, common light-medium gray brown, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slow pale yellow streaming becoming diffuse cut fluorescence

12,450-12,500 SILTY SANDSTONE: light-medium gray brown, common off white, tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,500-12,550 SILTY SANDSTONE: light gray brown, common off white, occasional tan, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,550-12,600 SILTY SANDSTONE: light brown gray, light brown, light-medium gray, trace dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

12,600-12,650 SILTY SANDSTONE: light brown gray, light brown, off white, light-medium gray, trace dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

12,650-12,700 SILTY SANDSTONE: light-medium gray, off white, light brown, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,700-12,750 SILTY SANDSTONE: light-medium gray, dark gray, light brown, light brown gray, off white, very fine grained, firm, occasional hard, sub angular, common sub rounded, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

12,750-12,800 SILTY SANDSTONE: light brown, light-medium gray, light brown gray, dark gray, off white, very fine grained, firm, rare hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

12,800-12,850 SILTY SANDSTONE: light brown, light gray, light brown gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,850-12,900 SILTY SANDSTONE: dark gray, light brown, light gray, light brown gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

12,900-12,950 SILTY SANDSTONE: light gray, medium-dark gray, off white, light brown, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

12,950-13,000 SILTY SANDSTONE: medium gray brown, off white, dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, pale yellow diffuse cut fluorescence

13,000-13,050 SILTY SANDSTONE: light-medium gray, dark gray, light brown, light brown gray, off white, very fine grained, firm, occasional hard, sub angular, common sub rounded, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

13,050-13,100 SILTY SANDSTONE: light brown gray, light brown, light-medium gray, trace dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

13,100-13,150 SILTY SANDSTONE: tan, common off white, common light-medium gray brown, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slow pale yellow streaming becoming diffuse cut fluorescence

14,650-14,700 SILTY SANDSTONE: light gray, tan-brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,700-14,750 SILTY SANDSTONE: light gray, tan-brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,750-14,800 SILTY SANDSTONE: light gray, tan-brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,800-14,850 SILTY SANDSTONE: medium brown, off white, light-medium gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,850-14,900 SILTY SANDSTONE: medium brown, light-medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,900-14,950 SILTY SANDSTONE: tan, light-medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

14,950-15,000 SILTY SANDSTONE: light gray, tan, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

15,000-15,050 SILTY SANDSTONE: light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow diffuse cut fluorescence

15,050-15,100 SILTY SANDSTONE: light brown, light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, slightly-moderate pale yellow diffuse cut fluorescence

15,100-15,150 SILTY SANDSTONE: light brown, light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, slightly-moderate pale yellow diffuse cut fluorescence

15,150-15,200 SILTY SANDSTONE: light gray, light gray brown, medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, moderate pale yellow diffuse cut fluorescence

15,200-15,250 SILTY SANDSTONE: light brown gray, off white, light gray, rare cream, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow diffuse cut fluorescence

15,250-15,300 SILTY SANDSTONE: light brown, off white, cream, light-medium gray, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow diffuse cut fluorescence

15,300-15,350 SILTY SANDSTONE: light brown, light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly-moderate pale yellow diffuse cut fluorescence

15,350-15,400 SILTY SANDSTONE: medium brown, light gray, off white, fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

15,400-15,450 SILTY SANDSTONE: light gray, tan, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

15,450-15,500 SILTY SANDSTONE: light gray, tan, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

15,500-15,550 SILTY SANDSTONE: light-medium brown, light-medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

15,550-15,600 SILTY SANDSTONE: dark gray, medium brown, light gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

15,600-15,650 SILTY SANDSTONE: light brown, light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, slightly-moderate pale yellow diffuse cut fluorescence

15,650-15,700 SILTY SANDSTONE: light brown, light gray, light gray brown, medium-dark gray, off white, very fine grained, firm, sub angular, rare sub rounded, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty-even oil stain, slightly-moderate pale yellow diffuse cut fluorescence

15,700-15,750 SILTY SANDSTONE: dark gray, medium brown, light gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

15,750-15,800 SILTY SANDSTONE: light brown, light brown gray, off white, light gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

15,800-15,850 SILTY SANDSTONE: light brown, light brown gray, off white, occasional dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

15,850-15,900 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming cut fluorescence

15,900-15,950 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming cut fluorescence

15,950-16,000 SILTY SANDSTONE: light brown, light brown gray, off white, occasional dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, slightly pale yellow diffuse cut fluorescence

16,050-16,100 SILTY SANDSTONE: off white, light brown, light brown gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,100-16,150 SILTY SANDSTONE: off white, light-medium gray, light brown, light brown gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,150-16,200 SILTY SANDSTONE: light brown, light brown gray, light-medium gray, dark gray, off white, rare cream, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,400-18,450 SILTY SANDSTONE: light-medium gray, off white, very fine grained, firm, occasional, sub angular, occasional sub rounded, moderately sorted, calcareous cement, moderately, cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,450-18,500 SILTY SANDSTONE: light-medium gray, off white, very fine grained, firm, occasional, sub angular, occasional sub rounded, moderately sorted, calcareous cement, moderately, cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,500-18,550 SILTY SANDSTONE: light-medium gray brown, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,550-18,600 SILTY SANDSTONE: light brown gray, light-medium gray brown, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,600-18,650 SILTY SANDSTONE: light-medium gray brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, rare disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,650-18,700 SILTY SANDSTONE: light brown, light brown gray, off white, cream, rare dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,700-18,750 SILTY SANDSTONE: light brown, light brown gray, off white, cream, rare dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,750-18,800 SILTY SANDSTONE: light brown, light brown gray, off white, cream, rare dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,800-18,850 SILTY SANDSTONE: light-medium gray brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,850-18,900 SILTY SANDSTONE: dark gray, medium gray brown, light-medium gray, off white, very fine grained, firm, trace hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,900-18,950 SILTY SANDSTONE: light-medium gray, off white, trace dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,950-19,000 SILTY SANDSTONE: light-medium gray, cream, off white, trace dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,000-19,050 SILTY SANDSTONE: light brown, light brown gray, light-medium gray, cream, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,050-19,100 SILTY SANDSTONE: light brown, off white, light gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,100-19,150 SILTY SANDSTONE: light gray, light brown gray, medium-dark gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,150-19,200 SILTY SANDSTONE: light brown gray, medium-dark gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,200-19,250 SILTY SANDSTONE: light brown gray, medium-dark gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,250-19,300 SILTY SANDSTONE: off white, light brown, light-medium gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,300-19,350 SILTY SANDSTONE: light brown, light brown gray, off white, cream, rare dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,350-19,400 SILTY SANDSTONE: light gray, light brown, light brown gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,400-19,450 SILTY SANDSTONE: off white, light brown, light brown gray, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,450-19,500 SILTY SANDSTONE: light-medium brown gray, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,500-19,550 SILTY SANDSTONE: light-medium brown gray, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,550-19,600 SILTY SANDSTONE: tan-medium brown, medium-dark dark gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,600-19,650 SILTY SANDSTONE: light gray, tan, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,650-19,700 SILTY SANDSTONE: light gray, tan, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,700-19,750 SILTY SANDSTONE: light-medium brown gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,750-19,800 SILTY SANDSTONE: off white, tan, dark gray, fine-very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,800-19,850 SILTY SANDSTONE: off white, tan, dark gray, fine-very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,850-19,900 SILTY SANDSTONE: tan-medium brown, off white, medium-dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,900-19,950 SILTY SANDSTONE: tan-medium brown, off white, medium-dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

19,950-20,000 SILTY SANDSTONE: medium brown gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,000-20,050 SILTY SANDSTONE: light-medium gray, off white, medium brown, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,050-20,100 SILTY SANDSTONE: light-medium gray, off white, medium brown, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,100-20,150 SILTY SANDSTONE: medium gray brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,150-20,200 SILTY SANDSTONE: medium gray brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,200-20,250 SILTY SANDSTONE: light-medium gray brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,250-20,300 SILTY SANDSTONE: light-medium gray brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,300-20,350 SILTY SANDSTONE: light gray, tan, medium brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,350-20,400 SILTY SANDSTONE: light-medium gray brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,400-20,450 SILTY SANDSTONE: tan-medium brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,450-20,500 SILTY SANDSTONE: light-medium brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, occasional nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,500-20,550 SILTY SANDSTONE: light brown, light-medium brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,550-20,600 SILTY SANDSTONE: light brown, light brown gray, light-medium gray, very fine grained, firm, sub angular, sub rounded, moderately sorted, calcareous cement, moderately cemented, rare disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

20,600-20,650 SILTY SANDSTONE: light-medium gray brown, off white, dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,650-20,700 SILTY SANDSTONE: light brown gray, light brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,700-20,750 SILTY SANDSTONE: light brown gray, light brown, light-medium gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,750-20,800 SILTY SANDSTONE: light gray, light brown gray, light brown, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,800-20,850 SILTY SANDSTONE: light brown gray, light brown, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

20,850-20,895 SILTY SANDSTONE: light-medium gray, light brown, off white, trace dark gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately-well cemented, trace disseminated pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube



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

Wednesday, June 10, 2015

State of North Dakota

Subject: **Surveys**

Re: **Oasis**
Kline Federal 5300 11-18 5B
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
David Foley	MWD Operator	O.H.	0'	11058'	03/11/15	03/20/15	MWD	11058'
David Foley	MWD Operator	O.H.	11058'	20829'	05/15/15	05/20/15	MWD	20896'

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

Friday, March 20, 2015

State of North Dakota
County of McKenzie

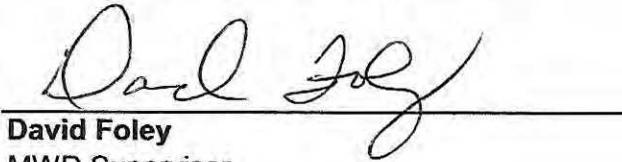
Subject: **Survey Certification Letter**

Survey Company: **Ryan Directional Services, Inc.**
Job Number: **8691**
Survey Job Type: **Ryan MWD**
Customer: **Oasis Petroleum**
Well Name: **Kline Federal 5300 11-18 5B**
Rig Name: **Nabors B27**

Surface: **48°4'27.84"N 103°36'11.38"W**
A.P.I. No: **33-053-06223**
Location: **McKenzie, ND**
RKB Height: **2078'**
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>
David Foley	MWD Supervisor	OH	90'	11058'	03/11/15	03/20/15	MWD	11122'

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.


David Foley
MWD Supervisor
Ryan Directional Services, Inc.



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

Wednesday, May 20, 2015

State of North Dakota
County of McKenzie

Subject: **Survey Certification Letter**

Survey Company: Ryan Directional Services, Inc.

Job Number: 8981

Survey Job Type: Ryan MWD

Customer: Oasis Petroleum North America LLC

Well Name: Kline Federal 5300 11-18 5B

Rig Name: Xtreme 21

Surface: 48° 4' 44.790 N / 103° 36' 10.800 W

A.P.I. No: 33-053-06223

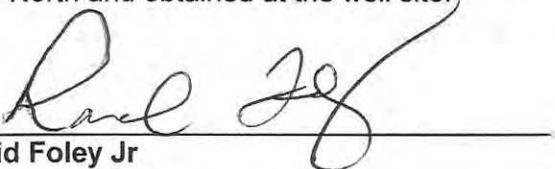
Location: McKenzie, ND

RKB Height: 2069'

Distance to Bit: 67'

<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>
David Foley Jr	MWD Supervisor	OH	11058'	20829'	05/15/15	05/20/15	MWD	20896'

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.


David Foley Jr
MWD Supervisor
Ryan Directional Services, Inc.



SURVEY REPORT

Customer: Oasis Petroleum
 Well Name: Kline Federal 5300 11-18 5B
 Rig #: Nabors B27
 API #: 33-053-06223
 Calculation Method: Minimum Curvature Calculation

MWD Operator: David Foley / Carlo Marrufo
 Directional Drillers: RPM
 Survey Corrected To: True North
 Vertical Section Direction: 90
 Total Correction: 8.30
 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	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	141	0.30	279.40	35.00	141.00	-0.36	0.06	-0.36	0.21
2	233	0.50	268.80	39.00	233.00	-1.00	0.09	-1.00	0.23
3	327	0.50	300.80	41.00	326.99	-1.77	0.29	-1.77	0.29
4	420	0.50	319.90	46.00	419.99	-2.38	0.81	-2.38	0.18
5	513	0.70	339.90	50.00	512.99	-2.83	1.65	-2.83	0.31
6	604	0.50	357.70	55.00	603.98	-3.04	2.57	-3.04	0.30
7	695	0.60	19.20	59.00	694.98	-2.90	3.42	-2.90	0.25
8	788	0.50	3.50	64.00	787.97	-2.71	4.29	-2.71	0.19
9	880	0.60	26.10	69.00	879.97	-2.48	5.12	-2.48	0.26
10	971	0.10	80.00	73.00	970.97	-2.19	5.56	-2.19	0.60
11	1063	0.10	148.70	80.00	1062.97	-2.07	5.51	-2.07	0.12
12	1157	0.50	321.10	86.00	1156.96	-2.28	5.75	-2.28	0.64
13	1247	0.50	322.20	80.00	1246.96	-2.77	6.37	-2.77	0.01
14	1338	0.70	327.00	87.00	1337.96	-3.32	7.15	-3.32	0.23
15	1432	0.70	349.30	95.00	1431.95	-3.74	8.20	-3.74	0.29
16	1526	0.30	5.40	93.00	1525.95	-3.82	9.01	-3.82	0.45
17	1620	0.30	78.90	100.00	1619.94	-3.55	9.30	-3.55	0.38
18	1714	0.90	72.80	102.00	1713.94	-2.61	9.56	-2.61	0.64
19	1808	1.10	66.70	105.00	1807.92	-1.07	10.14	-1.07	0.24
20	1902	1.10	79.10	105.00	1901.91	0.64	10.67	0.64	0.25
21	1996	1.10	98.40	109.00	1995.89	2.42	10.70	2.42	0.39
22	2082	1.50	114.40	109.00	2081.87	4.26	10.12	4.26	0.62
23	2179	1.70	116.90	69.00	2178.83	6.70	8.94	6.70	0.22
24	2274	1.40	179.00	75.00	2273.80	7.98	7.15	7.98	1.70
25	2368	1.00	204.40	77.00	2367.78	7.66	5.25	7.66	0.70
26	2462	0.90	227.70	77.00	2461.77	6.77	4.01	6.77	0.42
27	2556	1.10	233.70	79.00	2555.75	5.50	2.98	5.50	0.24
28	2651	2.10	271.60	82.00	2650.72	3.03	2.48	3.03	1.48
29	2745	1.00	294.00	84.00	2744.68	0.55	2.87	0.55	1.31
30	2839	1.10	291.90	86.00	2838.67	-1.03	3.54	-1.03	0.11
31	2933	1.70	288.80	88.00	2932.64	-3.19	4.32	-3.19	0.64
32	3028	1.20	255.60	89.00	3027.61	-5.49	4.53	-5.49	1.01
33	3122	1.20	243.10	91.00	3121.59	-7.32	3.84	-7.32	0.28
34	3216	1.10	251.40	93.00	3215.57	-9.05	3.11	-9.05	0.21
35	3310	1.00	259.80	95.00	3309.56	-10.71	2.67	-10.71	0.19
36	3405	1.00	202.50	97.00	3404.54	-11.85	1.76	-11.85	1.01
37	3499	1.10	187.50	98.00	3498.53	-12.28	0.11	-12.28	0.31
38	3593	0.90	184.30	100.00	3592.51	-12.45	-1.52	-12.45	0.22
39	3687	0.80	180.70	102.00	3686.50	-12.51	-2.92	-12.51	0.12
40	3781	0.70	188.30	102.00	3780.49	-12.61	-4.14	-12.61	0.15
41	3875	0.60	197.90	104.00	3874.49	-12.84	-5.18	-12.84	0.16
42	3969	0.50	200.90	105.00	3968.48	-13.14	-6.03	-13.14	0.11
43	4063	0.50	204.40	105.00	4062.48	-13.45	-6.78	-13.45	0.03
44	4158	0.30	232.70	107.00	4157.48	-13.82	-7.31	-13.82	0.29
45	4252	0.20	256.20	109.00	4251.48	-14.18	-7.50	-14.18	0.15
46	4346	0.20	339.20	109.00	4345.48	-14.39	-7.39	-14.39	0.28
47	4441	0.70	109.60	111.00	4440.48	-13.91	-7.43	-13.91	0.89
48	4535	0.80	119.80	113.00	4534.47	-12.80	-7.95	-12.80	0.18
49	4629	0.40	113.50	113.00	4628.46	-11.93	-8.40	-11.93	0.43
50	4723	0.30	67.10	116.00	4722.46	-11.40	-8.44	-11.40	0.31
51	4816	0.80	122.70	116.00	4815.46	-10.63	-8.69	-10.63	0.73
52	4910	0.60	133.00	118.00	4909.45	-9.72	-9.38	-9.72	0.25
53	5005	0.00	144.80	114.00	5004.45	-9.35	-9.72	-9.35	0.63
54	5099	0.40	283.00	114.00	5098.45	-9.67	-9.65	-9.67	0.43
55	5193	0.90	184.90	120.00	5192.44	-10.05	-10.31	-10.05	1.10
56	5287	1.50	187.60	118.00	5286.42	-10.28	-12.27	-10.28	0.64
57	5381	1.80	183.90	120.00	5380.38	-10.54	-14.96	-10.54	0.34
58	5476	2.00	185.50	120.00	5475.33	-10.80	-18.10	-10.80	0.22
59	5570	2.40	180.50	122.00	5569.26	-10.98	-21.70	-10.98	0.47
60	5664	2.50	181.30	122.00	5663.17	-11.04	-25.72	-11.04	0.11

**SURVEY REPORT**

Customer: **Oasis Petroleum**
 Well Name: **Kline Federal 5300 11-18 5B**
 Rig #: **Nabors B27**
 API #: **33-053-06223**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **David Foley / Carlo Marrufo**
 Directional Drillers: **RPM**
 Survey Corrected To: **True North**
 Vertical Section Direction: **90**
 Total Correction: **8.30**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
61	5759	1.50	192.10	122.00	5758.12	-11.35	-29.00	-11.35	1.12
62	5853	1.40	199.40	123.00	5852.09	-11.99	-31.29	-11.99	0.22
63	5947	1.00	203.80	125.00	5946.06	-12.70	-33.12	-12.70	0.44
64	6041	0.60	215.10	126.00	6040.06	-13.32	-34.28	-13.32	0.46
65	6135	0.50	210.40	127.00	6134.05	-13.81	-35.03	-13.81	0.12
66	6229	0.40	299.50	127.00	6228.05	-14.30	-35.22	-14.30	0.68
67	6324	0.80	335.50	127.00	6323.04	-14.86	-34.46	-14.86	0.56
68	6418	1.30	344.20	129.00	6417.03	-15.43	-32.83	-15.43	0.56
69	6512	0.80	249.00	129.00	6511.02	-16.33	-32.04	-16.33	1.69
70	6606	0.80	280.80	132.00	6605.01	-17.59	-32.16	-17.59	0.47
71	6700	0.80	311.10	134.00	6699.00	-18.72	-31.60	-18.72	0.44
72	6794	1.00	257.60	134.00	6792.99	-20.02	-31.35	-20.02	0.88
73	6889	1.20	253.10	136.00	6887.97	-21.78	-31.81	-21.78	0.23
74	6983	1.20	262.60	138.00	6981.95	-23.70	-32.23	-23.70	0.21
75	7077	0.90	267.80	140.00	7075.94	-25.41	-32.38	-25.41	0.33
76	7171	1.10	285.60	141.00	7169.92	-27.02	-32.17	-27.02	0.39
77	7265	0.50	37.30	141.00	7263.92	-27.64	-31.60	-27.64	1.45
78	7359	0.90	56.90	143.00	7357.91	-26.77	-30.87	-26.77	0.49
79	7454	1.20	48.60	145.00	7452.89	-25.40	-29.80	-25.40	0.35
80	7548	1.10	56.10	145.00	7546.87	-23.92	-28.65	-23.92	0.19
81	7642	1.00	60.50	147.00	7640.86	-22.45	-27.74	-22.45	0.14
82	7736	1.10	82.10	147.00	7734.84	-20.84	-27.21	-20.84	0.43
83	7830	1.40	100.30	149.00	7828.82	-18.82	-27.30	-18.82	0.53
84	7924	0.60	90.70	147.00	7922.81	-17.20	-27.51	-17.20	0.87
85	8019	0.90	83.40	149.00	8017.80	-15.96	-27.43	-15.96	0.33
86	8113	1.10	158.90	149.00	8111.79	-14.90	-28.18	-14.90	1.31
87	8207	1.40	182.20	150.00	8205.76	-14.62	-30.17	-14.62	0.62
88	8301	1.20	178.50	152.00	8299.74	-14.64	-32.30	-14.64	0.23
89	8395	1.40	179.60	155.00	8393.72	-14.61	-34.44	-14.61	0.21
90	8489	1.30	180.70	158.00	8487.69	-14.61	-36.65	-14.61	0.11
91	8584	1.40	185.90	158.00	8582.66	-14.74	-38.88	-14.74	0.17
92	8678	1.40	186.80	158.00	8676.64	-15.00	-41.17	-15.00	0.02
93	8772	1.50	200.90	159.00	8770.61	-15.57	-43.46	-15.57	0.39
94	8866	1.50	205.50	161.00	8864.57	-16.54	-45.71	-16.54	0.13
95	8960	1.50	203.40	163.00	8958.54	-17.56	-47.95	-17.56	0.06
96	9055	1.50	206.10	161.00	9053.51	-18.60	-50.21	-18.60	0.07
97	9149	1.40	216.50	163.00	9147.48	-19.82	-52.24	-19.82	0.30
98	9243	1.30	222.30	165.00	9241.45	-21.23	-53.95	-21.23	0.18
99	9337	1.10	228.00	167.00	9335.43	-22.61	-55.34	-22.61	0.25
100	9432	0.90	224.90	170.00	9430.42	-23.82	-56.48	-23.82	0.22
101	9526	0.60	224.90	170.00	9524.41	-24.69	-57.35	-24.69	0.32
102	9620	0.50	231.90	172.00	9618.41	-25.36	-57.96	-25.36	0.13
103	9714	0.50	227.10	174.00	9712.40	-25.98	-58.49	-25.98	0.04
104	9808	0.40	224.00	174.00	9806.40	-26.51	-59.00	-26.51	0.11
105	9902	0.10	241.70	176.00	9900.40	-26.81	-59.28	-26.81	0.33
106	9997	0.10	357.40	177.00	9995.40	-26.88	-59.24	-26.88	0.18
107	10091	0.40	354.90	179.00	10089.40	-26.92	-58.83	-26.92	0.32
108	10149	0.40	6.90	177.00	10147.40	-26.91	-58.42	-26.91	0.14
109	10168	0.40	2.60	163.00	10166.39	-26.90	-58.29	-26.90	0.16
110	10199	1.30	101.70	163.00	10197.39	-26.55	-58.25	-26.55	4.58
111	10231	4.80	115.50	167.00	10229.34	-24.99	-58.91	-24.99	11.10
112	10262	8.40	117.70	168.00	10260.13	-21.81	-60.52	-21.81	11.64
113	10293	12.10	123.50	170.00	10290.63	-17.09	-63.36	-17.09	12.38
114	10325	15.30	132.10	172.00	10321.72	-11.16	-68.05	-11.16	11.83
115	10356	18.50	136.20	174.00	10351.38	-4.72	-74.34	-4.72	11.01
116	10387	21.70	136.00	174.00	10380.49	2.66	-82.01	2.66	10.32
117	10419	25.20	138.00	176.00	10409.84	11.34	-91.34	11.34	11.22
118	10450	28.30	142.20	174.00	10437.52	20.26	-102.05	20.26	11.71
119	10482	31.30	145.60	174.00	10465.29	29.61	-114.91	29.61	10.76
120	10513	34.90	148.40	176.00	10491.26	38.81	-129.11	38.81	12.61

**SURVEY REPORT**

Customer: **Oasis Petroleum**
 Well Name: **Kline Federal 5300 11-18 5B**
 Rig #: **Nabors B27**
 API #: **33-053-06223**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **David Foley / Carlo Marrufo**
 Directional Drillers: **RPM**
 Survey Corrected To: **True North**
 Vertical Section Direction: **90**
 Total Correction: **8.30**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
121	10544	38.90	148.60	177.00	10516.04	48.53	-144.98	48.53	12.91
122	10576	42.10	148.20	177.00	10540.37	59.42	-162.67	59.42	10.03
123	10607	46.00	148.10	179.00	10562.65	70.79	-180.98	70.79	12.58
124	10639	49.30	147.50	179.00	10584.20	83.39	-200.99	83.39	10.41
125	10670	53.00	147.10	181.00	10603.64	96.44	-221.30	96.44	11.98
126	10701	55.80	145.70	181.00	10621.69	110.39	-242.29	110.39	9.75
127	10733	58.00	144.70	183.00	10639.16	125.69	-264.30	125.69	7.36
128	10764	59.10	143.90	183.00	10655.34	141.12	-285.77	141.12	4.18
129	10796	61.50	142.90	183.00	10671.19	157.69	-308.08	157.69	7.98
130	10827	63.90	142.10	183.00	10685.41	174.46	-329.93	174.46	8.07
131	10858	66.50	141.50	186.00	10698.41	191.87	-352.05	191.87	8.57
132	10890	68.70	141.90	179.00	10710.60	210.20	-375.26	210.20	6.97
133	10921	72.20	142.20	181.00	10720.98	228.16	-398.30	228.16	11.33
134	10953	75.80	141.90	181.00	10729.80	247.08	-422.55	247.08	11.29
135	10984	80.00	141.50	183.00	10736.29	265.86	-446.33	265.86	13.61
136	11015	84.60	142.10	185.00	10740.44	284.85	-470.46	284.85	14.96
137	11047	88.30	141.00	186.00	10742.43	304.71	-495.47	304.71	12.06
138	11058	88.80	140.80	186.00	10742.70	311.64	-504.01	311.64	4.90
139	11084	89.00	142.40	222.00	10743.20	327.79	-524.38	327.79	6.20
140	11115	89.50	140.80	219.00	10743.61	347.04	-548.67	347.04	5.41
141	11146	88.90	139.90	212.00	10744.04	366.82	-572.54	366.82	3.49
142	11176	89.00	139.30	219.00	10744.59	386.26	-595.38	386.26	2.03
143	11207	88.20	138.20	215.00	10745.35	406.70	-618.68	406.70	4.39
144	11238	88.10	138.20	213.00	10746.35	427.35	-641.77	427.35	0.32
145	11269	88.00	135.50	213.00	10747.40	448.53	-664.38	448.53	8.71
146	11300	88.30	134.20	215.00	10748.41	470.50	-686.23	470.50	4.30
147	11331	89.50	133.20	213.00	10749.00	492.91	-707.64	492.91	5.04
148	11362	90.60	133.50	215.00	10748.97	515.45	-728.92	515.45	3.68
149	11393	91.00	130.80	215.00	10748.54	538.43	-749.72	538.43	8.80
150	11424	91.20	130.10	217.00	10747.95	562.01	-769.83	562.01	2.35
151	11455	90.50	127.90	215.00	10747.49	586.10	-789.33	586.10	7.45
152	11486	89.00	126.40	219.00	10747.62	610.81	-808.05	610.81	6.84
153	11517	87.60	126.70	217.00	10748.54	635.70	-826.50	635.70	4.62
154	11547	88.30	125.00	217.00	10749.61	660.00	-844.06	660.00	6.12
155	11578	88.00	123.50	219.00	10750.61	685.61	-861.50	685.61	4.93
156	11609	88.90	121.50	219.00	10751.45	711.74	-878.15	711.74	7.07
157	11640	88.30	120.10	219.00	10752.21	738.36	-894.02	738.36	4.91
158	11671	89.00	119.20	219.00	10752.94	765.30	-909.35	765.30	3.68
159	11702	89.80	118.10	219.00	10753.27	792.50	-924.21	792.50	4.39
160	11733	91.30	117.00	221.00	10752.97	819.98	-938.55	819.98	6.00
161	11764	91.20	115.60	221.00	10752.29	847.76	-952.28	847.76	4.53
162	11795	91.20	114.50	221.00	10751.64	875.84	-965.40	875.84	3.55
163	11825	90.50	113.20	222.00	10751.20	903.28	-977.53	903.28	4.92
164	11856	90.10	113.30	222.00	10751.04	931.76	-989.77	931.76	1.33
165	11886	90.00	113.20	222.00	10751.01	959.32	-1001.61	959.32	0.47
166	11917	89.80	112.70	222.00	10751.06	987.87	-1013.70	987.87	1.74
167	11949	89.10	110.80	224.00	10751.37	1017.59	-1025.55	1017.59	6.33
168	11980	88.70	109.60	224.00	10751.97	1046.67	-1036.26	1046.67	4.08
169	12012	88.70	109.70	224.00	10752.69	1076.80	-1047.01	1076.80	0.31
170	12044	89.50	109.10	224.00	10753.19	1106.98	-1057.64	1106.98	3.12
171	12075	89.80	108.50	226.00	10753.38	1136.33	-1067.63	1136.33	2.16
172	12107	90.20	107.60	224.00	10753.38	1166.75	-1077.55	1166.75	3.08
173	12139	90.60	106.60	224.00	10753.16	1197.34	-1086.96	1197.34	3.37
174	12171	90.00	104.90	224.00	10752.99	1228.13	-1095.64	1228.13	5.63
175	12202	88.90	103.30	224.00	10753.29	1258.20	-1103.19	1258.20	6.26
176	12233	87.40	102.00	226.00	10754.29	1288.43	-1109.98	1288.43	6.40
177	12265	87.60	101.00	224.00	10755.69	1319.75	-1116.35	1319.75	3.18
178	12297	87.90	99.50	226.00	10756.94	1351.22	-1122.04	1351.22	4.78
179	12329	88.10	97.70	228.00	10758.06	1382.84	-1126.82	1382.84	5.66
180	12361	87.70	96.60	226.00	10759.23	1414.57	-1130.80	1414.57	3.66



SURVEY REPORT

Customer: Oasis Petroleum
Well Name: Kline Federal 5300 11-18 5B
Rig #: Nabors B27
API #: 33-053-06223
Calculation Method: Minimum Curvature Calculation

MWD Operator: David Foley / Carlo Marrufo
Directional Drillers: RPM
Survey Corrected To: True North
Vertical Section Direction: 90
Total Correction: 8.30
Temperature Forecasting Model (Chart Only): Logarithmic

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
181	12392	87.80	96.30	226.00	10760.45	1445.35	-1134.28	1445.35	1.02
182	12424	88.20	94.90	228.00	10761.57	1477.17	-1137.40	1477.17	4.55
183	12455	88.40	94.20	228.00	10762.49	1508.06	-1139.86	1508.06	2.35
184	12486	88.90	94.50	228.00	10763.22	1538.97	-1142.21	1538.97	1.88
185	12518	90.90	93.50	228.00	10763.27	1570.89	-1144.44	1570.89	6.99
186	12549	91.60	93.30	230.00	10762.60	1601.82	-1146.28	1601.82	2.35
187	12581	92.60	92.70	228.00	10761.42	1633.76	-1147.96	1633.76	3.64
188	12613	91.50	91.50	228.00	10760.28	1665.71	-1149.13	1665.71	5.09
189	12644	90.30	90.10	230.00	10759.79	1696.71	-1149.56	1696.71	5.95
190	12675	89.30	88.70	231.00	10759.90	1727.70	-1149.24	1727.70	5.55
191	12771	89.50	88.80	231.00	10760.91	1823.67	-1147.14	1823.67	0.23
192	12866	90.70	88.90	235.00	10760.74	1918.65	-1145.24	1918.65	1.27
193	12962	91.80	88.50	235.00	10758.65	2014.60	-1143.06	2014.60	1.22
194	13057	91.30	88.90	237.00	10756.08	2109.54	-1140.90	2109.54	0.67
195	13153	91.00	89.90	237.00	10754.15	2205.52	-1139.90	2205.52	1.09
196	13247	90.30	90.30	239.00	10753.08	2299.51	-1140.06	2299.51	0.86
197	13342	89.50	90.40	239.00	10753.25	2394.51	-1140.64	2394.51	0.85
198	13436	89.40	89.70	240.00	10754.15	2488.50	-1140.72	2488.50	0.75
199	13532	89.50	89.40	242.00	10755.07	2584.50	-1139.97	2584.50	0.33
200	13626	89.30	89.30	244.00	10756.06	2678.49	-1138.90	2678.49	0.24
201	13723	89.20	88.90	246.00	10757.33	2775.46	-1137.38	2775.46	0.43
202	13817	89.80	89.00	248.00	10758.15	2869.45	-1135.66	2869.45	0.65
203	13912	90.20	88.70	248.00	10758.15	2964.43	-1133.75	2964.43	0.53
204	14008	89.90	89.40	246.00	10758.06	3060.41	-1132.16	3060.41	0.79
205	14103	89.40	89.00	248.00	10758.64	3155.40	-1130.83	3155.40	0.67
206	14198	89.10	88.20	249.00	10759.89	3250.36	-1128.51	3250.36	0.90
207	14292	89.40	89.40	248.00	10761.12	3344.33	-1126.54	3344.33	1.32
208	14387	90.70	90.80	249.00	10761.03	3439.33	-1126.71	3439.33	2.01
209	14483	89.30	90.60	248.00	10761.03	3535.32	-1127.88	3535.32	1.47
210	14577	89.10	91.00	249.00	10762.35	3629.30	-1129.20	3629.30	0.48
211	14672	89.60	91.00	251.00	10763.42	3724.28	-1130.85	3724.28	0.53
212	14766	90.90	91.00	253.00	10763.01	3818.26	-1132.49	3818.26	1.38
213	14861	88.80	90.80	251.00	10763.26	3913.24	-1133.99	3913.24	2.22
214	14959	88.00	91.10	253.00	10766.00	4011.19	-1135.61	4011.19	0.87
215	15055	91.40	92.00	249.00	10766.50	4107.14	-1138.21	4107.14	3.66
216	15151	89.80	90.90	251.00	10765.50	4203.10	-1140.64	4203.10	2.02
217	15246	89.60	91.10	253.00	10765.99	4298.08	-1142.29	4298.08	0.30
218	15340	90.60	91.40	255.00	10765.83	4392.06	-1144.34	4392.06	1.11
219	15434	89.40	90.90	253.00	10765.83	4486.04	-1146.23	4486.04	1.38
220	15530	90.30	91.10	255.00	10766.08	4582.02	-1147.91	4582.02	0.96
221	15625	88.70	91.00	251.00	10766.91	4677.00	-1149.65	4677.00	1.69
222	15720	88.00	91.00	255.00	10769.65	4771.95	-1151.30	4771.95	0.74
223	15815	90.30	91.30	255.00	10771.05	4866.91	-1153.21	4866.91	2.44
224	15911	89.20	90.00	253.00	10771.47	4962.90	-1154.30	4962.90	1.77
225	16007	87.50	89.90	255.00	10774.24	5058.86	-1154.22	5058.86	1.77
226	16103	88.10	90.40	253.00	10777.92	5154.78	-1154.47	5154.78	0.81
227	16200	89.50	90.30	257.00	10779.95	5251.76	-1155.06	5251.76	1.45
228	16296	90.00	90.00	257.00	10780.37	5347.76	-1155.31	5347.76	0.61
229	16392	90.80	89.50	258.00	10779.70	5443.75	-1154.89	5443.75	0.98
230	16488	90.70	89.00	258.00	10778.45	5539.74	-1153.64	5539.74	0.53
231	16584	87.70	88.00	258.00	10779.79	5635.68	-1151.12	5635.68	3.29
232	16680	89.70	89.00	257.00	10781.96	5731.62	-1148.61	5731.62	2.33
233	16775	90.40	88.40	257.00	10781.88	5826.59	-1146.46	5826.59	0.97
234	16872	90.50	88.60	260.00	10781.12	5923.56	-1143.92	5923.56	0.23
235	16968	90.50	88.50	260.00	10780.28	6019.52	-1141.49	6019.52	0.10
236	17064	90.80	89.40	262.00	10779.19	6115.50	-1139.73	6115.50	0.99
237	17158	90.30	87.70	260.00	10778.29	6209.46	-1137.35	6209.46	1.89
238	17254	88.90	86.30	260.00	10778.96	6305.32	-1132.33	6305.32	2.06
239	17351	89.60	87.80	258.00	10780.23	6402.18	-1127.34	6402.18	1.71
240	17446	90.20	88.00	260.00	10780.40	6497.12	-1123.85	6497.12	0.67



SURVEY REPORT

Customer: Oasis Petroleum
 Well Name: Kline Federal 5300 11-18 5B
 Rig #: Nabors B27
 API #: 33-053-06223
 Calculation Method: Minimum Curvature Calculation

MWD Operator: David Foley / Carlo Marrufo
 Directional Drillers: RPM
 Survey Corrected To: True North
 Vertical Section Direction: 90
 Total Correction: 8.30
 Temperature Forecasting Model (Chart Only): Logarithmic

Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
241	17541	91.50	88.70	258.00	10778.99	6592.06	-1121.12	6592.06	1.55
242	17636	92.20	89.70	258.00	10775.92	6687.00	-1119.79	6687.00	1.28
243	17732	91.90	90.10	257.00	10772.49	6782.94	-1119.63	6782.94	0.52
244	17828	90.90	89.90	258.00	10770.14	6878.91	-1119.63	6878.91	1.06
245	17924	90.20	89.40	260.00	10769.22	6974.90	-1119.04	6974.90	0.90
246	18021	89.80	90.70	258.00	10769.22	7071.90	-1119.12	7071.90	1.40
247	18117	87.40	90.60	260.00	10771.56	7167.86	-1120.21	7167.86	2.50
248	18213	87.00	90.60	258.00	10776.25	7263.74	-1121.22	7263.74	0.42
249	18310	88.60	90.00	260.00	10779.98	7360.66	-1121.72	7360.66	1.76
250	18406	88.90	89.40	260.00	10782.07	7456.64	-1121.22	7456.64	0.70
251	18502	89.80	89.80	260.00	10783.16	7552.63	-1120.55	7552.63	1.03
252	18596	90.80	90.10	262.00	10782.67	7646.63	-1120.47	7646.63	1.11
253	18692	91.50	89.90	262.00	10780.74	7742.61	-1120.47	7742.61	0.76
254	18787	90.40	89.70	262.00	10779.17	7837.59	-1120.14	7837.59	1.18
255	18885	89.50	89.90	264.00	10779.25	7935.59	-1119.80	7935.59	0.94
256	18980	90.90	89.80	262.00	10778.92	8030.59	-1119.55	8030.59	1.48
257	19075	91.30	89.40	264.00	10777.10	8125.57	-1118.88	8125.57	0.60
258	19172	91.70	91.00	262.00	10774.56	8222.53	-1119.22	8222.53	1.70
259	19267	91.30	91.90	262.00	10772.07	8317.46	-1121.63	8317.46	1.04
260	19363	91.80	92.40	262.00	10769.47	8413.36	-1125.23	8413.36	0.74
261	19458	90.20	91.60	258.00	10767.82	8508.29	-1128.54	8508.29	1.88
262	19553	90.30	93.00	262.00	10767.40	8603.21	-1132.35	8603.21	1.48
263	19648	89.40	92.10	260.00	10767.65	8698.11	-1136.58	8698.11	1.34
264	19744	87.40	90.20	260.00	10770.33	8794.04	-1138.51	8794.04	2.87
265	19839	89.80	89.80	262.00	10772.65	8889.01	-1138.51	8889.01	2.56
266	19934	89.20	89.90	264.00	10773.48	8984.00	-1138.26	8984.00	0.64
267	20029	92.20	89.50	264.00	10772.32	9078.98	-1137.76	9078.98	3.19
268	20125	90.60	90.20	262.00	10769.97	9174.95	-1137.51	9174.95	1.82
269	20221	91.80	90.70	264.00	10767.96	9270.93	-1138.26	9270.93	1.35
270	20317	90.60	91.00	264.00	10765.95	9366.89	-1139.69	9366.89	1.29
271	20413	88.20	89.30	264.00	10766.96	9462.88	-1139.94	9462.88	3.06
272	20509	88.50	89.00	264.00	10769.72	9558.83	-1138.51	9558.83	0.44
273	20605	90.50	90.10	264.00	10770.56	9654.81	-1137.76	9654.81	2.38
274	20701	92.10	90.20	264.00	10768.38	9750.78	-1138.01	9750.78	1.67
275	20797	90.80	89.90	264.00	10765.95	9846.75	-1138.09	9846.75	1.39
276	20829	90.30	89.90	264.00	10765.65	9878.75	-1138.04	9878.75	1.56
Projection	20896	90.30	89.90	264.00	10765.30	9945.75	-1137.92	9945.75	0.00



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 (08-2008)



Well File No.
29242

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date April 9, 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 checked="" type="checkbox"/> Other	Suspension of Drilling

Well Name and Number Kline Federal 5300 11-18 5B					
Footages 1050 F N L 273 F W L	Qtr-Qtr 11	Section 18	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 requests permission for suspension of drilling for approximately 55 days for the referenced well under NDAC 43-02-03-055. Oasis would like to suspend drilling on this well in order to drill the approved Carson SWD 5301 12-24 (well file #90329). The current rig will move to the Carson SWD pad once the vertical well bores have been drilled for all 3 wells on the Kline 11-18 pad. Oasis will return to the Kline 11-18 pad with a second rig on approximately June 6, 2015, to drill the lateral portion of the referenced well to TD.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9575	
Address 1001 Fannin St, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Michael Kukuk	
Title Regulatory Supervisor	Date March 26, 2015	
Email Address mkukuk@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 4/8/15	
By 	
Title Mineral Resources Permit Manager	

Holweger, Todd L.

From: Michael Kukuk <mkukuk@oasispetroleum.com>
Sent: Thursday, March 26, 2015 6:40 PM
To: Holweger, Todd L.
Cc: Regulatory; APD; Karyme Martin; Jason Swaren
Subject: SOD sundries for the Kline Federal 5300 11-18 pad
Attachments: Kline Federal 11-18 SOD sundries.pdf; ATT00001.txt

Importance: High

Good Evening Todd,

Per our conversation I have attached the SOD sundries for the 3 wells on the Kline pad. A few key points:

- 1) We will move the rig to the Carson SWD pad once we have finished drilling the vertical portions of all 3 wells on this pad.
- 2) We will finish drilling the vertical portion of the third well, the Kline Federal 5300 11-18 2B, on **April 9th**.
- 3) We will utilize a 2nd rig to drill the lateral portions of the 3 wells on this pad.
- 4) The 2nd rig is currently drilling wells on a different pad and is scheduled to reach TD on the final well in late May/early June, leaving a gap of approximately 55 days.
- 5) We will be able to return to the Kline Federal 5300 11-18 pad on or before **June 6th**.

Given the time sensitive nature of this request, expedited review of these sundries would be greatly appreciated.

Thank you for your consideration,

Michael P. Kukuk
Regulatory Supervisor
1001 Fannin, Suite 1500
Houston, Texas 77002
281-404-9575
281-382-5877 (cell)

mkukuk@oasispetroleum.com





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 (08-2006)



Well File No.
29242

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 5, 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 checked="" type="checkbox"/> Other	<u>Change to Original APD</u>

Well Name and Number
Kline Federal 5300 11-18 5B

Footages	Qtr-Qtr	Section	Township	Range
1080 F N L	263 F W L	LOT1	18	153 N 100 W
Field	Pool		County	
Baker	Bakken		McKenzie	

Name of Contractor(s)	24-HOUR PRODUCTION RATE		
Address	Before	After	
	Oil Bbls	Oil Bbls	
	Water Bbls	Water Bbls	
	Gas MCF	Gas MCF	

DETAILS OF WORK

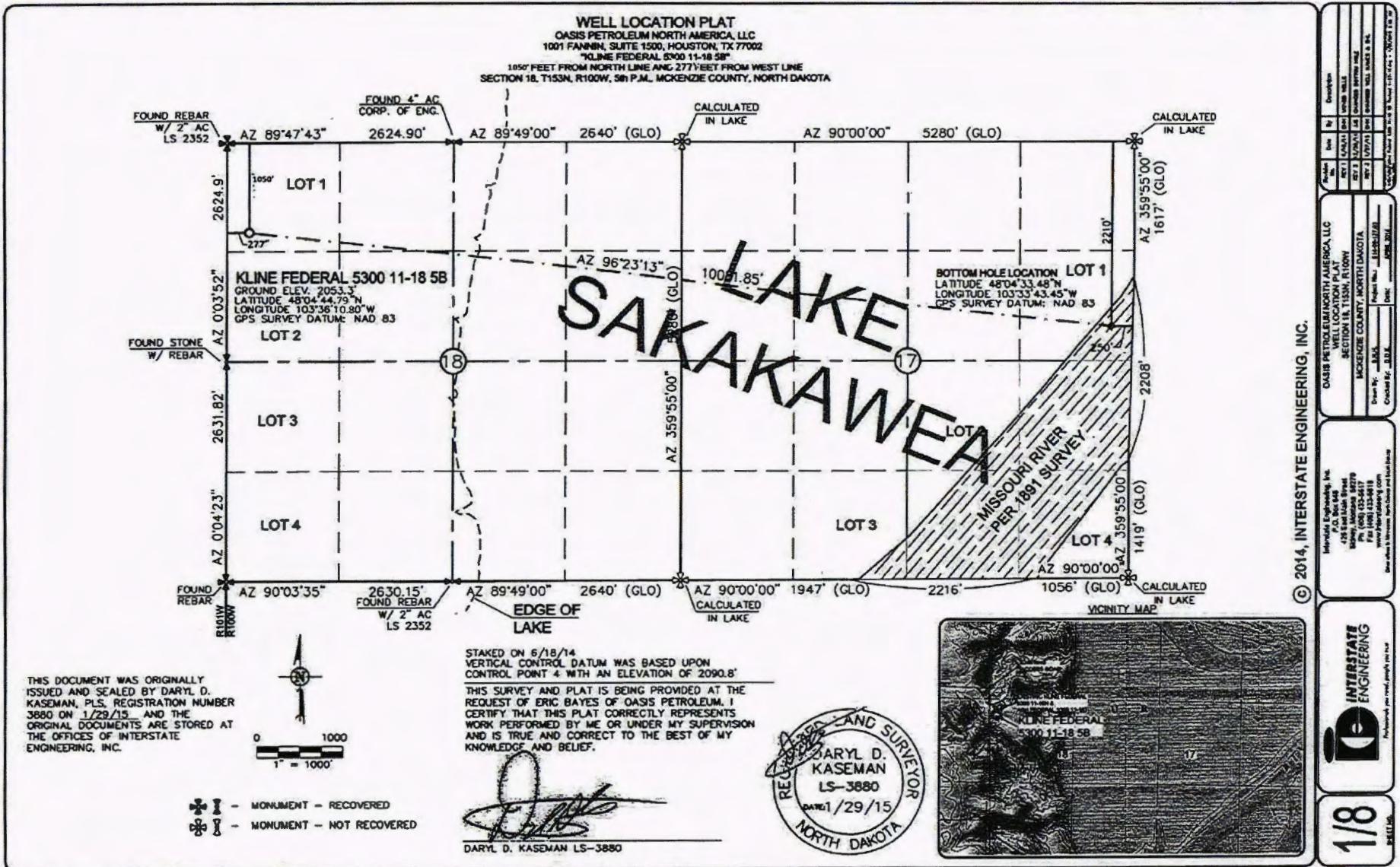
Oasis Petroleum respectfully requests approval to make the following changes:

**SHL Change: 1050' FNL & 277' FWL of Lot 1 Section 18, T153N R100W
(previously 1080' FNL & 263' FWL)**

See attached supporting documents.

Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9652	
Address 1001 Fannin Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Victoria Siemieniewski	
Title Regulatory Specialist	Date March 2, 2015	
Email Address vsiemieniewski@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 3-3-2015	
By 	
Title David Burns	
Engineering Tech.	



DRILLING PLAN							
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND		
WELL NAME	Kline Federal 5300 11-18 5B			RIG	0		
WELL TYPE	Horizontal Middle Bakken						
LOCATION	NW NW 18-153N-100W			Surface Location (survey plat):	1050' fsl	277' fwl	
EST. T.D.	20,969'			GROUND ELEV:	2053 Finished Pad Elev.	Sub Height: 25	
TOTAL LATERA	9,963'			KB ELEV:	2078		
PROGNOSIS:	Based on 2,078' KB(eat)			LOGS:	Interval		
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)	Type				
Pierre	NDIC MAP	1,968	110				
Greenhorn		5,023	(2,945)				
Mowry		5,103	(3,025)				
Dakota		5,469	(3,391)				
Riordan		6,450	(4,372)	Surf:	3 deg. max., 1 deg / 100'; svy every 500'		
Dunham Salt		6,785	(4,707)	Prod:	5 deg. max., 1 deg / 100'; svy every 100'		
Dunham Salt Base		6,896	(4,818)				
Spearfish		6,993	(4,915)				
Pine Salt		7,248	(5,170)				
Pine Salt Base		7,296	(5,218)				
Opache Salt		7,341	(5,263)				
Opache Salt Base		7,371	(5,293)				
Broom Creek (Top of Minnelusa Gp.)		7,573	(5,495)	None planned			
Amesden		7,653	(5,575)				
Tyler		7,821	(5,743)				
Otter (Base of Minnelusa Gp.)		8,012	(5,934)				
Kibbey Lime		8,367	(6,289)				
Charles Salt		8,517	(6,439)	None planned			
UB		9,141	(7,063)				
Besse LaS Salt		9,216	(7,138)				
Ratcliffe		9,264	(7,185)				
Mission Canyon		9,421	(7,345)				
Lodgepole		9,999	(7,821)	Two-Man:	8,317'		
Lodgepole Fracture Zone		10,173	(8,095)	~200' above the Charles (Kibbey) to Casing point; Casing point to TD			
False Bakken		10,696	(8,620)				
Upper Bakken		10,708	(8,630)	30' samples at direction of wellsite geologist; 10' through target @ curve land			
Middle Bakken		10,722	(8,644)				
Middle Bakken Sand Target		10,731	(8,653)				
Besse Middle Bakken Sand Target		10,741	(8,663)				
Lower Bakken		10,766	(8,688)				
Three Forks		10,781	(8,703)	BOP:			
Dip Rate:	-0.3			11" 5000 psi blind, pipe & annular			
Max. Anticipated BHP:	4665			Surface Formation: Glacial till			
MUD:	Interval	Type	WT	VIS	WL	Remarks	
Surface:	0' -	2,068' FW/Gel-Lime Sweep	5.4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,068' -	11,006' Invert	9.5-10.4	40-50	30+HBhp	Circ Mud Tanks	
Lateral:	11,006' -	20,969' Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks	
CASING:	Size	Wt ppf	Hole	Depth	Cement	WOC	Remarks
Surface:	13-5/8"	54.5#	17-1/2"	2,068'	To Surface	12	100' into Plume
Dakota Contingency:	9-5/8"	36#	12-1/4"	6,450'	To Surface	12	Below Dakota
Intermediate:	7"	32#	8-3/4"	11,006'	400#	24	500' above Dakota
Production Liner:	4.5"	13.5#	6"	21,969'	TOL @ 10,209'		50' above KOP
PROBABLE PLUGS, IF REQ'D:							
OTHER:	MD	TVD	ENL/FSL	FEL/FWL	S-T-R	AZI	
	Surface: 2,068	2,068	1050' FNL	277' FWL	SEC 18-T153N-R100W		
	KOP: 10,259'	10,259'	1100' FNL	247' FWL	SEC 18-T153N-R100W		
	EOC: 11,006'	10,736'	1472' FNL	543' FWL	SEC 18-T153N-R100W	141.50	
	Casing Point: 11,006'	10,736'	1472' FNL	543' FWL	SEC 18-T153N-R100W	141.50	
	Middle Bakken Lateral TD: 20,969'	10,788'	2210' FNL	260' FEL	SEC 17-T153N-R100W	90.00	
							Build Rate: 12 deg /100'
Comments:							
Request a Sundry for an Open Hole Log Waiver							
Exception well: Oasis Petroleum's Kline Federal 5300 11-18H (153N 100W 18 NW NW)							
Completion Notes: 35 packers, 35 sleeves, no frac string							
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) 68478-34-6 (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: M. Steed 6/12/2014				Engineering: hbader rpm 7/17/14			TR 2-26-15

Oasis Petroleum
Well Summary
Kline Federal 5300 11-18 5B
Section 18 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' - 2068'	54.5	J-55	STC	12.615"	12.459"	4100	5470	6840

Interval	Description	Collapse (psi) / a	Burst (psi) / b	Tension (1000 lbs) / c
0' - 2068'	13-3/8", 54.5#, J-55, LTC, 8rd	1130 / 1.16	2730 / 1.95	514 / 2.60

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 9 ppg fluid on backside (2068' setting depth).
- b) Burst pressure based on 13 ppg fluid with no fluid on backside (2068' setting depth).
- c) Based on string weight in 9 ppg fluid at 2068' TVD plus 100k# overpull. (Buoyed weight equals 97k 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: **694 sks** (358 bbls), 11.5 lb/gal, 2.97 cu. ft./sk Varicem Cement with 0.125 lb/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
Kline Federal 5300 11-18 5B
Section 18 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' - 6450'	36	HCL-80	LTC	8.835"	8.75"	5460	7270	9090

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - 6450'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.17	3520 / 1.28	453 / 1.53

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 10.4 ppg fluid on backside (6450' 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 6450' TVD plus 100k# overpull. (Buoyed weight equals 195k 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: 570 sks (295 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: 605 sks (125 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
Kline Federal 5300 11-18 5B
Section 18 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' - 11006'	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' - 11006'	11006'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.11*	12460 / 1.28	897 / 2.25
6785' - 8216'	2431'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.06**	12460 / 1.30	

API Rating & Safety Factor

- a) Assume full casing evacuation with 10 ppg fluid on backside. **Assume full casing evacuation with 1.2 psi/ft equivalent fluid gradient across salt intervals.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10736' TVD.
- c) Based on string weight in 10 ppg fluid, (298k 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: **175 sks (81 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive**

Tall Slurry: **577 sks (169 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
Kline Federal 5300 11-18 5B
Section 18 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"	10209' - 20969'	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
10209' - 20969'	10760	4-1/2", 13.5 lb, P-110, BTC	10670 / 2.00	12410 / 1.28	443 / 1.97

API Rating & Safety Factor

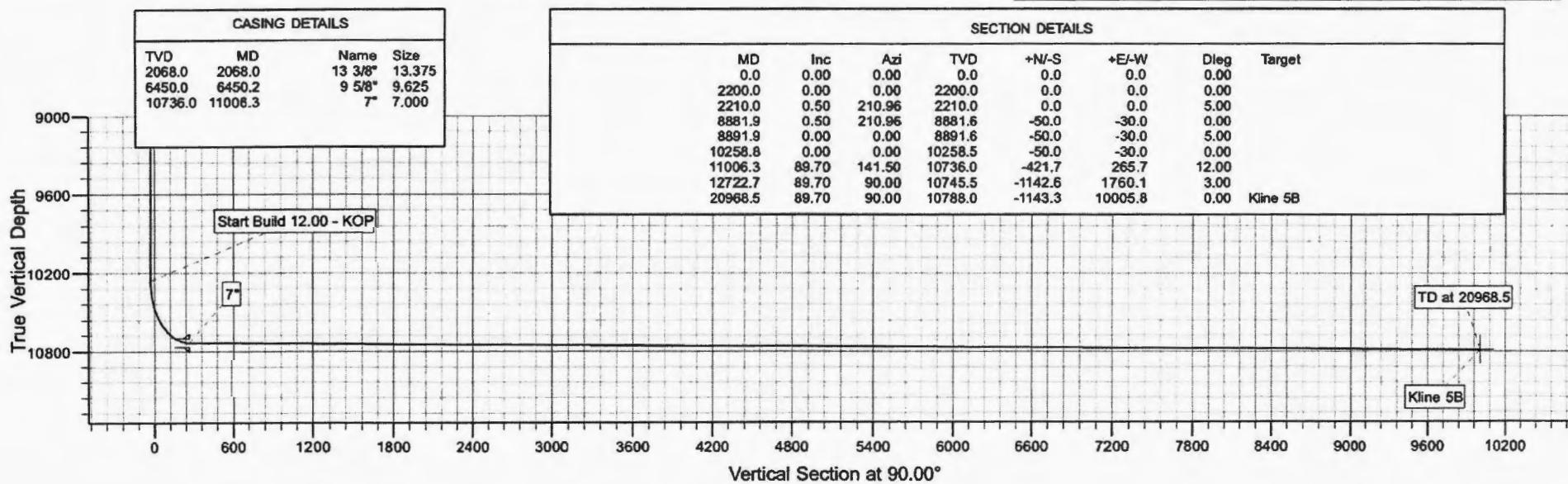
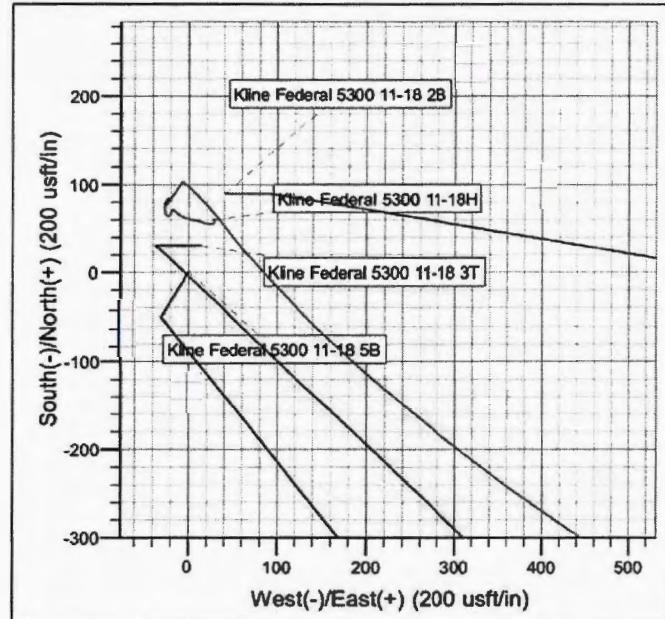
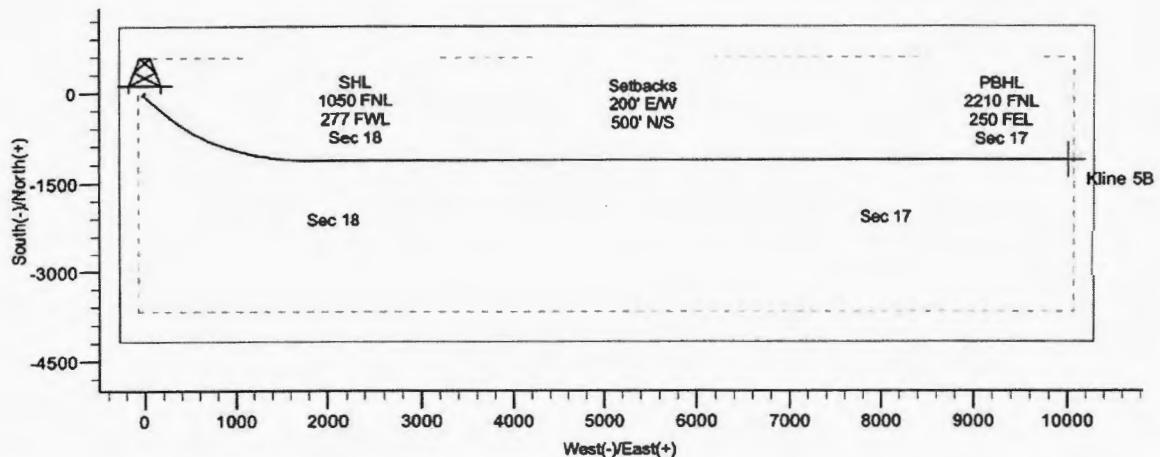
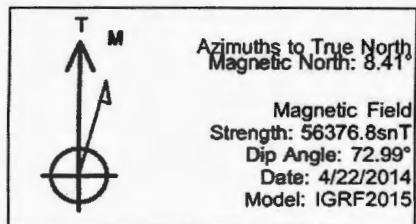
- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10788' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10788' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 124k lbs.) plus 100k lbs overpull.

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 11-18 5B
 Wellbore: Kline Federal 5300 11-18 5B
 Design: Design #4



WELL DETAILS: Kline Federal 5300 11-18 5B

Northing	408903.85	Ground Level:	2053.0
		Eastng	1210198.28
		Latitude	48° 4' 44.790 N
		Longitude	103° 36' 10.800 W



Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 11-18 5B

T153N R100W SEC 17

Kline Federal 5300 11-18 5B

Plan: Design #4

Standard Planning Report

26 February, 2015

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B							
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft							
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft							
Site:	153N-100W-17/18	North Reference:	True							
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature							
Wellbore:	Kline Federal 5300 11-18 5B									
Design:	Design #4									
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-17/18									
Site Position:		Northing:	407,189.34 usft							
From:	Lat/Long	Easting:	1,210,089.73 usft							
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in Grid Convergence: -2.31 °							
Well:	Kline Federal 5300 11-18 5B									
Well Position	+N/S +E/W	1,717.5 usft 39.4 usft	Northing: Easting: Wellhead Elevation:							
			408,903.85 usft 1,210,198.28 usft 2,053.0 usft							
Position Uncertainty	2.0 usft		Latitude: Longitude: Ground Level:							
			48° 4' 27.840 N 103° 36' 11.380 W 2,053.0 usft							
Wellbore:	Kline Federal 5300 11-18 5B									
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)					
	IGRF2015	4/22/2014	8.41	72.99	56,377					
Design:	Design #4									
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
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,210.0	0.50	210.96	2,210.0	0.0	0.0	5.00	5.00	0.00	210.96	
8,881.9	0.50	210.96	8,881.6	-50.0	-30.0	0.00	0.00	0.00	0.00	
8,891.9	0.00	0.00	8,891.6	-50.0	-30.0	5.00	-5.00	0.00	180.00	
10,258.8	0.00	0.00	10,258.5	-50.0	-30.0	0.00	0.00	0.00	0.00	
11,006.3	89.70	141.50	10,736.0	-421.7	265.7	12.00	12.00	0.00	141.50	
12,722.7	89.70	90.00	10,745.5	-1,142.6	1,760.1	3.00	0.00	-3.00	-90.14	
20,968.5	89.70	90.00	10,788.0	-1,143.3	10,005.8	0.00	0.00	0.00	0.00	Kline 5B

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #4		

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)	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
Start Build 5.00										
2,210.0	0.50	210.96	2,210.0	0.0	0.0	0.0	5.00	5.00	0.00	
Start 6671.9 hold at 2210.0 MD										
2,300.0	0.50	210.96	2,300.0	-0.7	-0.4	-0.4	0.00	0.00	0.00	
2,400.0	0.50	210.96	2,400.0	-1.5	-0.9	-0.9	0.00	0.00	0.00	
2,500.0	0.50	210.96	2,500.0	-2.2	-1.3	-1.3	0.00	0.00	0.00	
2,600.0	0.50	210.96	2,600.0	-3.0	-1.8	-1.8	0.00	0.00	0.00	
2,700.0	0.50	210.96	2,700.0	-3.7	-2.2	-2.2	0.00	0.00	0.00	
2,800.0	0.50	210.96	2,800.0	-4.5	-2.7	-2.7	0.00	0.00	0.00	
2,900.0	0.50	210.96	2,900.0	-5.2	-3.1	-3.1	0.00	0.00	0.00	
3,000.0	0.50	210.96	3,000.0	-5.9	-3.6	-3.6	0.00	0.00	0.00	
3,100.0	0.50	210.96	3,100.0	-6.7	-4.0	-4.0	0.00	0.00	0.00	
3,200.0	0.50	210.96	3,200.0	-7.4	-4.5	-4.5	0.00	0.00	0.00	
3,300.0	0.50	210.96	3,300.0	-8.2	-4.9	-4.9	0.00	0.00	0.00	
3,400.0	0.50	210.96	3,400.0	-8.9	-5.4	-5.4	0.00	0.00	0.00	
3,500.0	0.50	210.96	3,500.0	-9.7	-5.8	-5.8	0.00	0.00	0.00	
3,600.0	0.50	210.96	3,599.9	-10.4	-6.3	-6.3	0.00	0.00	0.00	
3,700.0	0.50	210.96	3,699.9	-11.2	-6.7	-6.7	0.00	0.00	0.00	
3,800.0	0.50	210.96	3,799.9	-11.9	-7.2	-7.2	0.00	0.00	0.00	
3,900.0	0.50	210.96	3,899.9	-12.7	-7.6	-7.6	0.00	0.00	0.00	
4,000.0	0.50	210.96	3,999.9	-13.4	-8.1	-8.1	0.00	0.00	0.00	
4,100.0	0.50	210.96	4,099.9	-14.2	-8.5	-8.5	0.00	0.00	0.00	
4,200.0	0.50	210.96	4,199.9	-14.9	-9.0	-9.0	0.00	0.00	0.00	
4,300.0	0.50	210.96	4,299.9	-15.7	-9.4	-9.4	0.00	0.00	0.00	
4,400.0	0.50	210.96	4,399.9	-18.4	-9.9	-9.9	0.00	0.00	0.00	
4,500.0	0.50	210.96	4,499.9	-17.2	-10.3	-10.3	0.00	0.00	0.00	
4,600.0	0.50	210.96	4,599.9	-17.9	-10.6	-10.6	0.00	0.00	0.00	
4,700.0	0.50	210.96	4,699.9	-18.7	-11.2	-11.2	0.00	0.00	0.00	
4,800.0	0.50	210.96	4,799.9	-19.4	-11.7	-11.7	0.00	0.00	0.00	
4,900.0	0.50	210.96	4,899.9	-20.2	-12.1	-12.1	0.00	0.00	0.00	
5,000.0	0.50	210.96	4,999.9	-20.9	-12.5	-12.5	0.00	0.00	0.00	
5,100.0	0.50	210.96	5,099.9	-21.7	-13.0	-13.0	0.00	0.00	0.00	
5,200.0	0.50	210.96	5,199.9	-22.4	-13.4	-13.4	0.00	0.00	0.00	
5,300.0	0.50	210.96	5,299.9	-23.2	-13.9	-13.9	0.00	0.00	0.00	
5,400.0	0.50	210.96	5,399.9	-23.9	-14.3	-14.3	0.00	0.00	0.00	
5,500.0	0.50	210.96	5,499.9	-24.7	-14.6	-14.6	0.00	0.00	0.00	
5,600.0	0.50	210.96	5,599.9	-25.4	-15.2	-15.2	0.00	0.00	0.00	
5,700.0	0.50	210.96	5,699.9	-26.2	-15.7	-15.7	0.00	0.00	0.00	
5,800.0	0.50	210.96	5,799.9	-26.9	-16.1	-16.1	0.00	0.00	0.00	
5,900.0	0.50	210.96	5,899.9	-27.6	-16.6	-16.6	0.00	0.00	0.00	
6,000.0	0.50	210.96	5,999.9	-28.4	-17.0	-17.0	0.00	0.00	0.00	
6,100.0	0.50	210.96	6,099.9	-29.1	-17.5	-17.5	0.00	0.00	0.00	
6,200.0	0.50	210.96	6,199.9	-29.9	-17.9	-17.9	0.00	0.00	0.00	
6,300.0	0.50	210.96	6,299.9	-30.6	-18.4	-18.4	0.00	0.00	0.00	
6,400.0	0.50	210.96	6,399.9	-31.4	-18.8	-18.8	0.00	0.00	0.00	
6,450.2	0.50	210.96	6,450.0	-31.8	-19.1	-19.1	0.00	0.00	0.00	
8 5/8"										
6,500.0	0.50	210.96	6,499.8	-32.1	-19.3	-19.3	0.00	0.00	0.00	
6,600.0	0.50	210.96	6,599.8	-32.9	-19.7	-19.7	0.00	0.00	0.00	
6,700.0	0.50	210.96	6,699.8	-33.6	-20.2	-20.2	0.00	0.00	0.00	
6,800.0	0.60	210.96	6,799.8	-34.4	-20.6	-20.6	0.00	0.00	0.00	
6,900.0	0.50	210.96	6,899.8	-35.1	-21.1	-21.1	0.00	0.00	0.00	
7,000.0	0.50	210.96	6,999.8	-35.9	-21.5	-21.5	0.00	0.00	0.00	
7,100.0	0.50	210.96	7,099.8	-36.6	-22.0	-22.0	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #4		

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)	
7,200.0	0.50	210.96	7,199.8	-37.4	-22.4	-22.4	0.00	0.00	0.00	
7,300.0	0.50	210.96	7,299.8	-38.1	-22.9	-22.9	0.00	0.00	0.00	
7,400.0	0.50	210.96	7,399.8	-38.9	-23.3	-23.3	0.00	0.00	0.00	
7,500.0	0.50	210.96	7,499.8	-39.6	-23.8	-23.8	0.00	0.00	0.00	
7,600.0	0.50	210.96	7,599.8	-40.4	-24.2	-24.2	0.00	0.00	0.00	
7,700.0	0.50	210.96	7,699.8	-41.1	-24.7	-24.7	0.00	0.00	0.00	
7,800.0	0.50	210.96	7,799.8	-41.9	-25.1	-25.1	0.00	0.00	0.00	
7,900.0	0.50	210.96	7,899.8	-42.6	-25.6	-25.6	0.00	0.00	0.00	
8,000.0	0.50	210.96	7,999.8	-43.4	-26.0	-26.0	0.00	0.00	0.00	
8,100.0	0.50	210.96	8,099.8	-44.1	-26.5	-26.5	0.00	0.00	0.00	
8,200.0	0.50	210.96	8,199.8	-44.9	-26.9	-26.9	0.00	0.00	0.00	
8,300.0	0.50	210.96	8,299.8	-45.6	-27.4	-27.4	0.00	0.00	0.00	
8,400.0	0.50	210.96	8,399.8	-46.4	-27.8	-27.8	0.00	0.00	0.00	
8,500.0	0.50	210.96	8,499.8	-47.1	-28.3	-28.3	0.00	0.00	0.00	
8,600.0	0.50	210.96	8,599.8	-47.9	-28.7	-28.7	0.00	0.00	0.00	
8,700.0	0.50	210.96	8,699.8	-48.6	-29.2	-29.2	0.00	0.00	0.00	
8,800.0	0.50	210.96	8,799.7	-49.4	-29.6	-29.6	0.00	0.00	0.00	
8,881.9	0.50	210.96	8,881.6	-50.0	-30.0	-30.0	0.00	0.00	0.00	
Start Drop -5.00										
8,891.9	0.00	0.00	8,891.6	-50.0	-30.0	-30.0	5.00	-5.00	0.00	
Start 1366.9 hold at 8891.9 MD										
10,258.8	0.00	0.00	10,258.5	-50.0	-30.0	-30.0	0.00	0.00	0.00	
Start Build 12.00 - KOP										
10,300.0	4.95	141.50	10,299.7	-51.4	-28.9	-28.9	12.00	12.00	0.00	
10,400.0	18.95	141.50	10,397.7	-66.2	-17.1	-17.1	12.00	12.00	0.00	
10,500.0	28.95	141.50	10,489.6	-96.7	7.1	7.1	12.00	12.00	0.00	
10,600.0	40.95	141.50	10,571.4	-141.4	42.7	42.7	12.00	12.00	0.00	
10,700.0	52.95	141.50	10,639.8	-198.5	88.1	88.1	12.00	12.00	0.00	
10,800.0	64.95	141.50	10,691.1	-265.5	141.4	141.4	12.00	12.00	0.00	
10,900.0	76.95	141.50	10,723.6	-339.3	200.1	200.1	12.00	12.00	0.00	
11,000.0	88.95	141.50	10,735.8	-416.8	261.8	261.8	12.00	12.00	0.00	
11,008.3	89.70	141.50	10,738.0	-421.7	265.7	265.7	11.91	11.91	0.00	
Start DLS 3.00 TFO -90.14 - EOC - 7"										
11,100.0	89.69	138.69	10,738.5	-493.8	325.8	325.8	3.00	-0.01	-3.00	
11,200.0	89.69	135.69	10,737.0	-567.0	393.8	393.8	3.00	-0.01	-3.00	
11,300.0	89.68	132.69	10,737.5	-636.7	465.5	465.5	3.00	-0.01	-3.00	
11,400.0	89.68	129.69	10,738.1	-702.5	540.7	540.7	3.00	0.00	-3.00	
11,500.0	89.67	126.69	10,738.7	-764.3	619.3	619.3	3.00	0.00	-3.00	
11,600.0	89.67	123.69	10,739.2	-821.9	701.0	701.0	3.00	0.00	-3.00	
11,700.0	89.67	120.69	10,739.8	-875.2	785.6	785.6	3.00	0.00	-3.00	
11,800.0	89.67	117.69	10,740.4	-924.0	872.9	872.9	3.00	0.00	-3.00	
11,900.0	89.67	114.69	10,741.0	-968.1	982.6	982.6	3.00	0.00	-3.00	
12,000.0	89.67	111.69	10,741.5	-1,007.4	1,054.6	1,054.6	3.00	0.00	-3.00	
12,100.0	89.67	108.69	10,742.1	-1,042.0	1,148.4	1,148.4	3.00	0.00	-3.00	
12,200.0	89.68	105.69	10,742.7	-1,071.5	1,243.9	1,243.9	3.00	0.00	-3.00	
12,300.0	89.68	102.89	10,743.2	-1,096.0	1,340.9	1,340.9	3.00	0.00	-3.00	
12,400.0	89.68	99.69	10,743.8	-1,115.4	1,438.9	1,438.9	3.00	0.00	-3.00	
12,500.0	89.69	96.69	10,744.3	-1,129.6	1,537.9	1,537.9	3.00	0.01	-3.00	
12,600.0	89.70	93.69	10,744.9	-1,138.7	1,637.5	1,637.5	3.00	0.01	-3.00	
12,700.0	89.70	90.69	10,745.4	-1,142.5	1,737.4	1,737.4	3.00	0.01	-3.00	
12,722.7	89.70	90.00	10,745.5	-1,142.6	1,760.1	1,760.1	3.00	0.01	-3.00	
Start 8245.8 hold at 12722.7 MD										
12,800.0	89.70	90.00	10,745.9	-1,142.6	1,837.4	1,837.4	0.00	0.00	0.00	
12,900.0	89.70	90.00	10,746.4	-1,142.6	1,937.4	1,937.4	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B						
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft						
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft						
Site:	153N-100W-17/18	North Reference:	True						
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 11-18 5B								
Design:	Design #4								
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)
13,000.0	89.70	90.00	10,747.0	-1,142.7	2,037.4	2,037.4	0.00	0.00	0.00
13,100.0	89.70	90.00	10,747.5	-1,142.7	2,137.4	2,137.4	0.00	0.00	0.00
13,200.0	89.70	90.00	10,748.0	-1,142.7	2,237.4	2,237.4	0.00	0.00	0.00
13,300.0	89.70	90.00	10,748.5	-1,142.7	2,337.4	2,337.4	0.00	0.00	0.00
13,400.0	89.70	90.00	10,749.0	-1,142.7	2,437.4	2,437.4	0.00	0.00	0.00
13,500.0	89.70	90.00	10,749.5	-1,142.7	2,537.4	2,537.4	0.00	0.00	0.00
13,600.0	89.70	90.00	10,750.0	-1,142.7	2,637.4	2,637.4	0.00	0.00	0.00
13,700.0	89.70	80.00	10,750.6	-1,142.7	2,737.4	2,737.4	0.00	0.00	0.00
13,800.0	89.70	90.00	10,751.1	-1,142.7	2,837.4	2,837.4	0.00	0.00	0.00
13,900.0	89.70	90.00	10,751.6	-1,142.7	2,937.4	2,937.4	0.00	0.00	0.00
14,000.0	89.70	90.00	10,752.1	-1,142.7	3,037.4	3,037.4	0.00	0.00	0.00
14,100.0	89.70	80.00	10,752.6	-1,142.8	3,137.4	3,137.4	0.00	0.00	0.00
14,200.0	89.70	90.00	10,753.1	-1,142.8	3,237.4	3,237.4	0.00	0.00	0.00
14,300.0	89.70	90.00	10,753.6	-1,142.8	3,337.4	3,337.4	0.00	0.00	0.00
14,400.0	89.70	90.00	10,754.2	-1,142.8	3,437.4	3,437.4	0.00	0.00	0.00
14,500.0	89.70	90.00	10,754.7	-1,142.8	3,537.4	3,537.4	0.00	0.00	0.00
14,600.0	89.70	90.00	10,755.2	-1,142.8	3,637.4	3,637.4	0.00	0.00	0.00
14,700.0	89.70	90.00	10,755.7	-1,142.8	3,737.4	3,737.4	0.00	0.00	0.00
14,800.0	89.70	90.00	10,756.2	-1,142.8	3,837.4	3,837.4	0.00	0.00	0.00
14,900.0	89.70	90.00	10,756.7	-1,142.8	3,937.4	3,937.4	0.00	0.00	0.00
15,000.0	89.70	90.00	10,757.3	-1,142.8	4,037.4	4,037.4	0.00	0.00	0.00
15,100.0	89.70	90.00	10,757.8	-1,142.8	4,137.4	4,137.4	0.00	0.00	0.00
15,200.0	89.70	90.00	10,758.3	-1,142.8	4,237.4	4,237.4	0.00	0.00	0.00
15,300.0	89.70	90.00	10,758.8	-1,142.8	4,337.4	4,337.4	0.00	0.00	0.00
15,400.0	89.70	90.00	10,759.3	-1,142.9	4,437.4	4,437.4	0.00	0.00	0.00
15,500.0	89.70	90.00	10,759.8	-1,142.9	4,537.4	4,537.4	0.00	0.00	0.00
15,600.0	89.70	90.00	10,760.3	-1,142.9	4,637.4	4,637.4	0.00	0.00	0.00
15,700.0	89.70	90.00	10,760.9	-1,142.9	4,737.4	4,737.4	0.00	0.00	0.00
15,800.0	89.70	90.00	10,761.4	-1,142.9	4,837.4	4,837.4	0.00	0.00	0.00
15,900.0	89.70	90.00	10,761.9	-1,142.9	4,937.4	4,937.4	0.00	0.00	0.00
16,000.0	89.70	90.00	10,762.4	-1,142.9	5,037.4	5,037.4	0.00	0.00	0.00
16,100.0	89.70	90.00	10,762.9	-1,142.9	5,137.4	5,137.4	0.00	0.00	0.00
16,200.0	89.70	90.00	10,763.4	-1,142.9	5,237.4	5,237.4	0.00	0.00	0.00
16,300.0	89.70	90.00	10,764.0	-1,142.9	5,337.4	5,337.4	0.00	0.00	0.00
16,400.0	89.70	90.00	10,764.5	-1,143.0	5,437.4	5,437.4	0.00	0.00	0.00
16,500.0	89.70	90.00	10,765.0	-1,143.0	5,537.4	5,537.4	0.00	0.00	0.00
16,600.0	89.70	90.00	10,765.5	-1,143.0	5,637.4	5,637.4	0.00	0.00	0.00
16,700.0	89.70	90.00	10,766.0	-1,143.0	5,737.4	5,737.4	0.00	0.00	0.00
16,800.0	89.70	90.00	10,766.5	-1,143.0	5,837.4	5,837.4	0.00	0.00	0.00
16,900.0	89.70	90.00	10,767.0	-1,143.0	5,937.3	5,937.3	0.00	0.00	0.00
17,000.0	89.70	90.00	10,767.8	-1,143.0	6,037.3	6,037.3	0.00	0.00	0.00
17,100.0	89.70	90.00	10,768.1	-1,143.0	6,137.3	6,137.3	0.00	0.00	0.00
17,200.0	89.70	90.00	10,768.6	-1,143.0	6,237.3	6,237.3	0.00	0.00	0.00
17,300.0	89.70	90.00	10,769.1	-1,143.0	6,337.3	6,337.3	0.00	0.00	0.00
17,400.0	89.70	90.00	10,769.6	-1,143.0	6,437.3	6,437.3	0.00	0.00	0.00
17,500.0	89.70	90.00	10,770.1	-1,143.0	6,537.3	6,537.3	0.00	0.00	0.00
17,600.0	89.70	90.00	10,770.6	-1,143.1	6,637.3	6,637.3	0.00	0.00	0.00
17,700.0	89.70	90.00	10,771.2	-1,143.1	6,737.3	6,737.3	0.00	0.00	0.00
17,800.0	89.70	90.00	10,771.7	-1,143.1	6,837.3	6,837.3	0.00	0.00	0.00
17,900.0	89.70	90.00	10,772.2	-1,143.1	6,937.3	6,937.3	0.00	0.00	0.00
18,000.0	89.70	90.00	10,772.7	-1,143.1	7,037.3	7,037.3	0.00	0.00	0.00
18,100.0	89.70	90.00	10,773.2	-1,143.1	7,137.3	7,137.3	0.00	0.00	0.00
18,200.0	89.70	90.00	10,773.7	-1,143.1	7,237.3	7,237.3	0.00	0.00	0.00
18,300.0	89.70	90.00	10,774.3	-1,143.1	7,337.3	7,337.3	0.00	0.00	0.00
18,400.0	89.70	90.00	10,774.8	-1,143.1	7,437.3	7,437.3	0.00	0.00	0.00

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #4		

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)	
18,500.0	89.70	90.00	10,775.3	-1,143.1	7,537.3	7,537.3	0.00	0.00	0.00	
18,600.0	89.70	90.00	10,775.8	-1,143.1	7,637.3	7,637.3	0.00	0.00	0.00	
18,700.0	89.70	90.00	10,776.3	-1,143.2	7,737.3	7,737.3	0.00	0.00	0.00	
18,800.0	89.70	90.00	10,776.8	-1,143.2	7,837.3	7,837.3	0.00	0.00	0.00	
18,900.0	89.70	90.00	10,777.3	-1,143.2	7,937.3	7,937.3	0.00	0.00	0.00	
19,000.0	89.70	90.00	10,777.8	-1,143.2	8,037.3	8,037.3	0.00	0.00	0.00	
19,100.0	89.70	90.00	10,778.4	-1,143.2	8,137.3	8,137.3	0.00	0.00	0.00	
19,200.0	89.70	90.00	10,778.9	-1,143.2	8,237.3	8,237.3	0.00	0.00	0.00	
19,300.0	89.70	90.00	10,779.4	-1,143.2	8,337.3	8,337.3	0.00	0.00	0.00	
19,400.0	89.70	90.00	10,779.9	-1,143.2	8,437.3	8,437.3	0.00	0.00	0.00	
19,500.0	89.70	90.00	10,780.4	-1,143.2	8,537.3	8,537.3	0.00	0.00	0.00	
19,600.0	89.70	90.00	10,781.0	-1,143.2	8,637.3	8,637.3	0.00	0.00	0.00	
19,700.0	89.70	90.00	10,781.5	-1,143.2	8,737.3	8,737.3	0.00	0.00	0.00	
19,800.0	89.70	90.00	10,782.0	-1,143.2	8,837.3	8,837.3	0.00	0.00	0.00	
19,900.0	89.70	90.00	10,782.5	-1,143.3	8,937.3	8,937.3	0.00	0.00	0.00	
20,000.0	89.70	90.00	10,783.0	-1,143.3	9,037.3	9,037.3	0.00	0.00	0.00	
20,100.0	89.70	90.00	10,783.5	-1,143.3	9,137.3	9,137.3	0.00	0.00	0.00	
20,200.0	89.70	90.00	10,784.0	-1,143.3	9,237.3	9,237.3	0.00	0.00	0.00	
20,300.0	89.70	90.00	10,784.6	-1,143.3	9,337.3	9,337.3	0.00	0.00	0.00	
20,400.0	89.70	90.00	10,785.1	-1,143.3	9,437.3	9,437.3	0.00	0.00	0.00	
20,500.0	89.70	90.00	10,785.6	-1,143.3	9,537.3	9,537.3	0.00	0.00	0.00	
20,600.0	89.70	90.00	10,786.1	-1,143.3	9,637.3	9,637.3	0.00	0.00	0.00	
20,700.0	89.70	90.00	10,786.6	-1,143.3	9,737.3	9,737.3	0.00	0.00	0.00	
20,800.0	89.70	90.00	10,787.1	-1,143.3	9,837.3	9,837.3	0.00	0.00	0.00	
20,900.0	89.70	90.00	10,787.6	-1,143.3	9,937.3	9,937.3	0.00	0.00	0.00	
20,968.5	89.70	90.00	10,788.0	-1,143.3	10,005.8	10,005.8	0.00	0.00	0.00	

TD at 20968.5 - Kline 5B - PBHL Kline Federal 5300 21-18 5B (copy) (copy) - Kline Federal 5300 11-18 5B - PBHL

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Kline 5B - plan hits target center - Point	0.00	0.00	10,788.0	-1,143.3	10,005.8	407,358.30	1,220,149.89	48° 4' 33.480 N	103° 33' 43.450 W	

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name					Casing Diameter (in)	Hole Diameter (in)		
2,068.0	2,068.0	13 3/8"					13.375	17.500		
6,450.2	6,450.0	9 5/8"					9.625	12.250		
11,008.3	10,736.0	7"					7.000	8.750		

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17-18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #4		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,968.0	1,968.0	Pierre			
5,023.1	5,023.0	Greenhorn			
5,103.1	5,103.0	Mowry			
5,489.1	5,469.0	Dakota			
6,450.2	6,450.0	Rierdon			
6,785.2	6,785.0	Dunham Salt			
6,896.2	6,896.0	Dunham Salt Base			
6,993.2	6,993.0	Spearfish			
7,248.2	7,248.0	Pine Salt			
7,296.2	7,296.0	Pine Salt Base			
7,341.2	7,341.0	Opeche Salt			
7,371.2	7,371.0	Opeche Salt Base			
7,573.2	7,573.0	Broom Creek (Top of Minnelusa Gp.)			
7,653.2	7,653.0	Amsden			
7,821.2	7,821.0	Tyler			
8,012.2	8,012.0	Otter (Base of Minnelusa Gp.)			
8,367.2	8,367.0	Kibbey Lime			
8,517.2	8,517.0	Charles Salt			
9,141.3	9,141.0	UB			
9,216.3	9,216.0	Base Last Salt			
9,264.3	9,264.0	Ratcliffe			
9,421.3	9,421.0	Mission Canyon			
9,999.3	9,999.0	Lodgepole			
10,173.3	10,173.0	Lodgepole Fracture Zone			
10,817.1	10,698.0	False Bakken			
10,844.5	10,708.0	Upper Bakken			
10,893.0	10,722.0	Middle Bakken			
10,939.8	10,731.0	Middle Bakken Sand Target			
11,906.2	10,741.0	Base Middle Bakken Sand Target			
16,697.6	10,766.0	Lower Bakken			
19,609.8	10,781.0	Three Forks			

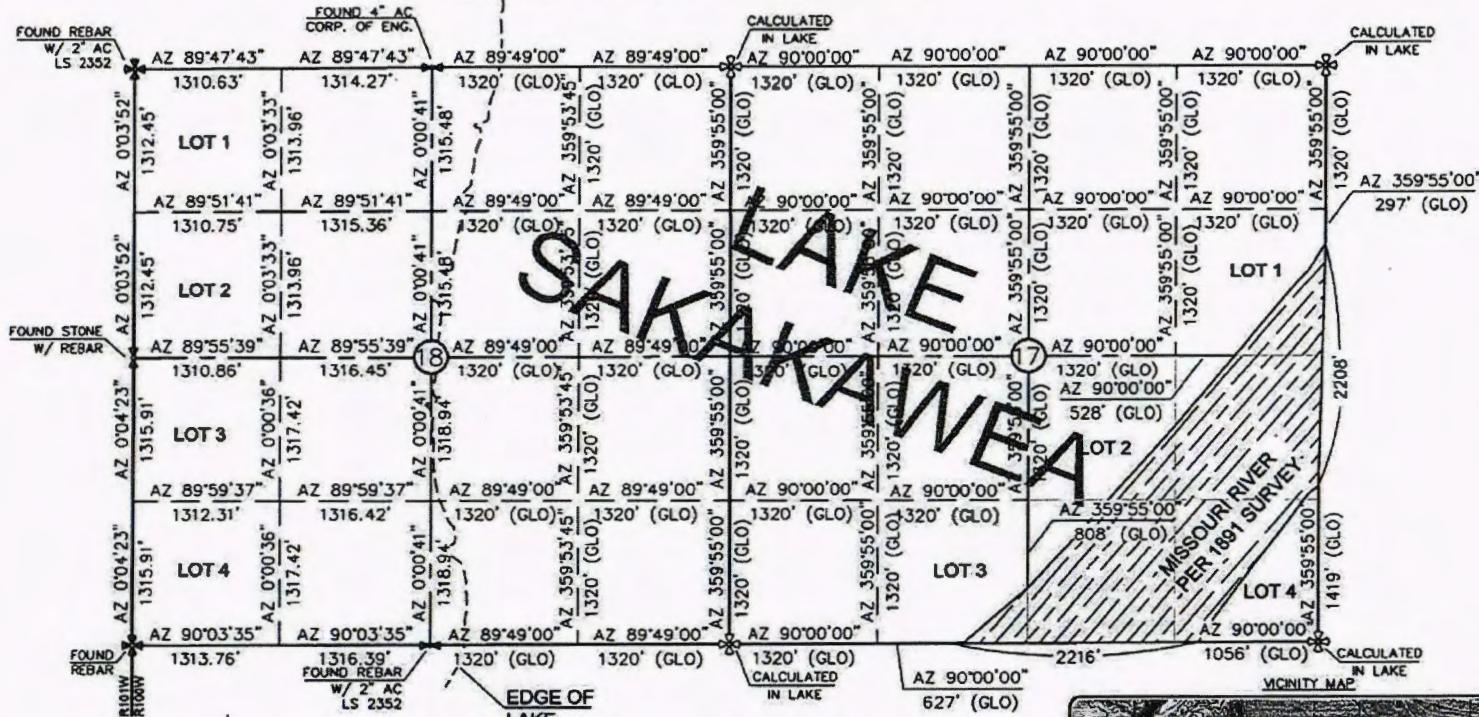
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/S (usft)	+E/W (usft)		
2,200.0	2,200.0	0.0	0.0		Start Build 5.00
2,210.0	2,210.0	0.0	0.0		Start 6871.9 hold at 2210.0 MD
8,881.9	8,881.6	-50.0	-30.0		Start Drop -5.00
8,891.9	8,891.6	-50.0	-30.0		Start 1366.9 hold at 8891.9 MD
10,258.8	10,258.5	-50.0	-30.0		Start Build 12.00 - KOP
11,006.3	10,736.0	-421.7	265.7		Start DLS 3.00 TFO -90.14 - EOC
12,722.7	10,745.5	-1,142.6	1,760.1		Start 8245.8 hold at 12722.7 MD
20,968.5	10,788.0	-1,143.3	10,005.8		TD at 20988.5

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

KLINE FEDERAL 5300 11-18-5B

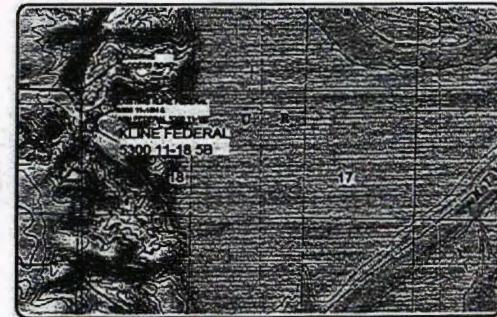
100' FEET FROM NORTH LINE AND 277 FEET FROM WEST LINE
SECTIONS 17 & 18, T15N, R100W, 56 P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS. REGISTRATION NUMBER 3880 ON 1/29/15 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



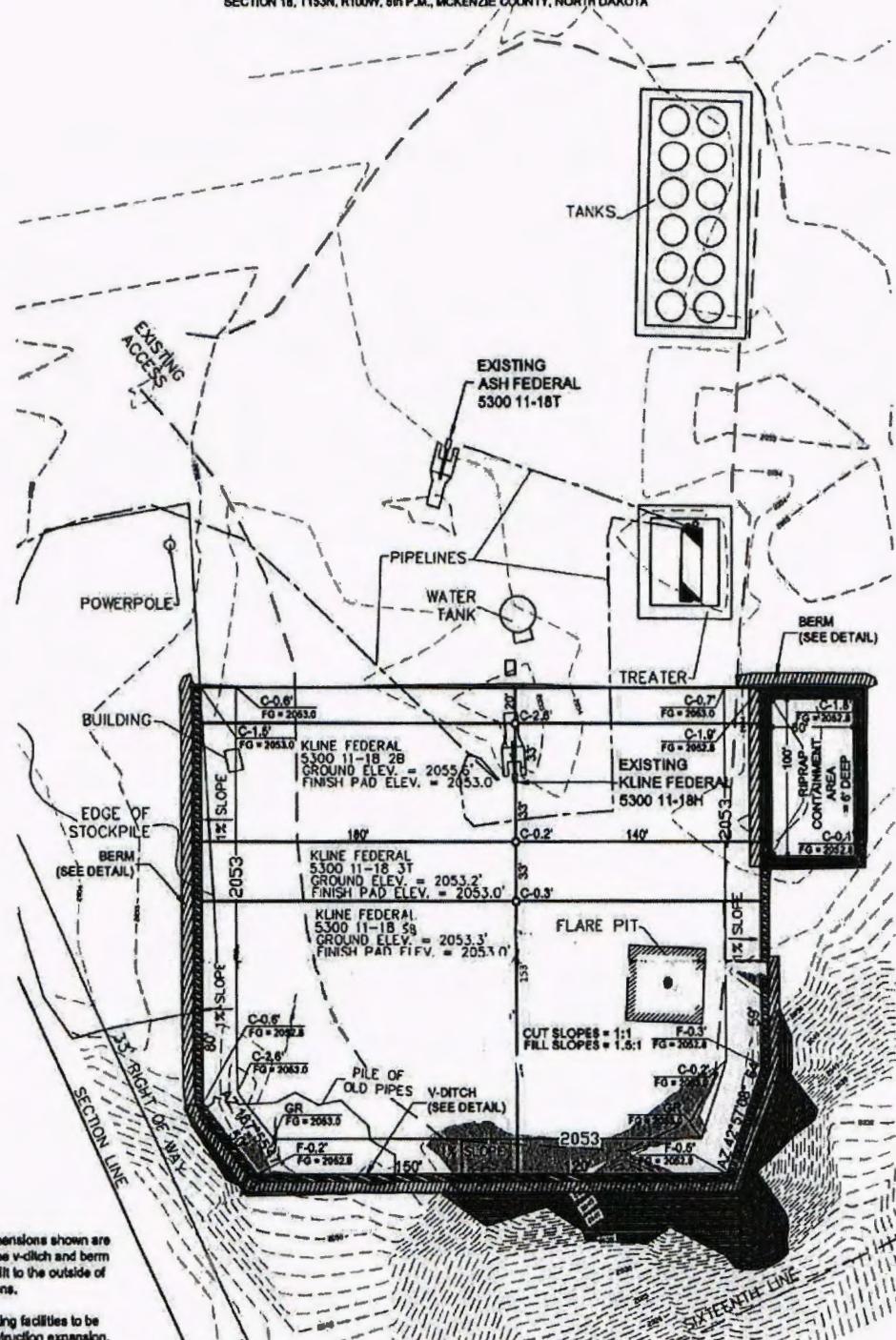
© 2014, INTERSTATE ENGINEERING, INC.

Project No.: 5300 11-18-5B	Date: 1/29/15	Surveyor: DARYL D. KASEMAN
Section: 17 & 18	Line: 1320'	Method: GLO
Section: 17 & 18	Line: 1320'	Method: GLO
Section: 17 & 18	Line: 1320'	Method: GLO
Section: 17 & 18	Line: 1320'	Method: GLO



2/8

PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 6B"
 1050' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 6th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND SEALED
 BY DARYL D. KASEMAN, PLS,
 REGISTRATION NUMBER 3880 ON
 1/29/15 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.



0 60'
1" = 60'

3/8



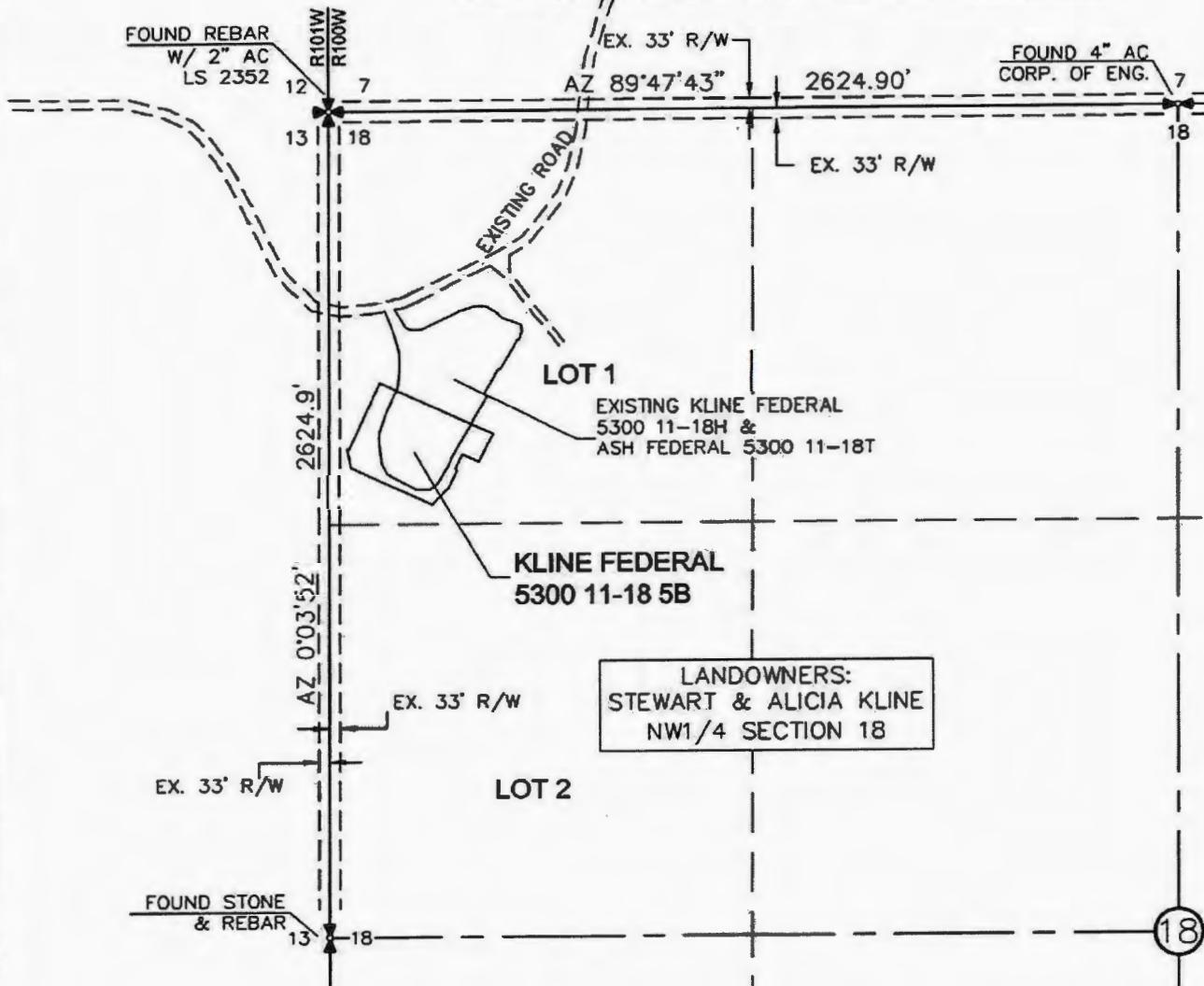
Interstate Engineering, Inc.
 P.O. Box 648
 425 East Main Street
 Bismarck, ND 58501-0648
 Ph: (406) 433-6817
 Fax: (406) 433-6818
www.interstateeng.com

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD LAYOUT
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA
 Drawn By: B.J.H. Project No: 814-08-1243
 Checked By: D.D.K. Date: APRIL 2014

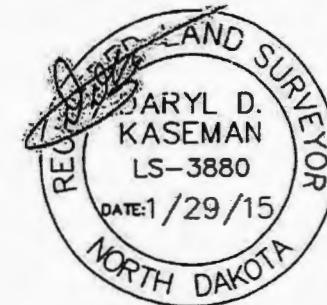
Revisions	Date	By	Description
REV 1	1/29/15	BD	WELL HOLE
REV 2	1/29/15	BD	CHANGED BOTTOM HOLE
REV 3	1/29/15	BD	CHANGED WELL NAMES & SHL

ACCESS APPROACH
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 11-18 5B"

1050' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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



THIS DOCUMENT WAS
ORIGINALLY ISSUED AND
SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION
NUMBER 3880 ON 1/29/15
AND THE ORIGINAL DOCUMENTS
ARE STORED AT THE OFFICES
OF INTERSTATE ENGINEERING,
INC.

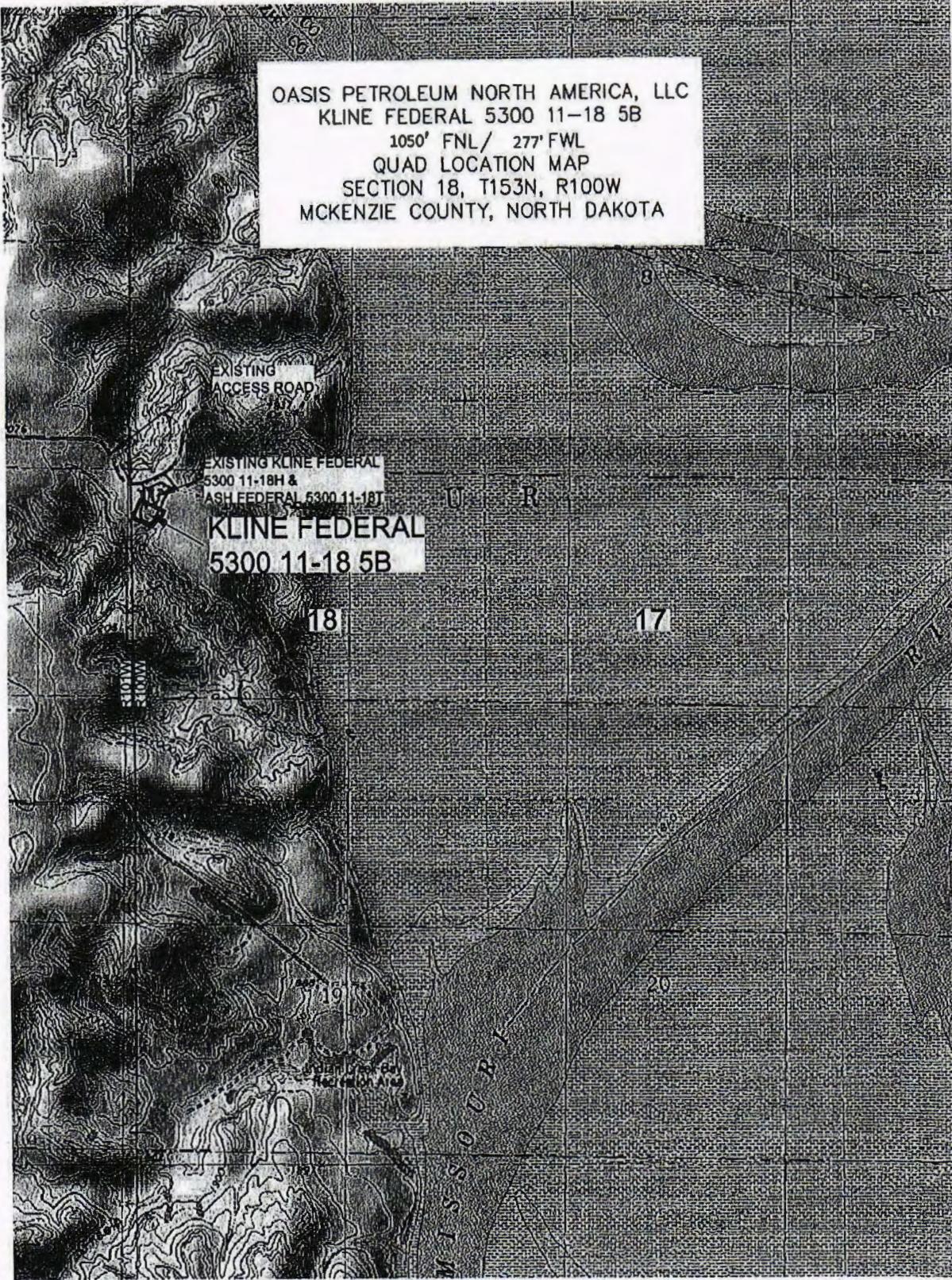
© 2014, INTERSTATE ENGINEERING, INC.



4/8
REPORT NO.

Project No.	Date	By	Description
OASIS PETROLEUM NORTH AMERICA, LLC ACCESS APPROACH SECTION 18, T153N, R100W MCKENZIE COUNTY, NORTH DAKOTA	REV 1 1/29/15	SURV 1 DARYL D. KASEMAN LS-3880	CHANGED BOUNDARY LINE CHANGED SURVEY POINTS CHANGED SURVEY POINTS CHANGED SURVEY POINTS
	REV 2 1/29/15		
	REV 3 1/29/15		
	REV 4 1/29/15		

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
One of the oldest, most honored



© 2014, INTERSTATE ENGINEERING, INC.

5/8
SHEET NO.



INTERSTATE
ENGINEERING

Professionals you need, people you trust

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

OASIS PETROLEUM NORTH AMERICA, LLC
 QUAD LOCATION MAP
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: 514-09-127-03
 Checked By: D.D.K. Date: APRIL 2014

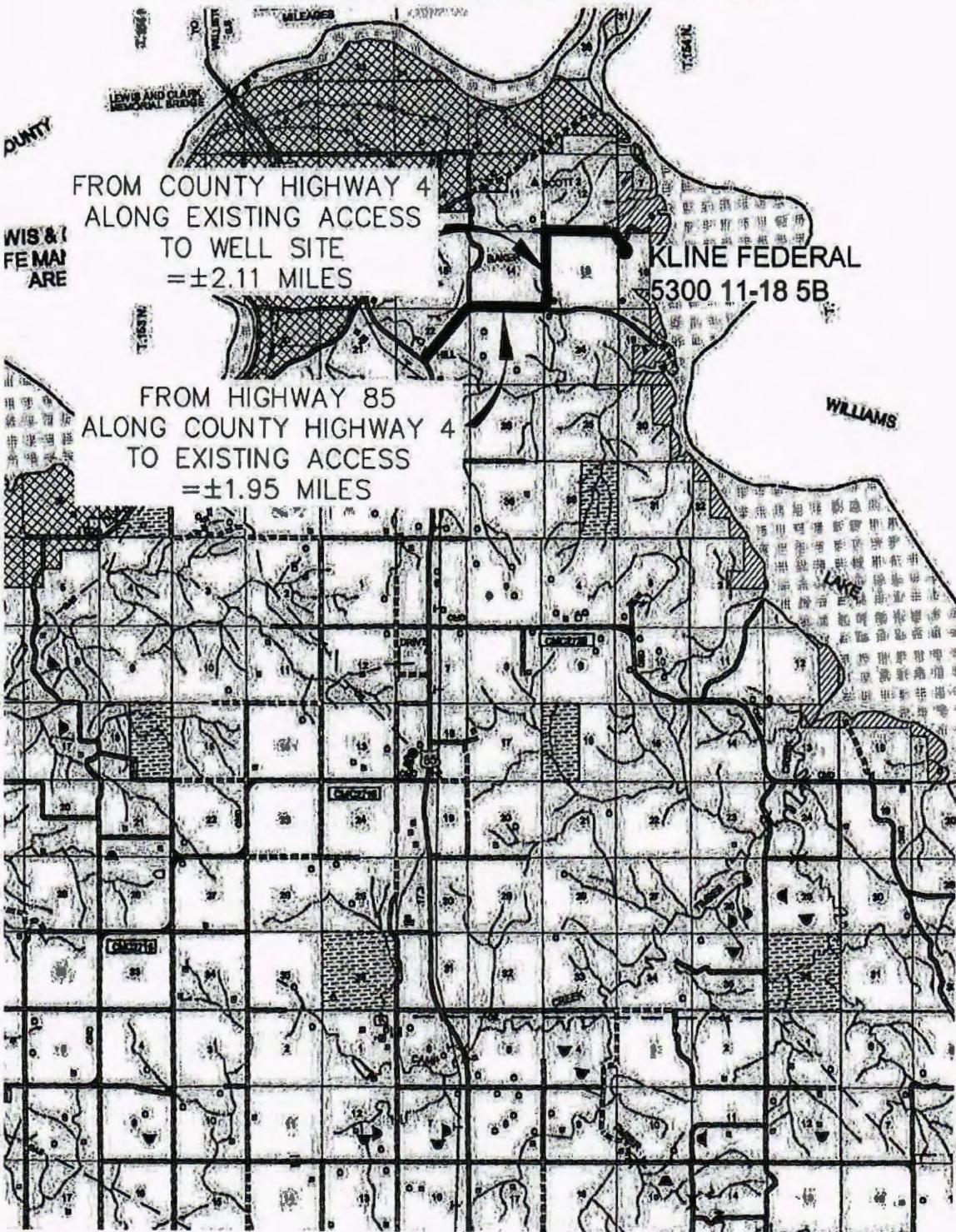
Revision No.	Date	By	Description
REV 1	6/18/11	BPH	Moved wells
REV 2	2/20/14	JAS	Changed bottom hole
REV 3	1/31/15	BPH	Changed well names & BPL

COUNTY ROAD MAP

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

"KLINE FEDERAL 5300 11-18 5B"

1050' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



© 2014, INTERSTATE ENGINEERING, INC.

6/8



INTERSTATE
ENGINEERING

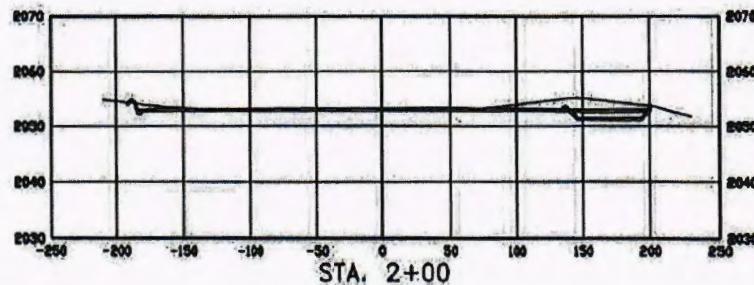
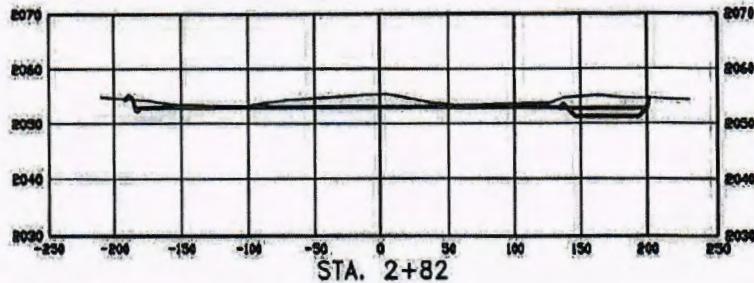
Professionals you need, people you trust

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

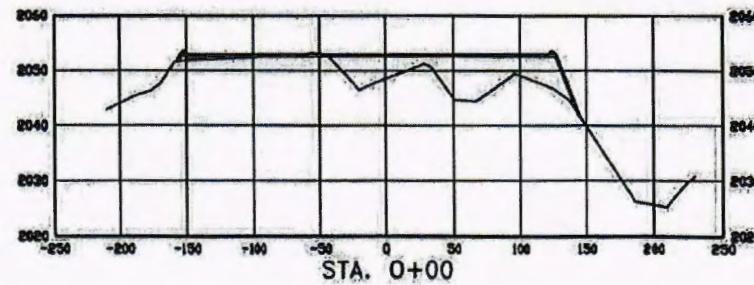
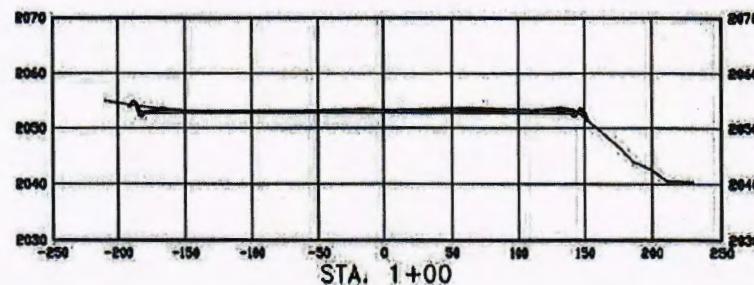
OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA
Drawn By: B.H.H. Project No.: 514-09-127.03
Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	3/18/14	B.H.H.	Moved wells
REV 2	3/26/14	AB	Changed bottom hole
REV 3	3/27/14	B.H.H.	Changed well names & S.I.

CROSS SECTIONS
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 6300 11-18 5B"
1050' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND
 SEALED BY DARYL D. KASEMAN,
 PLS, REGISTRATION NUMBER
3880 ON 1/29/15 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.



SCALE
 HORIZ 1"=120'
 VERT 1"=30'

© 2014, INTERSTATE ENGINEERING, INC.

7/8

INTERSTATE
ENGINEERING

Interstate Engineering, Inc.
 P.O. Box 648
 425 East Main Street
 Sidney, Montana 89270
 Ph: (406) 433-6617
 Fax: (406) 433-6618
www.interstateeng.com

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD CROSS SECTIONS
 SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Rev/Month	Proj	By	Description
REV 1	1/29/14	DME	INNER TILLS
REV 2	1/29/14	DME	ADDED CUTTED HOLE
REV 3	1/29/14	DME	CHANGED TILL NAMES & SHL

Drawn By: B.H.H. Project No: 0144-08-12743
 Checked By: D.D.K. Date: APRIL 2014

WELL LOCATION SITE QUANTITIES
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1050' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2053.3
WELL PAD ELEVATION	2053.0
EXCAVATION	1,906
PLUS PIT	0
	<hr/>
	1,906
EMBANKMENT	869
PLUS SHRINKAGE (30%)	261
	<hr/>
	1,130
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	1,934
BERMS	883 LF = 286 CY
DITCHES	727 LF = 111 CY
CONTAINMENT AREA	1,112 CY
ADDITIONAL MATERIAL NEEDED	221
DISTURBED AREA FROM PAD	2.40 ACRES

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

CUT END SLOPES AT 1:1

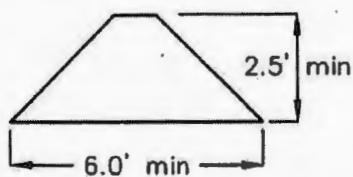
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

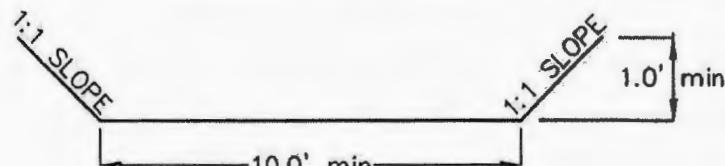
1080' FNL

263' FWL

BERM DETAIL



DIVERSION DITCH DETAIL



© 2014, INTERSTATE ENGINEERING, INC.

8/8



**INTERSTATE
ENGINEERING**

Professionally you need, people you trust

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

OASIS PETROLEUM NORTH AMERICA, LLC
 QUANTITIES

SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No: 814-29-127-03

Checked By: D.D.K. Date: APR 08 2014

Revision No.	Date	By	Description
REV 1	8/16/14	BHH	MOVED WELLS
REV 2	2/26/14	JAS	CHAMFER BOTTOM HOLE
REV 3	3/7/14	BHH	CHAMFER WELL KINGS & BPL



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 1

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.
29242



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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date June 9, 2015
<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 | Change to Original APD |

Well Name and Number
Kline Federal 5300 11-18 5B

Footages	Qtr-Qtr	Section	Township	Range
1080 F N L	263 F W L	LOT1	18	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)

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

DETAILS OF WORK

Oasis Petroleum respectfully requests approval to make the following changes to the original APD as follows:

BHL change: 2210' FNL & 250' FEL Sec 17 T153N R100W
(previously: 2530' FNL & 206' FEL)

Surface casing design:

Surface Casing of 13 3/8" set at 2068' (previously 9 5/8")

Contingency Casing of 9 5/8" set at 6,450'

Intermediate Casing of 7" with weight of 32 set at 11,006' (previously set at 11,111')

Production liner of 4 1/2" set from 10,209' to 20,943' (previously set from 10,314' to 21,375')

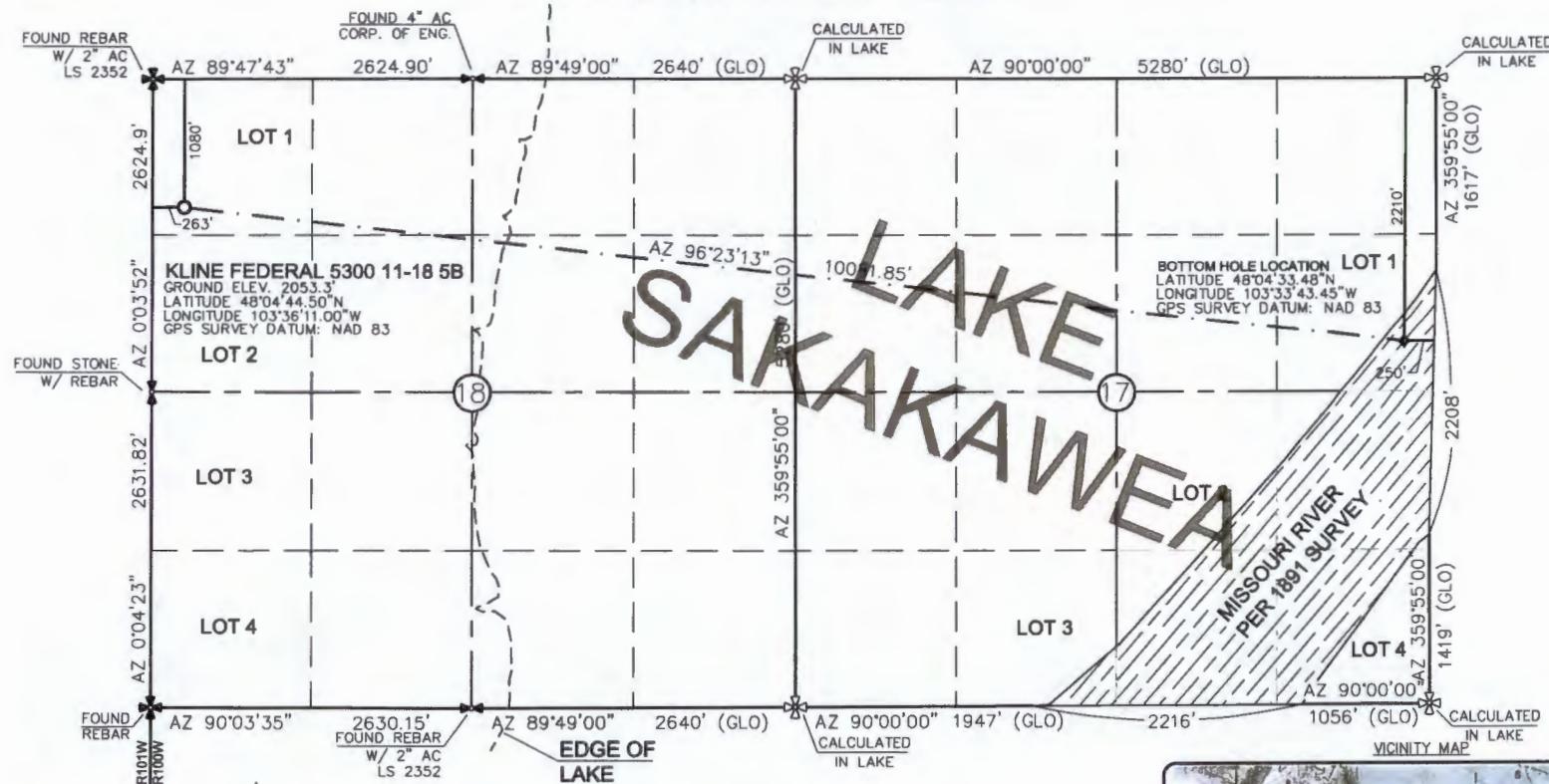
See attached supporting documents.

Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9652	
Address 1001 Fannin Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Victoria Siemieniewski	
Title Regulatory Specialist	Date February 5, 2015	
Email Address vsiemieniewski@oasispetroleum.com		

FOR STATE USE ONLY	
<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 02-18-2015	
By 	
Title David Burns Engineering Tech.	

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

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

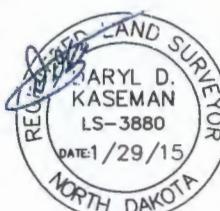


THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 1/29/15, AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.



- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

DARYL D. KASEMAN LS-3880



© 2014, INTERSTATE ENGINEERING, INC.

Project Information					
Project Name:	OASIS PETROLEUM NORTH AMERICA, LLC	Date:	REV 1	Revised:	Description:
Section:	WELL LOCATION PLAT	By:	REV 2	Changed:	REVISED BOTTOM HOLE
Section Number:	SECTION 18, T153N, R100W	On:	REV 3	Changed:	CHANGED WELL NAMES & DIR.
Municipality:	MCKENZIE COUNTY, NORTH DAKOTA	At:	REV 4	Changed:	REVISED WELL NAMES & DIR.
Owner:	ERIC BAYES	For:	REV 5	Changed:	REVISED WELL NAMES & DIR.
Project No.:	51420-3729	By:	REV 6	Changed:	REVISED WELL NAMES & DIR.
Address:	4225 East Main Street, Ste. 100, Mandan, ND 58501	On:	REV 7	Changed:	REVISED WELL NAMES & DIR.
Phone:	(701) 652-0517	At:	REV 8	Changed:	REVISED WELL NAMES & DIR.
Fax:	(701) 652-0510	For:	REV 9	Changed:	REVISED WELL NAMES & DIR.
URL:	www.interstateengineering.com	By:	REV 10	Changed:	REVISED WELL NAMES & DIR.



1/8

DRILLING PLAN								
OPERATOR	Oasis Petroleum	COUNTY/STATE	McKenzie Co., ND					
WELL NAME	Kline Federal 5300 11-18 5B	RIG	0					
WELL TYPE	Horizontal Middle Bakken							
LOCATION	NWNW 18-153N-100W	Surface Location (survey plat): 1080' fsl				283' fsl		
EST. T.D.	20,943'					GROUND ELEV: 2053 Finished Pad Elev. Sub Height: 25		
TOTAL LATERA	9,937'					KB ELEV: 2078		
PROGNOSIS:	Based on 2,078' KB(est)		LOGS:	Type	Interval			
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)	OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater), GR/Res to BSC; GR to surf; CND through the Dakota					
Pierre	NDIC MAP	1,968 110 (2,945)	CBL/GR: Above top of cement/GR to base of casing					
Greenhorn		5,023 (3,025)	MWD GR: KOP to lateral TD					
Mowry		5,103 (3,391)						
Dakota		5,469 (4,372)						
Rierdon		6,450 (4,707)	Surf: 3 deg. max., 1 deg / 100'; svy every 500' Prod: 5 deg. max., 1 deg / 100'; svy every 100'					
Dunham Salt		6,785 (4,818)						
Dunham Salt Base		6,898 (4,915)						
Spearfish		6,983 (5,170)						
Pine Salt		7,248 (5,218)						
Pine Salt Base		7,298 (5,263)						
Opeche Salt		7,341 (5,293)						
Opeche Salt Base		7,371 (5,495)	DST'S:					
Broom Creek (Top of Minnelusa Gp.)		7,573 (5,575)	None planned					
Amsden		7,853 (5,743)						
Tyler		7,821 (5,934)						
Otter (Base of Minnelusa Gp.)		8,012 (6,289)	CORES:					
Kibbey Lime		8,367 (6,439)	None planned					
Charles Salt		8,517 (7,063)						
UB		9,141 (7,138)						
Base Last Salt		9,216 (7,186)	MUDLOGGING:					
Ratcliffe		9,284 (7,343)	Two-Man: 8,317' ~200' above the Charles (Kibbey) to Casing point; Casing point to TD					
Mission Canyon		9,421 (7,921)	30' samples at direction of wellsite geologist; 10' through target @ curve land					
Lodgepole		9,999 (8,095)						
Lodgepole Fracture Zone		10,173 (8,620)						
False Bakken		10,698 (8,630)						
Upper Bakken		10,708 (8,644)						
Middle Bakken		10,722 (8,653)						
Middle Bakken Sand Target		10,731 (8,663)	BOP:					
Base Middle Bakken Sand Target		10,741 (8,688)	11" 5000 psi blind, pipe & annular					
Lower Bakken		10,768 (8,703)						
Three Forks		10,781 (8,703)						
Dip Rate:	-0.3							
Max. Anticipated BHP:	4665	Surface Formation: Glacial till						
MUD:	Interval	Type	WT	Vis	WL	Remarks		
Surface:	0' -	2,068' FWI/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks		
Intermediate:	2,068' -	11,008' Invert	9.5-10.4	40-50	30+HHP	Circ Mud Tanks		
Laterals:	11,008' -	20,943' Salt Water	9.8-10.2	28-32	NC	Circ Mud Tanks		
CASING:	Size	WT pcf	Hole	Depth	Cement	WOC	Remarks	
Surface:	13-5/8"	54.58	17-1/2"	2,068'	To Surface	12	100' into Pierre	
Dakota Contingency:	9-5/8"	40#	12-1/4"	6,450'	To Surface	12	Below Dakota	
Intermediate:	7"	29/32#	8-3/4"	11,008'	4968	24	500' above Dakota	
Production Liner:	4.5"	13.5#	6"	20,943'	TOL @ 10,209'		50' above KOP	
PROBABLE PLUGS, IF REQ'D:								
OTHER:	MD	TVD	FNL/FSI	FEL/FWL	S-T-R	AZI		
	Surface: 2,068	2,068	1080' FNL	283' FWL	SEC 18-T153N-R100W			
	KOP: 10,259'	10,259'	1130' FNL	278' FWL	SEC 18-T153N-R100W		Build Rate: 12 deg /100'	
	EOC: 11,008'	10,736'	1500' FNL	578' FWL	SEC 18-T153N-R100W	141.10		
	Casing Point: 11,008'	10,736'	1500' FNL	578' FWL	SEC 18-T153N-R100W	141.10		
	Middle Bakken Lateral TD: 20,943'	10,789'	2210' FNL	250' FEL	SEC 17-T153N-R100W	90.00		
Comments:								
Request a Sundry for an Open Hole Log Waiver								
Exception well: Oasis Petroleum's Kline Federal 5300 11-18H (153N 100W 18 NW NW)								
Completion Notes: 35 packers, 35 sleeves, no frac string								
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.								
68334-30-6 (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) 68008-20-6 (Primary Name: Kerosene)								
OASIS PETROLEUM								
Geology: M. Steed 5/12/2014	Engineering: hbader rpm 7/17/14 TR 2-2-15							

Oasis Petroleum
Well Summary
Kline Federal 5300 11-18 5B
Section 18 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' - 2068'	54.5	J-55	STC	12.615"	12.459"	4100	5470	6840

Interval	Description	Collapse		Burst		Tension	
		(psi) / a	(psi) / b	(psi) / c	(1000 lbs) / c		
0' - 2068'	13-3/8", 54.5#, J-55, LTC, 8rd	1130 / 1.16		2730 / 1.95		514	/ 2.60

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 9 ppg fluid on backside (2068' setting depth).
- b) Burst pressure based on 13 ppg fluid with no fluid on backside (2068' setting depth).
- c) Based on string weight in 9 ppg fluid at 2068' TVD plus 100k# overpull. (Buoyed weight equals 97k 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: **694 sks** (358 bbls), 11.5 lb/gal, 2.97 cu. Ft./sk Varicem Cement with 0.125 lb/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
Kline Federal 5300 11-18 5B
Section 18 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' - 6450'	36	HCL-60	LTC	8.835"	8.75"	5450	7270	9090

Interval	Description	Collapse (psi) / a	Burst		Tension (1000 lbs) / c
			(psi) / b		
0' - 6450'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.17	3520	1.28	453 / 1.53

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 10.4 ppg fluid on backside (6450' 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 6450' TVD plus 100k# overpull. (Buoyed weight equals 195k 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: 570 sks (295 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: 605 sks (125 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
Kline Federal 5300 11-18 5B
Section 18 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' - 11006'	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' - 11006'	11006'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.11*	12460 / 1.28	897 / 2.25
6785' - 9216'	2431'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.06**	12460 / 1.30	

API Rating & Safety Factor

- a) *Assume full casing evacuation with 10 ppg fluid on backside. **Assume full casing evacuation with 1.2 psi/ft equivalent fluid gradient across salt intervals.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10736' TVD.
- c) Based on string weight in 10 ppg fluid, (298k 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: **175 sks** (81 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive

Tail Slurry: **577 sks** (169 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
Kline Federal 5300 11-18 5B
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Dmt	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10209' - 20943'	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
10209' - 20943'	10734	4-1/2", 13.5 lb, P-110, BTC	10670 / 2.00	12410 / 1.28	443 / 1.97

API Rating & Safety Factor

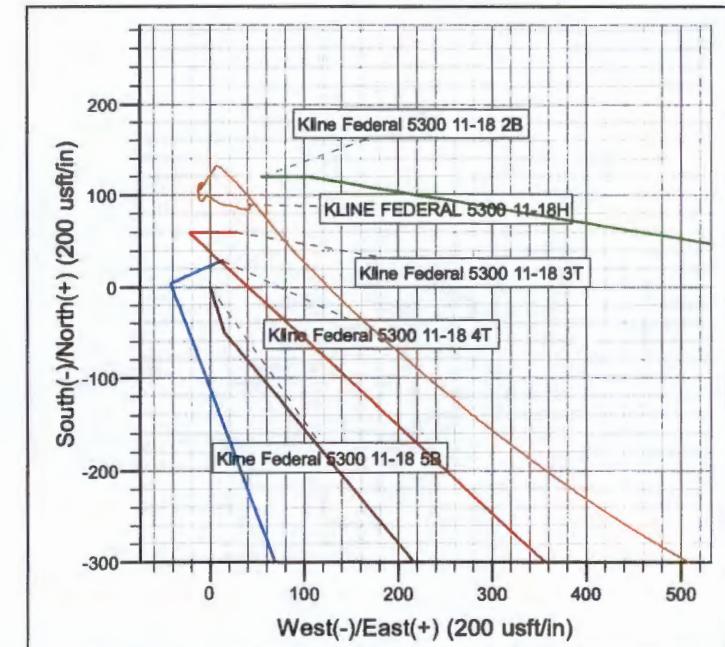
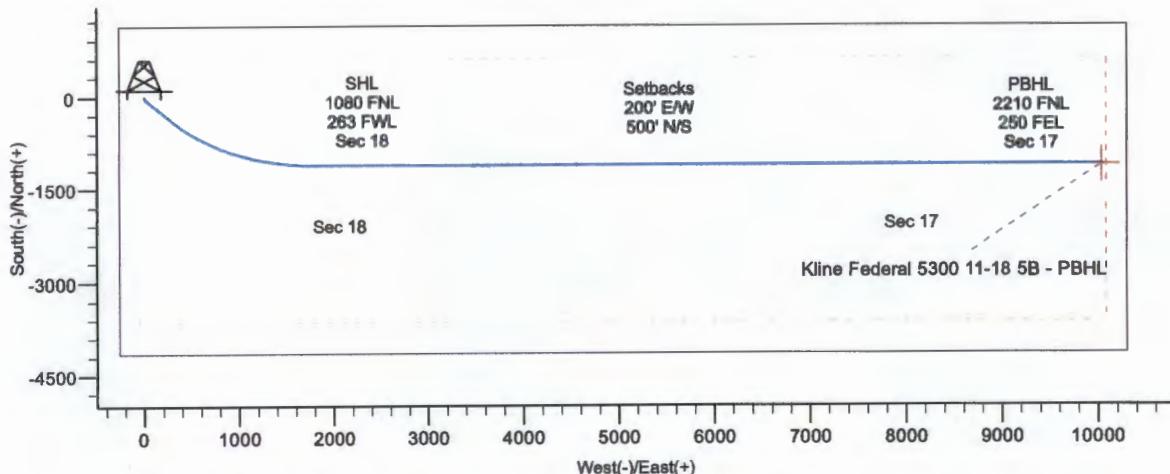
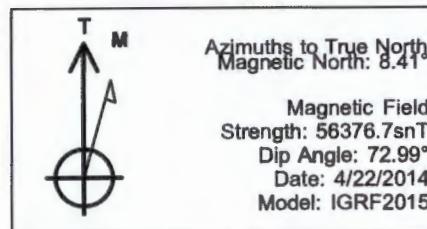
- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10789' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10789' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 124k lbs.) plus 100k lbs overpull.

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 11-18 5B
 Wellbore: Kline Federal 5300 11-18 5B
 Design: Design #3



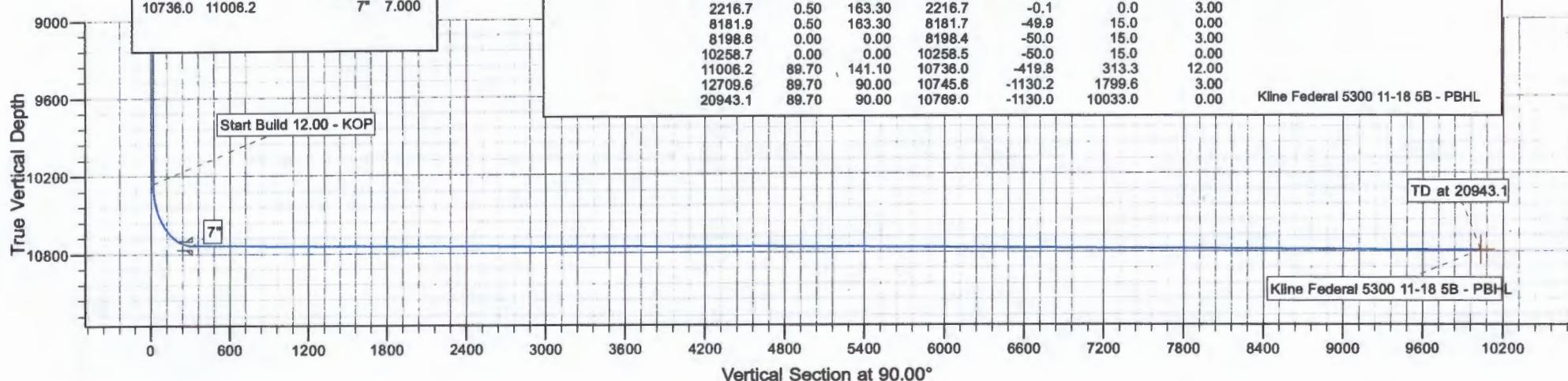
WELL DETAILS: Kline Federal 5300 11-18 5B

Northing	Ground Level: 2053.0
408875.00	Easting 1210183.53
	Latitude 48° 4' 44.500 N
	Longitude 103° 36' 11.000 W



CASING DETAILS			
TVD	MD	Name	Size
2068.0	2068.0	13 3/8"	13.375
6450.0	6450.2	9 5/8"	9.625
10736.0	11006.2	7"	7.000

SECTION DETAILS							
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	
2200.0	0.00	0.00	2200.0	0.0	0.0	0.00	
2216.7	0.50	163.30	2216.7	-0.1	0.0	3.00	
8181.9	0.50	183.30	8181.7	-49.9	15.0	0.00	
8198.6	0.00	0.00	8198.4	-50.0	15.0	3.00	
10258.7	0.00	0.00	10258.5	-50.0	15.0	0.00	
11006.2	89.70	141.10	10736.0	-419.8	313.3	12.00	
12709.6	89.70	90.00	10745.6	-1130.2	1799.6	3.00	
20943.1	89.70	90.00	10769.0	-1130.0	10033.0	0.00	Kline Federal 5300 11-18 5B - PBHL



Oasis

**Indian Hills
153N-100W-17/18
Kline Federal 5300 11-18 5B**

Plan: Design #3

Standard Planning Report

02 February, 2015

Oasis Petroleum

Planning Report

Database:	OpenWellCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

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-17/18				
Site Position:		Northing:	407,189.34 usft	Latitude:	48° 4' 27.840 N
From:	Lat/Long	Easting:	1,210,089.73 usft	Longitude:	103° 36' 11.380 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-2.31 °

Well	Kline Federal 5300 11-18 5B				
Well Position	+N-S +E/W	1,688.1 usft 25.8 usft	Northing: Easting:	408,875.00 usft 1,210,183.52 usft	Latitude: Longitude:
		2.0 usft	Wellhead Elevation:		Ground Level:
Position Uncertainty					2,053.0 usft

Wellbore	Kline Federal 5300 11-18 5B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/22/2014	8.41	72.99	56,377

Design	Design #3				
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
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,216.7	0.50	163.30	2,216.7	-0.1	0.0	3.00	3.00	0.00	0.00	163.30
8,181.9	0.50	163.30	8,181.7	-49.9	15.0	0.00	0.00	0.00	0.00	0.00
8,198.6	0.00	0.00	8,198.4	-50.0	15.0	3.00	-3.00	0.00	0.00	180.00
10,258.7	0.00	0.00	10,258.5	-50.0	15.0	0.00	0.00	0.00	0.00	0.00
11,006.2	89.70	141.10	10,736.0	-419.6	313.3	12.00	12.00	0.00	0.00	141.10
12,709.6	89.70	90.00	10,745.6	-1,130.2	1,799.6	3.00	0.00	-3.00	-90.15	
20,943.1	89.70	90.00	10,789.0	-1,130.0	10,033.0	0.00	0.00	0.00	0.00	Kline Federal 5300 11

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
SITE:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

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)	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
Start Build 3.00										
2,216.7	0.50	163.30	2,218.7	-0.1	0.0	0.0	3.00	3.00	0.00	
Start 5985.3 hold at 2216.7 MD										
2,300.0	0.50	163.30	2,300.0	-0.8	0.2	0.2	0.00	0.00	0.00	
2,400.0	0.50	163.30	2,400.0	-1.6	0.5	0.5	0.00	0.00	0.00	
2,500.0	0.50	163.30	2,500.0	-2.4	0.7	0.7	0.00	0.00	0.00	
2,600.0	0.50	163.30	2,600.0	-3.3	1.0	1.0	0.00	0.00	0.00	
2,700.0	0.50	163.30	2,700.0	-4.1	1.2	1.2	0.00	0.00	0.00	
2,800.0	0.50	163.30	2,800.0	-4.9	1.5	1.5	0.00	0.00	0.00	
2,900.0	0.50	163.30	2,900.0	-5.8	1.7	1.7	0.00	0.00	0.00	
3,000.0	0.50	163.30	3,000.0	-6.6	2.0	2.0	0.00	0.00	0.00	
3,100.0	0.50	163.30	3,100.0	-7.5	2.2	2.2	0.00	0.00	0.00	
3,200.0	0.50	163.30	3,200.0	-8.3	2.5	2.5	0.00	0.00	0.00	
3,300.0	0.50	163.30	3,300.0	-9.1	2.7	2.7	0.00	0.00	0.00	
3,400.0	0.50	163.30	3,400.0	-10.0	3.0	3.0	0.00	0.00	0.00	
3,500.0	0.50	163.30	3,500.0	-10.8	3.2	3.2	0.00	0.00	0.00	
3,600.0	0.50	163.30	3,599.9	-11.6	3.5	3.5	0.00	0.00	0.00	
3,700.0	0.50	163.30	3,699.9	-12.5	3.7	3.7	0.00	0.00	0.00	
3,800.0	0.50	163.30	3,799.9	-13.3	4.0	4.0	0.00	0.00	0.00	
3,900.0	0.50	163.30	3,899.9	-14.1	4.2	4.2	0.00	0.00	0.00	
4,000.0	0.50	163.30	3,999.9	-15.0	4.5	4.5	0.00	0.00	0.00	
4,100.0	0.50	163.30	4,099.9	-15.8	4.7	4.7	0.00	0.00	0.00	
4,200.0	0.50	163.30	4,199.9	-16.6	5.0	5.0	0.00	0.00	0.00	
4,300.0	0.50	163.30	4,299.9	-17.5	5.2	5.2	0.00	0.00	0.00	
4,400.0	0.50	163.30	4,399.9	-18.3	5.5	5.5	0.00	0.00	0.00	
4,500.0	0.50	163.30	4,499.9	-19.2	5.7	5.7	0.00	0.00	0.00	
4,600.0	0.50	163.30	4,599.9	-20.0	6.0	6.0	0.00	0.00	0.00	
4,700.0	0.50	163.30	4,699.9	-20.8	6.2	6.2	0.00	0.00	0.00	
4,800.0	0.50	163.30	4,799.9	-21.7	6.5	6.5	0.00	0.00	0.00	
4,900.0	0.50	163.30	4,899.9	-22.5	6.7	6.7	0.00	0.00	0.00	
5,000.0	0.50	163.30	4,999.9	-23.3	7.0	7.0	0.00	0.00	0.00	
5,100.0	0.50	163.30	5,099.9	-24.2	7.3	7.3	0.00	0.00	0.00	
5,200.0	0.50	163.30	5,199.9	-25.0	7.5	7.5	0.00	0.00	0.00	
5,300.0	0.50	163.30	5,299.9	-25.8	7.8	7.8	0.00	0.00	0.00	
5,400.0	0.50	163.30	5,399.9	-26.7	8.0	8.0	0.00	0.00	0.00	
5,500.0	0.50	163.30	5,499.9	-27.5	8.3	8.3	0.00	0.00	0.00	
5,600.0	0.50	163.30	5,599.9	-28.3	8.5	8.5	0.00	0.00	0.00	
5,700.0	0.50	163.30	5,699.9	-29.2	8.8	8.8	0.00	0.00	0.00	
5,800.0	0.50	163.30	5,799.9	-30.0	9.0	9.0	0.00	0.00	0.00	
5,900.0	0.50	163.30	5,899.9	-30.9	9.3	9.3	0.00	0.00	0.00	
6,000.0	0.50	163.30	5,999.9	-31.7	9.5	9.5	0.00	0.00	0.00	
6,100.0	0.50	163.30	6,099.9	-32.5	9.8	9.8	0.00	0.00	0.00	
6,200.0	0.50	163.30	6,199.8	-33.4	10.0	10.0	0.00	0.00	0.00	
6,300.0	0.50	163.30	6,299.8	-34.2	10.3	10.3	0.00	0.00	0.00	
8,400.0	0.50	163.30	6,399.8	-35.0	10.5	10.5	0.00	0.00	0.00	
6,450.2	0.50	163.30	6,450.0	-35.5	10.6	10.6	0.00	0.00	0.00	
9 5/8"										
6,500.0	0.50	163.30	6,499.8	-35.9	10.8	10.8	0.00	0.00	0.00	
6,600.0	0.50	163.30	6,599.8	-36.7	11.0	11.0	0.00	0.00	0.00	
6,700.0	0.50	163.30	6,699.8	-37.5	11.3	11.3	0.00	0.00	0.00	
6,800.0	0.50	163.30	6,799.8	-38.4	11.5	11.5	0.00	0.00	0.00	
6,900.0	0.50	163.30	6,899.8	-39.2	11.8	11.8	0.00	0.00	0.00	
7,000.0	0.50	163.30	6,999.8	-40.1	12.0	12.0	0.00	0.00	0.00	
7,100.0	0.50	163.30	7,099.8	-40.9	12.3	12.3	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

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)	
7,200.0	0.50	163.30	7,199.8	-41.7	12.5	12.5	0.00	0.00	0.00	0.00
7,300.0	0.50	163.30	7,299.8	-42.6	12.8	12.8	0.00	0.00	0.00	0.00
7,400.0	0.50	163.30	7,399.8	-43.4	13.0	13.0	0.00	0.00	0.00	0.00
7,500.0	0.50	163.30	7,499.8	-44.2	13.3	13.3	0.00	0.00	0.00	0.00
7,600.0	0.50	163.30	7,599.8	-45.1	13.5	13.5	0.00	0.00	0.00	0.00
7,700.0	0.50	163.30	7,699.8	-45.9	13.8	13.8	0.00	0.00	0.00	0.00
7,800.0	0.50	163.30	7,799.8	-46.7	14.0	14.0	0.00	0.00	0.00	0.00
7,900.0	0.50	163.30	7,899.8	-47.6	14.3	14.3	0.00	0.00	0.00	0.00
8,000.0	0.50	163.30	7,999.8	-48.4	14.5	14.5	0.00	0.00	0.00	0.00
8,100.0	0.50	163.30	8,099.8	-49.2	14.8	14.8	0.00	0.00	0.00	0.00
8,181.9	0.50	163.30	8,161.7	-49.9	15.0	15.0	0.00	0.00	0.00	0.00
Start Drop -3.00										
8,198.6	0.00	0.00	8,196.4	-50.0	15.0	15.0	3.00	-3.00	0.00	0.00
Start 2080.1 hold at 8198.6 MD										
10,258.7	0.00	0.00	10,258.5	-50.0	15.0	15.0	0.00	0.00	0.00	0.00
Start Build 12.00 - KOP										
10,300.0	4.95	141.10	10,299.7	-51.4	16.1	16.1	12.00	12.00	0.00	0.00
10,400.0	16.95	141.10	10,397.7	-66.1	28.0	28.0	12.00	12.00	0.00	0.00
10,500.0	28.95	141.10	10,489.6	-96.4	52.5	52.5	12.00	12.00	0.00	0.00
10,600.0	40.95	141.10	10,571.4	-140.9	88.4	88.4	12.00	12.00	0.00	0.00
10,700.0	52.95	141.10	10,639.6	-197.7	134.2	134.2	12.00	12.00	0.00	0.00
10,800.0	64.95	141.10	10,691.1	-264.3	187.9	187.9	12.00	12.00	0.00	0.00
10,900.0	76.95	141.10	10,723.6	-337.7	247.1	247.1	12.00	12.00	0.00	0.00
11,000.0	88.95	141.10	10,735.9	-414.8	309.4	309.4	12.00	12.00	0.00	0.00
11,006.2	89.70	141.10	10,736.0	-419.8	313.2	313.2	12.00	12.00	0.00	0.00
Start DLS 3.00 TFO -80.15 - EOC - 7"										
11,100.0	89.69	138.29	10,736.5	-491.1	373.9	373.9	3.00	0.00	-3.00	
11,200.0	89.69	135.29	10,737.0	-564.0	442.4	442.4	3.00	-0.01	-3.00	
11,300.0	89.68	132.29	10,737.5	-633.2	514.8	514.6	3.00	-0.01	-3.00	
11,400.0	89.68	129.29	10,738.1	-698.5	590.3	590.3	3.00	0.00	-3.00	
11,500.0	89.67	126.29	10,738.7	-759.8	669.3	669.3	3.00	0.00	-3.00	
11,600.0	89.67	123.29	10,739.3	-816.8	751.4	751.4	3.00	0.00	-3.00	
11,700.0	89.67	120.29	10,739.8	-869.5	836.4	836.4	3.00	0.00	-3.00	
11,800.0	89.67	117.29	10,740.4	-917.6	924.0	924.0	3.00	0.00	-3.00	
11,900.0	89.67	114.29	10,741.0	-961.1	1,014.1	1,014.1	3.00	0.00	-3.00	
12,000.0	89.67	111.29	10,741.6	-999.9	1,106.2	1,106.2	3.00	0.00	-3.00	
12,100.0	89.67	108.29	10,742.2	-1,033.7	1,200.3	1,200.3	3.00	0.00	-3.00	
12,200.0	89.67	105.29	10,742.7	-1,062.6	1,296.0	1,296.0	3.00	0.00	-3.00	
12,300.0	89.67	102.29	10,743.3	-1,088.4	1,393.2	1,393.2	3.00	0.00	-3.00	
12,400.0	89.68	99.29	10,743.9	-1,105.1	1,491.4	1,491.4	3.00	0.00	-3.00	
12,500.0	89.68	96.29	10,744.4	-1,118.7	1,590.4	1,590.4	3.00	0.01	-3.00	
12,600.0	89.69	93.29	10,745.0	-1,127.0	1,690.1	1,690.1	3.00	0.01	-3.00	
12,700.0	89.70	90.29	10,745.5	-1,130.1	1,790.0	1,790.0	3.00	0.01	-3.00	
12,709.8	89.70	90.00	10,745.6	-1,130.2	1,799.6	1,799.6	3.00	0.01	-3.00	
Start 8233.5 hold at 12709.6 MD										
12,800.0	89.70	90.00	10,746.0	-1,130.2	1,890.0	1,890.0	0.00	0.00	0.00	
12,900.0	89.70	90.00	10,746.6	-1,130.1	1,990.0	1,990.0	0.00	0.00	0.00	
13,000.0	89.70	90.00	10,747.1	-1,130.1	2,090.0	2,090.0	0.00	0.00	0.00	
13,100.0	89.70	90.00	10,747.6	-1,130.1	2,190.0	2,190.0	0.00	0.00	0.00	
13,200.0	89.70	90.00	10,748.1	-1,130.1	2,290.0	2,290.0	0.00	0.00	0.00	
13,300.0	89.70	90.00	10,748.7	-1,130.1	2,390.0	2,390.0	0.00	0.00	0.00	
13,400.0	89.70	90.00	10,749.2	-1,130.1	2,490.0	2,490.0	0.00	0.00	0.00	
13,500.0	89.70	90.00	10,749.7	-1,130.1	2,590.0	2,590.0	0.00	0.00	0.00	
13,600.0	89.70	90.00	10,750.3	-1,130.1	2,690.0	2,690.0	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

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)	
13,700.0	89.70	90.00	10,750.8	-1,130.1	2,790.0	2,790.0	0.00	0.00	0.00	
13,800.0	89.70	90.00	10,751.3	-1,130.1	2,890.0	2,890.0	0.00	0.00	0.00	
13,900.0	89.70	90.00	10,751.8	-1,130.1	2,990.0	2,990.0	0.00	0.00	0.00	
14,000.0	89.70	90.00	10,752.4	-1,130.1	3,090.0	3,090.0	0.00	0.00	0.00	
14,100.0	89.70	90.00	10,752.9	-1,130.1	3,190.0	3,190.0	0.00	0.00	0.00	
14,200.0	89.70	90.00	10,753.4	-1,130.1	3,290.0	3,290.0	0.00	0.00	0.00	
14,300.0	89.70	90.00	10,753.9	-1,130.1	3,390.0	3,390.0	0.00	0.00	0.00	
14,400.0	89.70	90.00	10,754.5	-1,130.1	3,490.0	3,490.0	0.00	0.00	0.00	
14,500.0	89.70	90.00	10,755.0	-1,130.1	3,590.0	3,590.0	0.00	0.00	0.00	
14,600.0	89.70	90.00	10,755.5	-1,130.1	3,690.0	3,690.0	0.00	0.00	0.00	
14,700.0	89.70	90.00	10,756.1	-1,130.1	3,790.0	3,790.0	0.00	0.00	0.00	
14,800.0	89.70	90.00	10,756.8	-1,130.1	3,890.0	3,890.0	0.00	0.00	0.00	
14,900.0	89.70	90.00	10,757.1	-1,130.1	3,990.0	3,990.0	0.00	0.00	0.00	
15,000.0	89.70	90.00	10,757.8	-1,130.1	4,090.0	4,090.0	0.00	0.00	0.00	
15,100.0	89.70	90.00	10,758.2	-1,130.1	4,190.0	4,190.0	0.00	0.00	0.00	
15,200.0	89.70	90.00	10,758.7	-1,130.1	4,290.0	4,290.0	0.00	0.00	0.00	
15,300.0	89.70	90.00	10,759.2	-1,130.1	4,390.0	4,390.0	0.00	0.00	0.00	
15,400.0	89.70	90.00	10,759.8	-1,130.1	4,490.0	4,490.0	0.00	0.00	0.00	
15,500.0	89.70	90.00	10,760.3	-1,130.1	4,590.0	4,590.0	0.00	0.00	0.00	
15,600.0	89.70	90.00	10,760.8	-1,130.1	4,690.0	4,690.0	0.00	0.00	0.00	
15,700.0	89.70	90.00	10,761.3	-1,130.1	4,790.0	4,790.0	0.00	0.00	0.00	
15,800.0	89.70	90.00	10,761.9	-1,130.1	4,890.0	4,890.0	0.00	0.00	0.00	
15,900.0	89.70	90.00	10,762.4	-1,130.1	4,990.0	4,990.0	0.00	0.00	0.00	
16,000.0	89.70	90.00	10,762.9	-1,130.1	5,090.0	5,090.0	0.00	0.00	0.00	
16,100.0	89.70	90.00	10,763.4	-1,130.1	5,190.0	5,190.0	0.00	0.00	0.00	
16,200.0	89.70	90.00	10,764.0	-1,130.1	5,290.0	5,290.0	0.00	0.00	0.00	
16,300.0	89.70	90.00	10,764.5	-1,130.1	5,390.0	5,390.0	0.00	0.00	0.00	
16,400.0	89.70	90.00	10,765.0	-1,130.1	5,490.0	5,490.0	0.00	0.00	0.00	
16,500.0	89.70	90.00	10,765.6	-1,130.1	5,590.0	5,590.0	0.00	0.00	0.00	
16,600.0	89.70	90.00	10,766.1	-1,130.1	5,690.0	5,690.0	0.00	0.00	0.00	
16,700.0	89.70	90.00	10,766.6	-1,130.1	5,790.0	5,790.0	0.00	0.00	0.00	
16,800.0	89.70	90.00	10,767.1	-1,130.1	5,890.0	5,890.0	0.00	0.00	0.00	
16,900.0	89.70	90.00	10,767.7	-1,130.1	5,990.0	5,990.0	0.00	0.00	0.00	
17,000.0	89.70	90.00	10,768.2	-1,130.1	6,090.0	6,090.0	0.00	0.00	0.00	
17,100.0	89.70	90.00	10,768.7	-1,130.1	6,190.0	6,190.0	0.00	0.00	0.00	
17,200.0	89.70	90.00	10,769.2	-1,130.1	6,290.0	6,290.0	0.00	0.00	0.00	
17,300.0	89.70	90.00	10,769.8	-1,130.1	6,390.0	6,390.0	0.00	0.00	0.00	
17,400.0	89.70	90.00	10,770.3	-1,130.1	6,489.9	6,489.9	0.00	0.00	0.00	
17,500.0	89.70	90.00	10,770.8	-1,130.1	6,589.9	6,589.9	0.00	0.00	0.00	
17,600.0	89.70	90.00	10,771.4	-1,130.1	6,689.9	6,689.9	0.00	0.00	0.00	
17,700.0	89.70	90.00	10,771.9	-1,130.1	6,789.9	6,789.9	0.00	0.00	0.00	
17,800.0	89.70	90.00	10,772.4	-1,130.1	6,889.9	6,889.9	0.00	0.00	0.00	
17,900.0	89.70	90.00	10,772.9	-1,130.1	6,989.9	6,989.9	0.00	0.00	0.00	
18,000.0	89.70	90.00	10,773.5	-1,130.1	7,089.9	7,089.9	0.00	0.00	0.00	
18,100.0	89.70	90.00	10,774.0	-1,130.1	7,189.9	7,189.9	0.00	0.00	0.00	
18,200.0	89.70	90.00	10,774.5	-1,130.0	7,289.9	7,289.9	0.00	0.00	0.00	
18,300.0	89.70	90.00	10,775.1	-1,130.0	7,389.9	7,389.9	0.00	0.00	0.00	
18,400.0	89.70	90.00	10,775.6	-1,130.0	7,489.9	7,489.9	0.00	0.00	0.00	
18,500.0	89.70	90.00	10,776.1	-1,130.0	7,589.9	7,589.9	0.00	0.00	0.00	
18,600.0	89.70	90.00	10,776.6	-1,130.0	7,689.9	7,689.9	0.00	0.00	0.00	
18,700.0	89.70	90.00	10,777.2	-1,130.0	7,789.9	7,789.9	0.00	0.00	0.00	
18,800.0	89.70	90.00	10,777.7	-1,130.0	7,889.9	7,889.9	0.00	0.00	0.00	
18,900.0	89.70	90.00	10,778.2	-1,130.0	7,989.9	7,989.9	0.00	0.00	0.00	
19,000.0	89.70	90.00	10,778.7	-1,130.0	8,089.9	8,089.9	0.00	0.00	0.00	
19,100.0	89.70	90.00	10,779.3	-1,130.0	8,189.9	8,189.9	0.00	0.00	0.00	

Oasis Petroleum

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

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)	
19,200.0	89.70	90.00	10,779.8	-1,130.0	8,289.9	8,289.9	0.00	0.00	0.00	0.00
19,300.0	89.70	90.00	10,780.3	-1,130.0	8,389.9	8,389.9	0.00	0.00	0.00	0.00
19,400.0	89.70	90.00	10,780.9	-1,130.0	8,489.9	8,489.9	0.00	0.00	0.00	0.00
19,500.0	89.70	90.00	10,781.4	-1,130.0	8,589.9	8,589.9	0.00	0.00	0.00	0.00
19,600.0	89.70	90.00	10,781.9	-1,130.0	8,689.9	8,689.9	0.00	0.00	0.00	0.00
19,700.0	89.70	90.00	10,782.4	-1,130.0	8,789.9	8,789.9	0.00	0.00	0.00	0.00
19,800.0	89.70	90.00	10,783.0	-1,130.0	8,889.9	8,889.9	0.00	0.00	0.00	0.00
19,900.0	89.70	90.00	10,783.5	-1,130.0	8,989.9	8,989.9	0.00	0.00	0.00	0.00
20,000.0	89.70	90.00	10,784.0	-1,130.0	9,089.9	9,089.9	0.00	0.00	0.00	0.00
20,100.0	89.70	90.00	10,784.6	-1,130.0	9,189.9	9,189.9	0.00	0.00	0.00	0.00
20,200.0	89.70	90.00	10,785.1	-1,130.0	9,289.9	9,289.9	0.00	0.00	0.00	0.00
20,300.0	89.70	90.00	10,785.6	-1,130.0	9,389.9	9,389.9	0.00	0.00	0.00	0.00
20,400.0	89.70	90.00	10,786.1	-1,130.0	9,489.9	9,489.9	0.00	0.00	0.00	0.00
20,500.0	89.70	90.00	10,786.7	-1,130.0	9,589.9	9,589.9	0.00	0.00	0.00	0.00
20,600.0	89.70	90.00	10,787.2	-1,130.0	9,689.9	9,689.9	0.00	0.00	0.00	0.00
20,700.0	89.70	90.00	10,787.7	-1,130.0	9,789.9	9,789.9	0.00	0.00	0.00	0.00
20,800.0	89.70	90.00	10,788.2	-1,130.0	9,889.9	9,889.9	0.00	0.00	0.00	0.00
20,900.0	89.70	90.00	10,788.8	-1,130.0	9,989.9	9,989.9	0.00	0.00	0.00	0.00
20,943.1	89.70	90.00	10,789.0	-1,130.0	10,033.0	10,033.0	0.00	0.00	0.00	0.00

TD at 20943.1 - PBHL Kline Federal 5300 21-18 5B (copy) (copy) - Kline Federal 5300 11-18 5B - PBHL

Design Targets										
Target Name	Dip Angle (°)	Dip Dir.	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Kline Federal 5300 11-1: - plan hits target center - Point	0.00	0.00	10,789.0	-1,130.0	10,033.0	407,341.69	1,220,162.85	48° 4' 33.321 N	103° 33' 43.250 W	

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)						
2,068.0	2,068.0	13 3/8"	13.375	17.500						
6,450.2	6,450.0	9 5/6"	9.625	12.250						
11,006.2	10,736.0	7"	7.000	8.750						

Oasis Petroleum

Planning Report

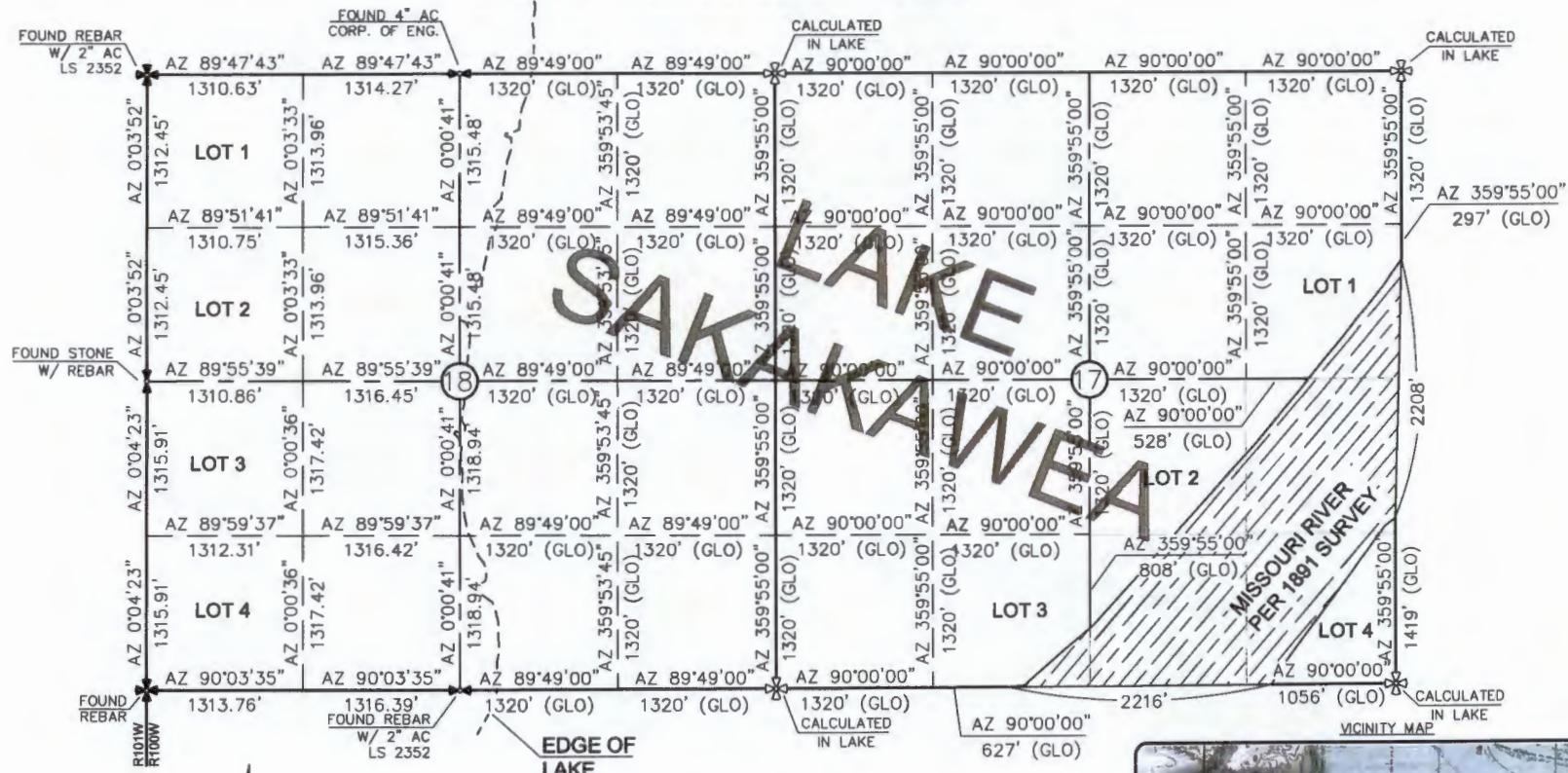
Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 11-18 5B
Company:	Oasis	TVD Reference:	RKB @ 2078.0usft
Project:	Indian Hills	MD Reference:	RKB @ 2078.0usft
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 11-18 5B		
Design:	Design #3		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,968.0	1,968.0	Pierre	Empty		
5,023.2	5,023.1	Greenhorn	Empty		
5,103.2	5,103.1	Mowry	Empty		
5,469.2	5,469.1	Dakota	Empty		
6,450.3	6,450.2	Riordon	Empty		
6,785.3	6,785.2	Dunham Salt	Empty		
6,896.4	6,896.2	Dunham Salt Base	Empty		
6,993.4	6,993.2	Spearfish	Empty		
7,248.4	7,248.2	Pine Salt	Empty		
7,296.4	7,296.2	Pine Salt Base	Empty		
7,341.4	7,341.2	Opeche Salt	Empty		
7,371.4	7,371.2	Opeche Salt Base	Empty		
7,573.4	7,573.2	Broom Creek (Top of Minnelusa Gp.)	Empty		
7,653.4	7,653.2	Ameden	Empty		
7,821.4	7,821.2	Tyler	Empty		
8,012.4	8,012.2	Otter (Base of Minnelusa Gp.)	Empty		
8,367.5	8,367.2	Kibbey Lime	Empty		
8,517.5	8,517.2	Charles Salt	Empty		
9,141.5	9,141.2	UB	Empty		
9,216.5	9,216.2	Base Last Salt	Empty		
9,264.5	9,264.2	Ratcliffe	Empty		
9,421.5	9,421.2	Mission Canyon	Empty		
9,999.5	9,999.2	Lodgepole	Empty		
10,173.5	10,173.2	Lodgepole Fracture Zone	Empty		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/S (usft)	+E/W (usft)		
2,200.0	2,200.0	0.0	0.0	Start Build 3.00	
2,216.7	2,216.7	-0.1	0.0	Start 5965.3 hold at 2216.7 MD	
8,181.9	8,181.7	-49.9	15.0	Start Drop -3.00	
8,198.6	8,198.4	-50.0	15.0	Start 2060.1 hold at 8198.6 MD	
10,258.7	10,258.5	-50.0	15.0	Start Build 12.00 - KOP	
11,006.2	10,736.0	-419.6	313.3	Start DLS 3.00 TFO -90.15 - EOC	
12,709.6	10,745.6	-1,130.2	1,799.6	Start 8233.5 hold at 12709.6 MD	
20,943.1	10,789.0	-1,130.0	10,033.0	TD at 20943.1	

SECTION BREAKDOWN
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTIONS 17 & 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



© 2014, INTERSTATE ENGINEERING, INC.

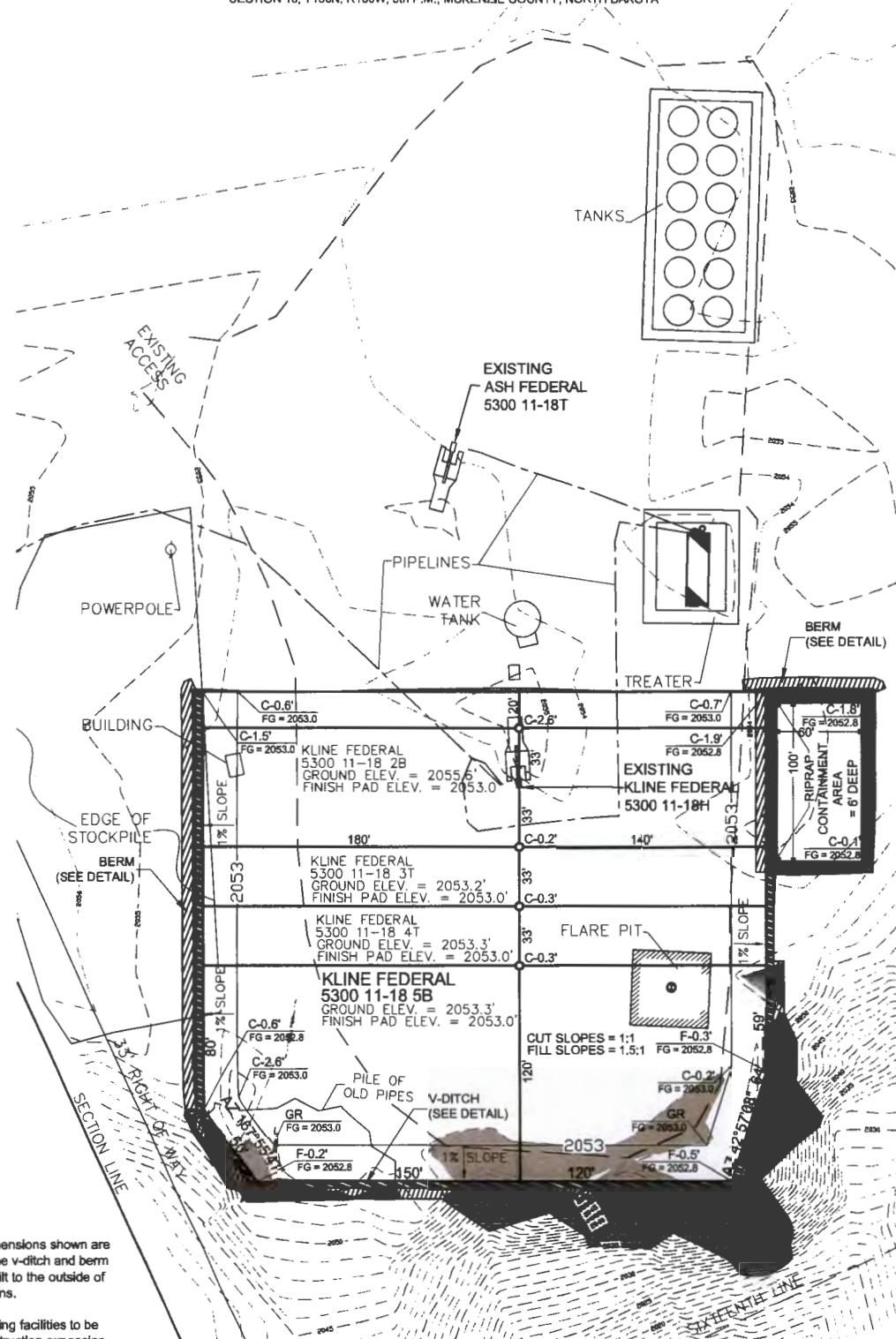
Interstate Engineering, Inc.
425 East Main Street
Sioux City, IA 51101
Ph: (402) 467-0111
Fax: (402) 467-0113
www.interstateengineering.com
Other offices in Minnesota, North Dakota and South Dakota



2/8

No.	Date	Pty	Description
REV 1	1/27/15	BIN	KAYAN
REV 2	1/27/15	BIN	CONTRACTOR
REV 3	1/27/15	BIN	CHANGED WELL NAMES & SBL
Project No:	Build 07723		
Client Ref:	None		
Contractor Ref:	None		
Date:	1/29/15		

PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

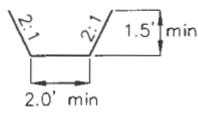


NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2: All existing facilities to be removed on construction expansion.

NOTE 3: Cuttings will be hauled to approved disposal site.

V-DITCH DETAIL



THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND SEALED
 BY DARYL D. KASEMAN, PLS,
 REGISTRATION NUMBER 3880 ON
 1/29/15 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.

© 2014, INTERSTATE ENGINEERING, INC.



3/8



SHEET NO.

Interstate Engineering, Inc.
 P.O. Box 646
 425 East Main Street
 Sidney, Montana 59270
 Ph. (406) 433-8617
 Fax (406) 433-8618
www.interstateeng.com
 Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD LAYOUT
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA

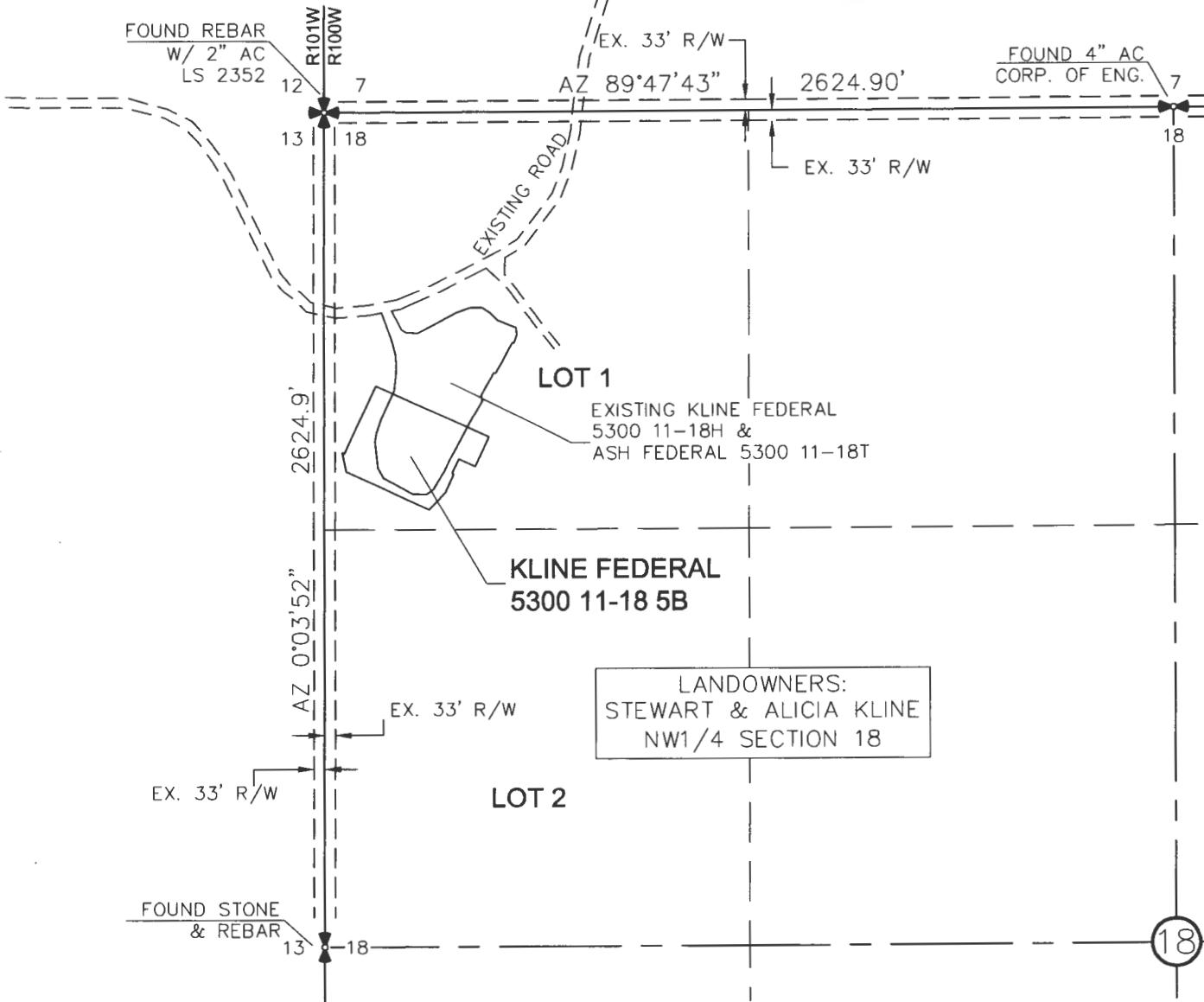
Drawn By: B.H.H.	Project No.: 14-08-127-03
Checked By: D.D.K.	Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS
REV 2	12/30/14	JAB	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BH.

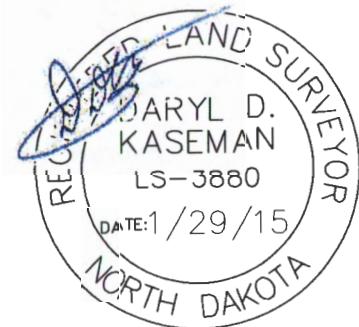
ACCESS APPROACH

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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



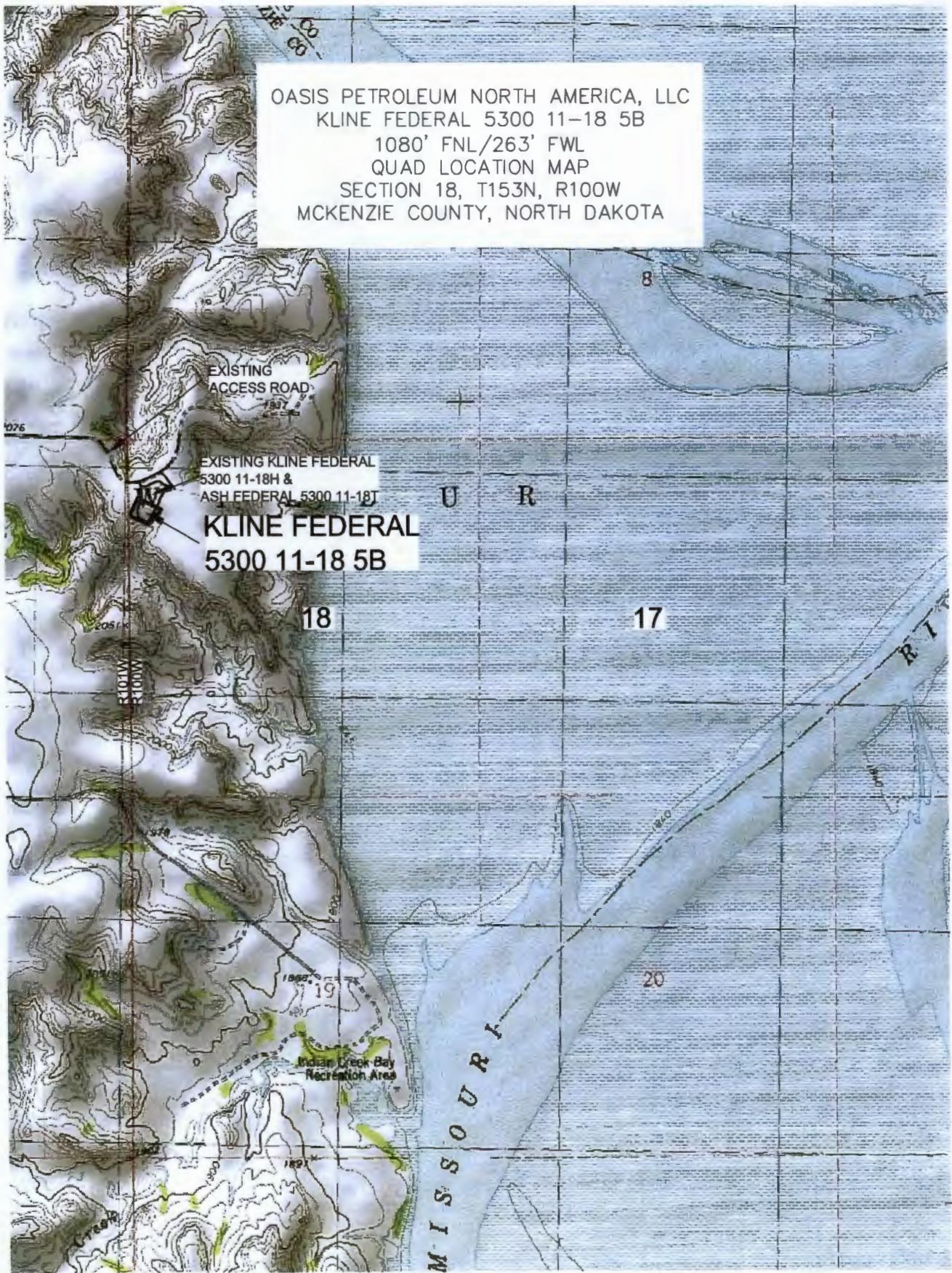
THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 1/29/15 AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.

© 2014, INTERSTATE ENGINEERING, INC.



4/8

OASIS PETROLEUM NORTH AMERICA, LLC	ACCESS APPROACH	Revision	Date	By	Description
SECTION 18, T153N, R100W					
MCKENZIE COUNTY, NORTH DAKOTA					
Project No.:	544-08-277-03	Drawn By:	B.H.H.	Checked By:	D.D.K.
Interstate Engineering, Inc. P.O. Box 848 425 East Main Street Sidney, Montana 59270 Ph. (406) 433-5617 Fax. (406) 433-5618 www.interstateeng.com Other offices in Missoula, North Dakota and South Dakota					
APRIL 2014					



© 2014, INTERSTATE ENGINEERING, INC.

5/8



SHEET NO.

Professionals you need, people you trust

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

Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
QUAD LOCATION MAP
SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No: S14-09-127.03
Checked By: D.D.K. Date: APRIL 2014

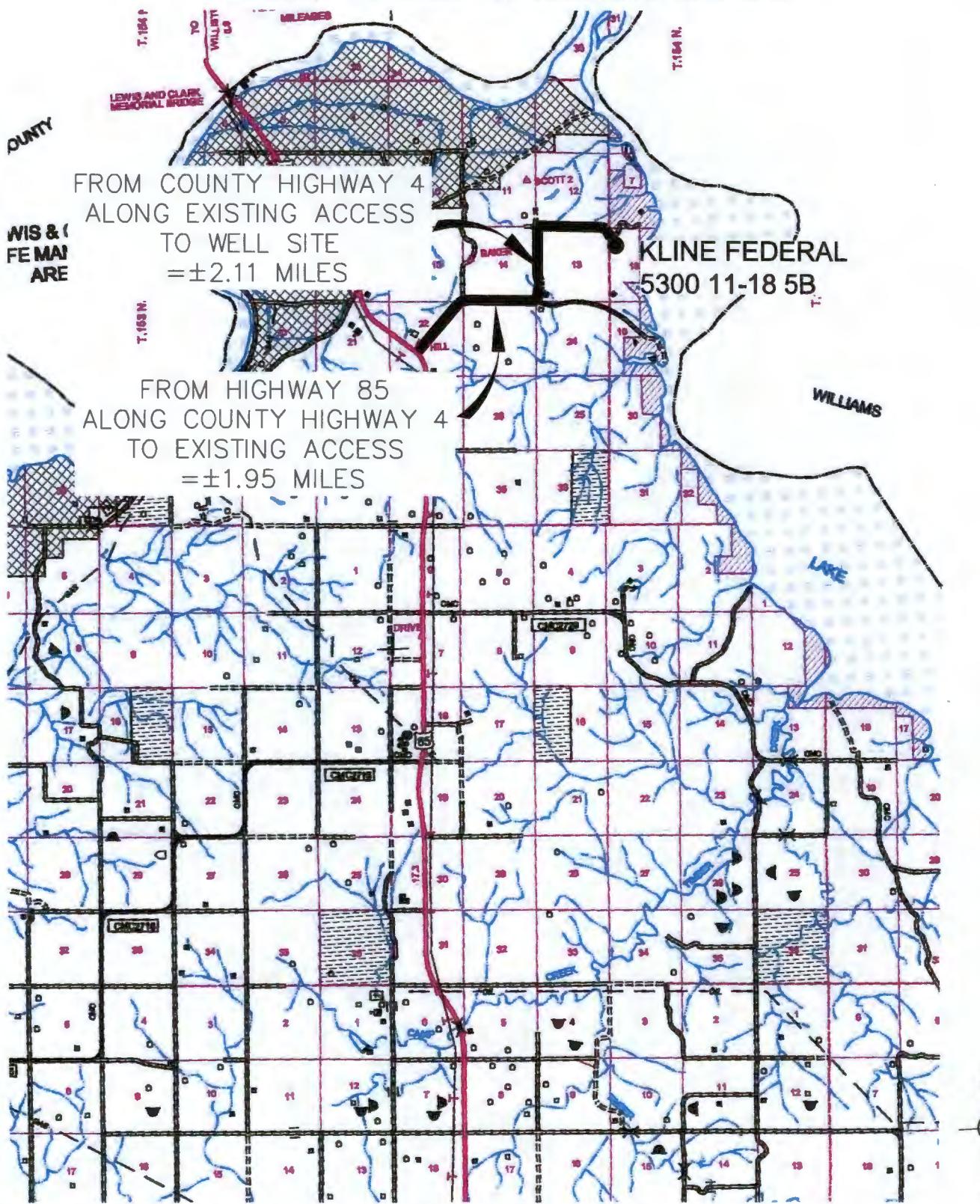
Revision No.	Date	By	Description
REV 1	6/10/14	BHH	MOVED WELLS
REV 2	12/30/14	JJS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BHL

COUNTY ROAD MAP

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

"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



© 2014, INTERSTATE ENGINEERING, INC.

6/8



Professionals you need, people you trust

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

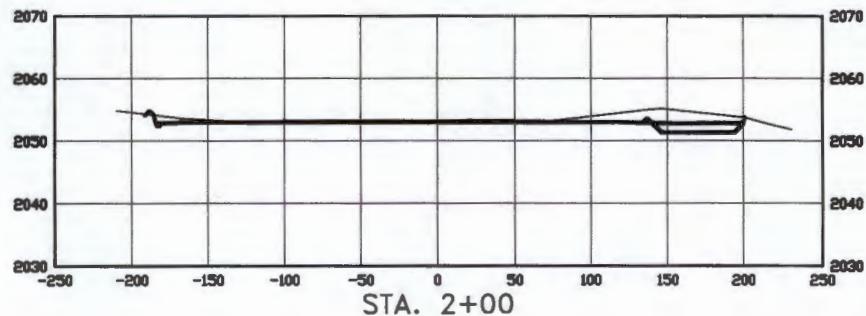
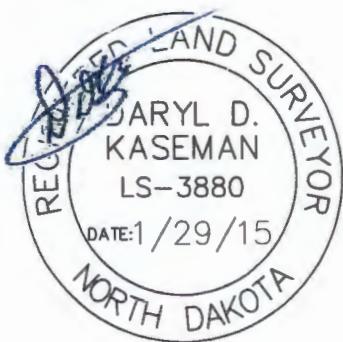
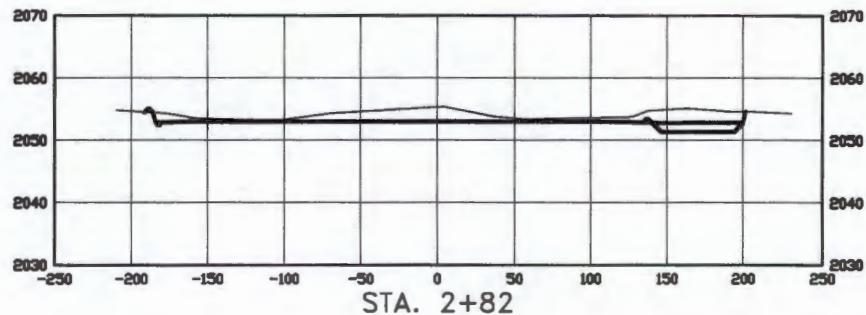
Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

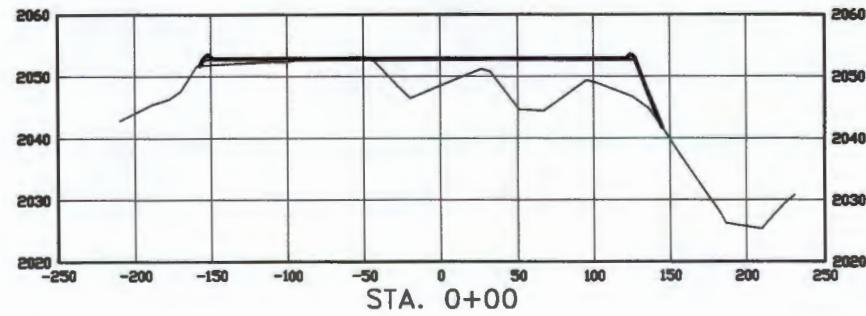
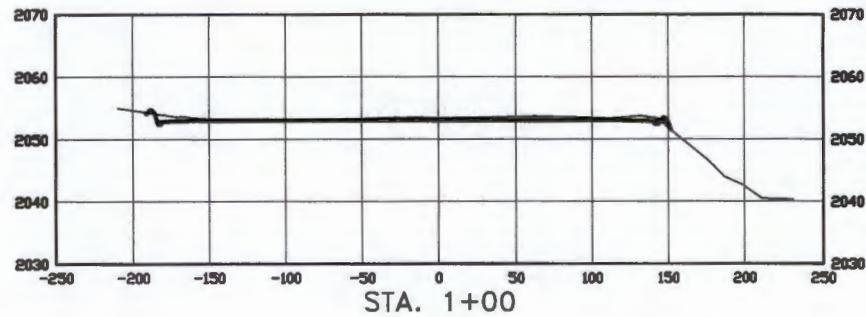
Drawn By: B.H.H. Project No.: S14-09-127.03
Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	B.H.H.	Moved wells
REV 2	12/30/14	J.S.	Changed bottom hole
REV 3	1/27/15	B.H.H.	Changed well names & shl.

CROSS SECTIONS
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND
 SEALED BY DARYL D. KASEMAN,
 PLS, REGISTRATION NUMBER
 3880 ON 1/29/15 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.



SCALE
 HORIZ 1"=120'
 VERT 1"=30'

© 2014, INTERSTATE ENGINEERING, INC.



Professionals you need, people you trust

SHEET NO.

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

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD CROSS SECTIONS
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA
 Drawn By: B.H.H. Project No.: S14-09-127.03
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	Moved wells
REV 2	12/30/14	JBS	Changed bottom hole
REV 3	1/27/15	BHH	Changed well names & BHL

WELL LOCATION SITE QUANTITIES
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2053.3
WELL PAD ELEVATION	2053.0
EXCAVATION	1,906
PLUS PIT	0
	<hr/>
EMBANKMENT	869
PLUS SHRINKAGE (30%)	261
	<hr/>
	1,130
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	1,934
BERMS	883 LF = 286 CY
DITCHES	727 LF = 111 CY
CONTAINMENT AREA	1,112 CY
ADDITIONAL MATERIAL NEEDED	221
DISTURBED AREA FROM PAD	2.40 ACRES

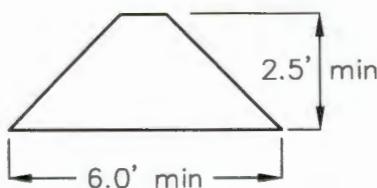
NOTE: ALL QUANTITIES ARE IN CUBIC YARDS (UNLESS NOTED)
 CUT END SLOPES AT 1:1
 FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

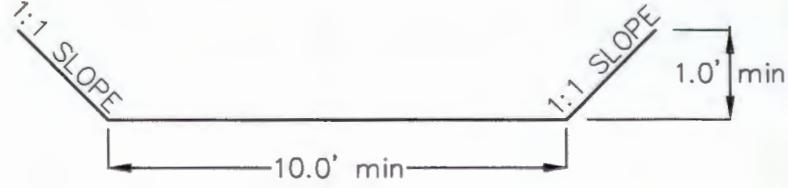
1080' FNL

263' FWL

BERM DETAIL



DIVERSION DITCH DETAIL



© 2014, INTERSTATE ENGINEERING, INC.

8/8



SHEET NO.

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

Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
 QUANTITIES
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA
 Drawn By: B.H.H. Project No.: S14-09-127.03
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	Moved wells
REV 2	12/20/14	JBS	Changed bottom hole
REV 3	1/27/15	BHH	Changed well names & BBL



Oil and Gas Division 29242

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/

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

Date: 9/2/2014

RE: CORES AND SAMPLES

Well Name: **KLINE FEDERAL 5300 11-18 5B** Well File No.: **29242**
Location: **LOT1 18-153-100** 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



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.

29242

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date August 22, 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	<u>Address</u>

Well Name and Number
Kline Federal 5300 11-18 5B

Footages 1080 F N L	Qtr-Qtr 263 F W L	LOT1	Section 18	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 respectfully submits the below physical address for the above referenced well:

**13798 46th Street NW, Pad 2
Alexander, ND 58831**

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Heather McCowan</i>	Printed Name Heather McCowan	
Title Regulatory Assistant	Date August 22, 2014	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 8/25/2014	
By <i>Matthew Messman</i>	
Title ENGINEERING TECHNICIAN	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Well File No.
29242

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 2, 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 type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
Approximate Start Date		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input checked="" type="checkbox"/> Other	Suspension of Drilling

Well Name and Number

KLINE FEDERAL 5300 11-18 5B

Footages	1080 F N	L	263 F	WL	Qtr-Qtr	LOT 1	Section	18	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)

Advanced Energy Services

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

DETAILS OF WORK

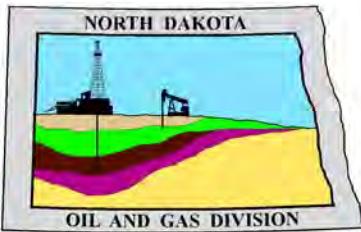
Oasis Petroleum North America LLC requests permission for suspension of drilling for up to 90 days for the referenced well under NDAC 43-02-03-55. Oasis Petroleum North America LLC intends to drill the surface hole with freshwater based drilling mud and set surface casing with a small drilling rig and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

NOTIFY NDIC INSPECTOR RICHARD DUNN AT (701) 770-3554 WITH SPUD & TD INFO

Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 2, 2014	
Email Address hmccowan@oasp petroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8/26/2014	
By 	
Title ENGINEERING TECHNICIAN	



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

August 26, 2014

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

**RE: HORIZONTAL WELL
KLINE FEDERAL 5300 11-18 5B
LOT1 Section 18-153N-100W
McKenzie County
Well File # 29242**

Dear Heather:

Pursuant to Commission Order No. 23339, 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 18 & 17, 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. Also, OASIS PETROLEUM NORTH AMERICA LLC must take into consideration NDAC 43-02-03-28 (Safety Regulation) when contemplating simultaneous operations on the above captioned location. Pursuant to NDAC 43-02-03-28 (Safety Regulation) "No boiler, portable electric lighting generator, or treater shall be placed nearer than 150 feet to any producing well or oil tank." Lastly, 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: 10083E.

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,

Matt Messana
Engineering Technician



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 10 / 1 / 2013	Confidential Status No
Operator OASIS PETROLEUM NORTH AMERICA LLC		Telephone Number 281-404-9563	
Address 1001 Fannin Suite 1500		City Houston	
		State TX Zip Code 77002	

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

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

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

Well Name KLINE FEDERAL			Well Number 5300 11-18 5B				
Surface Footages 1080 F N L		Qtr-Qtr LOT1	Section 18	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Footages 1541 F N L		Qtr-Qtr LOT1	Section 18	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Coordinates From Well Head 461 S From WH 255 E From WH		Azimuth 150 °	Longstring Total Depth 11021 Feet MD 10750 Feet TVD				
Bottom Hole Footages From Nearest Section Line 2530 F N L		Qtr-Qtr SENE	Section 17	Township 153 N	Range 100 W	County McKenzie	
Bottom Hole Coordinates From Well Head 1450 S From WH 10078 E From WH		KOP Lateral 1 10274 Feet MD		Azimuth Lateral 1 90 °		Estimated Total Depth Lateral 1 21197 Feet MD 10804 Feet TVD	
Latitude of Well Head 48 ° 04 ' 44.50 "		Longitude of Well Head -103 ° 36 ' 11.00 "		NAD Reference NAD83		Description of Spacing Unit: Sections 18 & 17 T153N R100W (Subject to NDIC Approval)	
Ground Elevation 2053 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 23339	
North Line of Spacing/Drilling Unit 10544 Feet		South Line of Spacing/Drilling Unit 10489 Feet		East Line of Spacing/Drilling Unit 5244 Feet		West Line of Spacing/Drilling Unit 5256 Feet	
Objective Horizons BAKKEN						Pierre Shale Top 1967	
Proposed Surface Casing	Size 9 - 5/8 "	Weight 36 Lb./Ft.	Depth 2068 Feet	Cement Volume 984 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 11021 Feet MD 10750 Feet TVD		Cement Volume 821 Sacks	Cement Top 3947 Feet	Top Dakota Sand 5447 Feet
Base Last Charles Salt (If Applicable) 9215 Feet		NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.					
Proposed Logs Triple Combo: KOP to Kibby GR/Res to BSC GR to surf CND through the Dakota							
Drilling Mud Type (Vertical Hole - Below Surface Casing) Invert				Drilling Mud Type (Lateral) Salt Water Gel			
Survey Type in Vertical Portion of Well MWD Every 100 Feet		Survey Frequency: Build Section 30 Feet		Survey Frequency: Lateral 90 Feet		Survey Contractor Ryan	

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

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

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

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

See Page 2 for Comments section and signature block.

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

Lateral 2

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

7 / 02 / 2014

ePermit

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

Permit and File Number 29242	API Number 33 - 053 - 06223
Field BAKER	
Pool BAKKEN	Permit Type DEVELOPMENT

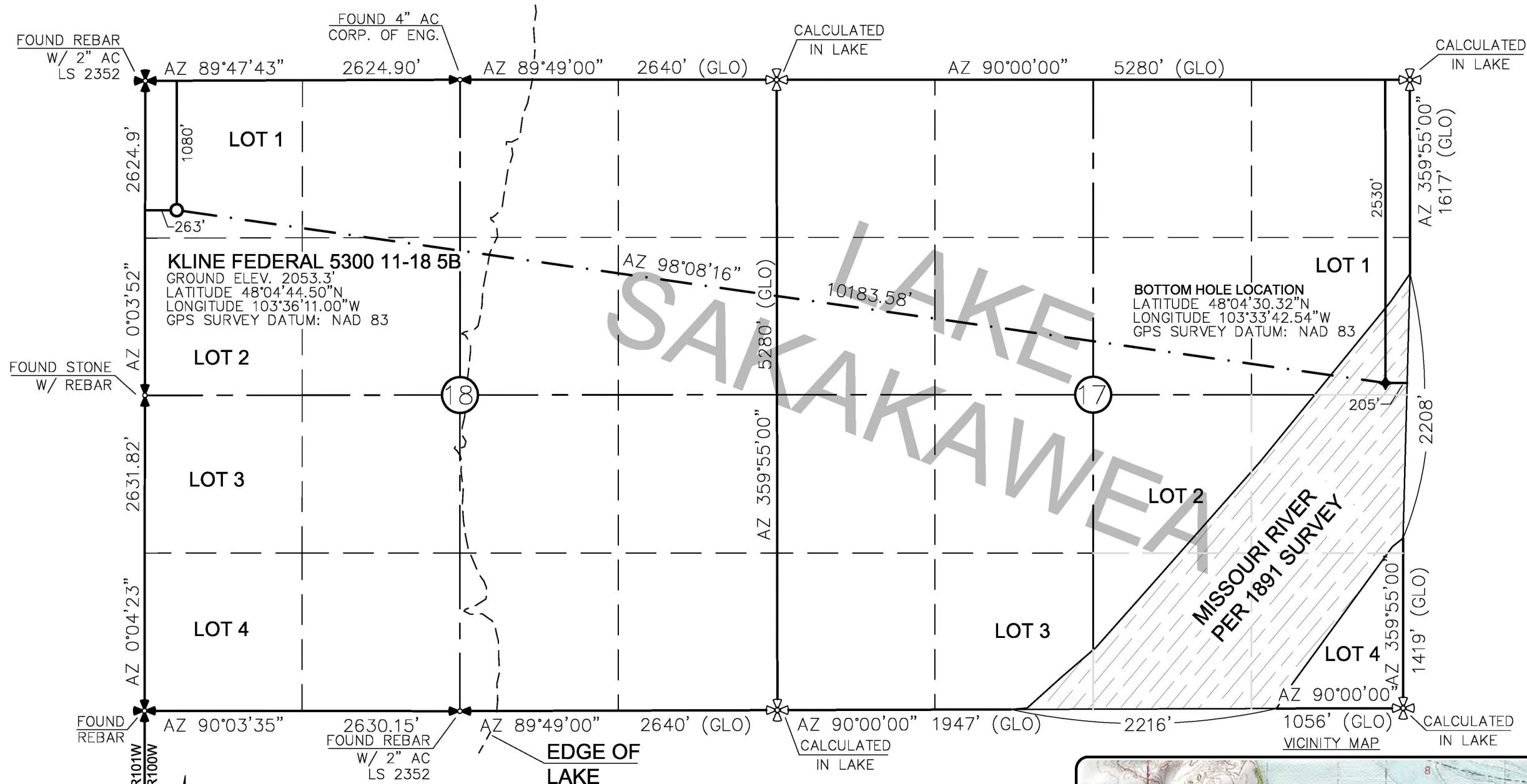
FOR STATE USE ONLY

Date Approved 8 / 26 / 2014
By Matt Messana
Title Engineering Technician

WELL LOCATION PLAT

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

"KLINE FEDERAL 5300 11-18 5B"
1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

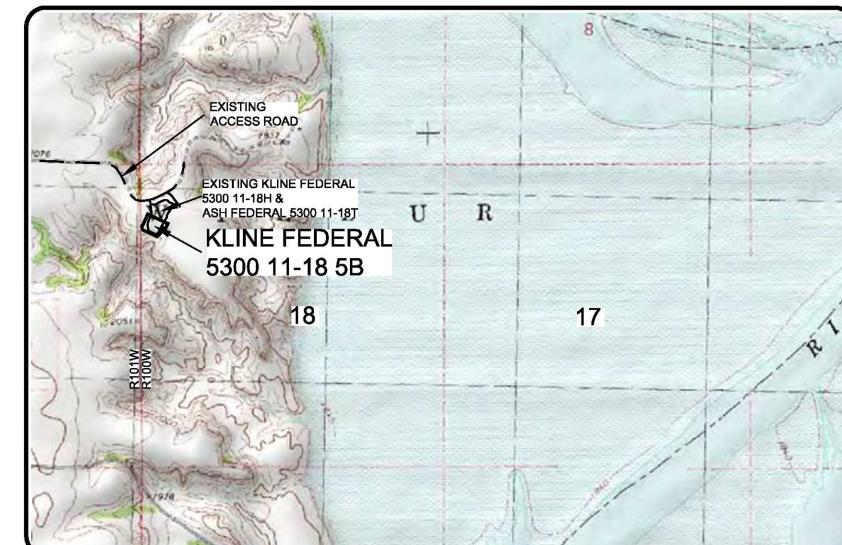
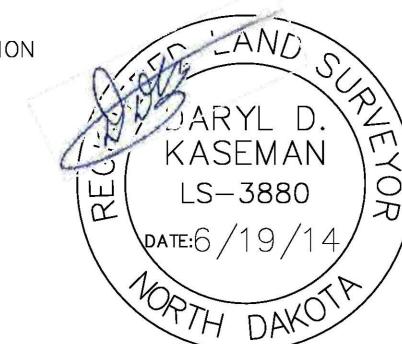
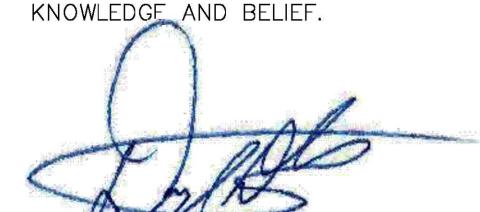


THIS DOCUMENT WAS ORIGINALLY
ISSUED AND SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION NUMBER
3880 ON 6/19/14 AND THE
ORIGINAL DOCUMENTS ARE STORED AT
THE OFFICES OF INTERSTATE
ENGINEERING, INC.

0 1000
 1" ≡ 1000'

 — MONUMENT — RECOVERED
 — MONUMENT — NOT RECOVERED

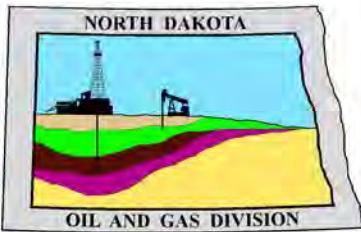
DARYL D. KASEMAN LS-3880



© 2014, INTERSTATE ENGINEERING, INC.



18



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

DRILLING PLAN											
OPERATOR	Oasis Petroleum	COUNTY/STATE	McKenzie Co., ND								
WELL NAME	Kline Federal 5300 11-18 5B	RIG	0								
WELL TYPE	Horizontal Middle Bakken										
LOCATION	NWNW 18-153N-100W	Surface Location (survey plat):	1080' fnl	263' fwl	GROUND ELEV:	2052 Finished Pad Elev.					
EST. T.D.	21,197'	TOTAL LATERA	10,176'	KB ELEV:	2077	Sub Height: 25					
PROGNOSIS:	Based on 2,077' KB(est)		LOGS:	Type	Interval						
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)	OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater); GR/Res to BSC; GR to surf; CND through the Dakota CBL/GR: Above top of cement/GR to base of casing MWD GR: KOP to lateral TD								
Pierre	NDIC MAP	1,967	110								
Greenhorn		4,614	(2,537)								
Mowry		5,020	(2,943)								
Dakota		5,447	(3,370)								
Rierdon		6,446	(4,369)	Surf:	3 deg. max., 1 deg / 100'; svry every 500'						
Dunham Salt		6,784	(4,707)	Prod:	5 deg. max., 1 deg / 100'; svry every 100'						
Dunham Salt Base		6,925	(4,848)								
Spearfish		6,992	(4,915)								
Pine Salt		7,247	(5,170)								
Pine Salt Base		7,295	(5,218)								
Opeche Salt		7,340	(5,263)								
Opeche Salt Base		7,370	(5,293)	DST'S:							
Broom Creek (Top of Minnelusa Gp.)		7,572	(5,495)	None planned							
Amsden		7,652	(5,575)								
Tyler		7,820	(5,743)								
Otter (Base of Minnelusa Gp.)		8,011	(5,934)								
Kibbey Lime		8,366	(6,289)	CORES:	None planned						
Charles Salt		8,516	(6,439)								
UB		9,167	(7,090)								
Base Last Salt		9,215	(7,138)	MUDLOGGING:							
Ratcliffe		9,263	(7,186)								
Mission Canyon		9,439	(7,362)	Two-Man:	8,316'						
Lodgepole		10,001	(7,924)								
Lodgepole Fracture Zone		10,207	(8,130)								
False Bakken		10,697	(8,620)								
Upper Bakken		10,707	(8,630)	~200' above the Charles (Kibbey) to Casing point; Casing point to TD							
Middle Bakken		10,721	(8,644)	30' samples at direction of wellsite geologist; 10' through target @ curve land							
Middle Bakken Sand Target		10,738	(8,661)								
Base Middle Bakken Sand Target		10,750	(8,673)	BOP:	11" 5000 psi blind, pipe & annular						
Lower Bakken		10,766	(8,689)								
Three Forks		10,792	(8,715)								
Dip Rate:	-0.3										
Max. Anticipated BHP:	4665	Surface Formation: Glacial till									
MUD:	Interval	Type	WT	Vis	WL	Remarks					
Surface:	0' -	2,068' FW/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks					
Intermediate:	2,068' -	11,021' Invert	9.5-10.4	40-50	30+HtHp	Circ Mud Tanks					
Laterals:	11,021' -	21,197' 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"	2,068'	To Surface	12	100' into Pierre				
Intermediate (Dakota):	9-5/8"	40#	12-1/4"	6,100'	To Surface	24	Set Casing across Dakota				
Intermediate:	7"	29/32#	8-3/4"	11,021'	3947	24	1500' above Dakota				
Production Liner:	4.5"	11.6#	6"	21,197'	TOL @ 10,224'		50' above KOP				
PROBABLE PLUGS, IF REQ'D:											
OTHER:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI					
Surface:	2,068	2,068	1080' FNL	263' FWL	SEC 18-T153N-R100W	Survey Company: Build Rate: 12 deg /100'					
KOP:	10,274'	10,272'	1129' FNL	281' FWL	SEC 18-T153N-R100W						
EOC:	11,021'	10,750'	1541' FNL	518' FWL	SEC 18-T153N-R100W	150.0					
Casing Point:	11,021'	10,750'	1541' FNL	518' FWL	SEC 18-T153N-R100W	150.0					
Middle Bakken Lateral TD:	21,197'	10,804'	2530' FNL	205' FEL	SEC 17-T153N-R100W	90.0					
Comments:											
Request a Sundry for an Open Hole Log Waiver											
Exception well: Oasis Petroleum's J O Anderson 5200 31-28T (33053039510000); 152N/100W/S28; located 0.30 miles S of the proposed location											
Completion Notes: 35 packers, 35 sleeves, no frac string											
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: M. Steed 4/3/2014			Engineering: hlbader rpm 5/30/14								

**Oasis Petroleum
Well Summary**
Kline Federal 5300 11-18 5B
Sec. 18 T153N R100W
McKenzie County, North Dakota

SURFACE CASING AND CEMENT DESIGN

Make-up Torque (ft-lbs)									
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
13-3/8"	0' to 2,068'	54.5	J-55	STC	12.615"	12.459"	4,100	5,470	6,840

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' to 2,068'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.17	2730 / 2.82	514 / 2.61

API Rating & Safety Factor

- a) Collapse pressure based on full casing evacuation with 9 ppg fluid on backside (2068' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2068' setting depth).
- c) Based on string weight in 9 ppg fluid at 2068' TVD plus 100k# overpull. (Buoyed weight equals 97k 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: **635 sks** (328 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: **349 sks** (72 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**
Kline Federal 5300 11-18 5B
Sec. 18 T153N R100W
McKenzie County, North Dakota

CONTINGENCY INTERMEDIATE CASING AND CEMENT DESIGN

Make-up Torque (ft-lbs)									
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
9-5/8"	0' - 6101'	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' - 6101'	9-5/8", 40#, HCL-80, LTC, 8rd	4230 / 5.33	5750 / 1.23	837 / 2.73

API Rating & Safety Factor

- a. Collapse pressure based on 11.5ppg fluid on backside and 9ppg fluid inside of casing.
- 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 13.5#/ft fracture gradient. Backup of 9 ppg fluid.
- c. Yield based on string weight in 10 ppg fluid, (207k lbs buoied weight) plus 100k lbs overpull.

Cement volumes are estimates based on 9-5/8" casing set in a 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: **598 sks (309 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: **349 sks (72 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
Kline Federal 5300 11-18 5B
Sec. 18 T153N R100W
McKenzie County, North Dakota

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' - 6634'	29	P-110	LTC	6.184"	6.059"	5980	7970	8770
7"	6634' - 10224'	32	HCP-110	LTC	6.094"	6.000***	6730	8970	9870
7"	10224' - 11021'	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' - 6634'	7", 29#, P-110, LTC, 8rd	8530 / 2.47*	11220 / 1.19	797 / 2.09
6634' - 10224'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.22*	12460 / 1.29	
6634' - 10224'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.28**	12460 / 1.29	
10224' - 11021'	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 10,750' TVD.
- c. Based on string weight in 10 ppg fluid, (291k 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: **207 sks (81 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: **614 sks (168 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**
Kline Federal 5300 11-18 5B
Sec. 18 T153N R100W
McKenzie County, North Dakota

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Torque
4-1/2"	10,224' – 21,197'	11.6	P-110	BTC	3.92"	3.795"	4,500

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10,224' – 21,197'	4-1/2", 11.6 lb, P-110, BTC, 8rd	10680 / 2.00	12410 / 1.28	443 / 2.15

API Rating & Safety Factor

- a) Collapse pressure based on full casing evacuation with 9.5 ppg fluid on backside @ 10804' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10804' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 106k 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)

Plan: Design #6 (Kline Federal 5300 11-18 5B/Wellbore #1)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Ddeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	0.0
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	0.0
3	2650.0	3.00	160.00	2649.9	-3.7	1.3	2.00	160.00	1.9	
4	3501.2	3.00	160.00	3500.0	-45.6	16.6	0.00	0.00	22.9	
5	3651.2	0.00	0.00	3649.9	-49.2	17.9	2.00	-180.00	24.8	
6	10273.6	0.00	0.00	10272.3	-49.2	17.9	0.00	0.00	24.8	
7	11021.1	89.70	150.00	10749.8	-460.6	255.4	12.00	150.00	318.4	
8	11036.1	89.70	150.00	10749.8	-473.6	262.9	0.00	0.00	327.7	
9	13031.0	89.70	90.15	10761.3	-1428.5	1911.8	3.00	-90.17	2095.7	PBHL Kline Federal 5300 11-18 5B
10	21197.4	89.70	90.15	10804.1	-1450.0	10078.0	0.00	0.00	10181.8	PBHL Kline Federal 5300 11-18 5B

5B

WELL DETAILS: Kline Federal 5300 21-18 5B

+N-S	+E-W	Northing	Ground Level:	2053.0	Easting	Latitude	Longitude	Slot
0.0	0.0	408875.04	1210183.53		48° 4' 44.500 N	103° 36' 11.000 W		

WELLBORE TARGET DETAILS

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
PBHL Kline Federal 5300 11-18 5B	10804.0	-1450.0	10078.0	48° 4' 30.163 N	103° 33' 42.589 W	Point

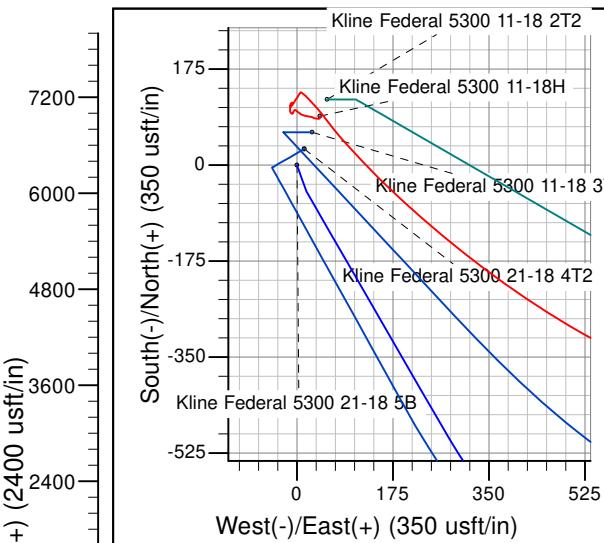
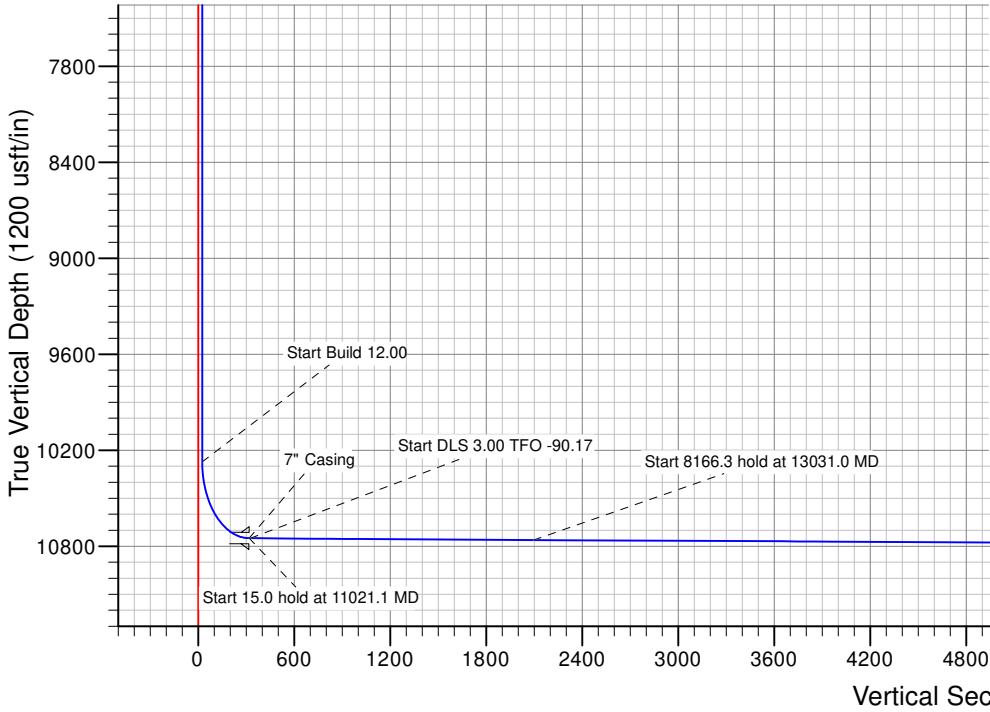
ANNOTATIONS

CASING DETAILS

TVD	MD	Annotation	TVD	MD	Name	Size
2500.0	2500.0	Start Build 2.00	2068.0	2068.0	13 3/8"	13-3/8
2649.9	2650.0	Start 851.2 hold at 2650.0 MD	10749.8	11021.1	7"	Casing
3500.0	3501.2	Start DLS 2.00 TFO -180.00	6100.0	6101.3	9 5/8"	Casing
3649.9	3651.2	Start 6622.4 hold at 3651.2 MD				
10272.3	10273.6	Start Build 12.00				
10749.8	11021.1	Start 15.0 hold at 11021.1 MD				
10749.8	11036.1	Start DLS 3.00 TFO -90.17				
10761.3	13031.0	Start 8166.3 hold at 13031.0 MD				
10804.1	21197.4	TD at 21197.4				

Plan: Design #6 (Kline Federal 5300 11-18 5B/Wellbore #1)

Created By: M. Loucks Date: 15:32, June 30 2014



SHL: 1080' FNL & 263' FWL
 (Sec.18-T153N-R100W)
 PBHL: 2530' FNL & 205' FEL
 (Sec.17-T153N-R100W)

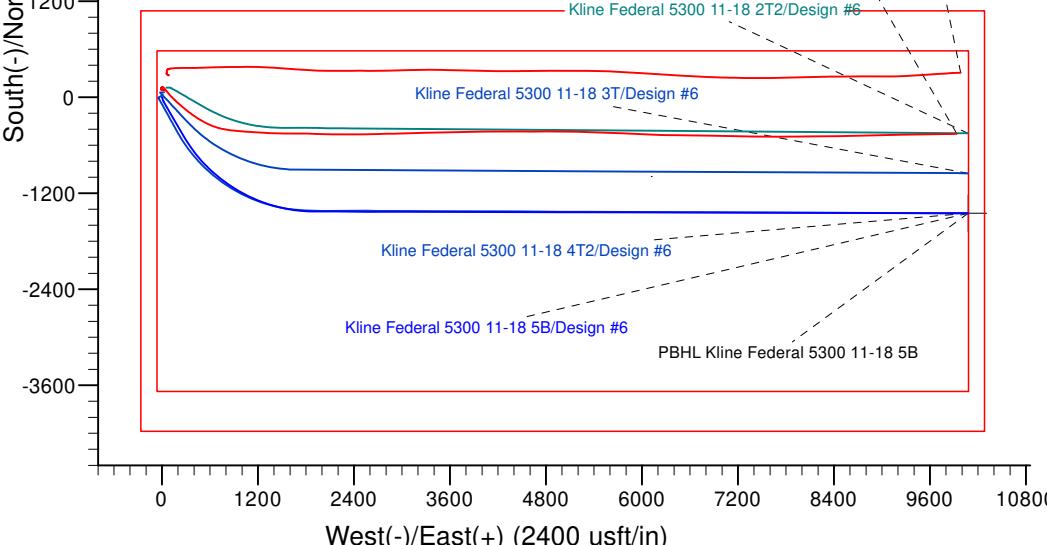
Notice: Section Lines and Hardlines are estimates only and are subject to customer approval

Azimuths to True North
 Magnetic North: 8.14°

Magnetic Field
 Strength: 56479.0snT
 Dip Angle: 72.97°
 Date: 04/22/2014
 Model: IGRF200510

Ash Federal 5300 11-18T/Wellbore #1

Kline Federal 5300 11-18H/Wellbore #1



Kline Federal 5300 11-18 5B/Design #6
 TD at 21197.4

PBHL Kline Federal 5300 21-18 5B

Vertical Section at 98.19° (1200 usft/in)



Oasis Petroleum

Indian Hills
153N-100W-17/18
Kline Federal 5300 11-18 5B

Wellbore #1

Plan: Design #6

Standard Planning Report

30 June, 2014

gyro*data*
Precision Wellbore Placement

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

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

Site	153N-100W-17/18			
Site Position:		Northing:	408,992.30 usft	Latitude:
From:	Lat/Long	Easting:	1,210,243.30 usft	Longitude:
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:

Well	Kline Federal 5300 21-18 5B				
Well Position	+N/S +E/W	-119.6 usft -55.0 usft	Northing: Easting:	408,875.04 usft 1,210,183.53 usft	Latitude: Longitude:
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	04/22/14	8.14	72.97	56,479

Design	Design #6				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)
		0.0	0.0	0.0	98.19

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,650.0	3.00	160.00	2,649.9	-3.7	1.3	2.00	2.00	0.00	0.00	160.00
3,501.2	3.00	160.00	3,500.0	-45.6	16.6	0.00	0.00	0.00	0.00	0.00
3,651.2	0.00	0.00	3,649.9	-49.2	17.9	2.00	-2.00	-106.67	-180.00	
10,273.6	0.00	0.00	10,272.3	-49.2	17.9	0.00	0.00	0.00	0.00	0.00
11,021.1	89.70	150.00	10,749.8	-460.6	255.4	12.00	12.00	0.00	0.00	150.00
11,036.1	89.70	150.00	10,749.8	-473.6	262.9	0.00	0.00	0.00	0.00	0.00
13,031.0	89.70	90.15	10,761.3	-1,428.5	1,911.8	3.00	0.00	-3.00	-90.17	PBHL Kline Federal 5
21,197.4	89.70	90.15	10,804.1	-1,450.0	10,078.0	0.00	0.00	0.00	0.00	PBHL Kline Federal 5

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,968.0	0.00	0.00	1,968.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,068.0	0.00	0.00	2,068.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8" Casing									
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	160.00	2,600.0	-1.6	0.6	0.8	2.00	2.00	0.00
2,650.0	3.00	160.00	2,649.9	-3.7	1.3	1.9	2.00	2.00	0.00
Start 851.2 hold at 2650.0 MD									
2,700.0	3.00	160.00	2,699.9	-6.1	2.2	3.1	0.00	0.00	0.00
2,800.0	3.00	160.00	2,799.7	-11.1	4.0	5.6	0.00	0.00	0.00
2,900.0	3.00	160.00	2,899.6	-16.0	5.8	8.0	0.00	0.00	0.00
3,000.0	3.00	160.00	2,999.5	-20.9	7.6	10.5	0.00	0.00	0.00
3,100.0	3.00	160.00	3,099.3	-25.8	9.4	13.0	0.00	0.00	0.00
3,200.0	3.00	160.00	3,199.2	-30.7	11.2	15.5	0.00	0.00	0.00
3,300.0	3.00	160.00	3,299.0	-35.7	13.0	17.9	0.00	0.00	0.00
3,400.0	3.00	160.00	3,398.9	-40.6	14.8	20.4	0.00	0.00	0.00
3,501.2	3.00	160.00	3,500.0	-45.6	16.6	22.9	0.00	0.00	0.00
Start DLS 2.00 TFO -180.00									
3,600.0	1.02	160.00	3,598.7	-48.8	17.8	24.5	2.00	-2.00	0.00
3,651.2	0.00	0.00	3,649.9	-49.2	17.9	24.8	2.00	-2.00	-312.29
Start 6622.4 hold at 3651.2 MD									
3,700.0	0.00	0.00	3,698.7	-49.2	17.9	24.8	0.00	0.00	0.00
3,800.0	0.00	0.00	3,798.7	-49.2	17.9	24.8	0.00	0.00	0.00
3,900.0	0.00	0.00	3,898.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,000.0	0.00	0.00	3,998.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,100.0	0.00	0.00	4,098.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,200.0	0.00	0.00	4,198.7	-49.2	17.9	24.8	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.0	0.00	0.00	4,298.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,400.0	0.00	0.00	4,398.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,500.0	0.00	0.00	4,498.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,598.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,616.3	0.00	0.00	4,615.0	-49.2	17.9	24.8	0.00	0.00	0.00
Greenhorn									
4,700.0	0.00	0.00	4,698.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,798.7	-49.2	17.9	24.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,898.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,998.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,022.3	0.00	0.00	5,021.0	-49.2	17.9	24.8	0.00	0.00	0.00
Mowry									
5,100.0	0.00	0.00	5,098.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,198.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,298.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,398.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,449.3	0.00	0.00	5,448.0	-49.2	17.9	24.8	0.00	0.00	0.00
Dakota									
5,500.0	0.00	0.00	5,498.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,598.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,698.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,798.7	-49.2	17.9	24.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,898.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,998.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,098.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,101.3	0.00	0.00	6,100.0	-49.2	17.9	24.8	0.00	0.00	0.00
9 5/8" Casing									
6,200.0	0.00	0.00	6,198.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,298.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,398.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,448.3	0.00	0.00	6,447.0	-49.2	17.9	24.8	0.00	0.00	0.00
Rierdon									
6,500.0	0.00	0.00	6,498.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,598.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,698.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,786.3	0.00	0.00	6,785.0	-49.2	17.9	24.8	0.00	0.00	0.00
Dunham Salt									
6,800.0	0.00	0.00	6,798.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,900.0	0.00	0.00	6,898.7	-49.2	17.9	24.8	0.00	0.00	0.00
6,927.3	0.00	0.00	6,926.0	-49.2	17.9	24.8	0.00	0.00	0.00
Dunham Salt Base									
6,994.3	0.00	0.00	6,993.0	-49.2	17.9	24.8	0.00	0.00	0.00
Spearfish									
7,000.0	0.00	0.00	6,998.7	-49.2	17.9	24.8	0.00	0.00	0.00
7,100.0	0.00	0.00	7,098.7	-49.2	17.9	24.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,198.7	-49.2	17.9	24.8	0.00	0.00	0.00
7,249.3	0.00	0.00	7,248.0	-49.2	17.9	24.8	0.00	0.00	0.00
Pine Salt									
7,297.3	0.00	0.00	7,296.0	-49.2	17.9	24.8	0.00	0.00	0.00
Pine Salt Base									
7,300.0	0.00	0.00	7,298.7	-49.2	17.9	24.8	0.00	0.00	0.00
7,342.3	0.00	0.00	7,341.0	-49.2	17.9	24.8	0.00	0.00	0.00
Opeche Salt									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,372.3	0.00	0.00	7,371.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Opeche Salt Base										
7,400.0	0.00	0.00	7,398.7	-49.2	17.9	24.8	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,498.7	-49.2	17.9	24.8	0.00	0.00	0.00	
7,574.3	0.00	0.00	7,573.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Broom Creek (Top of Minnelusa Gp.)										
7,600.0	0.00	0.00	7,598.7	-49.2	17.9	24.8	0.00	0.00	0.00	
7,654.3	0.00	0.00	7,653.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Amesden										
7,700.0	0.00	0.00	7,698.7	-49.2	17.9	24.8	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,798.7	-49.2	17.9	24.8	0.00	0.00	0.00	
7,822.3	0.00	0.00	7,821.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Tyler										
7,900.0	0.00	0.00	7,898.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,998.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,013.3	0.00	0.00	8,012.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Otter (Base of Minnelusa Gp.)										
8,100.0	0.00	0.00	8,098.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,198.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,298.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,368.3	0.00	0.00	8,367.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Kibbey										
8,400.0	0.00	0.00	8,398.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,498.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,518.3	0.00	0.00	8,517.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Charles Salt										
8,600.0	0.00	0.00	8,598.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,698.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,798.7	-49.2	17.9	24.8	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,898.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,998.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,098.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,169.3	0.00	0.00	9,168.0	-49.2	17.9	24.8	0.00	0.00	0.00	
UB										
9,200.0	0.00	0.00	9,198.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,217.3	0.00	0.00	9,216.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Base Last Salt										
9,265.3	0.00	0.00	9,264.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Ratcliffe										
9,300.0	0.00	0.00	9,298.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,398.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,441.3	0.00	0.00	9,440.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Mission Canyon										
9,500.0	0.00	0.00	9,498.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,598.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,698.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,798.7	-49.2	17.9	24.8	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,898.7	-49.2	17.9	24.8	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,998.7	-49.2	17.9	24.8	0.00	0.00	0.00	
10,003.3	0.00	0.00	10,002.0	-49.2	17.9	24.8	0.00	0.00	0.00	
Lodgepole										
10,100.0	0.00	0.00	10,098.7	-49.2	17.9	24.8	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (/100usft)	Build Rate (/100usft)	Turn Rate (/100usft)	
10,200.0	0.00	0.00	10,198.7	-49.2	17.9	24.8	0.00	0.00	0.00	0.00
10,209.3	0.00	0.00	10,208.0	-49.2	17.9	24.8	0.00	0.00	0.00	0.00
Lodgepole Fracture Zone										
10,273.6	0.00	0.00	10,272.3	-49.2	17.9	24.8	0.00	0.00	0.00	0.00
Start Build 12.00										
10,275.0	0.17	150.00	10,273.7	-49.2	17.9	24.8	12.00	12.00	10,742.27	
10,300.0	3.17	150.00	10,298.7	-49.9	18.3	25.2	12.00	12.00	0.00	
10,325.0	6.17	150.00	10,323.6	-51.6	19.3	26.5	12.00	12.00	0.00	
10,350.0	9.17	150.00	10,348.4	-54.5	21.0	28.5	12.00	12.00	0.00	
10,375.0	12.17	150.00	10,372.9	-58.5	23.3	31.4	12.00	12.00	0.00	
10,400.0	15.17	150.00	10,397.2	-63.6	26.2	35.0	12.00	12.00	0.00	
10,425.0	18.17	150.00	10,421.2	-69.9	29.8	39.5	12.00	12.00	0.00	
10,450.0	21.17	150.00	10,444.7	-77.1	34.0	44.7	12.00	12.00	0.00	
10,475.0	24.17	150.00	10,467.8	-85.5	38.8	50.6	12.00	12.00	0.00	
10,500.0	27.17	150.00	10,490.3	-94.9	44.3	57.3	12.00	12.00	0.00	
10,525.0	30.17	150.00	10,512.2	-105.2	50.3	64.7	12.00	12.00	0.00	
10,550.0	33.17	150.00	10,533.5	-116.6	56.8	72.8	12.00	12.00	0.00	
10,575.0	36.17	150.00	10,554.1	-128.9	63.9	81.6	12.00	12.00	0.00	
10,600.0	39.17	150.00	10,573.9	-142.2	71.6	91.1	12.00	12.00	0.00	
10,625.0	42.17	150.00	10,592.8	-156.3	79.7	101.2	12.00	12.00	0.00	
10,650.0	45.17	150.00	10,610.9	-171.2	88.3	111.8	12.00	12.00	0.00	
10,675.0	48.17	150.00	10,628.1	-187.0	97.4	123.1	12.00	12.00	0.00	
10,700.0	51.17	150.00	10,644.2	-203.5	107.0	134.8	12.00	12.00	0.00	
10,725.0	54.17	150.00	10,659.4	-220.7	116.9	147.1	12.00	12.00	0.00	
10,750.0	57.17	150.00	10,673.5	-238.5	127.2	159.9	12.00	12.00	0.00	
10,775.0	60.17	150.00	10,686.5	-257.0	137.9	173.1	12.00	12.00	0.00	
10,799.2	63.07	150.00	10,698.0	-275.5	148.5	186.3	12.00	12.00	0.00	
False Bakken										
10,800.0	63.17	150.00	10,698.4	-276.1	148.9	186.7	12.00	12.00	0.00	
10,822.4	65.86	150.00	10,708.0	-293.6	159.0	199.2	12.00	12.00	0.00	
Upper Bakken										
10,825.0	66.17	150.00	10,709.1	-295.7	160.2	200.7	12.00	12.00	0.00	
10,850.0	69.17	150.00	10,718.6	-315.7	171.8	215.0	12.00	12.00	0.00	
10,860.0	70.36	150.00	10,722.0	-323.8	176.4	220.7	12.00	12.00	0.00	
Middle Bakken "C" Sands										
10,875.0	72.17	150.00	10,726.8	-336.1	183.5	229.5	12.00	12.00	0.00	
10,900.0	75.17	150.00	10,733.9	-356.9	195.5	244.4	12.00	12.00	0.00	
10,922.0	77.81	150.00	10,739.0	-375.4	206.2	257.6	12.00	12.00	0.00	
Middle Bakken "B" Sands (Target)										
10,925.0	78.17	150.00	10,739.6	-378.0	207.7	259.4	12.00	12.00	0.00	
10,950.0	81.17	150.00	10,744.1	-399.2	220.0	274.6	12.00	12.00	0.00	
10,975.0	84.17	150.00	10,747.3	-420.7	232.4	289.9	12.00	12.00	0.00	
11,000.0	87.17	150.00	10,749.2	-442.3	244.9	305.4	12.00	12.00	0.00	
11,021.1	89.70	150.00	10,749.8	-460.6	255.4	318.4	12.00	12.00	0.00	
Start 15.0 hold at 11021.1 MD - 7" Casing										
11,036.1	89.70	150.00	10,749.8	-473.6	262.9	327.7	0.00	0.00	0.00	
Start DLS 3.00 TFO -90.17										
11,100.0	89.69	148.08	10,750.2	-528.4	295.8	368.0	3.00	-0.01	-3.00	
11,200.0	89.69	145.08	10,750.7	-611.8	350.8	434.4	3.00	-0.01	-3.00	
11,251.8	89.68	143.53	10,751.0	-653.9	381.1	470.3	3.00	-0.01	-3.00	
Middle Bakken "A" Sands (Base of target)										
11,300.0	89.68	142.08	10,751.3	-692.3	410.2	504.6	3.00	-0.01	-3.00	
11,400.0	89.67	139.08	10,751.8	-769.5	473.7	578.4	3.00	-0.01	-3.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,500.0	89.67	136.08	10,752.4	-843.3	541.1	655.7	3.00	-0.01	-3.00	
11,600.0	89.66	133.08	10,753.0	-913.5	612.3	736.2	3.00	0.00	-3.00	
11,700.0	89.66	130.08	10,753.6	-979.9	687.1	819.7	3.00	0.00	-3.00	
11,800.0	89.66	127.08	10,754.2	-1,042.2	765.3	905.9	3.00	0.00	-3.00	
11,900.0	89.65	124.08	10,754.8	-1,100.4	846.6	994.7	3.00	0.00	-3.00	
12,000.0	89.65	121.08	10,755.4	-1,154.3	930.9	1,085.8	3.00	0.00	-3.00	
12,100.0	89.65	118.08	10,756.0	-1,203.6	1,017.8	1,178.8	3.00	0.00	-3.00	
12,200.0	89.66	115.08	10,756.6	-1,248.4	1,107.2	1,273.7	3.00	0.00	-3.00	
12,300.0	89.66	112.08	10,757.2	-1,288.4	1,198.9	1,370.1	3.00	0.00	-3.00	
12,400.0	89.66	109.08	10,757.8	-1,323.5	1,292.5	1,467.8	3.00	0.00	-3.00	
12,500.0	89.66	106.08	10,758.4	-1,353.7	1,387.8	1,566.4	3.00	0.00	-3.00	
12,600.0	89.67	103.08	10,759.0	-1,378.9	1,484.6	1,665.8	3.00	0.00	-3.00	
12,700.0	89.67	100.08	10,759.5	-1,399.0	1,582.5	1,765.6	3.00	0.01	-3.00	
12,800.0	89.68	97.08	10,760.1	-1,413.9	1,681.4	1,865.6	3.00	0.01	-3.00	
12,900.0	89.69	94.08	10,760.6	-1,423.6	1,780.9	1,965.5	3.00	0.01	-3.00	
13,000.0	89.70	91.08	10,761.2	-1,428.1	1,880.8	2,065.0	3.00	0.01	-3.00	
13,031.0	89.70	90.15	10,761.3	-1,428.5	1,911.8	2,095.7	3.00	0.01	-3.00	
Start 8166.3 hold at 13031.0 MD										
13,100.0	89.70	90.15	10,761.7	-1,428.6	1,980.8	2,164.0	0.00	0.00	0.00	
13,200.0	89.70	90.15	10,762.2	-1,428.9	2,080.8	2,263.0	0.00	0.00	0.00	
13,300.0	89.70	90.15	10,762.8	-1,429.2	2,180.8	2,362.1	0.00	0.00	0.00	
13,400.0	89.70	90.15	10,763.3	-1,429.4	2,280.8	2,461.1	0.00	0.00	0.00	
13,500.0	89.70	90.15	10,763.8	-1,429.7	2,380.8	2,560.1	0.00	0.00	0.00	
13,600.0	89.70	90.15	10,764.3	-1,430.0	2,480.8	2,659.1	0.00	0.00	0.00	
13,700.0	89.70	90.15	10,764.8	-1,430.2	2,580.8	2,758.1	0.00	0.00	0.00	
13,800.0	89.70	90.15	10,765.4	-1,430.5	2,680.8	2,857.1	0.00	0.00	0.00	
13,900.0	89.70	90.15	10,765.9	-1,430.7	2,780.7	2,956.2	0.00	0.00	0.00	
14,000.0	89.70	90.15	10,766.4	-1,431.0	2,880.7	3,055.2	0.00	0.00	0.00	
14,100.0	89.70	90.15	10,766.9	-1,431.3	2,980.7	3,154.2	0.00	0.00	0.00	
14,111.0	89.70	90.15	10,767.0	-1,431.3	2,991.7	3,165.1	0.00	0.00	0.00	
Lower Bakken										
14,200.0	89.70	90.15	10,767.5	-1,431.5	3,080.7	3,253.2	0.00	0.00	0.00	
14,300.0	89.70	90.15	10,768.0	-1,431.8	3,180.7	3,352.2	0.00	0.00	0.00	
14,400.0	89.70	90.15	10,768.5	-1,432.1	3,280.7	3,451.2	0.00	0.00	0.00	
14,500.0	89.70	90.15	10,769.0	-1,432.3	3,380.7	3,550.3	0.00	0.00	0.00	
14,600.0	89.70	90.15	10,769.6	-1,432.6	3,480.7	3,649.3	0.00	0.00	0.00	
14,700.0	89.70	90.15	10,770.1	-1,432.9	3,580.7	3,748.3	0.00	0.00	0.00	
14,800.0	89.70	90.15	10,770.6	-1,433.1	3,680.7	3,847.3	0.00	0.00	0.00	
14,900.0	89.70	90.15	10,771.1	-1,433.4	3,780.7	3,946.3	0.00	0.00	0.00	
15,000.0	89.70	90.15	10,771.7	-1,433.7	3,880.7	4,045.3	0.00	0.00	0.00	
15,100.0	89.70	90.15	10,772.2	-1,433.9	3,980.7	4,144.4	0.00	0.00	0.00	
15,200.0	89.70	90.15	10,772.7	-1,434.2	4,080.7	4,243.4	0.00	0.00	0.00	
15,300.0	89.70	90.15	10,773.2	-1,434.4	4,180.7	4,342.4	0.00	0.00	0.00	
15,400.0	89.70	90.15	10,773.7	-1,434.7	4,280.7	4,441.4	0.00	0.00	0.00	
15,500.0	89.70	90.15	10,774.3	-1,435.0	4,380.7	4,540.4	0.00	0.00	0.00	
15,600.0	89.70	90.15	10,774.8	-1,435.2	4,480.7	4,639.4	0.00	0.00	0.00	
15,700.0	89.70	90.15	10,775.3	-1,435.5	4,580.7	4,738.5	0.00	0.00	0.00	
15,800.0	89.70	90.15	10,775.8	-1,435.8	4,680.7	4,837.5	0.00	0.00	0.00	
15,900.0	89.70	90.15	10,776.4	-1,436.0	4,780.7	4,936.5	0.00	0.00	0.00	
16,000.0	89.70	90.15	10,776.9	-1,436.3	4,880.7	5,035.5	0.00	0.00	0.00	
16,100.0	89.70	90.15	10,777.4	-1,436.6	4,980.7	5,134.5	0.00	0.00	0.00	
16,200.0	89.70	90.15	10,777.9	-1,436.8	5,080.7	5,233.5	0.00	0.00	0.00	
16,300.0	89.70	90.15	10,778.5	-1,437.1	5,180.7	5,332.6	0.00	0.00	0.00	
16,400.0	89.70	90.15	10,779.0	-1,437.3	5,280.7	5,431.6	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (/100usft)	Build Rate (/100usft)	Turn Rate (/100usft)	
16,500.0	89.70	90.15	10,779.5	-1,437.6	5,380.7	5,530.6	0.00	0.00	0.00	
16,600.0	89.70	90.15	10,780.0	-1,437.9	5,480.7	5,629.6	0.00	0.00	0.00	
16,700.0	89.70	90.15	10,780.6	-1,438.1	5,580.7	5,728.6	0.00	0.00	0.00	
16,800.0	89.70	90.15	10,781.1	-1,438.4	5,680.7	5,827.6	0.00	0.00	0.00	
16,900.0	89.70	90.15	10,781.6	-1,438.7	5,780.7	5,926.7	0.00	0.00	0.00	
17,000.0	89.70	90.15	10,782.1	-1,438.9	5,880.7	6,025.7	0.00	0.00	0.00	
17,100.0	89.70	90.15	10,782.7	-1,439.2	5,980.7	6,124.7	0.00	0.00	0.00	
17,200.0	89.70	90.15	10,783.2	-1,439.5	6,080.7	6,223.7	0.00	0.00	0.00	
17,300.0	89.70	90.15	10,783.7	-1,439.7	6,180.7	6,322.7	0.00	0.00	0.00	
17,400.0	89.70	90.15	10,784.2	-1,440.0	6,280.7	6,421.7	0.00	0.00	0.00	
17,500.0	89.70	90.15	10,784.7	-1,440.2	6,380.7	6,520.8	0.00	0.00	0.00	
17,600.0	89.70	90.15	10,785.3	-1,440.5	6,480.7	6,619.8	0.00	0.00	0.00	
17,700.0	89.70	90.15	10,785.8	-1,440.8	6,580.7	6,718.8	0.00	0.00	0.00	
17,800.0	89.70	90.15	10,786.3	-1,441.0	6,680.7	6,817.8	0.00	0.00	0.00	
17,900.0	89.70	90.15	10,786.8	-1,441.3	6,780.7	6,916.8	0.00	0.00	0.00	
18,000.0	89.70	90.15	10,787.4	-1,441.6	6,880.7	7,015.8	0.00	0.00	0.00	
18,100.0	89.70	90.15	10,787.9	-1,441.8	6,980.7	7,114.9	0.00	0.00	0.00	
18,200.0	89.70	90.15	10,788.4	-1,442.1	7,080.7	7,213.9	0.00	0.00	0.00	
18,300.0	89.70	90.15	10,788.9	-1,442.4	7,180.7	7,312.9	0.00	0.00	0.00	
18,400.0	89.70	90.15	10,789.5	-1,442.6	7,280.7	7,411.9	0.00	0.00	0.00	
18,500.0	89.70	90.15	10,790.0	-1,442.9	7,380.7	7,510.9	0.00	0.00	0.00	
18,600.0	89.70	90.15	10,790.5	-1,443.1	7,480.7	7,609.9	0.00	0.00	0.00	
18,700.0	89.70	90.15	10,791.0	-1,443.4	7,580.7	7,709.0	0.00	0.00	0.00	
18,800.0	89.70	90.15	10,791.6	-1,443.7	7,680.7	7,808.0	0.00	0.00	0.00	
18,900.0	89.70	90.15	10,792.1	-1,443.9	7,780.7	7,907.0	0.00	0.00	0.00	
19,000.0	89.70	90.15	10,792.6	-1,444.2	7,880.7	8,006.0	0.00	0.00	0.00	
19,076.6	89.70	90.15	10,793.0	-1,444.4	7,957.3	8,081.9	0.00	0.00	0.00	
Three Forks										
19,100.0	89.70	90.15	10,793.1	-1,444.5	7,980.7	8,105.0	0.00	0.00	0.00	
19,200.0	89.70	90.15	10,793.6	-1,444.7	8,080.7	8,204.0	0.00	0.00	0.00	
19,300.0	89.70	90.15	10,794.2	-1,445.0	8,180.7	8,303.1	0.00	0.00	0.00	
19,400.0	89.70	90.15	10,794.7	-1,445.3	8,280.7	8,402.1	0.00	0.00	0.00	
19,500.0	89.70	90.15	10,795.2	-1,445.5	8,380.7	8,501.1	0.00	0.00	0.00	
19,600.0	89.70	90.15	10,795.7	-1,445.8	8,480.7	8,600.1	0.00	0.00	0.00	
19,700.0	89.70	90.15	10,796.3	-1,446.0	8,580.7	8,699.1	0.00	0.00	0.00	
19,800.0	89.70	90.15	10,796.8	-1,446.3	8,680.6	8,798.1	0.00	0.00	0.00	
19,900.0	89.70	90.15	10,797.3	-1,446.6	8,780.6	8,897.2	0.00	0.00	0.00	
20,000.0	89.70	90.15	10,797.8	-1,446.8	8,880.6	8,996.2	0.00	0.00	0.00	
20,100.0	89.70	90.15	10,798.4	-1,447.1	8,980.6	9,095.2	0.00	0.00	0.00	
20,200.0	89.70	90.15	10,798.9	-1,447.4	9,080.6	9,194.2	0.00	0.00	0.00	
20,300.0	89.70	90.15	10,799.4	-1,447.6	9,180.6	9,293.2	0.00	0.00	0.00	
20,400.0	89.70	90.15	10,799.9	-1,447.9	9,280.6	9,392.2	0.00	0.00	0.00	
20,500.0	89.70	90.15	10,800.5	-1,448.2	9,380.6	9,491.3	0.00	0.00	0.00	
20,600.0	89.70	90.15	10,801.0	-1,448.4	9,480.6	9,590.3	0.00	0.00	0.00	
20,700.0	89.70	90.15	10,801.5	-1,448.7	9,580.6	9,689.3	0.00	0.00	0.00	
20,800.0	89.70	90.15	10,802.0	-1,449.0	9,680.6	9,788.3	0.00	0.00	0.00	
20,900.0	89.70	90.15	10,802.5	-1,449.2	9,780.6	9,887.3	0.00	0.00	0.00	
21,000.0	89.70	90.15	10,803.1	-1,449.5	9,880.6	9,986.3	0.00	0.00	0.00	
21,100.0	89.70	90.15	10,803.6	-1,449.7	9,980.6	10,085.4	0.00	0.00	0.00	
21,197.4	89.70	90.15	10,804.1	-1,450.0	10,078.0	10,181.8	0.00	0.00	0.00	
TD at 21197.4										

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Design Targets									
Target Name									
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Kline Federal 530	0.00	0.00	10,804.0	-1,450.0	10,078.0	407,020.17	1,220,194.92	48° 4' 30.163 N	103° 33' 42.589 W
- plan misses target center by 0.1usft at 21197.4usft MD (10804.1 TVD, -1450.0 N, 10078.0 E)									
- Point									

Casing Points						Casing Diameter (")	Hole Diameter (")
Measured Depth (usft)	Vertical Depth (usft)	Name					
2,068.0	2,068.0	13 3/8" Casing				13-3/8	17-1/2
6,101.3	6,100.0	9 5/8" Casing				9-5/8	12-1/4
11,021.1	10,749.8	7" Casing				7	8-3/4

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #6		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,968.0	1,968.0	Pierre			
4,616.3	4,615.0	Greenhorn			
5,022.3	5,021.0	Mowry			
5,449.3	5,448.0	Dakota			
6,448.3	6,447.0	Rierdon			
6,786.3	6,785.0	Dunham Salt			
6,927.3	6,926.0	Dunham Salt Base			
6,994.3	6,993.0	Spearfish			
7,249.3	7,248.0	Pine Salt			
7,297.3	7,296.0	Pine Salt Base			
7,342.3	7,341.0	Opeche Salt			
7,372.3	7,371.0	Opeche Salt Base			
7,574.3	7,573.0	Broom Creek (Top of Minnelusa Gp.)			
7,654.3	7,653.0	Amsden			
7,822.3	7,821.0	Tyler			
8,013.3	8,012.0	Otter (Base of Minnelusa Gp.)			
8,368.3	8,367.0	Kibbey			
8,518.3	8,517.0	Charles Salt			
9,169.3	9,168.0	UB			
9,217.3	9,216.0	Base Last Salt			
9,265.3	9,264.0	Ratcliffe			
9,441.3	9,440.0	Mission Canyon			
10,003.3	10,002.0	Lodgepole			
10,209.3	10,208.0	Lodgepole Fracture Zone			
10,799.2	10,698.0	False Bakken			
10,822.4	10,708.0	Upper Bakken			
10,860.0	10,722.0	Middle Bakken "C" Sands			
10,922.0	10,739.0	Middle Bakken "B" Sands (Target)			
11,251.8	10,751.0	Middle Bakken "A" Sands (Base of target)			
14,111.0	10,767.0	Lower Bakken			
19,076.6	10,793.0	Three Forks			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/S (usft)	+E/W (usft)		
2,500.0	2,500.0	0.0	0.0	Start Build 2.00	
2,650.0	2,649.9	-3.7	1.3	Start 851.2 hold at 2650.0 MD	
3,501.2	3,500.0	-45.6	16.6	Start DLS 2.00 TFO -180.00	
3,651.2	3,649.9	-49.2	17.9	Start 6622.4 hold at 3651.2 MD	
10,273.6	10,272.3	-49.2	17.9	Start Build 12.00	
11,021.1	10,749.8	-460.6	255.4	Start 15.0 hold at 11021.1 MD	
11,036.1	10,749.8	-473.6	262.9	Start DLS 3.00 TFO -90.17	
13,031.0	10,761.3	-1,428.5	1,911.8	Start 8166.3 hold at 13031.0 MD	
21,197.4	10,804.1	-1,450.0	10,078.0	TD at 21197.4	

SECTION BREAKDOWN

OASIS PETROLEUM NORTH AMERICA, LLC

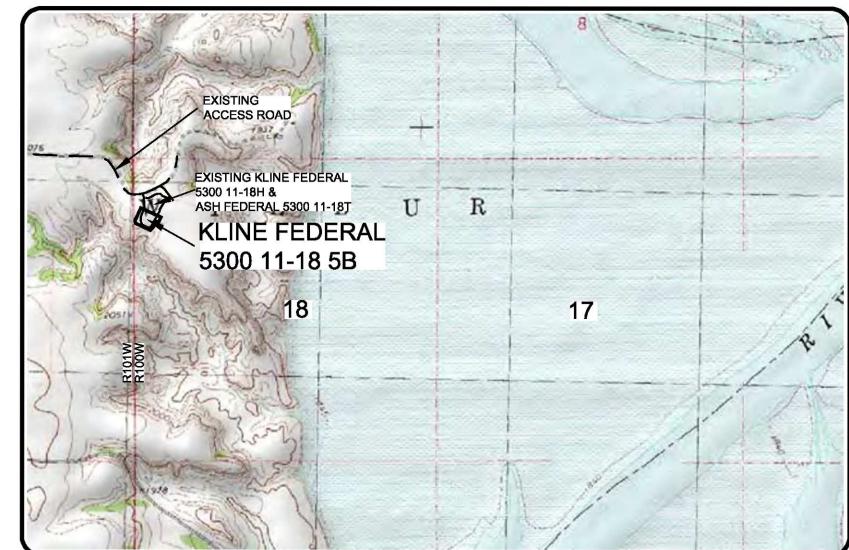
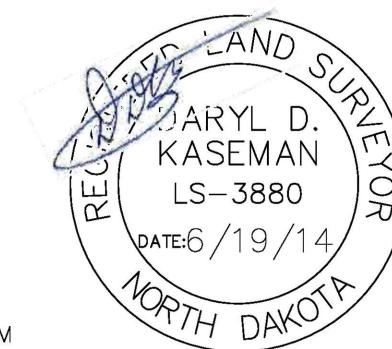
FANNIN, SUITE 1500, HOUSTON, TX 77002
WILLINE FEDERAL 7232 11-12 FBI

KLINE FEDERAL 5300 11

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTIONS 17 & 18, 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 6/19/14 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'.



© 2014, INTERSTATE ENGINEERING, INC.

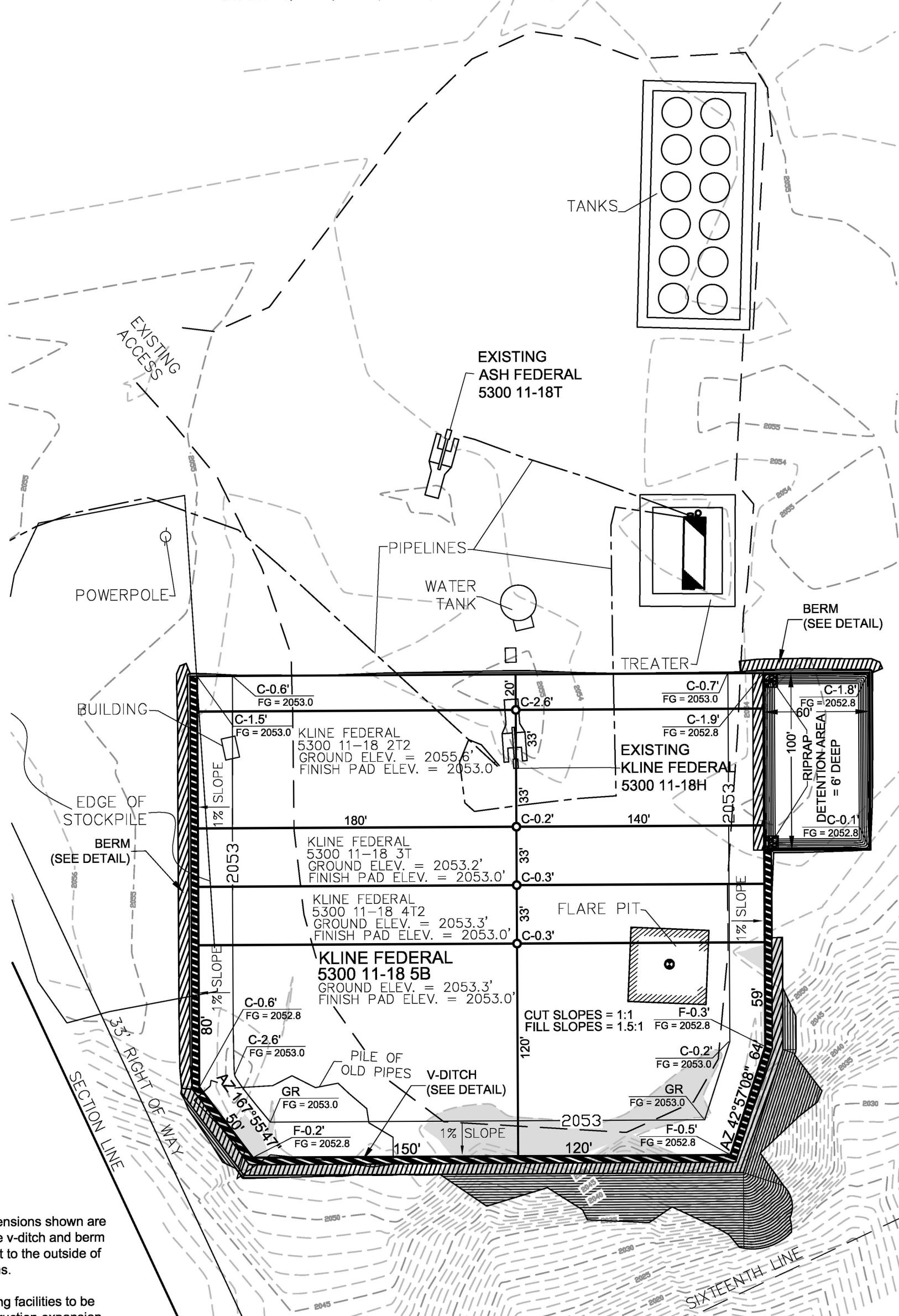
Interstate Engineering, Inc.
P.O. Box 648
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.interstateeng.com

Other offices in Minnesota, North Dakota and South Dakota



2/8

PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

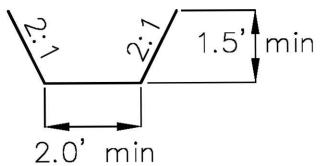


NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2: All existing facilities to be removed on construction expansion.

NOTE 3: Cuttings will be hauled to approved disposal site.

V-DITCH DETAIL



BERM
 DITCH
 Proposed Contours
 Original Contours

THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND SEALED
 BY DARYL D. KASEMAN, PLS,
 REGISTRATION NUMBER 3880 ON
 6/19/14 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.

© 2014, INTERSTATE ENGINEERING, INC.



0 60'
 1" = 60'

3/8



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

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD LAYOUT
 SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S14-09-127.03
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description

WELL LOCATION SITE QUANTITIES
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2053.3
WELL PAD ELEVATION	2053.0
EXCAVATION	1,906
PLUS PIT	<u>0</u>
	<u>1,906</u>
EMBANKMENT	869
PLUS SHRINKAGE (30%)	<u>261</u>
	<u>1,130</u>
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	1,934
BERMS	883 LF = 286 CY
DITCHES	727 LF = 111 CY
DETENTION AREA	1,112 CY
ADDITIONAL MATERIAL NEEDED	221
DISTURBED AREA FROM PAD	2.40 ACRES

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

CUT END SLOPES AT 1:1

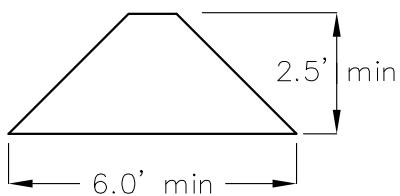
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

1080' FNL

263' FWL

BERM DETAIL



(C) 2014, INTERSTATE ENGINEERING, INC.

8/8



**INTERSTATE
ENGINEERING**

Professionals you need, people you trust

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

Other offices in Minnesota, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC

QUANTITIES

SECTION 18, T153N, R100W

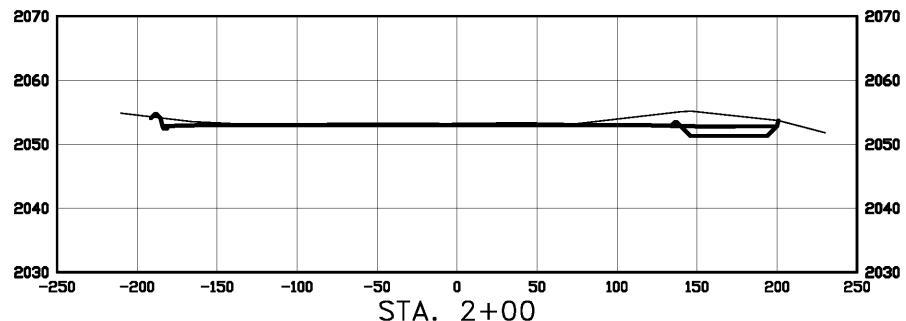
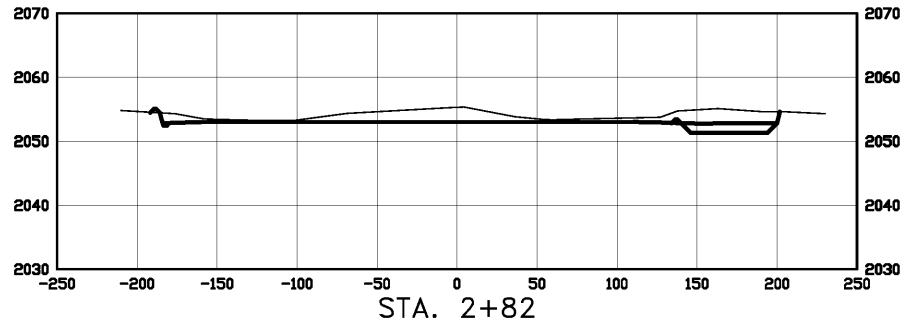
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S14-09-127.03

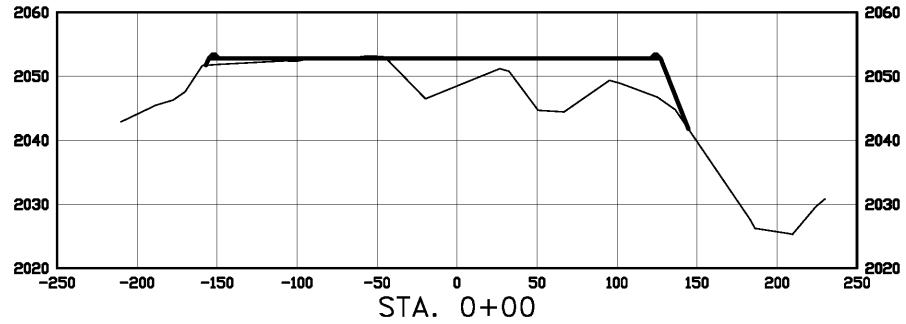
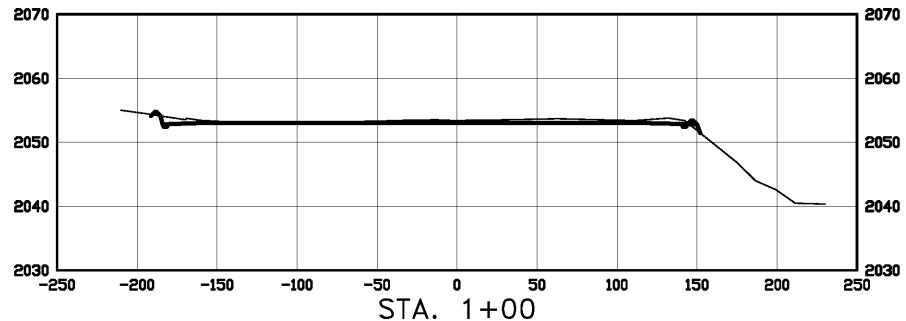
Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS

CROSS SECTIONS
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 5B"
 1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
 SECTION 18, 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 6/19/14 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.



SCALE
 HORIZ 1"=120'
 VERT 1"=30'

© 2014, INTERSTATE ENGINEERING, INC.

7/8



INTERSTATE
ENGINEERING

Professionals you need, people you trust

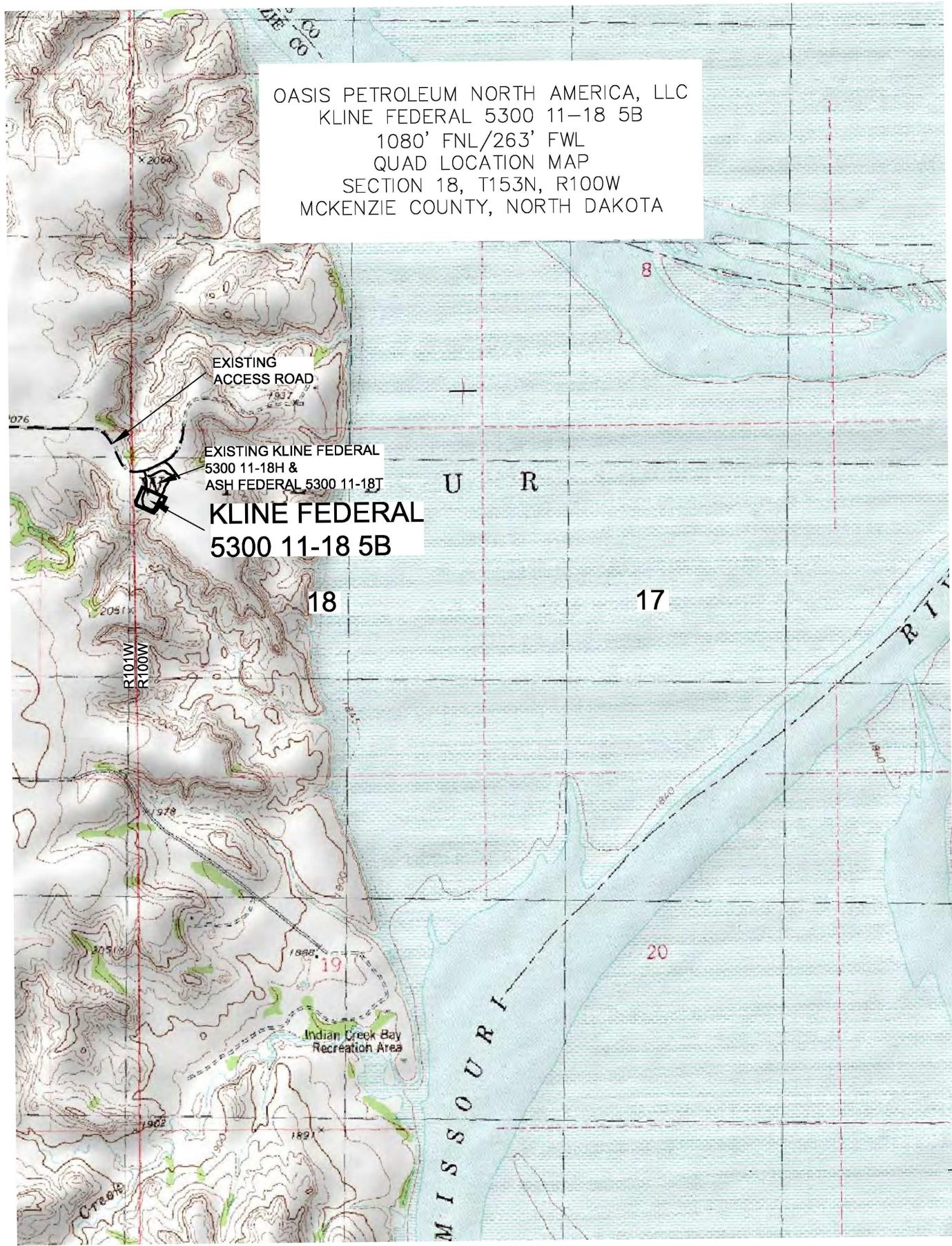
SHEET NO.

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

OASIS PETROLEUM NORTH AMERICA, LLC
 PAD CROSS SECTIONS
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S14-09-127.03
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS



© 2014, INTERSTATE ENGINEERING, INC.

5/8



**INTERSTATE
ENGINEERING**

SHEET NO.

Professionals you need, people you trust

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

<p>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</p>	<p>OASIS PETROLEUM NORTH AMERICA, LLC QUAD LOCATION MAP SECTION 18, T15N, R100W</p> <p>MCKENZIE COUNTY, NORTH DAKOTA</p>
<p>Drawn By: <u>B.H.H.</u></p>	<p>Project No.: <u>S14-09-127.03</u></p>
<p>Checked By: <u>D.D.K.</u></p>	<p>Date: <u>APRIL 2014</u></p>

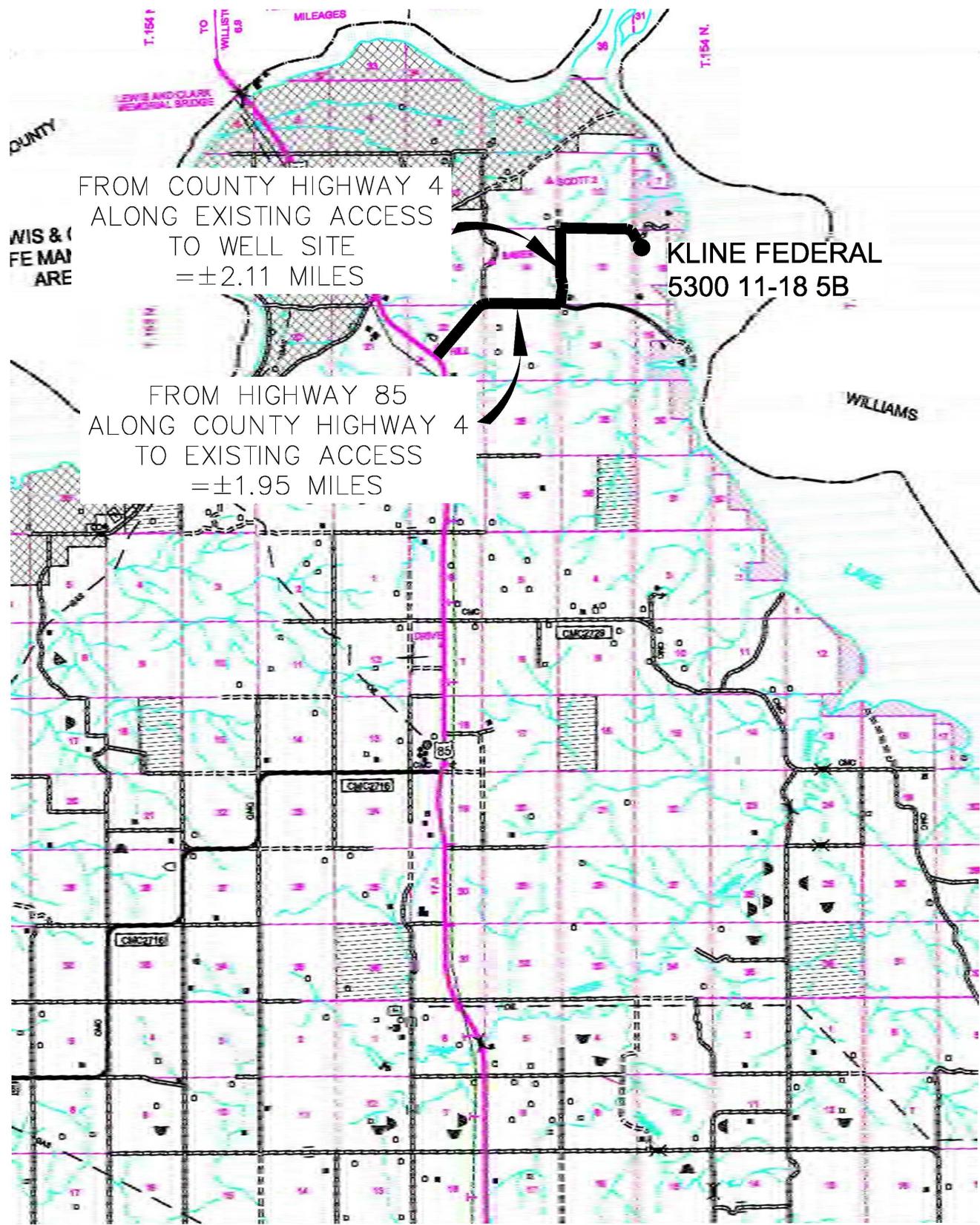
Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS

COUNTY ROAD MAP

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

"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



© 2014, INTERSTATE ENGINEERING, INC.

6/8



INTERSTATE
ENGINEERING

Professionals you need, people you trust

SHEET NO.

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

OASIS PETROLEUM NORTH AMERICA, LLC
COUNTY ROAD MAP
SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S14-09-127.03
Checked By:	D.D.K.	Date:	APRIL 2014

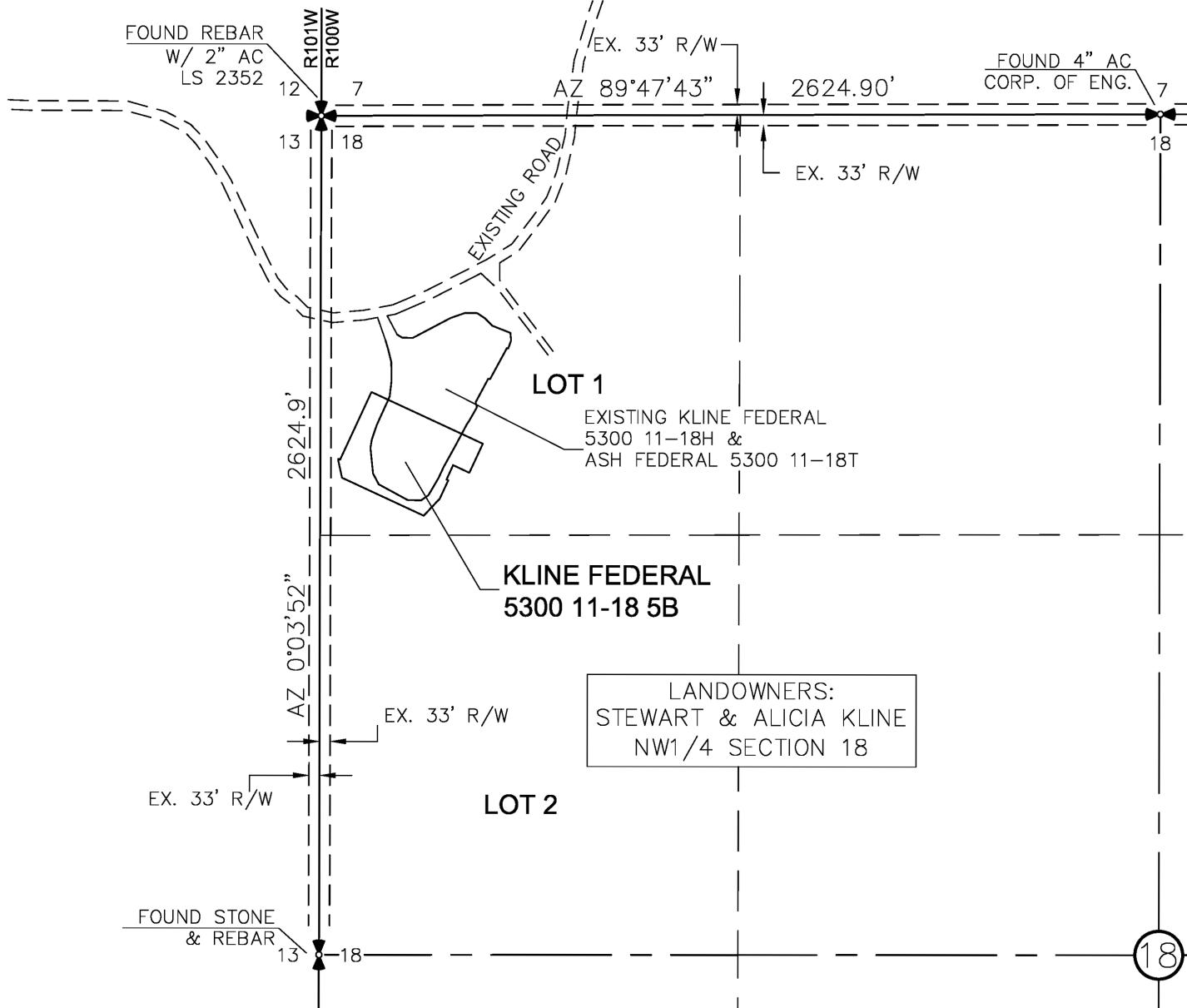
Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS

ACCESS APPROACH

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

"KLINE FEDERAL 5300 11-18 5B"

1080 FEET FROM NORTH LINE AND 263 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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



THIS DOCUMENT WAS
ORIGINALLY ISSUED AND
SEALED BY DARYL D.
KASEMAN, PLS, REGISTRATION
NUMBER 3880 ON 6/19/14
AND THE ORIGINAL DOCUMENTS
ARE STORED AT THE OFFICES
OF INTERSTATE ENGINEERING,
INC.

© 2014, INTERSTATE ENGINEERING, INC.



4/8

SHEET NO.

OASIS PETROLEUM NORTH AMERICA, LLC		Revision No.	Date	By	Description
ACCESS APPROACH		REV 1	6/19/14	B.H.H.	Moved Wells
SECTION 18, T153N, R100W					
MCKENZIE COUNTY, NORTH DAKOTA					
Drawn By: _____	Project No.: S14-09-127-03	B.H.H.	APRIL 2014	Checked By: _____	
Interstate Engineering, Inc.	Other offices in Mandan, North Dakota and South Dakota				
P.O. Box 6468					
425 East Main Street					
Sidney, Montana 59270					
Ph (406) 433-5617					
Fax (406) 433-5618					
www.interstateeng.com					



STATEMENT

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

McKenzie County

Aaron Chisholm – GIS Specialist for McKenzie County

Kline Federal 5300 11-18 2T2 – 153-100W-17/18 – 05/30/2014

Kline Federal 5300 11-18 3T – 153-100W-17/18 – 05/30/2014

Kline Federal 5300 11-18 4T2 – 153-100W-17/18 – 05/30/2014

Kline Federal 5300 11-18 5B – 153-100W-17/18 – 05/30/2014

A handwritten signature in black ink, appearing to read "Lauri M. Stanfield".

Lauri M. Stanfield

Regulatory Specialist

Oasis Petroleum North America, LLC

GAS CAPTURE PLAN AFFIDAVIT

STATE OF TEXAS §
 §
COUNTY OF HARRIS §

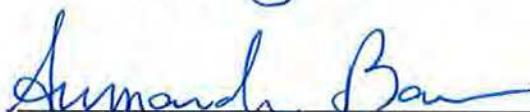
Robert Eason, being duly sworn, states as follows:

1. He is employed by Oasis Petroleum North America LLC ("Oasis") as Marketing Manager, is over the age of 21 and has personal knowledge of the matters set forth in this affidavit.
2. This affidavit is submitted in conjunction with the Application for Permit to Drill for the Kline Federal 5300 11-18 5B well, with a surface location in the SW NW of Section 18, Township 153 North, Range 100 West, McKenzie County, North Dakota (the "Well").
3. Oasis currently anticipates that gas to be produced from the Well will be gathered by Hiland Partners (the "Gathering Company"). Oasis has advised the Gathering Company of its intent to drill the Well and has advised the Gathering Company that it currently anticipates that the Well will be completed in May 2015, with an initial gas production rate of approximately 762 mcf/day.



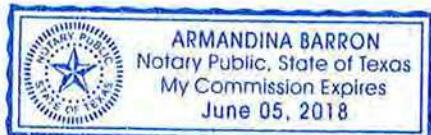
Robert Eason
Marketing Manager

Subscribed and sworn to before me this 21 day of August, 2014.



Armandina Barron

Notary Public in and for the State of Texas
My Commission expires: 6.5.18



GAS CAPTURE PLAN – OASIS PETROLEUM

Kline Federal 5300 11-18 5B

Section 18-T153N-R100W

Baker Field

McKenzie County, North Dakota

Anticipated first flow date	May-15
Gas Gatherer:	Hiland Partners
Gas to be processed at*:	Hiland Operated Watford City Plant
Maximum Daily Capacity of Existing Gas Line*:	55,000 MCFD
Current Throughput of Existing Gas Line*:	33,000 MCFD
Anticipated Daily Capacity of Existing Gas Line at Date of First Gas Sales*:	66,000 MCFD
Anticipated Throughput of Existing Gas Line at Date of First Gas Sales*:	65,000 MCFD
Gas Gatherer's Issues or Expansion Plans for the Area*:	Line looping and compression
Map:	Attached
Affidavit:	Attached

*Provided by Gatherer

Flowback Strategy

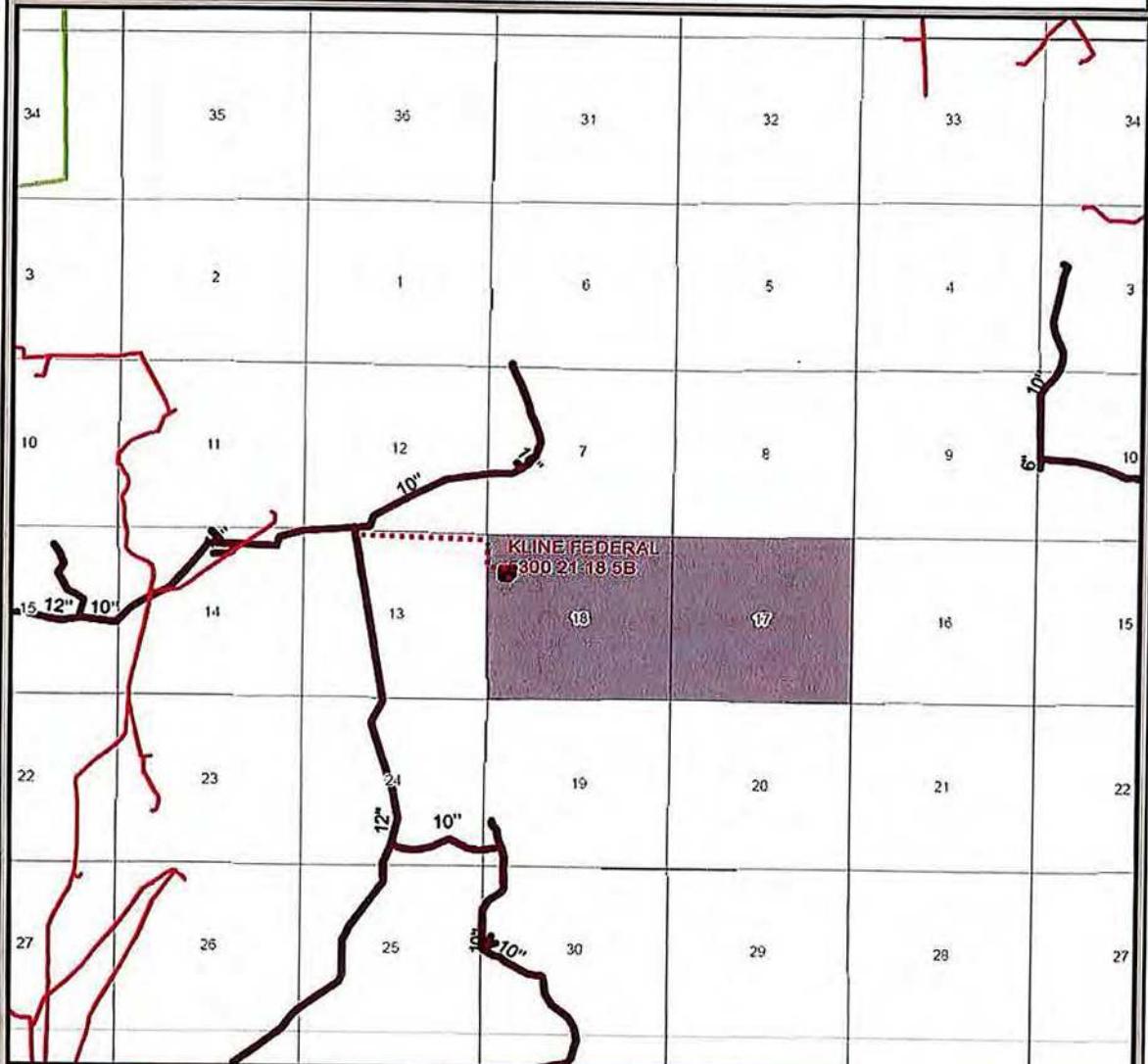
Total Number of Wells at Location:	10		
Multi-Well Start-up Plan:	Initial production from the 1st new well at the CTB is anticipated in May 2015 with each following well making 1 st production approximately every 5th day thereafter		
Estimated Flow Rate:	Kline Federal 5300 11-18 5B (well only)	Kline DSU (10 wells)	
	MCFD	BOPD	MCFD
30 Days:	762	846	5,100
60 Days:	654	727	6,302
180 Days:	391	435	3,543
			BOPD
			5,646
			6,982
			3,918

Oasis Flaring Percentage		
	Statewide	Baker Field
Oasis % of Gas Flared:	12%	6%

Average over the last 6 months	
Alternatives to Flaring	

SOURCE: Oasis Marketing (281) 404-9435

Gas Capture Plan
KLINE FEDERAL 5300 // 18 5B
Section 18 T153N R100W
McKenzie County, North Dakota

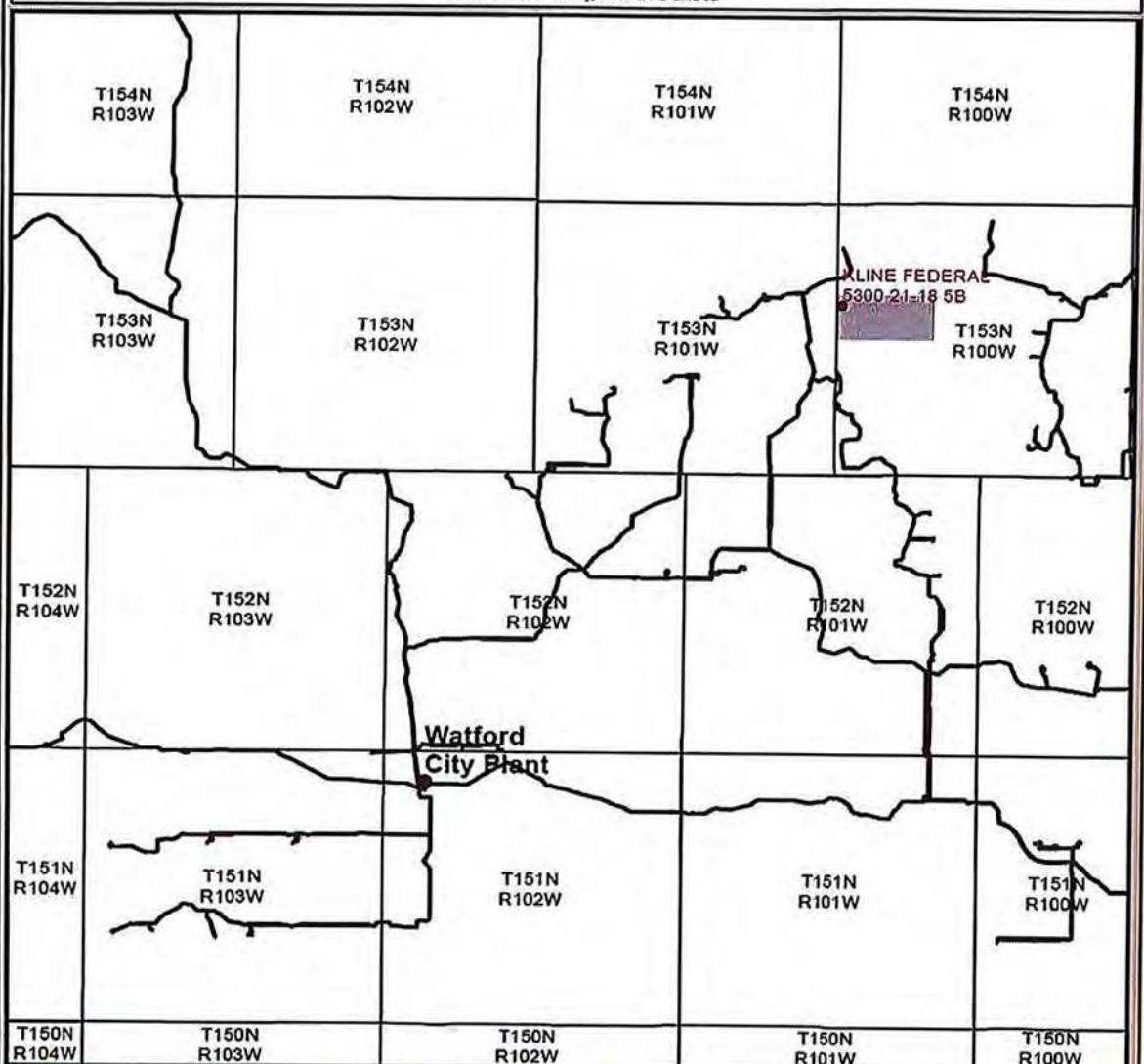


Gas Gatherer: Hiland Partners, LP
Gas to be processed at: Watford City Plant



- Proposed Well
- Proposed CTB
- Hiland Gas Line
- Oneok Gas Line
- Williston Basin Interstate

Gas Capture Plan - Overview
KLINE FEDERAL 5300 //I-18 5B
Section 18 T153N R100W
McKenzie County, North Dakota



• Proposed Well

Gas Gatherer: Hiland Partners, LP

— Hiland Gas Line

Gas to be processed at: Watford City Plant

● Processing Plant



Hello Taylor,

They will be hauled to the JMAC Resources Disposal
5009 139th Ave NW, Williston, ND 58801
(701) 774-8511

Thanks,

Heather McCowan

**Regulatory Assistant | 1001 Fannin, Suite 1500, Houston, Texas 77002 | 281-404-9563 Direct |
hmccowan@oasispetroleum.com**



From: Roth, Taylor J. [<mailto:tjroth@nd.gov>]
Sent: Wednesday, August 20, 2014 9:59 AM
To: Heather McCowan
Subject: RE: Kline Federal pad

Heather,

What will Oasis be doing with the cuttings on this pad?

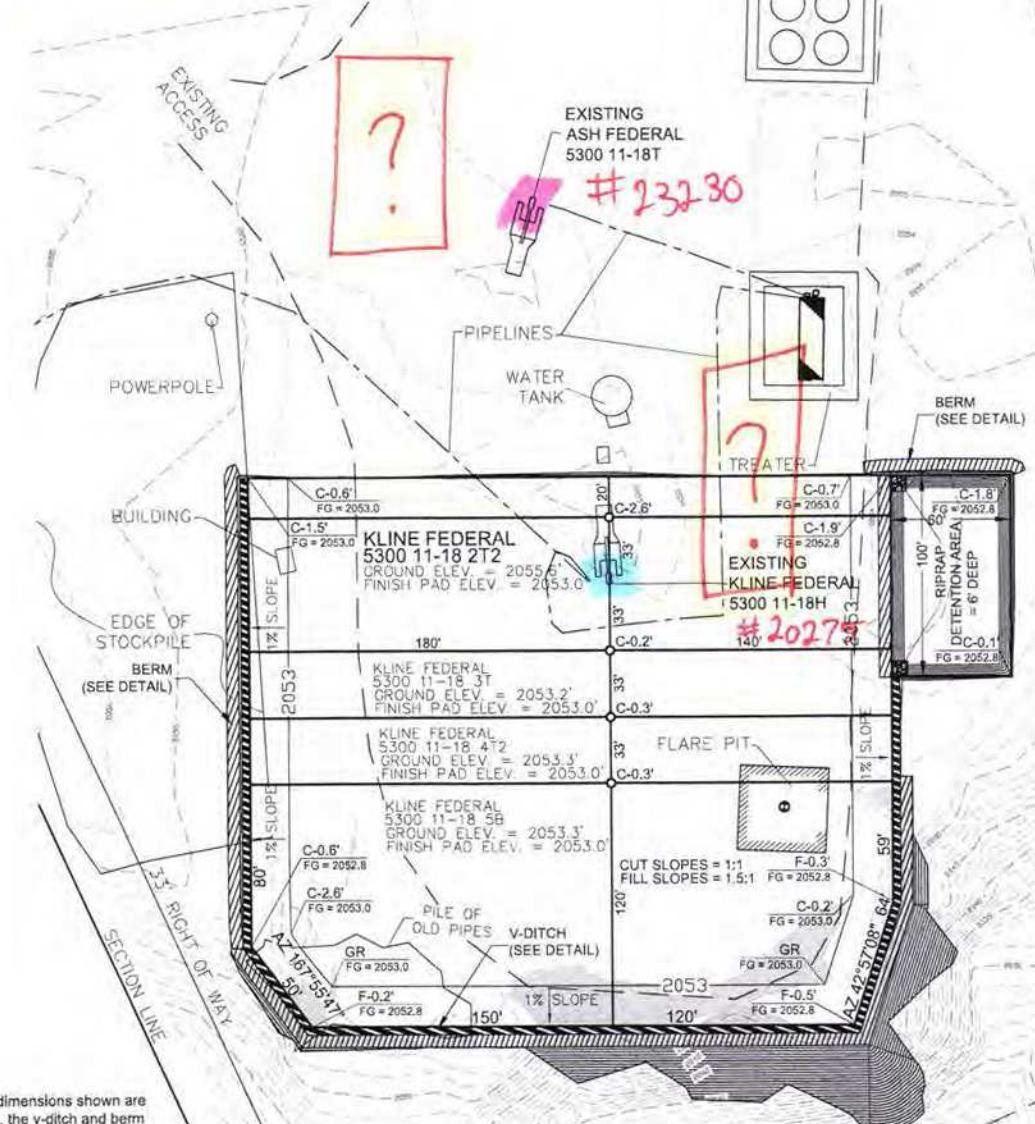
Thank you very much,

Taylor J. Roth
Survey & Permitting Technician
NDIC, Dept. Mineral Resources
Oil and Gas Division
701-328-1720 (direct)
tjroth@nd.gov



PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 11-18 2T"
 960 FEET FROM NORTH LINE AND 318 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

Pits missing
from the pad layout

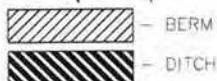
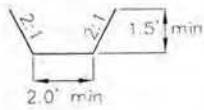


NOTE 1: Pad dimensions shown are to usable area, the v-ditch and berm areas shall be built to the outside of the pad dimensions.

NOTE 2: All existing facilities to be removed on construction expansion.

NOTE 3: Cuttings will be hauled to approved disposal site.

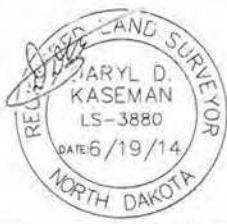
V-DITCH DETAIL



THIS DOCUMENT WAS
 ORIGINALLY ISSUED AND SEALED
 BY DARYL D. KASEMAN, PLS.
 REGISTRATION NUMBER 3880 ON
 6/19/14 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.

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

© 2014, INTERSTATE ENGINEERING, INC.



3/8

INTERSTATE
ENGINEERING
 Professionally you need, people you trust

Interstate Engineering, Inc.
 P.O. Box 648
 425 East Main Street
 Sioux City, IA 51101-5970
 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
 PAD LAYOUT
 SECTION 18, T153N, R100W

MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.K.H. Project No.: 514-09-127

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

Revision No.	Date	By	Description

PAD LAYOUT

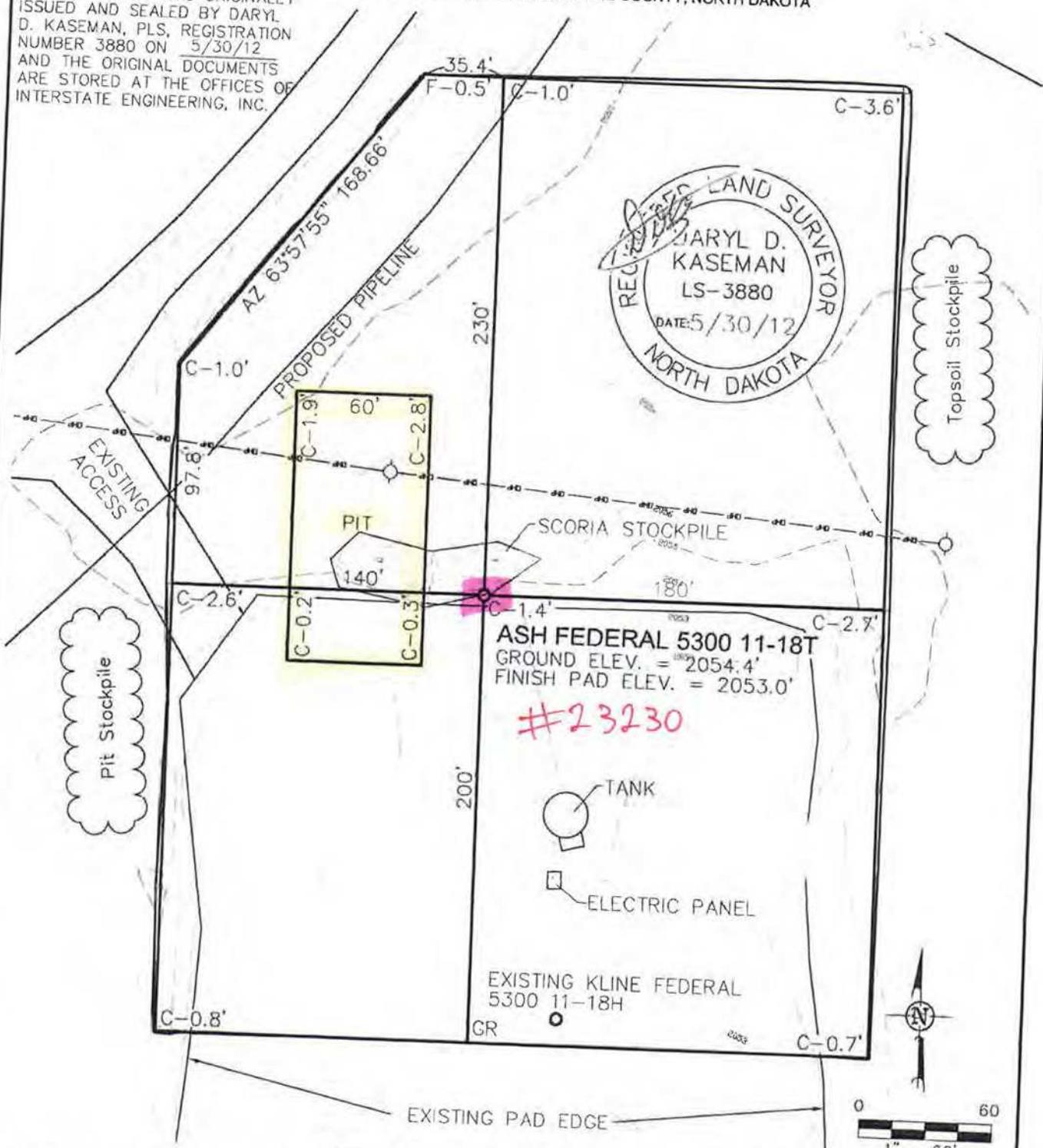
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"ASH FEDERAL 5300 11-18T"

"ASH FEDERAL 5300 11-18T"

800 FEET FROM NORTH LINE AND 350 FEET FROM WEST LINE

SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

SEC
THIS DOCUMENT WAS ORIGINALLY
ISSUED AND SEALED BY DARYL
D. KASEMAN, PLS, REGISTRATION
NUMBER 3880 ON 5/30/12
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.

© 2012, INTERSTATE ENGINEERING, INC.

Interstate Engineering, Inc.
P.O. Box 848
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.leng.com

OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

PAD LAYOUT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 202 HOUSTON, TX 77002
"KLINE 5300 11-18H"

990 FEET FROM NORTH LINE AND 305 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

UHP = DHP = DHP = DHP

PROPOSED
ACCESS



Topsoil Stockpile

Pit Stockpile

© 2010, INTERSTATE ENGINEERING, INC.

Interstate Engineering, Inc.
P.O. Box 848
425 East Main Street
Sidney, Montana 59270
Ph (406) 433-5617
Fax (406) 433-5618
www.iengl.com
Other offices in Montana, North Dakota and South Dakota

OASIS PETROLEUM NORTH AMERICA, LLC
PAD LAYOUT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: J.S. Project No: S10-9-190
Checked By: A.J.H/R.L.P. Date: OCT, 2010

Revision No.	Date	By	Description





Oasis Petroleum

Indian Hills
153N-100W-17/18
Kline Federal 5300 11-18 5B

Wellbore #1
Design #6

Anticollision Report

30 June, 2014

gyro*data*
Precision Wellbore Placement



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Reference	Design #6
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 2,000.0 usft
Warning Levels Evaluated at:	2.00 Sigma
	Casing Method: Not applied

Survey Tool Program		Date	06/30/14	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	21,197.4	Design #6 (Wellbore #1)	MWD	MWD - Standard

Summary		Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
Site Name	Offset Well - Wellbore - Design			Between Centres (usft)	Between Ellipses (usft)		
153N-100W-17/18	Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1	2,527.3	2,502.5	287.8	281.7	46.929	CC, ES
	Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1	21,197.4	20,482.0	1,760.9	1,221.7	3.266	SF
	Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6	2,500.0	2,500.0	131.6	120.7	12.011	CC, ES
	Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6	21,197.4	20,717.6	1,003.3	422.0	1.726	SF
	Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6	2,500.0	2,500.0	65.9	55.0	6.018	CC
	Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6	21,197.4	21,038.5	503.5	-76.9	0.867	Level 1, ES, SF
	Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1	2,541.5	2,518.5	93.5	87.1	14.621	CC, ES
	Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1	21,100.0	20,650.0	993.3	416.0	1.721	SF
	Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6	2,612.8	2,613.7	32.2	20.8	2.828	CC
	Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6	21,197.4	21,374.8	90.2	-67.5	0.572	Level 1, ES, SF

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2261-MWD, 13302-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
300.0	300.0	2,180.0	2,183.0	0.5	0.0	17.32	278.6	86.9	1,929.2	1,928.7	0.53	3,612.618	
400.0	400.0	2,180.0	2,183.0	0.8	0.0	17.32	278.6	86.9	1,830.4	1,829.7	0.76	2,412.305	
500.0	500.0	2,180.0	2,183.0	1.0	0.0	17.32	278.6	86.9	1,731.8	1,730.8	0.98	1,760.736	
600.0	600.0	2,180.0	2,183.0	1.2	0.0	17.32	278.6	86.9	1,633.3	1,632.1	1.21	1,351.708	
700.0	700.0	2,180.0	2,183.0	1.4	0.0	17.32	278.6	86.9	1,535.0	1,533.6	1.43	1,071.121	
800.0	800.0	2,180.0	2,183.0	1.7	0.0	17.32	278.6	86.9	1,437.0	1,435.3	1.66	866.759	
900.0	900.0	2,180.0	2,183.0	1.9	0.0	17.32	278.6	86.9	1,339.2	1,337.3	1.88	711.348	
1,000.0	1,000.0	2,180.0	2,183.0	2.1	0.0	17.32	278.6	86.9	1,241.8	1,239.7	2.11	589.258	
1,100.0	1,100.0	2,180.0	2,183.0	2.3	0.0	17.32	278.6	86.9	1,144.8	1,142.5	2.33	490.892	
1,200.0	1,200.0	2,180.0	2,183.0	2.6	0.0	17.32	278.6	86.9	1,048.4	1,045.9	2.56	410.044	
1,300.0	1,300.0	2,180.0	2,183.0	2.8	0.0	17.32	278.6	86.9	952.8	950.0	2.78	342.530	
1,400.0	1,400.0	2,180.0	2,183.0	3.0	0.0	17.32	278.6	86.9	858.2	855.2	3.01	285.441	
1,500.0	1,500.0	2,180.0	2,183.0	3.2	0.0	17.32	278.6	86.9	764.9	761.7	3.23	236.717	
1,600.0	1,600.0	2,180.0	2,183.0	3.5	0.0	17.32	278.6	86.9	673.5	670.1	3.46	194.889	
1,700.0	1,700.0	2,180.0	2,183.0	3.7	0.0	17.32	278.6	86.9	585.0	581.3	3.68	158.940	
1,800.0	1,800.0	2,180.0	2,183.0	3.9	0.0	17.32	278.6	86.9	500.8	496.9	3.91	128.240	
1,900.0	1,900.0	2,180.0	2,183.0	4.1	0.0	17.32	278.6	86.9	423.6	419.5	4.13	102.562	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2261-MWD, 13302-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Hightside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,000.0	2,000.0	2,180.0	2,183.0	4.4	0.0	17.32	278.6	86.9	357.8	353.5	4.36	82.165	
2,100.0	2,100.0	2,180.0	2,183.0	4.6	0.0	17.32	278.6	86.9	310.9	306.3	4.58	67.880	
2,200.0	2,200.0	2,180.0	2,183.0	4.8	0.0	17.32	278.6	86.9	292.0	287.2	4.80	60.768	
2,300.0	2,300.0	2,278.4	2,281.3	5.0	0.1	17.42	277.4	87.1	290.8	285.7	5.16	56.373	
2,400.0	2,400.0	2,377.2	2,380.2	5.3	0.3	17.52	275.8	87.1	289.2	283.6	5.59	51.739	
2,500.0	2,500.0	2,475.9	2,478.8	5.5	0.5	17.52	274.6	86.7	287.9	281.9	6.02	47.807	
2,527.3	2,527.3	2,502.5	2,505.4	5.5	0.6	-142.51	274.4	86.5	287.8	281.7	6.13	46.929 CC, ES	
2,600.0	2,600.0	2,574.2	2,577.2	5.7	0.8	-142.78	274.1	86.0	288.7	282.3	6.43	44.886	
2,650.0	2,649.9	2,624.1	2,627.0	5.8	0.9	-143.12	274.1	85.5	290.3	283.6	6.63	43.802	
2,700.0	2,699.9	2,674.0	2,676.9	5.8	1.0	-143.57	274.1	84.7	292.2	285.3	6.82	42.822	
2,800.0	2,799.7	2,773.2	2,776.1	6.0	1.2	-144.48	274.3	83.1	296.1	288.9	7.22	41.022	
2,900.0	2,899.6	2,871.9	2,874.8	6.2	1.4	-145.42	274.9	81.3	300.5	292.9	7.62	39.450	
3,000.0	2,999.5	2,970.8	2,973.7	6.4	1.6	-146.37	275.8	79.3	305.2	297.2	8.02	38.049	
3,100.0	3,099.3	3,069.7	3,072.6	6.6	1.9	-147.34	277.0	77.1	310.4	301.9	8.42	36.844	
3,200.0	3,199.2	3,169.4	3,172.2	6.8	2.1	-148.26	278.4	75.2	315.7	306.9	8.81	35.824	
3,300.0	3,299.0	3,269.5	3,272.3	7.0	2.2	-149.11	279.7	73.4	321.1	311.9	9.20	34.904	
3,400.0	3,398.9	3,368.5	3,371.2	7.2	2.4	-149.90	281.0	71.7	326.6	317.0	9.59	34.034	
3,501.2	3,500.0	3,469.9	3,472.6	7.4	2.7	-150.68	282.4	70.1	332.3	322.3	10.01	33.208	
3,600.0	3,598.7	3,568.6	3,571.3	7.6	2.9	-151.30	283.6	68.6	336.3	325.9	10.42	32.282	
3,651.2	3,649.9	3,620.3	3,623.1	7.7	3.0	8.51	284.2	67.8	337.2	326.5	10.66	31.632	
3,700.0	3,698.7	3,669.5	3,672.2	7.8	3.1	8.38	284.7	67.1	337.6	326.7	10.87	31.064	
3,800.0	3,798.7	3,768.8	3,771.6	8.0	3.3	8.12	285.7	65.7	338.4	327.1	11.29	29.961	
3,900.0	3,898.7	3,868.9	3,871.6	8.2	3.5	7.88	286.9	64.4	339.3	327.6	11.73	28.933	
4,000.0	3,998.7	3,969.3	3,972.0	8.5	3.7	7.66	287.9	63.3	340.2	328.0	12.16	27.973	
4,100.0	4,098.7	4,069.1	4,071.8	8.7	3.9	7.47	288.8	62.3	341.0	328.4	12.59	27.077	
4,200.0	4,198.7	4,168.9	4,171.6	8.9	4.1	7.29	289.8	61.3	341.9	328.8	13.03	26.237	
4,300.0	4,298.7	4,269.3	4,272.0	9.1	4.4	7.13	290.9	60.5	342.8	329.3	13.47	25.455	
4,400.0	4,398.7	4,370.2	4,372.8	9.3	4.6	7.02	291.6	59.9	343.4	329.5	13.90	24.712	
4,500.0	4,498.7	4,470.3	4,473.0	9.6	4.8	6.94	292.1	59.5	343.9	329.6	14.33	24.004	
4,600.0	4,598.7	4,569.8	4,572.4	9.8	5.0	6.86	292.8	59.1	344.5	329.7	14.76	23.337	
4,700.0	4,698.7	4,668.8	4,671.5	10.0	5.2	6.75	293.6	58.5	345.3	330.1	15.19	22.726	
4,800.0	4,798.7	4,767.8	4,770.5	10.2	5.4	6.61	294.8	57.8	346.3	330.7	15.62	22.166	
4,900.0	4,898.7	4,868.4	4,871.0	10.4	5.6	6.55	296.0	57.5	347.5	331.4	16.06	21.636	
5,000.0	4,998.7	4,968.5	4,971.1	10.7	5.8	6.55	297.0	57.7	348.5	332.0	16.49	21.131	
5,100.0	5,098.7	5,069.1	5,071.8	10.9	6.0	6.61	297.9	58.1	349.5	332.6	16.93	20.644	
5,200.0	5,198.7	5,171.3	5,173.9	11.1	6.3	6.70	298.4	58.7	350.1	332.7	17.36	20.165	
5,300.0	5,298.7	5,274.3	5,276.9	11.3	6.5	6.73	298.1	58.9	349.8	332.0	17.79	19.664	
5,400.0	5,398.7	5,374.3	5,376.9	11.6	6.7	6.84	297.3	59.5	349.1	330.8	18.22	19.161	
5,500.0	5,498.7	5,472.5	5,475.1	11.8	6.9	6.89	296.9	59.8	348.7	330.1	18.64	18.704	
5,527.4	5,526.1	5,499.4	5,502.1	11.8	6.9	6.90	296.9	59.8	348.7	329.9	18.76	18.587	
5,600.0	5,598.7	5,571.1	5,573.7	12.0	7.1	6.91	297.0	59.9	348.8	329.7	19.07	18.289	
5,700.0	5,698.7	5,671.6	5,674.2	12.2	7.3	6.87	297.4	59.7	349.1	329.6	19.50	17.903	
5,800.0	5,798.7	5,771.4	5,774.0	12.4	7.5	6.77	297.5	59.1	349.2	329.2	19.93	17.520	
5,900.0	5,898.7	5,870.5	5,873.1	12.7	7.7	6.63	297.9	58.3	349.5	329.2	20.36	17.167	
6,000.0	5,998.7	5,969.6	5,972.2	12.9	7.9	6.52	298.6	57.7	350.1	329.3	20.80	16.835	
6,100.0	6,098.7	6,067.9	6,070.5	13.1	8.1	6.46	299.5	57.4	351.0	329.8	21.23	16.535	
6,200.0	6,198.7	6,165.2	6,167.8	13.3	8.3	6.39	301.1	57.2	352.6	330.9	21.66	16.277	
6,300.0	6,298.7	6,262.5	6,265.1	13.6	8.5	6.36	303.4	57.3	354.9	332.8	22.10	16.063	
6,400.0	6,398.7	6,362.8	6,365.3	13.8	8.8	6.37	306.1	57.6	357.6	335.1	22.53	15.871	
6,500.0	6,498.7	6,460.6	6,463.0	14.0	9.0	6.44	308.8	58.3	360.6	337.6	22.97	15.700	
6,600.0	6,598.7	6,558.6	6,561.0	14.2	9.2	6.58	312.1	59.6	364.0	340.6	23.40	15.556	
6,700.0	6,698.7	6,656.8	6,659.1	14.4	9.4	6.76	316.1	61.2	368.2	344.4	23.84	15.446	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2261-MWD, 13302-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,800.0	6,798.7	6,764.4	6,766.7	14.7	9.6	6.79	319.3	61.8	371.2	346.9	24.28	15.285	
6,900.0	6,898.7	6,864.1	6,866.4	14.9	9.8	6.70	321.4	61.4	373.3	348.5	24.71	15.105	
7,000.0	6,998.7	6,962.3	6,964.5	15.1	10.0	6.63	324.0	61.3	375.8	350.7	25.14	14.949	
7,100.0	7,098.7	7,062.6	7,064.8	15.3	10.2	6.60	326.6	61.4	378.5	352.9	25.58	14.797	
7,200.0	7,198.7	7,163.0	7,165.1	15.6	10.5	6.58	329.2	61.6	381.1	355.1	26.01	14.651	
7,300.0	7,298.7	7,262.8	7,264.9	15.8	10.7	6.58	331.7	61.9	383.6	357.1	26.44	14.505	
7,400.0	7,398.7	7,362.3	7,364.4	16.0	10.9	6.61	334.2	62.4	386.2	359.3	26.88	14.366	
7,500.0	7,498.7	7,462.7	7,464.8	16.2	11.1	6.73	336.8	63.5	388.8	361.5	27.32	14.232	
7,600.0	7,598.7	7,562.8	7,564.8	16.5	11.3	6.91	339.1	65.0	391.3	363.6	27.75	14.101	
7,700.0	7,698.7	7,663.9	7,665.9	16.7	11.5	7.10	341.4	66.6	393.7	365.6	28.18	13.970	
7,800.0	7,798.7	7,762.8	7,764.7	16.9	11.7	7.31	343.5	68.3	396.1	367.5	28.62	13.842	
7,900.0	7,898.7	7,867.0	7,868.8	17.1	11.9	7.48	345.4	69.8	398.1	369.0	29.06	13.701	
8,000.0	7,998.7	7,968.7	7,970.6	17.3	12.2	7.61	346.5	70.8	399.3	369.8	29.48	13.543	
8,100.0	8,098.7	8,069.2	8,071.1	17.6	12.4	7.76	347.3	72.0	400.2	370.3	29.91	13.380	
8,200.0	8,198.7	8,169.1	8,171.0	17.8	12.6	7.91	348.1	73.1	401.2	370.8	30.35	13.221	
8,300.0	8,298.7	8,269.8	8,271.7	18.0	12.8	8.01	348.9	73.9	402.0	371.3	30.77	13.064	
8,400.0	8,398.7	8,370.2	8,372.0	18.2	13.0	8.09	349.4	74.6	402.7	371.5	31.20	12.906	
8,500.0	8,498.7	8,469.9	8,471.8	18.5	13.2	8.18	350.0	75.3	403.4	371.8	31.63	12.752	
8,600.0	8,598.7	8,569.9	8,571.8	18.7	13.4	8.29	350.7	76.2	404.1	372.1	32.07	12.602	
8,700.0	8,698.7	8,669.2	8,671.0	18.9	13.6	8.45	351.3	77.4	404.9	372.4	32.50	12.458	
8,800.0	8,798.7	8,769.3	8,771.1	19.1	13.8	8.64	352.0	78.9	405.9	372.9	32.94	12.322	
8,900.0	8,898.7	8,869.8	8,871.6	19.4	14.0	8.84	352.6	80.4	406.7	373.3	33.37	12.187	
9,000.0	8,998.7	8,970.2	8,972.0	19.6	14.2	9.01	353.1	81.7	407.4	373.6	33.80	12.053	
9,100.0	9,098.7	9,070.8	9,072.6	19.8	14.5	9.20	353.5	83.1	408.0	373.8	34.23	11.918	
9,200.0	9,198.7	9,170.9	9,172.7	20.0	14.7	9.39	353.8	84.6	408.5	373.8	34.66	11.785	
9,300.0	9,298.7	9,270.6	9,272.4	20.3	14.9	9.57	354.1	85.9	409.0	373.9	35.09	11.656	
9,400.0	9,398.7	9,371.3	9,373.0	20.5	15.1	9.75	354.4	87.3	409.5	374.0	35.52	11.528	
9,500.0	9,498.7	9,472.0	9,473.7	20.7	15.3	9.93	354.4	88.6	409.8	373.8	35.95	11.398	
9,600.0	9,598.7	9,571.6	9,573.4	20.9	15.5	10.09	354.6	89.8	410.1	373.8	36.38	11.273	
9,700.0	9,698.7	9,672.0	9,673.7	21.2	15.7	10.24	354.6	90.9	410.4	373.5	36.82	11.146	
9,800.0	9,798.7	9,771.3	9,773.0	21.4	15.9	10.40	354.7	92.0	410.7	373.4	37.25	11.026	
9,900.0	9,898.7	9,871.4	9,873.1	21.6	16.1	10.55	354.9	93.2	411.1	373.4	37.68	10.911	
10,000.0	9,998.7	9,970.7	9,972.4	21.8	16.3	10.66	355.2	94.0	411.5	373.4	38.11	10.798	
10,100.0	10,098.7	10,069.7	10,071.4	22.0	16.5	10.74	355.8	94.7	412.2	373.7	38.54	10.696	
10,200.0	10,198.7	10,169.2	10,170.9	22.3	16.7	10.83	356.5	95.5	413.1	374.1	38.98	10.598	
10,273.6	10,272.3	10,242.2	10,243.9	22.4	16.9	10.90	357.1	96.2	413.8	374.5	39.30	10.530	
10,275.0	10,273.7	10,243.6	10,245.3	22.4	16.9	-139.10	357.1	96.2	413.8	374.6	39.29	10.533	
10,300.0	10,298.7	10,268.4	10,270.1	22.5	17.0	-139.08	357.3	96.3	414.7	375.3	39.37	10.534	
10,325.0	10,323.6	10,293.1	10,294.8	22.5	17.0	-139.10	357.6	96.5	416.5	377.1	39.40	10.569	
10,350.0	10,348.4	10,317.7	10,319.4	22.6	17.1	-139.16	357.9	96.7	419.3	379.9	39.41	10.640	
10,375.0	10,372.9	10,342.2	10,343.9	22.6	17.1	-139.16	358.0	97.5	423.1	383.8	39.37	10.746	
10,400.0	10,397.2	10,362.8	10,364.4	22.7	17.2	-139.00	358.1	99.0	428.0	388.7	39.30	10.891	
10,425.0	10,421.2	10,381.8	10,383.2	22.7	17.2	-138.66	358.1	101.5	434.2	395.0	39.20	11.076	
10,450.0	10,444.7	10,398.6	10,399.7	22.8	17.2	-138.15	358.3	104.5	441.6	402.5	39.07	11.303	
10,475.0	10,467.8	10,416.1	10,416.8	22.8	17.3	-137.47	358.6	108.7	450.3	411.4	38.93	11.568	
10,500.0	10,490.3	10,434.8	10,434.7	22.9	17.3	-136.66	359.0	113.8	460.2	421.4	38.79	11.865	
10,525.0	10,512.2	10,454.6	10,453.6	23.0	17.4	-135.75	359.4	119.9	471.1	432.5	38.65	12.190	
10,550.0	10,533.5	10,471.0	10,469.1	23.0	17.4	-134.75	359.8	125.1	483.0	444.5	38.51	12.543	
10,575.0	10,554.1	10,488.6	10,485.8	23.1	17.4	-133.67	360.4	130.9	495.9	457.5	38.39	12.918	
10,600.0	10,573.9	10,503.3	10,499.5	23.2	17.5	-132.43	361.0	136.1	509.8	471.5	38.29	13.314	
10,625.0	10,592.8	10,524.1	10,518.6	23.3	17.5	-131.14	361.9	144.1	524.5	486.3	38.24	13.718	
10,650.0	10,610.9	10,542.9	10,535.6	23.4	17.6	-129.65	362.5	152.2	540.0	501.8	38.24	14.122	

CC - Min centre to center distance or convergent point, SF - min ellipse separation, ES - min separation factor



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft	
Survey Program: 2261-MWD, 13302-MWD				Distance								Offset Well Error:	0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis			Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
		Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Reference								
10,675.0	10,628.1	10,560.0	10,550.8	23.5	17.6	-128.00	363.1	160.0	556.1	517.9	38.29	14.523		
10,700.0	10,644.2	10,576.4	10,565.2	23.6	17.7	-126.17	363.6	168.0	573.0	534.6	38.42	14.914		
10,725.0	10,659.4	10,592.3	10,578.6	23.7	17.7	-124.12	364.0	176.4	590.4	551.8	38.63	15.287		
10,750.0	10,673.5	10,606.5	10,590.3	23.8	17.8	-121.83	364.4	184.5	608.5	569.6	38.92	15.636		
10,775.0	10,686.5	10,619.9	10,601.1	24.0	17.8	-119.31	364.7	192.4	627.1	587.8	39.29	15.961		
10,800.0	10,698.4	10,633.2	10,611.6	24.1	17.9	-116.60	365.1	200.6	646.3	606.5	39.74	16.262		
10,825.0	10,709.1	10,646.3	10,621.8	24.3	17.9	-113.70	365.4	208.8	665.9	625.6	40.25	16.543		
10,850.0	10,718.6	10,658.9	10,631.4	24.5	18.0	-110.62	365.8	216.9	685.8	645.0	40.80	16.809		
10,875.0	10,726.8	10,671.8	10,641.1	24.7	18.0	-107.35	366.1	225.4	706.2	664.8	41.38	17.066		
10,900.0	10,733.9	10,684.4	10,650.2	24.9	18.1	-103.89	366.4	234.1	726.7	684.8	41.95	17.323		
10,925.0	10,739.6	10,698.5	10,660.0	25.1	18.2	-100.38	366.6	244.2	747.6	705.1	42.49	17.593		
10,950.0	10,744.1	10,713.1	10,669.8	25.3	18.2	-96.82	366.8	255.1	768.5	725.5	42.97	17.883		
10,975.0	10,747.3	10,725.7	10,677.9	25.6	18.3	-93.05	366.9	264.7	789.6	746.2	43.38	18.201		
11,000.0	10,749.2	10,736.0	10,684.4	25.8	18.4	-89.10	366.9	272.7	810.7	767.1	43.68	18.560		
11,021.1	10,749.8	10,744.1	10,689.6	26.0	18.4	-85.72	367.0	279.0	828.7	784.8	43.84	18.900		
11,036.1	10,749.8	10,749.8	10,693.1	26.2	18.5	-86.22	367.0	283.4	841.5	797.4	44.03	19.110		
11,100.0	10,750.2	10,768.8	10,704.7	26.9	18.6	-87.90	367.2	298.5	895.8	850.9	44.86	19.968		
11,200.0	10,750.7	10,844.0	10,742.3	28.2	19.3	-92.01	367.1	363.4	979.1	932.7	46.39	21.107		
11,300.0	10,751.3	10,885.2	10,758.6	29.7	19.7	-93.21	366.6	401.2	1,059.3	1,011.3	48.00	22.067		
11,400.0	10,751.8	10,923.7	10,771.1	31.3	20.1	-93.85	366.9	437.7	1,137.8	1,088.0	49.80	22.848		
11,500.0	10,752.4	10,979.6	10,784.5	33.0	20.9	-94.36	368.5	491.9	1,214.1	1,162.2	51.87	23.406		
11,600.0	10,753.0	11,052.1	10,795.1	34.9	22.0	-94.52	370.6	563.5	1,286.7	1,232.4	54.30	23.696		
11,700.0	10,753.6	11,123.5	10,796.6	36.9	23.2	-94.13	373.3	634.8	1,355.9	1,298.9	57.00	23.789		
11,800.0	10,754.2	11,222.7	10,793.3	39.0	25.1	-93.52	376.2	734.0	1,420.2	1,359.9	60.32	23.547		
11,900.0	10,754.8	11,313.9	10,792.3	41.1	27.0	-93.14	378.1	825.2	1,480.0	1,416.1	63.84	23.182		
12,000.0	10,755.4	11,410.1	10,794.5	43.3	29.1	-92.97	378.6	921.3	1,534.2	1,466.5	67.71	22.657		
12,100.0	10,756.0	11,480.9	10,797.0	45.5	30.7	-92.88	379.4	992.1	1,584.5	1,513.2	71.32	22.218		
12,200.0	10,756.6	11,562.0	10,799.1	47.8	32.7	-92.78	380.8	1,073.1	1,630.9	1,555.7	75.22	21.680		
12,300.0	10,757.2	11,788.5	10,795.3	50.1	38.3	-92.37	375.9	1,299.4	1,668.5	1,585.9	82.62	20.194		
12,400.0	10,757.8	11,910.0	10,795.8	52.4	41.5	-92.26	367.2	1,420.6	1,696.7	1,608.8	87.87	19.308		
12,500.0	10,758.4	11,999.4	10,798.1	54.8	43.8	-92.24	360.5	1,509.7	1,719.7	1,627.4	92.31	18.629		
12,600.0	10,759.0	12,097.7	10,801.4	57.1	46.5	-92.27	353.5	1,607.7	1,738.0	1,641.1	96.90	17.936		
12,700.0	10,759.5	12,186.4	10,804.5	59.4	48.9	-92.31	347.2	1,696.1	1,751.2	1,650.1	101.11	17.320		
12,800.0	10,760.1	12,273.9	10,807.7	61.7	51.2	-92.36	341.8	1,783.4	1,760.1	1,655.0	105.12	16.743		
12,900.0	10,760.6	12,350.8	10,810.5	64.0	53.4	-92.41	337.5	1,860.2	1,764.5	1,655.8	108.64	16.241		
13,000.0	10,761.2	12,424.9	10,811.5	66.2	55.4	-92.41	334.8	1,934.2	1,765.3	1,653.5	111.85	15.783		
13,031.0	10,761.3	12,454.0	10,811.7	66.9	56.2	-92.41	334.0	1,963.2	1,764.7	1,651.8	112.96	15.623		
13,100.0	10,761.7	12,513.7	10,812.1	68.5	57.9	-92.41	332.3	2,022.9	1,763.0	1,646.6	116.43	15.143		
13,200.0	10,762.2	12,585.0	10,812.7	70.8	59.8	-92.42	331.1	2,094.2	1,761.6	1,640.5	121.07	14.550		
13,300.0	10,762.8	12,676.0	10,813.0	73.1	62.4	-92.42	330.7	2,185.2	1,761.4	1,635.1	126.29	13.948		
13,300.2	10,762.8	12,676.0	10,813.0	73.1	62.4	-92.42	330.7	2,185.2	1,761.4	1,635.1	126.29	13.947		
13,400.0	10,763.3	12,755.4	10,812.4	75.5	64.6	-92.38	331.1	2,264.6	1,762.1	1,630.9	131.21	13.430		
13,500.0	10,763.8	12,862.5	10,812.2	77.9	67.6	-92.36	332.0	2,371.7	1,763.2	1,626.3	136.95	12.875		
13,600.0	10,764.3	12,966.4	10,811.8	80.3	70.5	-92.33	332.3	2,475.6	1,763.8	1,621.1	142.62	12.367		
13,700.0	10,764.8	13,050.0	10,811.2	82.8	72.9	-92.29	333.1	2,559.2	1,764.8	1,617.1	147.74	11.946		
13,800.0	10,765.4	13,178.1	10,811.0	85.3	76.2	-92.26	333.5	2,687.3	1,765.4	1,611.6	153.82	11.477		
13,900.0	10,765.9	13,289.9	10,812.7	87.8	78.3	-92.30	332.7	2,799.2	1,764.9	1,606.2	158.71	11.120		
13,948.7	10,766.2	13,324.5	10,813.6	89.1	78.8	-92.32	332.4	2,833.7	1,764.7	1,604.2	160.52	10.993		
14,000.0	10,766.4	13,348.3	10,814.2	90.4	79.0	-92.33	332.4	2,857.5	1,765.1	1,602.9	162.20	10.882		
14,100.0	10,766.9	13,396.0	10,816.4	93.0	79.5	-92.40	333.8	2,905.1	1,768.2	1,602.7	165.49	10.685		
14,200.0	10,767.5	13,526.0	10,819.2	95.6	81.0	-92.46	339.1	3,035.0	1,772.9	1,603.1	169.77	10.443		
14,300.0	10,768.0	13,646.0	10,818.2	98.2	82.5	-92.40	341.3	3,154.9	1,774.9	1,600.8	174.09	10.195		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2261-MWD, 13302-MWD												Offset Well Error:	0.0 usft
Reference Offset				Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
14,400.0	10,768.5	13,745.5	10,817.6	100.8	83.9	-92.36		343.3	3,254.4	1,777.1	1,598.8	178.25	9.970
14,500.0	10,769.0	13,891.5	10,814.7	103.5	86.0	-92.24		343.8	3,400.4	1,777.6	1,594.4	183.19	9.704
14,600.0	10,769.6	14,004.6	10,813.5	106.1	87.7	-92.19		341.4	3,513.4	1,775.6	1,587.9	187.77	9.457
14,700.0	10,770.1	14,133.2	10,814.3	108.8	89.8	-92.19		338.3	3,642.0	1,773.5	1,580.9	192.69	9.204
14,800.0	10,770.6	14,208.0	10,812.0	111.5	91.1	-92.11		336.2	3,716.7	1,770.9	1,574.1	196.80	8.999
14,900.0	10,771.1	14,319.2	10,811.8	114.2	93.0	-92.09		334.1	3,827.9	1,769.3	1,567.7	201.59	8.777
15,000.0	10,771.7	14,416.0	10,811.5	116.9	94.7	-92.06		331.4	3,924.6	1,766.8	1,560.6	206.19	8.569
15,100.0	10,772.2	14,502.0	10,812.6	119.6	96.3	-92.09		329.5	4,010.6	1,764.8	1,554.2	210.64	8.378
15,200.0	10,772.7	14,598.9	10,814.4	122.4	98.2	-92.13		328.1	4,107.5	1,763.7	1,548.4	215.34	8.190
15,300.0	10,773.2	14,686.7	10,814.6	125.1	99.9	-92.13		326.9	4,195.3	1,762.6	1,542.7	219.92	8.015
15,400.0	10,773.7	14,783.3	10,813.3	127.9	101.8	-92.07		326.2	4,291.9	1,762.0	1,537.3	224.71	7.841
15,436.2	10,773.9	14,812.7	10,812.8	128.9	102.4	-92.05		326.0	4,321.2	1,762.0	1,535.6	226.35	7.784
15,500.0	10,774.3	14,876.2	10,812.4	130.6	103.7	-92.02		325.9	4,384.8	1,762.0	1,532.5	229.48	7.678
15,600.0	10,774.8	14,943.9	10,813.9	133.4	105.1	-92.06		326.4	4,452.4	1,763.0	1,529.2	233.74	7.542
15,700.0	10,775.3	15,045.7	10,816.8	136.2	107.3	-92.13		328.4	4,554.2	1,765.3	1,526.6	238.74	7.394
15,800.0	10,775.8	15,179.5	10,818.0	139.0	110.1	-92.15		329.1	4,688.0	1,766.1	1,521.6	244.48	7.224
15,842.8	10,776.1	15,219.5	10,817.7	140.2	111.0	-92.13		328.9	4,728.0	1,766.0	1,519.4	246.59	7.162
15,900.0	10,776.4	15,262.2	10,817.3	141.8	111.9	-92.11		329.0	4,770.7	1,766.3	1,517.1	249.17	7.088
16,000.0	10,776.9	15,333.0	10,816.9	144.6	113.5	-92.08		330.0	4,841.4	1,767.9	1,514.2	253.62	6.971
16,100.0	10,777.4	15,441.3	10,816.4	147.4	115.9	-92.05		333.4	4,949.7	1,771.3	1,512.4	258.93	6.841
16,200.0	10,777.9	15,605.5	10,817.3	150.2	119.7	-92.05		332.8	5,113.8	1,771.0	1,505.5	265.55	6.669
16,300.0	10,778.5	15,704.4	10,817.8	153.0	121.9	-92.05		330.7	5,212.7	1,769.2	1,498.5	270.73	6.535
16,400.0	10,779.0	15,809.6	10,818.2	155.8	124.4	-92.05		328.7	5,317.9	1,767.6	1,491.5	276.08	6.402
16,500.0	10,779.5	15,896.0	10,819.7	158.6	126.5	-92.08		327.2	5,404.3	1,766.2	1,485.2	281.01	6.285
16,600.0	10,780.0	15,984.4	10,822.0	161.4	128.6	-92.14		326.1	5,492.7	1,765.3	1,479.3	286.00	6.172
16,700.0	10,780.6	16,188.8	10,824.3	164.2	133.5	-92.19		317.9	5,696.8	1,761.2	1,467.4	293.83	5.994
16,800.0	10,781.1	16,288.7	10,820.1	167.1	136.0	-92.04		311.1	5,796.4	1,754.5	1,455.3	299.19	5.864
16,900.0	10,781.6	16,373.2	10,819.0	169.9	138.0	-92.00		306.0	5,880.6	1,748.6	1,444.5	304.17	5.749
17,000.0	10,782.1	16,461.2	10,822.2	172.7	140.2	-92.09		301.4	5,968.4	1,743.7	1,434.5	309.24	5.639
17,100.0	10,782.7	16,544.8	10,825.4	175.6	142.3	-92.19		297.1	6,051.9	1,739.0	1,424.8	314.20	5.535
17,200.0	10,783.2	16,668.4	10,828.0	178.4	145.4	-92.26		291.7	6,175.3	1,735.1	1,414.9	320.19	5.419
17,300.0	10,783.7	16,785.8	10,827.3	181.3	148.4	-92.23		284.2	6,292.5	1,728.8	1,402.7	326.07	5.302
17,400.0	10,784.2	16,900.8	10,825.7	184.1	151.3	-92.16		276.0	6,407.2	1,721.9	1,390.0	331.91	5.188
17,500.0	10,784.7	16,994.1	10,826.6	187.0	153.7	-92.19		269.1	6,500.2	1,714.8	1,377.6	337.20	5.085
17,600.0	10,785.3	17,071.9	10,827.0	189.8	155.7	-92.19		264.3	6,577.9	1,708.8	1,366.7	342.11	4.995
17,700.0	10,785.8	17,159.1	10,827.0	192.7	158.0	-92.18		259.6	6,664.9	1,703.7	1,356.4	347.26	4.906
17,800.0	10,786.3	17,238.6	10,828.3	195.5	160.1	-92.21		256.1	6,744.4	1,699.7	1,347.4	352.23	4.825
17,900.0	10,786.8	17,332.4	10,829.4	198.4	162.5	-92.24		252.6	6,838.1	1,696.2	1,338.6	357.57	4.744
18,000.0	10,787.4	17,425.8	10,830.6	201.3	165.0	-92.27		249.9	6,931.4	1,693.5	1,330.6	362.91	4.667
18,100.0	10,787.9	17,522.7	10,831.2	204.1	167.5	-92.27		246.7	7,028.3	1,690.6	1,322.2	368.35	4.590
18,200.0	10,788.4	17,603.9	10,831.8	207.0	169.6	-92.28		245.0	7,109.5	1,688.7	1,315.3	373.40	4.522
18,300.0	10,788.9	17,711.2	10,831.7	209.9	172.5	-92.26		243.0	7,216.7	1,687.1	1,307.9	379.14	4.450
18,400.0	10,789.5	17,790.0	10,831.1	212.7	174.6	-92.23		241.7	7,295.5	1,685.7	1,301.5	384.15	4.388
18,500.0	10,790.0	17,896.2	10,831.0	215.6	177.4	-92.21		240.5	7,401.7	1,684.8	1,294.9	389.88	4.321
18,600.0	10,790.5	17,982.4	10,829.8	218.5	179.7	-92.15		239.7	7,488.0	1,684.0	1,288.9	395.10	4.262
18,615.6	10,790.6	17,994.9	10,829.6	218.9	180.0	-92.14		239.6	7,500.4	1,684.0	1,288.1	395.89	4.254
18,700.0	10,791.0	18,074.7	10,829.1	221.3	182.2	-92.11		239.7	7,580.2	1,684.3	1,283.8	400.49	4.206
18,800.0	10,791.6	18,163.1	10,828.2	224.2	184.5	-92.07		239.8	7,668.6	1,684.7	1,278.9	405.78	4.152
18,900.0	10,792.1	18,238.5	10,827.2	227.1	186.5	-92.02		241.0	7,743.9	1,686.4	1,275.7	410.72	4.106
19,000.0	10,792.6	18,328.8	10,827.8	230.0	189.0	-92.02		243.3	7,834.2	1,689.1	1,273.1	416.05	4.060
19,100.0	10,793.1	18,401.3	10,827.6	232.9	190.9	-92.00		245.8	7,906.7	1,692.9	1,272.0	420.92	4.022
19,200.0	10,793.6	18,483.9	10,827.4	235.7	193.1	-91.97		250.1	7,989.2	1,698.3	1,272.2	426.06	3.986

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Ash Federal 5300 11-18T - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2261-MWD, 13302-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
19,300.0	10,794.2	18,647.5	10,830.2	238.6	197.6	-92.03	255.6	8,152.6	1,701.9	1,268.6	433.37	3.927	
19,400.0	10,794.7	18,759.3	10,832.4	241.5	200.6	-92.08	256.9	8,264.4	1,703.4	1,264.1	439.30	3.877	
19,500.0	10,795.2	18,851.7	10,835.1	244.4	203.1	-92.15	257.8	8,356.8	1,704.7	1,260.0	444.71	3.833	
19,600.0	10,795.7	18,940.8	10,837.7	247.3	205.5	-92.22	259.3	8,445.8	1,706.7	1,256.6	450.03	3.792	
19,700.0	10,796.3	19,057.2	10,841.7	250.2	208.7	-92.33	261.0	8,562.2	1,708.5	1,252.4	456.08	3.746	
19,800.0	10,796.8	19,182.0	10,845.2	253.0	212.1	-92.43	261.0	8,686.9	1,708.9	1,246.5	462.38	3.696	
19,900.0	10,797.3	19,281.5	10,846.3	255.9	214.9	-92.45	260.6	8,786.4	1,708.8	1,240.7	468.02	3.651	
19,962.9	10,797.6	19,342.8	10,846.2	257.8	216.6	-92.43	260.4	8,847.7	1,708.7	1,237.1	471.55	3.624	
20,000.0	10,797.8	19,376.1	10,846.1	258.8	217.5	-92.42	260.4	8,881.0	1,708.7	1,235.2	473.54	3.608	
20,100.0	10,798.4	19,476.5	10,845.1	261.7	220.2	-92.37	260.4	8,981.4	1,709.0	1,229.8	479.24	3.566	
20,200.0	10,798.9	19,575.0	10,843.2	264.6	223.0	-92.29	260.3	9,079.8	1,709.1	1,224.2	484.90	3.525	
20,300.0	10,799.4	19,652.7	10,841.8	267.5	225.1	-92.23	260.8	9,157.6	1,709.8	1,219.9	489.98	3.490	
20,400.0	10,799.9	19,722.5	10,840.9	270.4	227.0	-92.19	262.3	9,227.3	1,712.2	1,217.4	494.84	3.460	
20,500.0	10,800.5	19,800.0	10,840.3	273.3	229.2	-92.15	265.5	9,304.8	1,716.5	1,216.6	499.90	3.434	
20,600.0	10,801.0	19,861.4	10,840.4	276.2	230.9	-92.14	269.2	9,366.1	1,722.6	1,218.1	504.51	3.414	
20,700.0	10,801.5	19,957.3	10,840.7	279.1	233.5	-92.12	275.8	9,461.7	1,729.8	1,219.7	510.07	3.391	
20,800.0	10,802.0	20,066.4	10,840.9	282.0	236.5	-92.10	283.1	9,570.6	1,736.6	1,220.6	516.00	3.366	
20,900.0	10,802.5	20,167.7	10,841.1	284.9	239.3	-92.08	289.3	9,671.7	1,743.0	1,221.3	521.72	3.341	
21,000.0	10,803.1	20,264.0	10,840.8	287.8	242.0	-92.05	295.2	9,767.8	1,749.4	1,222.1	527.31	3.318	
21,100.0	10,803.6	20,380.7	10,839.6	290.7	245.2	-91.98	302.4	9,884.2	1,755.8	1,222.3	533.47	3.291	
21,197.4	10,804.1	20,482.0	10,837.6	293.5	248.0	-91.89	307.5	9,985.4	1,760.9	1,221.7	539.16	3.266 SF	



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	24.70	119.6	55.0	131.6				
100.0	100.0	100.0	100.0	0.1	0.1	24.70	119.6	55.0	131.6	131.4	0.17	780.729	
200.0	200.0	200.0	200.0	0.3	0.3	24.70	119.6	55.0	131.6	131.0	0.62	212.926	
300.0	300.0	300.0	300.0	0.5	0.5	24.70	119.6	55.0	131.6	130.5	1.07	123.273	
400.0	400.0	400.0	400.0	0.8	0.8	24.70	119.6	55.0	131.6	130.1	1.52	86.748	
500.0	500.0	500.0	500.0	1.0	1.0	24.70	119.6	55.0	131.6	129.6	1.97	66.920	
600.0	600.0	600.0	600.0	1.2	1.2	24.70	119.6	55.0	131.6	129.2	2.42	54.470	
700.0	700.0	700.0	700.0	1.4	1.4	24.70	119.6	55.0	131.6	128.7	2.87	45.925	
800.0	800.0	800.0	800.0	1.7	1.7	24.70	119.6	55.0	131.6	128.3	3.32	39.698	
900.0	900.0	900.0	900.0	1.9	1.9	24.70	119.6	55.0	131.6	127.8	3.76	34.958	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	24.70	119.6	55.0	131.6	127.4	4.21	31.229	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	24.70	119.6	55.0	131.6	126.9	4.66	28.219	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	24.70	119.6	55.0	131.6	126.5	5.11	25.738	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	24.70	119.6	55.0	131.6	126.0	5.56	23.658	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	24.70	119.6	55.0	131.6	125.6	6.01	21.890	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	24.70	119.6	55.0	131.6	125.1	6.46	20.367	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	24.70	119.6	55.0	131.6	124.7	6.91	19.042	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	24.70	119.6	55.0	131.6	124.3	7.36	17.879	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	24.70	119.6	55.0	131.6	123.8	7.81	16.850	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	24.70	119.6	55.0	131.6	123.4	8.26	15.933	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	24.70	119.6	55.0	131.6	122.9	8.71	15.111	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	24.70	119.6	55.0	131.6	122.5	9.16	14.369	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	24.70	119.6	55.0	131.6	122.0	9.61	13.697	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	24.70	119.6	55.0	131.6	121.6	10.06	13.085	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	24.70	119.6	55.0	131.6	121.1	10.51	12.525	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	24.70	119.6	55.0	131.6	120.7	10.96	12.011 CC, ES	
2,600.0	2,600.0	2,598.1	2,598.1	5.7	5.7	-135.13	119.6	56.7	133.6	122.2	11.36	11.759	
2,650.0	2,649.9	2,647.0	2,647.0	5.8	5.8	-134.93	119.6	58.8	136.0	124.5	11.54	11.787	
2,700.0	2,699.9	2,696.9	2,696.8	5.8	5.9	-134.72	119.6	61.4	139.0	127.2	11.73	11.850	
2,800.0	2,799.7	2,796.7	2,796.4	6.0	6.1	-134.32	119.6	66.6	144.9	132.8	12.11	11.965	
2,900.0	2,899.6	2,896.5	2,896.1	6.2	6.3	-133.95	119.6	71.8	150.8	138.3	12.50	12.067	
3,000.0	2,999.5	2,996.4	2,995.8	6.4	6.5	-133.60	119.6	77.1	156.7	143.8	12.89	12.157	
3,100.0	3,099.3	3,096.2	3,095.5	6.6	6.7	-133.29	119.6	82.3	162.7	149.4	13.29	12.237	
3,200.0	3,199.2	3,196.0	3,195.2	6.8	6.9	-132.99	119.6	87.5	168.6	154.9	13.70	12.307	
3,300.0	3,299.0	3,295.8	3,294.9	7.0	7.2	-132.72	119.6	92.7	174.6	160.4	14.11	12.370	
3,400.0	3,398.9	3,395.6	3,394.5	7.2	7.4	-132.46	119.6	97.9	180.5	166.0	14.53	12.425	
3,501.2	3,500.0	3,496.7	3,495.5	7.4	7.6	-132.22	119.6	103.2	186.5	171.6	14.95	12.474	
3,600.0	3,598.7	3,598.4	3,597.1	7.6	7.8	-132.09	119.6	106.9	190.5	175.2	15.38	12.388	
3,651.2	3,649.9	3,651.2	3,649.9	7.7	7.9	27.93	119.6	107.4	191.1	175.5	15.56	12.277	
3,700.0	3,698.7	3,700.0	3,698.7	7.8	8.0	27.93	119.6	107.4	191.1	175.3	15.77	12.116	
3,800.0	3,798.7	3,800.0	3,798.7	8.0	8.2	27.93	119.6	107.4	191.1	174.9	16.21	11.787	
3,900.0	3,898.7	3,900.0	3,898.7	8.2	8.5	27.93	119.6	107.4	191.1	174.4	16.65	11.475	
4,000.0	3,998.7	4,000.0	3,998.7	8.5	8.7	27.93	119.6	107.4	191.1	174.0	17.09	11.179	
4,100.0	4,098.7	4,100.0	4,098.7	8.7	8.9	27.93	119.6	107.4	191.1	173.5	17.53	10.898	
4,200.0	4,198.7	4,200.0	4,198.7	8.9	9.1	27.93	119.6	107.4	191.1	173.1	17.97	10.630	
4,300.0	4,298.7	4,300.0	4,298.7	9.1	9.4	27.93	119.6	107.4	191.1	172.6	18.42	10.375	
4,400.0	4,398.7	4,400.0	4,398.7	9.3	9.6	27.93	119.6	107.4	191.1	172.2	18.86	10.131	
4,500.0	4,498.7	4,500.0	4,498.7	9.6	9.8	27.93	119.6	107.4	191.1	171.8	19.30	9.899	
4,600.0	4,598.7	4,600.0	4,598.7	9.8	10.0	27.93	119.6	107.4	191.1	171.3	19.74	9.677	
4,700.0	4,698.7	4,700.0	4,698.7	10.0	10.2	27.93	119.6	107.4	191.1	170.9	20.19	9.464	
4,800.0	4,798.7	4,800.0	4,798.7	10.2	10.5	27.93	119.6	107.4	191.1	170.4	20.63	9.260	
4,900.0	4,898.7	4,900.0	4,898.7	10.4	10.7	27.93	119.6	107.4	191.1	170.0	21.08	9.065	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD				Distance								Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
5,000.0	4,998.7	5,000.0	4,998.7	10.7	10.9	27.93		119.6	107.4	191.1	169.5	21.52	8.878
5,100.0	5,098.7	5,100.0	5,098.7	10.9	11.1	27.93		119.6	107.4	191.1	169.1	21.96	8.699
5,200.0	5,198.7	5,200.0	5,198.7	11.1	11.4	27.93		119.6	107.4	191.1	168.6	22.41	8.526
5,300.0	5,298.7	5,300.0	5,298.7	11.3	11.6	27.93		119.6	107.4	191.1	168.2	22.85	8.360
5,400.0	5,398.7	5,400.0	5,398.7	11.6	11.8	27.93		119.6	107.4	191.1	167.8	23.30	8.200
5,500.0	5,498.7	5,500.0	5,498.7	11.8	12.0	27.93		119.6	107.4	191.1	167.3	23.74	8.047
5,600.0	5,598.7	5,600.0	5,598.7	12.0	12.2	27.93		119.6	107.4	191.1	166.9	24.19	7.898
5,700.0	5,698.7	5,700.0	5,698.7	12.2	12.5	27.93		119.6	107.4	191.1	166.4	24.63	7.756
5,800.0	5,798.7	5,800.0	5,798.7	12.4	12.7	27.93		119.6	107.4	191.1	166.0	25.08	7.618
5,900.0	5,898.7	5,900.0	5,898.7	12.7	12.9	27.93		119.6	107.4	191.1	165.5	25.53	7.485
6,000.0	5,998.7	6,000.0	5,998.7	12.9	13.1	27.93		119.6	107.4	191.1	165.1	25.97	7.356
6,100.0	6,098.7	6,100.0	6,098.7	13.1	13.4	27.93		119.6	107.4	191.1	164.6	26.42	7.232
6,200.0	6,198.7	6,200.0	6,198.7	13.3	13.6	27.93		119.6	107.4	191.1	164.2	26.86	7.112
6,300.0	6,298.7	6,300.0	6,298.7	13.6	13.8	27.93		119.6	107.4	191.1	163.7	27.31	6.996
6,400.0	6,398.7	6,400.0	6,398.7	13.8	14.0	27.93		119.6	107.4	191.1	163.3	27.76	6.883
6,500.0	6,498.7	6,500.0	6,498.7	14.0	14.3	27.93		119.6	107.4	191.1	162.9	28.20	6.774
6,600.0	6,598.7	6,600.0	6,598.7	14.2	14.5	27.93		119.6	107.4	191.1	162.4	28.65	6.669
6,700.0	6,698.7	6,700.0	6,698.7	14.4	14.7	27.93		119.6	107.4	191.1	162.0	29.10	6.566
6,800.0	6,798.7	6,800.0	6,798.7	14.7	14.9	27.93		119.6	107.4	191.1	161.5	29.54	6.467
6,900.0	6,898.7	6,900.0	6,898.7	14.9	15.2	27.93		119.6	107.4	191.1	161.1	29.99	6.371
7,000.0	6,998.7	7,000.0	6,998.7	15.1	15.4	27.93		119.6	107.4	191.1	160.6	30.44	6.277
7,100.0	7,098.7	7,100.0	7,098.7	15.3	15.6	27.93		119.6	107.4	191.1	160.2	30.88	6.186
7,200.0	7,198.7	7,200.0	7,198.7	15.6	15.8	27.93		119.6	107.4	191.1	159.7	31.33	6.098
7,300.0	7,298.7	7,300.0	7,298.7	15.8	16.0	27.93		119.6	107.4	191.1	159.3	31.78	6.012
7,400.0	7,398.7	7,400.0	7,398.7	16.0	16.3	27.93		119.6	107.4	191.1	158.8	32.23	5.929
7,500.0	7,498.7	7,500.0	7,498.7	16.2	16.5	27.93		119.6	107.4	191.1	158.4	32.67	5.848
7,600.0	7,598.7	7,600.0	7,598.7	16.5	16.7	27.93		119.6	107.4	191.1	157.9	33.12	5.769
7,700.0	7,698.7	7,700.0	7,698.7	16.7	16.9	27.93		119.6	107.4	191.1	157.5	33.57	5.692
7,800.0	7,798.7	7,800.0	7,798.7	16.9	17.2	27.93		119.6	107.4	191.1	157.0	34.01	5.617
7,900.0	7,898.7	7,900.0	7,898.7	17.1	17.4	27.93		119.6	107.4	191.1	156.6	34.46	5.544
8,000.0	7,998.7	8,000.0	7,998.7	17.3	17.6	27.93		119.6	107.4	191.1	156.1	34.91	5.473
8,100.0	8,098.7	8,100.0	8,098.7	17.6	17.8	27.93		119.6	107.4	191.1	155.7	35.36	5.404
8,200.0	8,198.7	8,200.0	8,198.7	17.8	18.1	27.93		119.6	107.4	191.1	155.3	35.81	5.336
8,300.0	8,298.7	8,300.0	8,298.7	18.0	18.3	27.93		119.6	107.4	191.1	154.8	36.25	5.270
8,400.0	8,398.7	8,400.0	8,398.7	18.2	18.5	27.93		119.6	107.4	191.1	154.4	36.70	5.206
8,500.0	8,498.7	8,500.0	8,498.7	18.5	18.7	27.93		119.6	107.4	191.1	153.9	37.15	5.143
8,600.0	8,598.7	8,600.0	8,598.7	18.7	19.0	27.93		119.6	107.4	191.1	153.5	37.60	5.082
8,700.0	8,698.7	8,700.0	8,698.7	18.9	19.2	27.93		119.6	107.4	191.1	153.0	38.04	5.022
8,800.0	8,798.7	8,800.0	8,798.7	19.1	19.4	27.93		119.6	107.4	191.1	152.6	38.49	4.964
8,900.0	8,898.7	8,900.0	8,898.7	19.4	19.6	27.93		119.6	107.4	191.1	152.1	38.94	4.907
9,000.0	8,998.7	9,000.0	8,998.7	19.6	19.9	27.93		119.6	107.4	191.1	151.7	39.39	4.851
9,100.0	9,098.7	9,100.0	9,098.7	19.8	20.1	27.93		119.6	107.4	191.1	151.2	39.84	4.796
9,200.0	9,198.7	9,200.0	9,198.7	20.0	20.3	27.93		119.6	107.4	191.1	150.8	40.28	4.743
9,300.0	9,298.7	9,300.0	9,298.7	20.3	20.5	27.93		119.6	107.4	191.1	150.3	40.73	4.691
9,400.0	9,398.7	9,400.0	9,398.7	20.5	20.8	27.93		119.6	107.4	191.1	149.9	41.18	4.640
9,500.0	9,498.7	9,500.0	9,498.7	20.7	21.0	27.93		119.6	107.4	191.1	149.4	41.63	4.590
9,600.0	9,598.7	9,600.0	9,598.7	20.9	21.2	27.93		119.6	107.4	191.1	149.0	42.08	4.541
9,700.0	9,698.7	9,700.0	9,698.7	21.2	21.4	27.93		119.6	107.4	191.1	148.5	42.52	4.493
9,800.0	9,798.7	9,800.0	9,798.7	21.4	21.6	27.93		119.6	107.4	191.1	148.1	42.97	4.446
9,900.0	9,898.7	9,900.0	9,898.7	21.6	21.9	27.93		119.6	107.4	191.1	147.6	43.42	4.400
10,000.0	9,998.7	10,000.0	9,998.7	21.8	22.1	27.93		119.6	107.4	191.1	147.2	43.87	4.355
10,100.0	10,098.7	10,100.0	10,098.7	22.0	22.3	27.93		119.6	107.4	191.1	146.7	44.32	4.311

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD				Distance								Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
10,200.0	10,198.7	10,200.0	10,198.7	22.3	22.5	27.93		119.6	107.4	191.1	146.3	44.77	4.268
10,273.6	10,272.3	10,273.6	10,272.3	22.4	22.7	27.93		119.6	107.4	191.1	146.0	45.10	4.237
10,275.0	10,273.7	10,275.0	10,273.7	22.4	22.7	-122.07		119.6	107.4	191.1	145.9	45.14	4.232
10,300.0	10,298.7	10,300.0	10,298.7	22.5	22.8	-122.22		119.6	107.4	191.4	146.2	45.23	4.233
10,325.0	10,323.6	10,324.9	10,323.6	22.5	22.8	-122.62		119.6	107.4	192.5	147.2	45.29	4.251
10,350.0	10,348.4	10,349.7	10,348.4	22.6	22.9	-123.26		119.6	107.4	194.4	149.0	45.33	4.288
10,375.0	10,372.9	10,374.6	10,373.3	22.6	22.9	-124.09		119.5	107.5	197.0	151.6	45.33	4.345
10,400.0	10,397.2	10,400.1	10,398.8	22.7	23.0	-124.84		118.9	108.6	200.2	155.0	45.29	4.421
10,425.0	10,421.2	10,425.7	10,424.3	22.7	23.0	-125.43		117.5	110.9	204.2	159.0	45.22	4.515
10,450.0	10,444.7	10,451.5	10,449.7	22.8	23.1	-125.85		115.5	114.4	208.8	163.7	45.13	4.627
10,475.0	10,467.8	10,477.4	10,475.0	22.8	23.1	-126.10		112.8	119.1	214.0	169.0	45.02	4.754
10,500.0	10,490.3	10,503.3	10,500.0	22.9	23.2	-126.18		109.4	125.1	219.9	175.0	44.89	4.897
10,525.0	10,512.2	10,529.3	10,524.7	23.0	23.3	-126.10		105.3	132.1	226.2	181.5	44.76	5.054
10,550.0	10,533.5	10,555.3	10,548.9	23.0	23.3	-125.87		100.5	140.4	233.2	188.5	44.63	5.224
10,575.0	10,554.1	10,581.4	10,572.6	23.1	23.4	-125.49		95.1	149.8	240.6	196.1	44.52	5.405
10,600.0	10,573.9	10,607.4	10,595.6	23.2	23.5	-124.97		89.0	160.3	248.6	204.2	44.42	5.596
10,625.0	10,592.8	10,633.4	10,617.9	23.3	23.6	-124.32		82.4	171.8	257.0	212.7	44.36	5.794
10,650.0	10,610.9	10,659.4	10,639.5	23.4	23.6	-123.54		75.1	184.4	265.9	221.6	44.34	5.998
10,675.0	10,628.1	10,685.3	10,660.1	23.5	23.7	-122.66		67.3	197.9	275.3	230.9	44.37	6.204
10,700.0	10,644.2	10,711.1	10,679.9	23.6	23.8	-121.66		59.0	212.4	285.0	240.6	44.45	6.412
10,725.0	10,659.4	10,736.9	10,698.6	23.7	24.0	-120.58		50.1	227.7	295.2	250.6	44.60	6.619
10,750.0	10,673.5	10,762.6	10,716.4	23.8	24.1	-119.40		40.8	243.8	305.7	260.9	44.81	6.823
10,775.0	10,686.5	10,788.3	10,733.1	24.0	24.2	-118.15		31.1	260.7	316.6	271.5	45.09	7.022
10,800.0	10,698.4	10,813.9	10,748.6	24.1	24.4	-116.83		20.9	278.3	327.8	282.4	45.44	7.215
10,825.0	10,709.1	10,839.5	10,763.1	24.3	24.5	-115.44		10.4	296.6	339.4	293.5	45.84	7.402
10,850.0	10,718.6	10,865.1	10,776.4	24.5	24.7	-114.00		-0.6	315.5	351.1	304.8	46.31	7.582
10,875.0	10,726.8	10,890.6	10,788.5	24.7	24.9	-112.50		-11.8	335.0	363.2	316.3	46.83	7.755
10,900.0	10,733.9	10,916.2	10,799.3	24.9	25.1	-110.97		-23.4	355.0	375.4	328.0	47.40	7.920
10,925.0	10,739.6	10,941.7	10,809.0	25.1	25.3	-109.40		-35.2	375.5	387.9	339.9	48.01	8.079
10,950.0	10,744.1	10,967.4	10,817.3	25.3	25.6	-107.81		-47.3	396.5	400.4	351.8	48.64	8.232
10,975.0	10,747.3	10,993.1	10,824.4	25.6	25.9	-106.19		-59.7	417.9	413.2	363.8	49.31	8.379
11,000.0	10,749.2	11,019.0	10,830.2	25.8	26.1	-104.56		-72.3	439.8	426.0	376.0	49.98	8.522
11,021.1	10,749.8	11,040.9	10,834.0	26.0	26.4	-103.18		-83.1	458.5	436.8	386.2	50.57	8.638
11,036.1	10,749.8	11,056.7	10,836.1	26.2	26.6	-103.22		-90.9	472.0	444.5	393.6	50.85	8.741
11,100.0	10,750.2	11,122.5	10,839.5	26.9	27.4	-102.40		-123.7	528.8	475.4	423.0	52.40	9.073
11,200.0	10,750.7	11,200.0	10,839.9	28.2	28.5	-101.14		-161.3	596.7	521.0	466.1	54.88	9.493
11,300.0	10,751.3	11,263.4	10,840.3	29.7	29.5	-100.24		-189.9	653.3	565.2	507.7	57.45	9.838
11,400.0	10,751.8	11,332.5	10,840.6	31.3	30.7	-99.43		-218.9	716.0	608.1	547.8	60.31	10.083
11,500.0	10,752.4	11,400.0	10,841.0	33.0	31.9	-98.75		-245.0	778.2	649.6	586.3	63.33	10.258
11,600.0	10,753.0	11,468.8	10,841.4	34.9	33.3	-98.16		-269.4	842.6	689.7	623.2	66.54	10.366
11,700.0	10,753.6	11,536.2	10,841.7	36.9	34.6	-97.65		-291.0	906.3	728.3	658.5	69.83	10.429
11,800.0	10,754.2	11,600.0	10,842.1	39.0	36.0	-97.22		-309.4	967.5	765.3	692.2	73.13	10.465
11,900.0	10,754.8	11,669.4	10,842.4	41.1	37.5	-96.83		-327.0	1,034.6	800.7	724.1	76.60	10.453
12,000.0	10,755.4	11,735.3	10,842.8	43.3	38.9	-96.49		-341.5	1,098.9	834.5	754.5	80.01	10.430
12,100.0	10,756.0	11,800.0	10,843.2	45.5	40.4	-96.20		-353.6	1,162.4	866.7	783.3	83.38	10.395
12,200.0	10,756.6	11,866.1	10,843.5	47.8	41.9	-95.93		-363.7	1,227.8	897.1	810.4	86.74	10.343
12,300.0	10,757.2	11,931.0	10,843.9	50.1	43.4	-95.69		-371.4	1,292.2	925.8	835.8	90.00	10.287
12,400.0	10,757.8	12,000.0	10,844.2	52.4	45.0	-95.48		-377.1	1,360.9	952.8	859.5	93.26	10.216
12,500.0	10,758.4	12,060.0	10,844.5	54.8	46.4	-95.30		-380.1	1,420.9	977.9	881.7	96.20	10.166
12,600.0	10,759.0	12,131.3	10,844.9	57.1	48.1	-95.12		-381.4	1,492.1	1,001.2	902.0	99.27	10.086
12,700.0	10,759.5	12,229.4	10,845.4	59.4	50.5	-94.95		-382.2	1,590.2	1,020.5	917.6	102.87	9.920
12,800.0	10,760.1	12,328.4	10,845.9	61.7	52.9	-94.83		-383.0	1,689.2	1,034.5	928.2	106.35	9.728

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft	
Survey Program: 0-MWD												Offset Well Error:	0.0 usft	
Reference				Offset		Semi Major Axis		Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	(°)	Offset	Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
12,900.0	10,760.6	12,428.0	10,846.5	64.0	55.4	-94.75		-383.8	1,788.8	1,043.4	933.7	109.67	9.514	
13,000.0	10,761.2	12,527.9	10,847.0	66.2	58.0	-94.70		-384.6	1,888.7	1,047.1	934.3	112.79	9.284	
13,031.0	10,761.3	12,558.9	10,847.2	66.9	58.8	-94.70		-384.8	1,919.7	1,047.2	933.5	113.71	9.209	
13,100.0	10,761.7	12,627.9	10,847.5	68.5	60.6	-94.70		-385.4	1,988.7	1,046.8	929.5	117.35	8.921	
13,200.0	10,762.2	12,727.9	10,848.0	70.8	63.2	-94.70		-386.2	2,088.7	1,046.3	923.6	122.67	8.529	
13,300.0	10,762.8	12,827.9	10,848.6	73.1	65.8	-94.71		-387.0	2,188.7	1,045.7	917.7	128.04	8.168	
13,400.0	10,763.3	12,927.9	10,849.1	75.5	68.5	-94.71		-387.8	2,288.7	1,045.2	911.8	133.44	7.833	
13,500.0	10,763.8	13,027.9	10,849.6	77.9	71.2	-94.71		-388.6	2,388.7	1,044.7	905.8	138.89	7.522	
13,600.0	10,764.3	13,127.9	10,850.1	80.3	73.9	-94.71		-389.4	2,488.7	1,044.1	899.8	144.36	7.233	
13,700.0	10,764.8	13,227.9	10,850.7	82.8	76.6	-94.72		-390.2	2,588.7	1,043.6	893.7	149.86	6.964	
13,800.0	10,765.4	13,327.9	10,851.2	85.3	79.3	-94.72		-391.0	2,688.7	1,043.1	887.7	155.39	6.713	
13,900.0	10,765.9	13,427.9	10,851.7	87.8	82.1	-94.72		-391.8	2,788.7	1,042.5	881.6	160.94	6.478	
14,000.0	10,766.4	13,527.9	10,852.2	90.4	84.9	-94.72		-392.6	2,888.6	1,042.0	875.5	166.50	6.258	
14,100.0	10,766.9	13,627.9	10,852.8	93.0	87.6	-94.72		-393.4	2,988.6	1,041.4	869.3	172.09	6.052	
14,200.0	10,767.5	13,727.9	10,853.3	95.6	90.4	-94.73		-394.2	3,088.6	1,040.9	863.2	177.69	5.858	
14,300.0	10,768.0	13,827.9	10,853.8	98.2	93.2	-94.73		-395.0	3,188.6	1,040.4	857.0	183.31	5.675	
14,400.0	10,768.5	13,927.9	10,854.3	100.8	96.0	-94.73		-395.8	3,288.6	1,039.8	850.9	188.94	5.503	
14,500.0	10,769.0	14,027.9	10,854.8	103.5	98.8	-94.73		-396.6	3,388.6	1,039.3	844.7	194.59	5.341	
14,600.0	10,769.6	14,127.9	10,855.4	106.1	101.6	-94.74		-397.4	3,488.6	1,038.7	838.5	200.24	5.187	
14,700.0	10,770.1	14,227.9	10,855.9	108.8	104.5	-94.74		-398.2	3,588.6	1,038.2	832.3	205.91	5.042	
14,800.0	10,770.6	14,327.9	10,856.4	111.5	107.3	-94.74		-399.0	3,688.6	1,037.7	826.1	211.59	4.904	
14,900.0	10,771.1	14,427.9	10,856.9	114.2	110.1	-94.74		-399.8	3,788.6	1,037.1	819.9	217.27	4.773	
15,000.0	10,771.7	14,527.9	10,857.5	116.9	113.0	-94.75		-400.6	3,888.6	1,036.6	813.6	222.96	4.649	
15,100.0	10,772.2	14,627.9	10,858.0	119.6	115.8	-94.75		-401.5	3,988.6	1,036.1	807.4	228.66	4.531	
15,200.0	10,772.7	14,727.9	10,858.5	122.4	118.6	-94.75		-402.3	4,088.6	1,035.5	801.1	234.37	4.418	
15,300.0	10,773.2	14,827.9	10,859.0	125.1	121.5	-94.75		-403.1	4,188.6	1,035.0	794.9	240.08	4.311	
15,400.0	10,773.7	14,927.9	10,859.6	127.9	124.4	-94.76		-403.9	4,288.6	1,034.4	788.6	245.80	4.208	
15,500.0	10,774.3	15,027.9	10,860.1	130.6	127.2	-94.76		-404.7	4,388.6	1,033.9	782.4	251.53	4.111	
15,600.0	10,774.8	15,127.8	10,860.6	133.4	130.1	-94.76		-405.5	4,488.5	1,033.4	776.1	257.26	4.017	
15,700.0	10,775.3	15,227.8	10,861.1	136.2	132.9	-94.76		-406.3	4,588.5	1,032.8	769.8	262.99	3.927	
15,800.0	10,775.8	15,327.8	10,861.7	139.0	135.8	-94.77		-407.1	4,688.5	1,032.3	763.6	268.73	3.841	
15,900.0	10,776.4	15,427.8	10,862.2	141.8	138.7	-94.77		-407.9	4,788.5	1,031.7	757.3	274.47	3.759	
16,000.0	10,776.9	15,527.8	10,862.7	144.6	141.5	-94.77		-408.7	4,888.5	1,031.2	751.0	280.22	3.680	
16,100.0	10,777.4	15,627.8	10,863.2	147.4	144.4	-94.77		-409.5	4,988.5	1,030.7	744.7	285.97	3.604	
16,200.0	10,777.9	15,727.8	10,863.7	150.2	147.3	-94.78		-410.3	5,088.5	1,030.1	738.4	291.73	3.531	
16,300.0	10,778.5	15,827.8	10,864.3	153.0	150.2	-94.78		-411.1	5,188.5	1,029.6	732.1	297.49	3.461	
16,400.0	10,779.0	15,927.8	10,864.8	155.8	153.1	-94.78		-411.9	5,288.5	1,029.1	725.8	303.25	3.393	
16,500.0	10,779.5	16,027.8	10,865.3	158.6	155.9	-94.78		-412.7	5,388.5	1,028.5	719.5	309.01	3.328	
16,600.0	10,780.0	16,127.8	10,865.8	161.4	158.8	-94.79		-413.5	5,488.5	1,028.0	713.2	314.78	3.266	
16,700.0	10,780.6	16,227.8	10,866.4	164.2	161.7	-94.79		-414.3	5,588.5	1,027.4	706.9	320.55	3.205	
16,800.0	10,781.1	16,327.8	10,866.9	167.1	164.6	-94.79		-415.1	5,688.5	1,026.9	700.6	326.32	3.147	
16,900.0	10,781.6	16,427.8	10,867.4	169.9	167.5	-94.79		-415.9	5,788.5	1,026.4	694.3	332.10	3.091	
17,000.0	10,782.1	16,527.8	10,867.9	172.7	170.4	-94.80		-416.7	5,888.5	1,025.8	688.0	337.87	3.036	
17,100.0	10,782.7	16,627.8	10,868.5	175.6	173.3	-94.80		-417.5	5,988.5	1,025.3	681.6	343.65	2.984	
17,200.0	10,783.2	16,727.8	10,869.0	178.4	176.2	-94.80		-418.3	6,088.5	1,024.8	675.3	349.43	2.933	
17,300.0	10,783.7	16,827.8	10,869.5	181.3	179.1	-94.80		-419.1	6,188.4	1,024.2	669.0	355.22	2.883	
17,400.0	10,784.2	16,927.8	10,870.0	184.1	182.0	-94.81		-419.9	6,288.4	1,023.7	662.7	361.00	2.836	
17,500.0	10,784.7	17,027.8	10,870.6	187.0	184.9	-94.81		-420.7	6,388.4	1,023.1	656.3	366.79	2.789	
17,600.0	10,785.3	17,127.8	10,871.1	189.8	187.8	-94.81		-421.5	6,488.4	1,022.6	650.0	372.58	2.745	
17,700.0	10,785.8	17,227.8	10,871.6	192.7	190.7	-94.81		-422.4	6,588.4	1,022.1	643.7	378.37	2.701	
17,800.0	10,786.3	17,327.8	10,872.1	195.5	193.6	-94.82		-423.2	6,688.4	1,021.5	637.4	384.16	2.659	
17,900.0	10,786.8	17,427.8	10,872.6	198.4	196.5	-94.82		-424.0	6,788.4	1,021.0	631.0	389.95	2.618	

CC - Min centre to center distance or convergent point, SF - min ellipse separation, ES - min separation factor



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 2T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
18,000.0	10,787.4	17,527.8	10,873.2	201.3	199.4	-94.82		-424.8	6,888.4	1,020.4	624.7	395.75	2.579
18,100.0	10,787.9	17,627.8	10,873.7	204.1	202.3	-94.82		-425.6	6,988.4	1,019.9	618.4	401.54	2.540
18,200.0	10,788.4	17,727.8	10,874.2	207.0	205.2	-94.83		-426.4	7,088.4	1,019.4	612.0	407.34	2.503
18,300.0	10,788.9	17,827.8	10,874.7	209.9	208.1	-94.83		-427.2	7,188.4	1,018.8	605.7	413.14	2.466
18,400.0	10,789.5	17,927.8	10,875.3	212.7	211.0	-94.83		-428.0	7,288.4	1,018.3	599.4	418.93	2.431
18,500.0	10,790.0	18,027.8	10,875.8	215.6	213.9	-94.84		-428.8	7,388.4	1,017.8	593.0	424.73	2.396
18,600.0	10,790.5	18,127.8	10,876.3	218.5	216.8	-94.84		-429.6	7,488.4	1,017.2	586.7	430.54	2.363
18,700.0	10,791.0	18,227.8	10,876.8	221.3	219.7	-94.84		-430.4	7,588.4	1,016.7	580.3	436.34	2.330
18,800.0	10,791.6	18,327.8	10,877.4	224.2	222.6	-94.84		-431.2	7,688.4	1,016.1	574.0	442.14	2.298
18,900.0	10,792.1	18,427.8	10,877.9	227.1	225.5	-94.85		-432.0	7,788.3	1,015.6	567.7	447.94	2.267
19,000.0	10,792.6	18,527.8	10,878.4	230.0	228.4	-94.85		-432.8	7,888.3	1,015.1	561.3	453.75	2.237
19,100.0	10,793.1	18,627.8	10,878.9	232.9	231.3	-94.85		-433.6	7,988.3	1,014.5	555.0	459.56	2.208
19,200.0	10,793.6	18,727.8	10,879.5	235.7	234.3	-94.85		-434.4	8,088.3	1,014.0	548.6	465.36	2.179
19,300.0	10,794.2	18,827.8	10,880.0	238.6	237.2	-94.86		-435.2	8,188.3	1,013.5	542.3	471.17	2.151
19,400.0	10,794.7	18,927.8	10,880.5	241.5	240.1	-94.86		-436.0	8,288.3	1,012.9	535.9	476.98	2.124
19,500.0	10,795.2	19,027.8	10,881.0	244.4	243.0	-94.86		-436.8	8,388.3	1,012.4	529.6	482.79	2.097
19,600.0	10,795.7	19,127.8	10,881.6	247.3	245.9	-94.86		-437.6	8,488.3	1,011.8	523.2	488.60	2.071
19,700.0	10,796.3	19,227.8	10,882.1	250.2	248.8	-94.87		-438.4	8,588.3	1,011.3	516.9	494.41	2.045
19,800.0	10,796.8	19,327.8	10,882.6	253.0	251.7	-94.87		-439.2	8,688.3	1,010.8	510.5	500.22	2.021
19,900.0	10,797.3	19,427.8	10,883.1	255.9	254.6	-94.87		-440.0	8,788.3	1,010.2	504.2	506.03	1.996
20,000.0	10,797.8	19,527.8	10,883.6	258.8	257.6	-94.87		-440.8	8,888.3	1,009.7	497.8	511.84	1.973
20,100.0	10,798.4	19,627.8	10,884.2	261.7	260.5	-94.88		-441.6	8,988.3	1,009.1	491.5	517.65	1.949
20,200.0	10,798.9	19,727.8	10,884.7	264.6	263.4	-94.88		-442.4	9,088.3	1,008.6	485.1	523.47	1.927
20,300.0	10,799.4	19,827.8	10,885.2	267.5	266.3	-94.88		-443.2	9,188.3	1,008.1	478.8	529.28	1.905
20,400.0	10,799.9	19,927.8	10,885.7	270.4	269.2	-94.88		-444.1	9,288.3	1,007.5	472.4	535.09	1.883
20,500.0	10,800.5	20,027.8	10,886.3	273.3	272.1	-94.89		-444.9	9,388.3	1,007.0	466.1	540.91	1.862
20,600.0	10,801.0	20,127.8	10,886.8	276.2	275.1	-94.89		-445.7	9,488.2	1,006.5	459.7	546.72	1.841
20,700.0	10,801.5	20,227.8	10,887.3	279.1	278.0	-94.89		-446.5	9,588.2	1,005.9	453.4	552.54	1.821
20,800.0	10,802.0	20,327.8	10,887.8	282.0	280.9	-94.89		-447.3	9,688.2	1,005.4	447.0	558.36	1.801
20,900.0	10,802.5	20,427.8	10,888.4	284.9	283.8	-94.90		-448.1	9,788.2	1,004.8	440.7	564.17	1.781
21,000.0	10,803.1	20,527.8	10,888.9	287.8	286.7	-94.90		-448.9	9,888.2	1,004.3	434.3	569.99	1.762
21,100.0	10,803.6	20,627.8	10,889.4	290.7	289.6	-94.90		-449.7	9,988.2	1,003.8	428.0	575.81	1.743
21,194.5	10,804.1	20,717.6	10,889.9	293.4	292.3	-94.91		-450.4	10,078.0	1,003.3	422.1	581.17	1.726
21,197.4	10,804.1	20,717.6	10,889.9	293.5	292.3	-94.91		-450.4	10,078.0	1,003.3	422.0	581.25	1.726 SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	24.97	59.8	27.8	65.9				
100.0	100.0	100.0	100.0	0.1	0.1	24.97	59.8	27.8	65.9	65.8	0.17	391.195	
200.0	200.0	200.0	200.0	0.3	0.3	24.97	59.8	27.8	65.9	65.3	0.62	106.690	
300.0	300.0	300.0	300.0	0.5	0.5	24.97	59.8	27.8	65.9	64.9	1.07	61.768	
400.0	400.0	400.0	400.0	0.8	0.8	24.97	59.8	27.8	65.9	64.4	1.52	43.466	
500.0	500.0	500.0	500.0	1.0	1.0	24.97	59.8	27.8	65.9	64.0	1.97	33.531	
600.0	600.0	600.0	600.0	1.2	1.2	24.97	59.8	27.8	65.9	63.5	2.42	27.293	
700.0	700.0	700.0	700.0	1.4	1.4	24.97	59.8	27.8	65.9	63.1	2.87	23.012	
800.0	800.0	800.0	800.0	1.7	1.7	24.97	59.8	27.8	65.9	62.6	3.32	19.891	
900.0	900.0	900.0	900.0	1.9	1.9	24.97	59.8	27.8	65.9	62.2	3.76	17.516	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	24.97	59.8	27.8	65.9	61.7	4.21	15.648	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	24.97	59.8	27.8	65.9	61.3	4.66	14.140	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	24.97	59.8	27.8	65.9	60.8	5.11	12.897	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	24.97	59.8	27.8	65.9	60.4	5.56	11.854	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	24.97	59.8	27.8	65.9	59.9	6.01	10.968	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	24.97	59.8	27.8	65.9	59.5	6.46	10.205	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	24.97	59.8	27.8	65.9	59.0	6.91	9.541	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	24.97	59.8	27.8	65.9	58.6	7.36	8.959	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	24.97	59.8	27.8	65.9	58.1	7.81	8.443	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	24.97	59.8	27.8	65.9	57.7	8.26	7.984	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	24.97	59.8	27.8	65.9	57.2	8.71	7.572	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	24.97	59.8	27.8	65.9	56.8	9.16	7.200	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	24.97	59.8	27.8	65.9	56.3	9.61	6.863	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	24.97	59.8	27.8	65.9	55.9	10.06	6.556	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	24.97	59.8	27.8	65.9	55.4	10.51	6.276	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	24.97	59.8	27.8	65.9	55.0	10.96	6.018 CC	
2,600.0	2,600.0	2,600.9	2,600.9	5.7	5.7	-137.48	59.8	26.1	66.5	55.1	11.36	5.851	
2,650.0	2,649.9	2,651.2	2,651.1	5.8	5.8	-140.47	59.8	23.9	67.4	55.8	11.55	5.834	
2,700.0	2,699.9	2,701.0	2,700.9	5.8	5.9	-143.91	59.8	21.2	68.6	56.9	11.73	5.849	
2,800.0	2,799.7	2,800.6	2,800.4	6.0	6.1	-150.36	59.8	16.0	71.9	59.7	12.11	5.932	
2,900.0	2,899.6	2,900.3	2,899.9	6.2	6.3	-156.20	59.8	10.8	75.9	63.4	12.50	6.074	
3,000.0	2,999.5	2,999.9	2,999.3	6.4	6.5	-161.40	59.8	5.6	80.7	67.8	12.89	6.259	
3,100.0	3,099.3	3,099.5	3,098.8	6.6	6.7	-165.99	59.8	0.4	86.1	72.8	13.29	6.476	
3,200.0	3,199.2	3,199.2	3,198.3	6.8	7.0	-170.02	59.8	-4.8	91.9	78.2	13.69	6.714	
3,300.0	3,299.0	3,298.8	3,297.8	7.0	7.2	-173.55	59.8	-10.0	98.2	84.1	14.10	6.964	
3,400.0	3,398.9	3,398.4	3,397.3	7.2	7.4	-176.65	59.8	-15.3	104.8	90.3	14.51	7.222	
3,501.2	3,500.0	3,499.3	3,498.1	7.4	7.6	-179.41	59.8	-20.5	111.7	96.8	14.92	7.485	
3,600.0	3,598.7	3,599.2	3,597.9	7.6	7.8	-178.92	59.8	-24.1	116.4	101.0	15.35	7.583	
3,651.2	3,649.9	3,651.2	3,649.9	7.7	7.9	-21.29	59.8	-24.6	117.0	101.4	15.59	7.506	
3,700.0	3,698.7	3,700.0	3,698.7	7.8	8.0	-21.29	59.8	-24.6	117.0	101.2	15.80	7.407	
3,800.0	3,798.7	3,800.0	3,798.7	8.0	8.2	-21.29	59.8	-24.6	117.0	100.8	16.24	7.206	
3,900.0	3,898.7	3,900.0	3,898.7	8.2	8.5	-21.29	59.8	-24.6	117.0	100.3	16.68	7.016	
4,000.0	3,998.7	4,000.0	3,998.7	8.5	8.7	-21.29	59.8	-24.6	117.0	99.9	17.12	6.834	
4,100.0	4,098.7	4,100.0	4,098.7	8.7	8.9	-21.29	59.8	-24.6	117.0	99.4	17.56	6.662	
4,200.0	4,198.7	4,200.0	4,198.7	8.9	9.1	-21.29	59.8	-24.6	117.0	99.0	18.01	6.499	
4,300.0	4,298.7	4,300.0	4,298.7	9.1	9.4	-21.29	59.8	-24.6	117.0	98.6	18.45	6.342	
4,400.0	4,398.7	4,400.0	4,398.7	9.3	9.6	-21.29	59.8	-24.6	117.0	98.1	18.89	6.194	
4,500.0	4,498.7	4,500.0	4,498.7	9.6	9.8	-21.29	59.8	-24.6	117.0	97.7	19.34	6.052	
4,600.0	4,598.7	4,600.0	4,598.7	9.8	10.0	-21.29	59.8	-24.6	117.0	97.2	19.78	5.916	
4,700.0	4,698.7	4,700.0	4,698.7	10.0	10.2	-21.29	59.8	-24.6	117.0	96.8	20.22	5.786	
4,800.0	4,798.7	4,800.0	4,798.7	10.2	10.5	-21.29	59.8	-24.6	117.0	96.3	20.67	5.661	
4,900.0	4,898.7	4,900.0	4,898.7	10.4	10.7	-21.29	59.8	-24.6	117.0	95.9	21.11	5.542	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD				Distance								Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,998.7	5,000.0	4,998.7	10.7	10.9	-21.29	59.8	-24.6	117.0	95.5	21.56	5.428	
5,100.0	5,098.7	5,100.0	5,098.7	10.9	11.1	-21.29	59.8	-24.6	117.0	95.0	22.00	5.318	
5,200.0	5,198.7	5,200.0	5,198.7	11.1	11.4	-21.29	59.8	-24.6	117.0	94.6	22.45	5.213	
5,300.0	5,298.7	5,300.0	5,298.7	11.3	11.6	-21.29	59.8	-24.6	117.0	94.1	22.89	5.111	
5,400.0	5,398.7	5,400.0	5,398.7	11.6	11.8	-21.29	59.8	-24.6	117.0	93.7	23.34	5.014	
5,500.0	5,498.7	5,500.0	5,498.7	11.8	12.0	-21.29	59.8	-24.6	117.0	93.2	23.78	4.920	
5,600.0	5,598.7	5,600.0	5,598.7	12.0	12.2	-21.29	59.8	-24.6	117.0	92.8	24.23	4.829	
5,700.0	5,698.7	5,700.0	5,698.7	12.2	12.5	-21.29	59.8	-24.6	117.0	92.3	24.68	4.742	
5,800.0	5,798.7	5,800.0	5,798.7	12.4	12.7	-21.29	59.8	-24.6	117.0	91.9	25.12	4.658	
5,900.0	5,898.7	5,900.0	5,898.7	12.7	12.9	-21.29	59.8	-24.6	117.0	91.4	25.57	4.576	
6,000.0	5,998.7	6,000.0	5,998.7	12.9	13.1	-21.29	59.8	-24.6	117.0	91.0	26.01	4.498	
6,100.0	6,098.7	6,100.0	6,098.7	13.1	13.4	-21.29	59.8	-24.6	117.0	90.5	26.46	4.422	
6,200.0	6,198.7	6,200.0	6,198.7	13.3	13.6	-21.29	59.8	-24.6	117.0	90.1	26.91	4.349	
6,300.0	6,298.7	6,300.0	6,298.7	13.6	13.8	-21.29	59.8	-24.6	117.0	89.7	27.35	4.278	
6,400.0	6,398.7	6,400.0	6,398.7	13.8	14.0	-21.29	59.8	-24.6	117.0	89.2	27.80	4.209	
6,500.0	6,498.7	6,500.0	6,498.7	14.0	14.3	-21.29	59.8	-24.6	117.0	88.8	28.25	4.142	
6,600.0	6,598.7	6,600.0	6,598.7	14.2	14.5	-21.29	59.8	-24.6	117.0	88.3	28.69	4.078	
6,700.0	6,698.7	6,700.0	6,698.7	14.4	14.7	-21.29	59.8	-24.6	117.0	87.9	29.14	4.015	
6,800.0	6,798.7	6,800.0	6,798.7	14.7	14.9	-21.29	59.8	-24.6	117.0	87.4	29.59	3.955	
6,900.0	6,898.7	6,900.0	6,898.7	14.9	15.2	-21.29	59.8	-24.6	117.0	87.0	30.03	3.896	
7,000.0	6,998.7	7,000.0	6,998.7	15.1	15.4	-21.29	59.8	-24.6	117.0	86.5	30.48	3.839	
7,100.0	7,098.7	7,100.0	7,098.7	15.3	15.6	-21.29	59.8	-24.6	117.0	86.1	30.93	3.783	
7,200.0	7,198.7	7,200.0	7,198.7	15.6	15.8	-21.29	59.8	-24.6	117.0	85.6	31.38	3.729	
7,300.0	7,298.7	7,300.0	7,298.7	15.8	16.0	-21.29	59.8	-24.6	117.0	85.2	31.82	3.677	
7,400.0	7,398.7	7,400.0	7,398.7	16.0	16.3	-21.29	59.8	-24.6	117.0	84.7	32.27	3.626	
7,500.0	7,498.7	7,500.0	7,498.7	16.2	16.5	-21.29	59.8	-24.6	117.0	84.3	32.72	3.576	
7,600.0	7,598.7	7,600.0	7,598.7	16.5	16.7	-21.29	59.8	-24.6	117.0	83.8	33.17	3.528	
7,700.0	7,698.7	7,700.0	7,698.7	16.7	16.9	-21.29	59.8	-24.6	117.0	83.4	33.61	3.481	
7,800.0	7,798.7	7,800.0	7,798.7	16.9	17.2	-21.29	59.8	-24.6	117.0	82.9	34.06	3.435	
7,900.0	7,898.7	7,900.0	7,898.7	17.1	17.4	-21.29	59.8	-24.6	117.0	82.5	34.51	3.391	
8,000.0	7,998.7	8,000.0	7,998.7	17.3	17.6	-21.29	59.8	-24.6	117.0	82.1	34.96	3.347	
8,100.0	8,098.7	8,100.0	8,098.7	17.6	17.8	-21.29	59.8	-24.6	117.0	81.6	35.40	3.305	
8,200.0	8,198.7	8,200.0	8,198.7	17.8	18.1	-21.29	59.8	-24.6	117.0	81.2	35.85	3.264	
8,300.0	8,298.7	8,300.0	8,298.7	18.0	18.3	-21.29	59.8	-24.6	117.0	80.7	36.30	3.223	
8,400.0	8,398.7	8,400.0	8,398.7	18.2	18.5	-21.29	59.8	-24.6	117.0	80.3	36.75	3.184	
8,500.0	8,498.7	8,500.0	8,498.7	18.5	18.7	-21.29	59.8	-24.6	117.0	79.8	37.20	3.146	
8,600.0	8,598.7	8,600.0	8,598.7	18.7	19.0	-21.29	59.8	-24.6	117.0	79.4	37.64	3.108	
8,700.0	8,698.7	8,700.0	8,698.7	18.9	19.2	-21.29	59.8	-24.6	117.0	78.9	38.09	3.072	
8,800.0	8,798.7	8,800.0	8,798.7	19.1	19.4	-21.29	59.8	-24.6	117.0	78.5	38.54	3.036	
8,900.0	8,898.7	8,900.0	8,898.7	19.4	19.6	-21.29	59.8	-24.6	117.0	78.0	38.99	3.001	
9,000.0	8,998.7	9,000.0	8,998.7	19.6	19.9	-21.29	59.8	-24.6	117.0	77.6	39.44	2.967	
9,100.0	9,098.7	9,100.0	9,098.7	19.8	20.1	-21.29	59.8	-24.6	117.0	77.1	39.88	2.934	
9,200.0	9,198.7	9,200.0	9,198.7	20.0	20.3	-21.29	59.8	-24.6	117.0	76.7	40.33	2.901	
9,300.0	9,298.7	9,300.0	9,298.7	20.3	20.5	-21.29	59.8	-24.6	117.0	76.2	40.78	2.869	
9,400.0	9,398.7	9,400.0	9,398.7	20.5	20.8	-21.29	59.8	-24.6	117.0	75.8	41.23	2.838	
9,500.0	9,498.7	9,500.0	9,498.7	20.7	21.0	-21.29	59.8	-24.6	117.0	75.3	41.68	2.807	
9,600.0	9,598.7	9,600.0	9,598.7	20.9	21.2	-21.29	59.8	-24.6	117.0	74.9	42.13	2.778	
9,700.0	9,698.7	9,700.0	9,698.7	21.2	21.4	-21.29	59.8	-24.6	117.0	74.4	42.57	2.748	
9,800.0	9,798.7	9,800.0	9,798.7	21.4	21.6	-21.29	59.8	-24.6	117.0	74.0	43.02	2.720	
9,900.0	9,898.7	9,900.0	9,898.7	21.6	21.9	-21.29	59.8	-24.6	117.0	73.5	43.47	2.692	
10,000.0	9,998.7	10,000.0	9,998.7	21.8	22.1	-21.29	59.8	-24.6	117.0	73.1	43.92	2.664	
10,100.0	10,098.7	10,100.0	10,098.7	22.0	22.3	-21.29	59.8	-24.6	117.0	72.6	44.37	2.637	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference				Offset		Semi Major Axis		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	(°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
10,200.0	10,198.7	10,200.0	10,198.7	22.3	22.5	-21.29		59.8	-24.6	117.0	72.2	44.82	2.611
10,273.6	10,272.3	10,273.6	10,272.3	22.4	22.7	-21.29		59.8	-24.6	117.0	71.9	45.15	2.592
10,275.0	10,273.7	10,275.0	10,273.7	22.4	22.7	-171.29		59.8	-24.6	117.0	71.9	45.13	2.593
10,300.0	10,298.7	10,300.0	10,298.7	22.5	22.8	-171.33		59.8	-24.6	117.7	72.5	45.19	2.606
10,325.0	10,323.6	10,324.9	10,323.6	22.5	22.8	-171.44		59.8	-24.6	119.7	74.6	45.15	2.652
10,350.0	10,348.4	10,353.8	10,352.5	22.6	22.9	-171.61		59.6	-24.4	122.8	77.8	45.04	2.727
10,375.0	10,372.9	10,386.6	10,385.2	22.6	22.9	-171.58		57.9	-22.8	125.8	80.9	44.84	2.805
10,400.0	10,397.2	10,419.6	10,417.9	22.7	23.0	-171.30		54.5	-19.7	128.4	83.9	44.56	2.883
10,425.0	10,421.2	10,452.9	10,450.4	22.7	23.1	-170.77		49.5	-15.0	130.8	86.6	44.20	2.959
10,450.0	10,444.7	10,486.3	10,482.6	22.8	23.1	-170.02		42.7	-8.7	132.8	89.0	43.77	3.034
10,475.0	10,467.8	10,519.9	10,514.1	22.8	23.2	-169.03		34.4	-0.9	134.5	91.2	43.28	3.108
10,500.0	10,490.3	10,553.5	10,544.8	22.9	23.2	-167.83		24.4	8.5	135.9	93.2	42.73	3.180
10,525.0	10,512.2	10,587.1	10,574.5	23.0	23.3	-166.41		12.8	19.2	137.0	94.9	42.15	3.251
10,550.0	10,533.5	10,620.6	10,602.9	23.0	23.4	-164.79		-0.2	31.4	137.9	96.3	41.54	3.319
10,575.0	10,554.1	10,654.0	10,629.9	23.1	23.4	-162.95		-14.6	44.8	138.5	97.6	40.93	3.383
10,600.0	10,573.9	10,687.3	10,655.3	23.2	23.5	-160.92		-30.2	59.4	138.9	98.6	40.35	3.443
10,625.0	10,592.8	10,720.3	10,679.0	23.3	23.6	-158.70		-47.0	75.0	139.2	99.4	39.83	3.495
10,650.0	10,610.9	10,753.0	10,700.9	23.4	23.7	-156.29		-64.8	91.6	139.4	100.0	39.39	3.539
10,675.0	10,628.1	10,785.4	10,720.9	23.5	23.9	-153.71		-83.5	109.0	139.5	100.4	39.07	3.570
10,700.0	10,644.2	10,817.5	10,738.9	23.6	24.0	-150.97		-102.9	127.1	139.6	100.7	38.92	3.587
10,725.0	10,659.4	10,849.2	10,755.0	23.7	24.2	-148.08		-122.9	145.8	139.8	100.8	38.94	3.589
10,750.0	10,673.5	10,880.5	10,769.0	23.8	24.4	-145.05		-143.3	164.8	140.0	100.8	39.18	3.573
10,775.0	10,686.5	10,911.4	10,781.0	24.0	24.6	-141.90		-164.2	184.3	140.4	100.8	39.63	3.542
10,800.0	10,698.4	10,941.9	10,791.0	24.1	24.8	-138.66		-185.2	203.9	141.0	100.7	40.30	3.498
10,825.0	10,709.1	10,972.0	10,799.1	24.3	25.0	-135.34		-206.4	223.6	141.8	100.6	41.16	3.444
10,850.0	10,718.6	11,001.6	10,805.2	24.5	25.3	-131.96		-227.6	243.4	142.9	100.6	42.21	3.385
10,875.0	10,726.8	11,030.8	10,809.5	24.7	25.6	-128.55		-248.7	263.1	144.2	100.9	43.39	3.324
10,900.0	10,733.9	11,059.5	10,812.0	24.9	25.9	-125.13		-269.6	282.6	146.0	101.3	44.67	3.267
10,925.0	10,739.6	11,087.3	10,812.8	25.1	26.1	-121.78		-289.9	301.5	148.0	102.0	45.98	3.219
10,950.0	10,744.1	11,110.5	10,812.9	25.3	26.4	-119.15		-306.9	317.4	150.8	103.8	47.08	3.204
10,975.0	10,747.3	11,133.0	10,813.0	25.6	26.7	-116.88		-323.1	332.9	154.8	106.7	48.10	3.217
11,000.0	10,749.2	11,155.4	10,813.1	25.8	26.9	-114.93		-339.2	348.6	159.7	110.6	49.05	3.255
11,021.1	10,749.8	11,174.3	10,813.2	26.0	27.2	-113.52		-352.6	362.0	164.5	114.7	49.79	3.303
11,036.1	10,749.8	11,187.7	10,813.3	26.2	27.3	-113.02		-361.9	371.5	168.2	118.0	50.22	3.349
11,100.0	10,750.2	11,244.4	10,813.6	26.9	28.1	-110.92		-400.9	412.6	184.2	132.0	52.17	3.530
11,200.0	10,750.7	11,332.3	10,814.1	28.2	29.5	-108.32		-459.0	478.6	209.1	153.8	55.29	3.781
11,300.0	10,751.3	11,419.3	10,814.6	29.7	30.9	-106.30		-513.4	546.5	233.7	175.1	58.55	3.991
11,400.0	10,751.8	11,500.0	10,815.0	31.3	32.4	-104.79		-561.0	611.7	257.9	196.1	61.82	4.172
11,500.0	10,752.4	11,590.7	10,815.5	33.0	34.1	-103.42		-611.2	687.2	281.4	216.0	65.44	4.301
11,600.0	10,753.0	11,675.2	10,816.0	34.9	35.8	-102.35		-654.7	759.6	304.4	235.3	69.03	4.409
11,700.0	10,753.6	11,759.0	10,816.5	36.9	37.6	-101.46		-694.7	833.3	326.6	253.9	72.68	4.494
11,800.0	10,754.2	11,842.2	10,817.0	39.0	39.4	-100.71		-731.0	908.1	348.1	271.7	76.35	4.559
11,900.0	10,754.8	11,924.7	10,817.4	41.1	41.2	-100.06		-763.9	983.8	368.7	288.7	80.02	4.608
12,000.0	10,755.4	12,000.0	10,817.9	43.3	43.0	-99.54		-791.0	1,054.0	388.6	305.1	83.49	4.655
12,100.0	10,756.0	12,088.0	10,818.4	45.5	45.0	-99.02		-819.2	1,137.4	407.4	320.2	87.22	4.671
12,200.0	10,756.6	12,168.9	10,818.8	47.8	46.9	-98.60		-841.6	1,215.1	425.4	334.7	90.70	4.690
12,300.0	10,757.2	12,249.4	10,819.3	50.1	48.8	-98.24		-860.7	1,293.3	442.4	348.3	94.07	4.703
12,400.0	10,757.8	12,329.4	10,819.7	52.4	50.7	-97.91		-876.3	1,371.7	458.4	361.1	97.30	4.711
12,500.0	10,758.4	12,400.0	10,820.1	54.8	52.3	-97.65		-887.4	1,441.4	473.4	373.3	100.14	4.728
12,600.0	10,759.0	12,488.2	10,820.6	57.1	54.4	-97.38		-897.6	1,529.1	487.2	384.0	103.26	4.719
12,700.0	10,759.5	12,567.2	10,821.0	59.4	56.3	-97.16		-903.3	1,607.8	500.1	394.1	105.95	4.720
12,800.0	10,760.1	12,645.8	10,821.4	61.7	58.1	-96.96		-905.8	1,686.4	511.8	403.4	108.43	4.721

CC - Min centre to center distance or convergent point, SF - min ellipse separation, ES - min separation factor



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,900.0	10,760.6	12,742.7	10,821.9	64.0	60.4	-96.79	-906.3	1,783.3	520.9	409.8	111.17	4.686	
13,000.0	10,761.2	12,842.6	10,822.4	66.2	62.8	-96.71	-906.8	1,883.2	524.9	411.1	113.75	4.614	
13,031.0	10,761.3	12,873.7	10,822.6	66.9	63.5	-96.70	-907.0	1,914.2	525.0	410.6	114.50	4.586	
13,100.0	10,761.7	12,942.6	10,823.0	68.5	65.2	-96.70	-907.4	1,983.2	524.9	406.7	118.13	4.443	
13,200.0	10,762.2	13,042.6	10,823.5	70.8	67.7	-96.71	-907.9	2,083.2	524.6	401.2	123.43	4.250	
13,300.0	10,762.8	13,142.6	10,824.0	73.1	70.2	-96.71	-908.4	2,183.2	524.3	395.6	128.79	4.071	
13,400.0	10,763.3	13,242.6	10,824.5	75.5	72.8	-96.71	-909.0	2,283.2	524.1	389.9	134.18	3.906	
13,500.0	10,763.8	13,342.6	10,825.1	77.9	75.4	-96.72	-909.5	2,383.2	523.8	384.2	139.60	3.752	
13,600.0	10,764.3	13,442.6	10,825.6	80.3	78.0	-96.72	-910.0	2,483.2	523.5	378.5	145.06	3.609	
13,700.0	10,764.8	13,542.6	10,826.1	82.8	80.6	-96.72	-910.5	2,583.2	523.3	372.7	150.55	3.476	
13,800.0	10,765.4	13,642.6	10,826.6	85.3	83.2	-96.73	-911.1	2,683.2	523.0	367.0	156.06	3.352	
13,900.0	10,765.9	13,742.6	10,827.2	87.8	85.9	-96.73	-911.6	2,783.2	522.8	361.2	161.59	3.235	
14,000.0	10,766.4	13,842.6	10,827.7	90.4	88.6	-96.73	-912.1	2,883.2	522.5	355.4	167.14	3.126	
14,100.0	10,766.9	13,942.6	10,828.2	93.0	91.3	-96.74	-912.7	2,983.2	522.2	349.5	172.70	3.024	
14,200.0	10,767.5	14,042.6	10,828.7	95.6	94.0	-96.74	-913.2	3,083.2	522.0	343.7	178.29	2.928	
14,300.0	10,768.0	14,142.6	10,829.3	98.2	96.7	-96.74	-913.7	3,183.2	521.7	337.8	183.89	2.837	
14,400.0	10,768.5	14,242.6	10,829.8	100.8	99.4	-96.75	-914.2	3,283.2	521.4	331.9	189.50	2.752	
14,500.0	10,769.0	14,342.6	10,830.3	103.5	102.2	-96.75	-914.8	3,383.2	521.2	326.1	195.12	2.671	
14,600.0	10,769.6	14,442.6	10,830.8	106.1	104.9	-96.75	-915.3	3,483.2	520.9	320.2	200.76	2.595	
14,700.0	10,770.1	14,542.6	10,831.3	108.8	107.7	-96.76	-915.8	3,583.2	520.7	314.2	206.41	2.522	
14,800.0	10,770.6	14,642.6	10,831.9	111.5	110.5	-96.76	-916.4	3,683.1	520.4	308.3	212.06	2.454	
14,900.0	10,771.1	14,742.6	10,832.4	114.2	113.3	-96.76	-916.9	3,783.1	520.1	302.4	217.73	2.389	
15,000.0	10,771.7	14,842.6	10,832.9	116.9	116.0	-96.77	-917.4	3,883.1	519.9	296.5	223.40	2.327	
15,100.0	10,772.2	14,942.6	10,833.4	119.6	118.8	-96.77	-917.9	3,983.1	519.6	290.5	229.08	2.268	
15,200.0	10,772.7	15,042.6	10,834.0	122.4	121.6	-96.77	-918.5	4,083.1	519.3	284.6	234.76	2.212	
15,300.0	10,773.2	15,142.6	10,834.5	125.1	124.4	-96.78	-919.0	4,183.1	519.1	278.6	240.46	2.159	
15,400.0	10,773.7	15,242.6	10,835.0	127.9	127.3	-96.78	-919.5	4,283.1	518.8	272.7	246.15	2.108	
15,500.0	10,774.3	15,342.6	10,835.5	130.6	130.1	-96.78	-920.1	4,383.1	518.5	266.7	251.86	2.059	
15,600.0	10,774.8	15,442.6	10,836.1	133.4	132.9	-96.79	-920.6	4,483.1	518.3	260.7	257.57	2.012	
15,700.0	10,775.3	15,542.6	10,836.6	136.2	135.7	-96.79	-921.1	4,583.1	518.0	254.7	263.28	1.968	
15,800.0	10,775.8	15,642.6	10,837.1	139.0	138.6	-96.79	-921.7	4,683.1	517.8	248.8	269.00	1.925	
15,900.0	10,776.4	15,742.6	10,837.6	141.8	141.4	-96.80	-922.2	4,783.1	517.5	242.8	274.72	1.884	
16,000.0	10,776.9	15,842.6	10,838.2	144.6	144.2	-96.80	-922.7	4,883.1	517.2	236.8	280.45	1.844	
16,100.0	10,777.4	15,942.6	10,838.7	147.4	147.1	-96.81	-923.2	4,983.1	517.0	230.8	286.18	1.806	
16,200.0	10,777.9	16,042.6	10,839.2	150.2	149.9	-96.81	-923.8	5,083.1	516.7	224.8	291.91	1.770	
16,300.0	10,778.5	16,142.6	10,839.7	153.0	152.8	-96.81	-924.3	5,183.1	516.4	218.8	297.65	1.735	
16,400.0	10,779.0	16,242.6	10,840.2	155.8	155.6	-96.82	-924.8	5,283.1	516.2	212.8	303.39	1.701	
16,500.0	10,779.5	16,342.6	10,840.8	158.6	158.5	-96.82	-925.4	5,383.1	515.9	206.8	309.13	1.669	
16,600.0	10,780.0	16,442.6	10,841.3	161.4	161.4	-96.82	-925.9	5,483.1	515.6	200.8	314.88	1.638	
16,700.0	10,780.6	16,542.6	10,841.8	164.2	164.2	-96.83	-926.4	5,583.1	515.4	194.8	320.63	1.607	
16,800.0	10,781.1	16,642.6	10,842.3	167.1	167.1	-96.83	-926.9	5,683.1	515.1	188.7	326.38	1.578	
16,900.0	10,781.6	16,742.6	10,842.9	169.9	169.9	-96.83	-927.5	5,783.1	514.9	182.7	332.13	1.550	
17,000.0	10,782.1	16,842.6	10,843.4	172.7	172.8	-96.84	-928.0	5,883.1	514.6	176.7	337.88	1.523	
17,100.0	10,782.7	16,942.6	10,843.9	175.6	175.7	-96.84	-928.5	5,983.1	514.3	170.7	343.64	1.497 Level 3	
17,200.0	10,783.2	17,042.6	10,844.4	178.4	178.6	-96.84	-929.1	6,083.1	514.1	164.7	349.40	1.471 Level 3	
17,300.0	10,783.7	17,142.6	10,845.0	181.3	181.4	-96.85	-929.6	6,183.1	513.8	158.6	355.16	1.447 Level 3	
17,400.0	10,784.2	17,242.6	10,845.5	184.1	184.3	-96.85	-930.1	6,283.1	513.5	152.6	360.92	1.423 Level 3	
17,500.0	10,784.7	17,342.6	10,846.0	187.0	187.2	-96.85	-930.6	6,383.1	513.3	146.6	366.69	1.400 Level 3	
17,600.0	10,785.3	17,442.6	10,846.5	189.8	190.1	-96.86	-931.2	6,483.1	513.0	140.6	372.46	1.377 Level 3	
17,700.0	10,785.8	17,542.6	10,847.1	192.7	193.0	-96.86	-931.7	6,583.1	512.7	134.5	378.22	1.356 Level 3	
17,800.0	10,786.3	17,642.6	10,847.6	195.5	195.8	-96.87	-932.2	6,683.1	512.5	128.5	383.99	1.335 Level 3	
17,900.0	10,786.8	17,742.6	10,848.1	198.4	198.7	-96.87	-932.8	6,783.1	512.2	122.5	389.76	1.314 Level 3	

CC - Min centre to center distance or convergent point, SF - min ellipse separation, ES - min separation factor



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18 3T - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
18,000.0	10,787.4	17,842.6	10,848.6	201.3	201.6	-96.87		-933.3	6,883.0	512.0	116.4	395.53	1.294 Level 3
18,100.0	10,787.9	17,942.6	10,849.1	204.1	204.5	-96.88		-933.8	6,983.0	511.7	110.4	401.31	1.275 Level 3
18,200.0	10,788.4	18,042.6	10,849.7	207.0	207.4	-96.88		-934.4	7,083.0	511.4	104.3	407.08	1.256 Level 3
18,300.0	10,788.9	18,142.6	10,850.2	209.9	210.3	-96.88		-934.9	7,183.0	511.2	98.3	412.86	1.238 Level 2
18,400.0	10,789.5	18,242.6	10,850.7	212.7	213.2	-96.89		-935.4	7,283.0	510.9	92.3	418.63	1.220 Level 2
18,500.0	10,790.0	18,342.6	10,851.2	215.6	216.1	-96.89		-935.9	7,383.0	510.6	86.2	424.41	1.203 Level 2
18,600.0	10,790.5	18,442.6	10,851.8	218.5	218.9	-96.89		-936.5	7,483.0	510.4	80.2	430.19	1.186 Level 2
18,700.0	10,791.0	18,542.6	10,852.3	221.3	221.8	-96.90		-937.0	7,583.0	510.1	74.1	435.97	1.170 Level 2
18,800.0	10,791.6	18,642.6	10,852.8	224.2	224.7	-96.90		-937.5	7,683.0	509.8	68.1	441.75	1.154 Level 2
18,900.0	10,792.1	18,742.6	10,853.3	227.1	227.6	-96.90		-938.1	7,783.0	509.6	62.1	447.53	1.139 Level 2
19,000.0	10,792.6	18,842.6	10,853.9	230.0	230.5	-96.91		-938.6	7,883.0	509.3	56.0	453.31	1.124 Level 2
19,100.0	10,793.1	18,942.6	10,854.4	232.9	233.4	-96.91		-939.1	7,983.0	509.1	50.0	459.10	1.109 Level 2
19,200.0	10,793.6	19,042.6	10,854.9	235.7	236.3	-96.92		-939.6	8,083.0	508.8	43.9	464.88	1.094 Level 2
19,300.0	10,794.2	19,142.6	10,855.4	238.6	239.2	-96.92		-940.2	8,183.0	508.5	37.9	470.66	1.080 Level 2
19,400.0	10,794.7	19,242.6	10,856.0	241.5	242.1	-96.92		-940.7	8,283.0	508.3	31.8	476.45	1.067 Level 2
19,500.0	10,795.2	19,342.6	10,856.5	244.4	245.0	-96.93		-941.2	8,383.0	508.0	25.8	482.23	1.053 Level 2
19,600.0	10,795.7	19,442.6	10,857.0	247.3	247.9	-96.93		-941.8	8,483.0	507.7	19.7	488.02	1.040 Level 2
19,700.0	10,796.3	19,542.6	10,857.5	250.2	250.8	-96.93		-942.3	8,583.0	507.5	13.7	493.81	1.028 Level 2
19,800.0	10,796.8	19,642.6	10,858.1	253.0	253.7	-96.94		-942.8	8,683.0	507.2	7.6	499.60	1.015 Level 2
19,900.0	10,797.3	19,742.6	10,858.6	255.9	256.6	-96.94		-943.3	8,783.0	507.0	1.6	505.38	1.003 Level 2
20,000.0	10,797.8	19,842.6	10,859.1	258.8	259.5	-96.94		-943.9	8,883.0	506.7	-4.5	511.17	0.991 Level 1
20,100.0	10,798.4	19,942.6	10,859.6	261.7	262.4	-96.95		-944.4	8,983.0	506.4	-10.5	516.96	0.980 Level 1
20,200.0	10,798.9	20,042.6	10,860.1	264.6	265.3	-96.95		-944.9	9,083.0	506.2	-16.6	522.75	0.968 Level 1
20,300.0	10,799.4	20,142.6	10,860.7	267.5	268.3	-96.95		-945.5	9,183.0	505.9	-22.6	528.54	0.957 Level 1
20,400.0	10,799.9	20,242.6	10,861.2	270.4	271.2	-96.96		-946.0	9,283.0	505.6	-28.7	534.33	0.946 Level 1
20,500.0	10,800.5	20,342.6	10,861.7	273.3	274.1	-96.96		-946.5	9,383.0	505.4	-34.8	540.12	0.936 Level 1
20,600.0	10,801.0	20,442.6	10,862.2	276.2	277.0	-96.97		-947.1	9,483.0	505.1	-40.8	545.92	0.925 Level 1
20,700.0	10,801.5	20,542.6	10,862.8	279.1	279.9	-96.97		-947.6	9,583.0	504.8	-46.9	551.71	0.915 Level 1
20,800.0	10,802.0	20,642.6	10,863.3	282.0	282.8	-96.97		-948.1	9,683.0	504.6	-52.9	557.50	0.905 Level 1
20,900.0	10,802.5	20,742.6	10,863.8	284.9	285.7	-96.98		-948.6	9,783.0	504.3	-59.0	563.29	0.895 Level 1
21,000.0	10,803.1	20,842.6	10,864.3	287.8	288.6	-96.98		-949.2	9,883.0	504.1	-65.0	569.09	0.886 Level 1
21,100.0	10,803.6	20,942.6	10,864.9	290.7	291.5	-96.98		-949.7	9,983.0	503.8	-71.1	574.88	0.876 Level 1
21,194.7	10,804.1	21,037.3	10,865.4	293.4	294.3	-96.99		-950.2	10,077.7	503.5	-76.8	580.37	0.868 Level 1
21,197.4	10,804.1	21,038.5	10,865.4	293.5	294.3	-96.99		-950.2	10,078.8	503.5	-76.9	580.48	0.867 Level 1, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2175-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
200.0	200.0	2,090.0	2,090.0	0.3	0.0	25.27	89.2	42.1	1,916.5	1,916.2	0.31	6,197.307	
300.0	300.0	2,090.0	2,090.0	0.5	0.0	25.27	89.2	42.1	1,816.7	1,816.1	0.53	3,401.895	
400.0	400.0	2,090.0	2,090.0	0.8	0.0	25.27	89.2	42.1	1,716.8	1,716.1	0.76	2,262.608	
500.0	500.0	2,090.0	2,090.0	1.0	0.0	25.27	89.2	42.1	1,617.0	1,616.0	0.98	1,644.051	
600.0	600.0	2,090.0	2,090.0	1.2	0.0	25.27	89.2	42.1	1,517.2	1,516.0	1.21	1,255.636	
700.0	700.0	2,090.0	2,090.0	1.4	0.0	25.27	89.2	42.1	1,417.4	1,416.0	1.43	989.080	
800.0	800.0	2,090.0	2,090.0	1.7	0.0	25.27	89.2	42.1	1,317.7	1,316.0	1.66	794.821	
900.0	900.0	2,090.0	2,090.0	1.9	0.0	25.27	89.2	42.1	1,218.0	1,216.1	1.88	646.971	
1,000.0	1,000.0	2,090.0	2,090.0	2.1	0.0	25.27	89.2	42.1	1,118.4	1,116.2	2.11	530.685	
1,100.0	1,100.0	2,090.0	2,090.0	2.3	0.0	25.27	89.2	42.1	1,018.8	1,016.5	2.33	436.843	
1,200.0	1,200.0	2,090.0	2,090.0	2.6	0.0	25.27	89.2	42.1	919.3	916.7	2.56	359.536	
1,300.0	1,300.0	2,090.0	2,090.0	2.8	0.0	25.27	89.2	42.1	820.0	817.2	2.78	294.768	
1,400.0	1,400.0	2,090.0	2,090.0	3.0	0.0	25.27	89.2	42.1	720.8	717.8	3.01	239.744	
1,500.0	1,500.0	2,090.0	2,090.0	3.2	0.0	25.27	89.2	42.1	621.9	618.6	3.23	192.456	
1,600.0	1,600.0	2,090.0	2,090.0	3.5	0.0	25.27	89.2	42.1	523.4	519.9	3.46	151.440	
1,700.0	1,700.0	2,090.0	2,090.0	3.7	0.0	25.27	89.2	42.1	425.6	421.9	3.68	115.623	
1,800.0	1,800.0	2,090.0	2,090.0	3.9	0.0	25.27	89.2	42.1	329.1	325.2	3.91	84.270	
1,900.0	1,900.0	2,090.0	2,090.0	4.1	0.0	25.27	89.2	42.1	235.6	231.5	4.13	57.048	
2,000.0	2,000.0	2,090.0	2,090.0	4.4	0.0	25.27	89.2	42.1	150.7	146.4	4.36	34.610	
2,100.0	2,100.0	2,090.0	2,090.0	4.6	0.0	25.27	89.2	42.1	99.6	95.0	4.58	21.746	
2,141.1	2,141.1	2,117.6	2,117.6	4.7	0.0	25.30	89.1	42.1	98.5	93.8	4.70	20.949	
2,200.0	2,200.0	2,177.5	2,177.5	4.8	0.1	25.50	88.4	42.2	97.9	93.0	4.91	19.957	
2,300.0	2,300.0	2,277.4	2,277.4	5.0	0.3	25.90	86.7	42.1	96.4	91.1	5.34	18.049	
2,400.0	2,400.0	2,377.3	2,377.3	5.3	0.5	25.97	85.4	41.6	95.0	89.2	5.78	16.436	
2,500.0	2,500.0	2,477.1	2,477.1	5.5	0.8	25.46	84.6	40.3	93.7	87.5	6.22	15.061	
2,541.5	2,541.5	2,518.5	2,518.4	5.6	0.8	-135.04	84.5	39.6	93.5	87.1	6.39	14,621 CC, ES	
2,600.0	2,600.0	2,576.8	2,576.8	5.7	1.0	-136.25	84.4	38.4	94.0	87.3	6.64	14.161	
2,650.0	2,649.9	2,626.6	2,626.5	5.8	1.1	-137.82	84.5	37.2	95.2	88.4	6.83	13,935	
2,700.0	2,699.9	2,676.5	2,676.5	5.8	1.2	-139.71	84.7	35.8	96.9	89.8	7.03	13,779	
2,800.0	2,799.7	2,776.2	2,776.0	6.0	1.4	-143.66	85.2	32.2	100.4	92.9	7.43	13,508	
2,900.0	2,899.6	2,875.1	2,874.9	6.2	1.6	-146.52	86.1	30.2	105.0	97.2	7.82	13,435	
3,000.0	2,999.5	2,975.2	2,975.0	6.4	1.8	-148.98	87.1	28.6	110.0	101.8	8.21	13,398	
3,100.0	3,099.3	3,075.4	3,075.1	6.6	2.1	-151.46	87.7	26.4	114.8	106.2	8.62	13,319	
3,200.0	3,199.2	3,175.4	3,175.1	6.8	2.3	-154.02	88.2	23.6	119.6	110.5	9.02	13,248	
3,300.0	3,299.0	3,275.1	3,274.8	7.0	2.5	-156.35	88.5	20.8	124.4	115.0	9.42	13,203	
3,400.0	3,398.9	3,374.7	3,374.4	7.2	2.7	-158.36	88.9	18.4	129.5	119.7	9.81	13,195	
3,501.2	3,500.0	3,475.6	3,475.3	7.4	2.9	-160.19	89.4	16.1	134.9	124.7	10.22	13,204	
3,600.0	3,598.7	3,574.1	3,573.7	7.6	3.1	-161.56	89.9	14.0	138.8	128.2	10.63	13,053	
3,651.2	3,649.9	3,625.3	3,624.9	7.7	3.2	-2.10	90.3	12.8	139.6	128.7	10.87	12,839	
3,700.0	3,698.7	3,674.1	3,673.7	7.8	3.3	-2.53	90.6	11.7	140.0	128.9	11.08	12,629	
3,800.0	3,798.7	3,773.8	3,773.4	8.0	3.5	-3.28	91.3	9.9	140.8	129.2	11.51	12,230	
3,900.0	3,898.7	3,874.0	3,873.5	8.2	3.7	-3.91	92.1	8.3	141.7	129.7	11.94	11,867	
4,000.0	3,998.7	3,973.6	3,973.2	8.5	3.9	-4.55	92.9	6.6	142.6	130.2	12.37	11,528	
4,100.0	4,098.7	4,073.8	4,073.3	8.7	4.1	-5.04	93.8	5.3	143.6	130.8	12.80	11,224	
4,200.0	4,198.7	4,173.8	4,173.3	8.9	4.3	-5.40	94.7	4.3	144.6	131.4	13.22	10,934	
4,300.0	4,298.7	4,273.9	4,273.4	9.1	4.5	-5.76	95.5	3.3	145.5	131.9	13.65	10,657	
4,400.0	4,398.7	4,373.8	4,373.3	9.3	4.8	-6.16	96.4	2.2	146.5	132.4	14.09	10,398	
4,500.0	4,498.7	4,474.2	4,473.6	9.6	5.0	-6.49	97.1	1.3	147.3	132.8	14.52	10,147	
4,600.0	4,598.7	4,574.2	4,573.7	9.8	5.2	-6.74	97.7	0.6	148.0	133.1	14.95	9,902	
4,700.0	4,698.7	4,674.5	4,673.9	10.0	5.4	-6.99	98.2	-0.2	148.6	133.2	15.38	9,663	
4,800.0	4,798.7	4,774.3	4,773.8	10.2	5.6	-7.26	98.7	-0.9	149.1	133.3	15.81	9,434	
4,900.0	4,898.7	4,874.2	4,873.7	10.4	5.8	-7.50	99.3	-1.6	149.8	133.6	16.24	9,228	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2175-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,998.7	4,974.6	4,974.0	10.7	6.0	-7.69	99.7	-2.2	150.3	133.6	16.67	9.015	
5,100.0	5,098.7	5,074.3	5,073.7	10.9	6.2	-7.95	100.2	-3.0	150.9	133.8	17.10	8.825	
5,200.0	5,198.7	5,175.3	5,174.8	11.1	6.4	-8.28	100.5	-3.9	151.3	133.8	17.53	8.630	
5,300.0	5,298.7	5,276.1	5,275.6	11.3	6.6	-8.53	99.9	-4.5	150.8	132.9	17.97	8.396	
5,400.0	5,398.7	5,376.2	5,375.6	11.6	6.9	-8.78	99.3	-5.0	150.3	131.9	18.40	8.168	
5,500.0	5,498.7	5,476.9	5,476.3	11.8	7.1	-9.05	98.4	-5.6	149.5	130.6	18.83	7.938	
5,600.0	5,598.7	5,577.5	5,576.9	12.0	7.3	-9.51	96.8	-6.5	148.1	128.9	19.26	7.690	
5,700.0	5,698.7	5,677.2	5,676.6	12.2	7.5	-9.80	95.2	-7.0	146.6	126.9	19.69	7.447	
5,800.0	5,798.7	5,776.3	5,775.7	12.4	7.7	-10.07	94.1	-7.5	145.6	125.5	20.12	7.237	
5,900.0	5,898.7	5,875.6	5,875.0	12.7	7.9	-10.39	93.6	-8.3	145.2	124.6	20.55	7.064	
5,934.6	5,933.3	5,909.9	5,909.3	12.7	8.0	-10.52	93.4	-8.6	145.1	124.4	20.70	7.011	
6,000.0	5,998.7	5,974.3	5,973.7	12.9	8.1	-10.79	93.5	-9.3	145.4	124.4	20.98	6.928	
6,100.0	6,098.7	6,073.6	6,073.0	13.1	8.3	-11.20	94.3	-10.5	146.3	124.9	21.42	6.833	
6,200.0	6,198.7	6,173.4	6,172.8	13.3	8.5	-11.52	95.3	-11.6	147.6	125.7	21.85	6.754	
6,300.0	6,298.7	6,272.8	6,272.1	13.6	8.7	-11.63	96.8	-12.1	149.1	126.8	22.28	6.690	
6,400.0	6,398.7	6,372.5	6,371.8	13.8	8.9	-11.60	98.6	-12.4	150.9	128.2	22.72	6.643	
6,500.0	6,498.7	6,472.2	6,471.5	14.0	9.2	-11.49	100.6	-12.5	152.9	129.7	23.15	6.604	
6,600.0	6,598.7	6,571.1	6,570.4	14.2	9.4	-11.34	103.0	-12.6	155.4	131.8	23.59	6.587	
6,700.0	6,698.7	6,671.0	6,670.3	14.4	9.6	-11.14	105.8	-12.6	158.1	134.1	24.02	6.582	
6,800.0	6,798.7	6,770.8	6,770.0	14.7	9.8	-10.85	108.9	-12.4	161.1	136.7	24.46	6.588	
6,900.0	6,898.7	6,872.7	6,871.8	14.9	10.0	-10.33	111.4	-11.4	163.3	138.4	24.89	6.560	
7,000.0	6,998.7	6,973.7	6,972.9	15.1	10.2	-9.81	113.3	-10.2	164.9	139.6	25.32	6.514	
7,100.0	7,098.7	7,075.6	7,074.8	15.3	10.4	-9.47	113.7	-9.2	165.2	139.4	25.75	6.414	
7,200.0	7,198.7	7,176.5	7,175.6	15.6	10.6	-9.21	113.8	-8.5	165.2	139.0	26.18	6.308	
7,300.0	7,298.7	7,278.0	7,277.1	15.8	10.8	-9.31	112.5	-8.6	163.9	137.3	26.62	6.158	
7,400.0	7,398.7	7,378.0	7,377.1	16.0	11.0	-9.52	110.9	-8.9	162.4	135.4	27.05	6.005	
7,500.0	7,498.7	7,477.8	7,476.9	16.2	11.3	-9.83	109.4	-9.6	161.0	133.5	27.48	5.858	
7,600.0	7,598.7	7,577.3	7,576.4	16.5	11.5	-10.17	108.0	-10.3	159.8	131.8	27.91	5.723	
7,700.0	7,698.7	7,676.8	7,675.8	16.7	11.7	-10.47	107.0	-10.9	158.8	130.5	28.35	5.603	
7,800.0	7,798.7	7,776.5	7,775.6	16.9	11.9	-10.59	106.3	-11.2	158.3	129.5	28.78	5.498	
7,888.0	7,886.7	7,863.6	7,862.7	17.1	12.1	-10.59	106.0	-11.1	158.0	128.8	29.16	5.416	
7,900.0	7,898.7	7,875.5	7,874.5	17.1	12.1	-10.58	106.0	-11.1	158.0	128.7	29.22	5.407	
8,000.0	7,998.7	7,975.1	7,974.2	17.3	12.3	-10.47	106.4	-10.8	158.2	128.6	29.65	5.337	
8,100.0	8,098.7	8,074.8	8,073.8	17.6	12.5	-10.28	106.9	-10.4	158.7	128.6	30.08	5.274	
8,200.0	8,198.7	8,174.6	8,173.7	17.8	12.7	-10.11	107.5	-10.0	159.3	128.8	30.52	5.219	
8,300.0	8,298.7	8,274.2	8,273.3	18.0	12.9	-9.83	108.4	-9.4	160.0	129.1	30.95	5.170	
8,400.0	8,398.7	8,374.2	8,373.2	18.2	13.1	-9.45	109.5	-8.5	160.9	129.5	31.38	5.128	
8,500.0	8,498.7	8,474.1	8,473.2	18.5	13.3	-9.08	110.6	-7.6	161.8	130.0	31.81	5.087	
8,600.0	8,598.7	8,574.2	8,573.2	18.7	13.6	-8.71	111.6	-6.7	162.8	130.5	32.25	5.048	
8,700.0	8,698.7	8,674.1	8,673.1	18.9	13.8	-8.41	112.7	-6.0	163.7	131.0	32.68	5.010	
8,800.0	8,798.7	8,774.1	8,773.1	19.1	14.0	-8.14	113.8	-5.4	164.7	131.6	33.11	4.974	
8,900.0	8,898.7	8,873.8	8,872.8	19.4	14.2	-7.84	114.9	-4.7	165.7	132.2	33.54	4.940	
9,000.0	8,998.7	8,973.3	8,972.3	19.6	14.4	-7.52	116.4	-4.0	167.1	133.1	33.98	4.917	
9,100.0	9,098.7	9,073.5	9,072.5	19.8	14.6	-7.13	117.8	-3.0	168.4	133.9	34.41	4.893	
9,200.0	9,198.7	9,173.5	9,172.5	20.0	14.8	-6.78	119.3	-2.1	169.7	134.9	34.84	4.872	
9,300.0	9,298.7	9,273.9	9,272.9	20.3	15.0	-6.41	120.5	-1.1	170.9	135.6	35.27	4.844	
9,400.0	9,398.7	9,373.7	9,372.7	20.5	15.2	-6.11	121.8	-0.4	172.0	136.3	35.71	4.817	
9,500.0	9,498.7	9,473.6	9,472.5	20.7	15.4	-5.73	123.1	0.6	173.2	137.1	36.14	4.793	
9,600.0	9,598.7	9,573.7	9,572.6	20.9	15.6	-5.42	124.4	1.4	174.5	137.9	36.57	4.771	
9,700.0	9,698.7	9,674.0	9,672.9	21.2	15.8	-5.16	125.6	2.1	175.6	138.6	37.00	4.746	
9,800.0	9,798.7	9,774.2	9,773.1	21.4	16.1	-4.90	126.7	2.8	176.6	139.1	37.43	4.717	
9,900.0	9,898.7	9,874.0	9,872.9	21.6	16.3	-4.65	127.6	3.5	177.5	139.6	37.86	4.688	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2175-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,000.0	9,998.7	9,973.8	9,972.7	21.8	16.5	-4.43	128.8	4.1	178.5	140.2	38.29	4.662	
10,100.0	10,098.7	10,073.5	10,072.4	22.0	16.7	-4.17	130.0	4.9	179.7	141.0	38.73	4.641	
10,200.0	10,198.7	10,173.4	10,172.3	22.3	16.9	-3.89	131.4	5.6	181.0	141.9	39.17	4.622	
10,273.6	10,272.3	10,247.7	10,246.6	22.4	17.1	-3.61	132.3	6.5	181.9	142.4	39.49	4.608	
10,275.0	10,273.7	10,249.1	10,248.0	22.4	17.1	-153.61	132.3	6.5	182.0	142.5	39.47	4.609	
10,300.0	10,298.7	10,278.0	10,276.8	22.5	17.1	-153.48	132.5	7.2	182.7	143.2	39.55	4.620	
10,325.0	10,323.6	10,317.2	10,315.8	22.5	17.2	-153.03	130.9	10.0	183.5	143.9	39.59	4.633	
10,350.0	10,348.4	10,359.5	10,357.4	22.6	17.3	-151.99	125.4	16.2	183.0	143.4	39.59	4.622	
10,375.0	10,372.9	10,397.0	10,393.3	22.6	17.3	-150.74	117.7	23.9	181.7	142.1	39.54	4.595	
10,400.0	10,397.2	10,430.3	10,424.3	22.7	17.4	-149.50	109.0	31.9	180.2	140.7	39.44	4.568	
10,425.0	10,421.2	10,464.6	10,455.7	22.7	17.5	-148.21	98.5	41.0	178.6	139.3	39.31	4.542	
10,450.0	10,444.7	10,497.3	10,484.8	22.8	17.5	-147.02	86.9	50.3	176.9	137.7	39.16	4.517	
10,475.0	10,467.8	10,526.6	10,510.5	22.8	17.6	-146.03	75.6	59.0	175.5	136.5	38.97	4.503	
10,500.0	10,490.3	10,554.8	10,534.6	22.9	17.7	-145.10	64.2	67.8	174.7	135.9	38.77	4.507	
10,525.0	10,512.2	10,584.7	10,559.5	23.0	17.8	-143.90	51.4	78.5	174.4	135.9	38.57	4.523	
10,550.0	10,533.5	10,618.5	10,586.1	23.0	17.9	-142.13	35.9	92.3	174.3	135.9	38.44	4.534	
10,575.0	10,554.1	10,652.3	10,610.6	23.1	18.0	-139.88	18.8	108.1	174.0	135.6	38.38	4.533	
10,600.0	10,573.9	10,684.1	10,631.8	23.2	18.1	-137.38	1.5	124.4	173.6	135.2	38.41	4.521	
10,611.2	10,582.4	10,697.1	10,639.9	23.2	18.2	-136.27	-5.8	131.4	173.6	135.1	38.44	4.516	
10,625.0	10,592.8	10,712.6	10,649.2	23.3	18.3	-134.87	-14.7	140.1	173.7	135.2	38.50	4.511	
10,650.0	10,610.9	10,738.6	10,664.0	23.4	18.4	-132.40	-29.7	155.2	174.5	135.8	38.67	4.513	
10,675.0	10,628.1	10,766.5	10,678.5	23.5	18.6	-129.55	-46.1	172.5	176.1	137.1	38.98	4.517	
10,700.0	10,644.2	10,795.7	10,691.7	23.6	18.8	-126.28	-63.9	191.5	178.2	138.7	39.47	4.515	
10,725.0	10,659.4	10,822.2	10,701.8	23.7	19.1	-123.02	-80.4	209.7	180.8	140.8	40.03	4.516	
10,750.0	10,673.5	10,846.4	10,709.4	23.8	19.3	-119.82	-95.5	226.9	184.3	143.7	40.66	4.534	
10,775.0	10,686.5	10,869.9	10,716.2	24.0	19.5	-116.80	-110.2	243.9	188.8	147.5	41.31	4.571	
10,800.0	10,698.4	10,894.1	10,722.4	24.1	19.8	-113.81	-125.5	261.7	194.2	152.2	42.03	4.621	
10,825.0	10,709.1	10,916.8	10,727.2	24.3	20.0	-110.97	-139.7	278.6	200.3	157.6	42.75	4.686	
10,850.0	10,718.6	10,938.3	10,730.4	24.5	20.3	-108.12	-153.1	295.2	207.3	163.8	43.47	4.768	
10,875.0	10,726.8	10,959.2	10,732.3	24.7	20.6	-105.30	-165.9	311.6	215.0	170.9	44.19	4.866	
10,900.0	10,733.9	10,980.3	10,733.5	24.9	20.9	-102.54	-178.6	328.3	223.6	178.7	44.91	4.978	
10,925.0	10,739.6	11,001.4	10,734.4	25.1	21.2	-100.00	-191.3	345.3	232.7	187.1	45.60	5.102	
10,950.0	10,744.1	11,022.6	10,735.1	25.3	21.5	-97.71	-203.8	362.3	242.2	196.0	46.25	5.238	
10,975.0	10,747.3	11,043.7	10,735.6	25.6	21.8	-95.66	-216.2	379.4	252.2	205.3	46.87	5.381	
11,000.0	10,749.2	11,063.9	10,735.8	25.8	22.1	-93.87	-227.9	395.9	262.4	215.0	47.46	5.530	
11,021.1	10,749.8	11,080.6	10,736.1	26.0	22.3	-92.55	-237.5	409.5	271.4	223.4	47.94	5.660	
11,036.1	10,749.8	11,092.3	10,736.2	26.2	22.5	-92.52	-244.1	419.2	277.8	229.6	48.27	5.756	
11,100.0	10,750.2	11,140.2	10,736.9	26.9	23.3	-92.38	-270.5	459.2	305.5	255.7	49.79	6.135	
11,200.0	10,750.7	11,207.0	10,737.0	28.2	24.5	-92.04	-304.7	516.5	349.1	296.8	52.27	6.679	
11,300.0	10,751.3	11,273.8	10,736.8	29.7	25.8	-91.72	-335.1	575.9	393.8	338.8	55.00	7.161	
11,400.0	10,751.8	11,333.7	10,737.2	31.3	27.0	-91.55	-358.5	631.1	440.3	382.5	57.78	7.619	
11,500.0	10,752.4	11,390.0	10,737.9	33.0	28.1	-91.46	-376.9	684.3	488.0	427.3	60.64	8.047	
11,600.0	10,753.0	11,446.4	10,738.6	34.9	29.3	-91.37	-392.0	738.6	536.7	473.1	63.59	8.440	
11,700.0	10,753.6	11,482.0	10,738.8	36.9	30.0	-91.27	-399.6	773.4	586.7	520.5	66.21	8.861	
11,800.0	10,754.2	11,550.3	10,739.3	39.0	31.5	-91.16	-410.4	840.8	636.4	566.9	69.50	9.156	
11,900.0	10,754.8	11,623.0	10,740.2	41.1	33.1	-91.08	-417.6	913.1	686.1	613.2	72.94	9.407	
12,000.0	10,755.4	11,704.8	10,739.7	43.3	34.9	-90.90	-425.4	994.6	731.7	655.1	76.62	9.550	
12,100.0	10,756.0	11,782.5	10,739.2	45.5	36.7	-90.74	-431.3	1,072.0	774.2	694.0	80.24	9.649	
12,200.0	10,756.6	11,871.4	10,739.3	47.8	38.8	-90.64	-437.3	1,160.7	812.8	728.7	84.12	9.663	
12,300.0	10,757.2	11,959.1	10,739.4	50.1	41.0	-90.56	-443.0	1,248.2	846.8	758.9	87.96	9.628	
12,400.0	10,757.8	12,034.3	10,739.5	52.4	42.8	-90.50	-446.5	1,323.4	877.6	786.2	91.42	9.600	
12,500.0	10,758.4	12,135.3	10,739.6	54.8	45.4	-90.42	-450.6	1,424.3	903.9	808.4	95.46	9.469	

CC - Min centre to center distance or convergent point, SF - min ellipse separation, ES - min separation factor



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2175-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
12,600.0	10,759.0	12,214.0	10,740.5	57.1	47.4	-90.42		-452.5	1,503.0	926.6	827.8	98.81	9.378
12,700.0	10,759.5	12,298.6	10,742.5	59.4	49.6	-90.48		-453.1	1,587.5	945.9	843.7	102.16	9.259
12,800.0	10,760.1	12,398.0	10,744.6	61.7	52.1	-90.55		-453.8	1,686.9	960.2	854.4	105.74	9.080
12,900.0	10,760.6	12,495.7	10,746.6	64.0	54.7	-90.61		-454.3	1,784.5	969.4	860.3	109.09	8.886
13,000.0	10,761.2	12,631.5	10,749.6	66.2	58.4	-90.73		-457.8	1,920.3	971.3	858.0	113.28	8.574
13,031.0	10,761.3	12,668.0	10,750.2	66.9	59.4	-90.74		-459.3	1,956.7	970.2	855.9	114.37	8.483
13,100.0	10,761.7	12,719.1	10,751.0	68.5	60.7	-90.78		-461.3	2,007.8	967.8	850.2	117.61	8.229
13,200.0	10,762.2	12,804.2	10,752.7	70.8	63.1	-90.85		-462.6	2,092.9	966.5	843.8	122.65	7.880
13,300.0	10,762.8	12,903.5	10,753.8	73.1	65.8	-90.89		-464.0	2,192.2	965.3	837.2	128.11	7.535
13,395.5	10,763.3	12,990.1	10,754.9	75.3	68.1	-90.93		-464.7	2,278.7	964.8	831.7	133.13	7.247
13,400.0	10,763.3	12,994.0	10,754.9	75.5	68.3	-90.93		-464.7	2,282.7	964.8	831.5	133.36	7.235
13,500.0	10,763.8	13,086.6	10,757.4	77.9	70.8	-91.05		-464.5	2,375.2	965.4	826.7	138.69	6.961
13,600.0	10,764.3	13,184.2	10,759.7	80.3	73.5	-91.15		-463.8	2,472.8	966.4	822.2	144.18	6.702
13,700.0	10,764.8	13,277.4	10,760.8	82.8	76.1	-91.19		-462.9	2,566.0	967.7	818.1	149.56	6.470
13,800.0	10,765.4	13,369.3	10,762.6	85.3	78.6	-91.26		-461.0	2,657.8	969.9	815.0	154.93	6.260
13,900.0	10,765.9	13,468.7	10,762.4	87.8	81.4	-91.22		-458.6	2,757.2	972.7	812.2	160.53	6.059
14,000.0	10,766.4	13,573.5	10,761.4	90.4	84.3	-91.12		-456.2	2,862.0	975.1	808.8	166.31	5.863
14,100.0	10,766.9	13,675.5	10,760.1	93.0	87.1	-91.01		-454.4	2,963.9	977.2	805.1	172.03	5.680
14,200.0	10,767.5	13,763.6	10,759.6	95.6	89.6	-90.95		-452.5	3,052.0	979.5	802.2	177.35	5.523
14,300.0	10,768.0	13,855.3	10,761.2	98.2	92.2	-91.02		-449.3	3,143.7	983.4	800.6	182.78	5.380
14,400.0	10,768.5	13,953.7	10,760.1	100.8	94.9	-90.92		-445.5	3,242.0	987.4	799.0	188.42	5.241
14,500.0	10,769.0	14,060.1	10,759.7	103.5	97.9	-90.86		-441.5	3,348.3	991.5	797.2	194.29	5.103
14,600.0	10,769.6	14,165.7	10,760.5	106.1	100.9	-90.87		-438.4	3,453.9	994.6	794.5	200.15	4.969
14,700.0	10,770.1	14,279.1	10,760.1	108.8	104.1	-90.81		-436.1	3,567.2	997.0	790.7	206.26	4.834
14,900.0	10,771.1	14,490.2	10,755.6	114.2	110.2	-90.48		-434.5	3,778.3	998.9	780.9	218.04	4.581
15,000.0	10,771.7	14,573.5	10,755.5	116.9	112.5	-90.45		-433.6	3,861.5	1,000.3	777.0	223.30	4.480
15,100.0	10,772.2	14,660.0	10,756.7	119.6	115.0	-90.50		-431.2	3,948.0	1,003.3	774.7	228.65	4.388
15,200.0	10,772.7	14,771.5	10,759.2	122.4	118.2	-90.60		-428.0	4,059.4	1,006.5	771.8	234.72	4.288
15,300.0	10,773.2	14,889.0	10,759.9	125.1	121.6	-90.61		-426.4	4,176.9	1,008.2	767.2	240.98	4.183
15,400.0	10,773.7	14,997.0	10,758.6	127.9	124.7	-90.50		-426.8	4,284.9	1,007.9	760.9	246.99	4.081
15,418.5	10,773.8	15,013.9	10,758.5	128.4	125.2	-90.49		-426.9	4,301.8	1,007.9	759.9	248.01	4.064
15,500.0	10,774.3	15,098.1	10,758.3	130.6	127.6	-90.46		-427.1	4,386.0	1,008.0	755.2	252.79	3.987
15,600.0	10,774.8	15,202.9	10,757.4	133.4	130.6	-90.37		-427.9	4,490.8	1,007.4	748.7	258.71	3.894
15,700.0	10,775.3	15,299.7	10,756.3	136.2	133.4	-90.28		-428.8	4,587.6	1,006.7	742.3	264.39	3.808
15,800.0	10,775.8	15,398.1	10,755.6	139.0	136.3	-90.21		-429.4	4,686.0	1,006.4	736.3	270.13	3.726
15,900.0	10,776.4	15,496.8	10,756.0	141.8	139.1	-90.21		-429.8	4,784.6	1,006.2	730.3	275.87	3.647
15,935.2	10,776.6	15,530.7	10,756.1	142.7	140.1	-90.20		-429.9	4,818.6	1,006.2	728.3	277.87	3.621
16,000.0	10,776.9	15,591.0	10,756.2	144.6	141.8	-90.19		-430.0	4,878.9	1,006.3	724.8	281.49	3.575
16,100.0	10,777.4	15,689.3	10,756.9	147.4	144.7	-90.20		-429.6	4,977.2	1,006.9	719.7	287.22	3.506
16,200.0	10,777.9	15,793.9	10,758.7	150.2	147.7	-90.27		-429.5	5,081.7	1,007.4	714.2	293.15	3.436
16,300.0	10,778.5	15,913.4	10,759.9	153.0	151.1	-90.31		-430.7	5,201.2	1,006.6	707.1	299.51	3.361
16,400.0	10,779.0	16,022.9	10,760.2	155.8	154.3	-90.29		-433.5	5,310.7	1,004.3	698.7	305.59	3.286
16,500.0	10,779.5	16,127.3	10,760.3	158.6	157.4	-90.27		-437.0	5,415.0	1,001.2	689.7	311.52	3.214
16,600.0	10,780.0	16,229.1	10,760.8	161.4	160.3	-90.26		-440.4	5,516.8	998.1	680.7	317.39	3.145
16,700.0	10,780.6	16,340.2	10,763.3	164.2	163.6	-90.38		-445.0	5,627.8	994.3	670.7	323.51	3.073
16,800.0	10,781.1	16,450.0	10,766.8	167.1	166.8	-90.54		-450.9	5,737.3	989.2	659.6	329.60	3.001
16,900.0	10,781.6	16,545.2	10,769.9	169.9	169.6	-90.70		-456.2	5,832.3	983.9	648.6	335.26	2.935
17,000.0	10,782.1	16,635.8	10,771.5	172.7	172.2	-90.77		-460.6	5,922.8	979.3	638.5	340.80	2.874
17,100.0	10,782.7	16,736.5	10,773.2	175.6	175.1	-90.84		-464.8	6,023.4	975.4	628.8	346.62	2.814
17,200.0	10,783.2	16,827.1	10,774.7	178.4	177.8	-90.91		-468.6	6,113.9	971.6	619.4	352.16	2.759
17,300.0	10,783.7	16,913.3	10,774.8	181.3	180.3	-90.89		-470.9	6,200.1	969.1	611.6	357.58	2.710

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 11-18H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 2175-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
17,400.0	10,784.2	17,001.1	10,774.9	184.1	182.8	-90.87		-472.1	6,287.9	968.1	605.0	363.04	2.667
17,500.0	10,784.7	17,103.7	10,775.5	187.0	185.8	-90.87		-472.6	6,390.5	967.8	598.9	368.93	2.623
17,600.0	10,785.3	17,206.7	10,776.0	189.8	188.8	-90.87		-474.1	6,493.4	966.7	591.8	374.84	2.579
17,700.0	10,785.8	17,304.3	10,777.2	192.7	191.7	-90.91		-475.2	6,591.1	965.7	585.1	380.59	2.537
17,800.0	10,786.3	17,413.9	10,778.5	195.5	194.9	-90.95		-476.8	6,700.7	964.6	577.9	386.69	2.494
17,900.0	10,786.8	17,514.2	10,779.3	198.4	197.8	-90.97		-479.0	6,800.9	962.7	570.1	392.52	2.453
18,000.0	10,787.4	17,620.7	10,779.5	201.3	200.9	-90.96		-481.6	6,907.4	960.5	562.0	398.54	2.410
18,100.0	10,787.9	17,718.9	10,779.5	204.1	203.7	-90.93		-484.2	7,005.5	958.1	553.7	404.31	2.370
18,200.0	10,788.4	17,814.0	10,779.5	207.0	206.5	-90.90		-486.4	7,100.6	956.0	546.0	410.00	2.332
18,300.0	10,788.9	17,905.0	10,779.0	209.9	209.2	-90.84		-488.3	7,191.6	954.3	538.7	415.57	2.296
18,400.0	10,789.5	18,000.0	10,778.7	212.7	211.9	-90.79		-489.3	7,286.6	953.5	532.2	421.26	2.263
18,500.0	10,790.0	18,112.2	10,779.4	215.6	215.2	-90.80		-490.8	7,398.8	952.4	524.9	427.44	2.228
18,594.5	10,790.5	18,191.0	10,779.5	218.3	217.5	-90.79		-491.6	7,477.6	951.6	519.1	432.49	2.200
18,600.0	10,790.5	18,195.7	10,779.5	218.5	217.6	-90.78		-491.6	7,482.3	951.6	518.8	432.79	2.199
18,700.0	10,791.0	18,294.9	10,779.8	221.3	220.5	-90.77		-491.7	7,581.5	951.8	513.2	438.60	2.170
18,800.0	10,791.6	18,401.8	10,779.0	224.2	223.6	-90.69		-492.4	7,688.4	951.4	506.8	444.64	2.140
18,848.4	10,791.8	18,445.0	10,778.3	225.6	224.9	-90.63		-492.6	7,731.5	951.3	504.0	447.31	2.127
18,900.0	10,792.1	18,492.4	10,777.3	227.1	226.3	-90.56		-492.6	7,778.9	951.4	501.2	450.21	2.113
19,000.0	10,792.6	18,589.7	10,776.1	230.0	229.1	-90.45		-492.3	7,876.2	952.0	496.0	455.96	2.088
19,100.0	10,793.1	18,684.1	10,776.1	232.9	231.9	-90.42		-491.5	7,970.6	953.0	491.4	461.63	2.064
19,200.0	10,793.6	18,785.6	10,776.6	235.7	234.8	-90.42		-490.5	8,072.1	954.3	486.8	467.51	2.041
19,300.0	10,794.2	18,886.0	10,777.0	238.6	237.7	-90.41		-489.8	8,172.6	955.2	481.9	473.35	2.018
19,400.0	10,794.7	18,973.8	10,777.0	241.5	240.3	-90.39		-488.4	8,260.3	957.1	478.2	478.83	1.999
19,500.0	10,795.2	19,074.1	10,777.2	244.4	243.2	-90.36		-486.2	8,360.6	959.5	474.9	484.67	1.980
19,600.0	10,795.7	19,177.9	10,777.4	247.3	246.2	-90.35		-484.4	8,464.4	961.5	470.9	490.61	1.960
19,700.0	10,796.3	19,277.6	10,777.8	250.2	249.1	-90.34		-482.6	8,564.1	963.6	467.2	496.43	1.941
19,800.0	10,796.8	19,377.1	10,777.5	253.0	252.0	-90.29		-481.0	8,663.6	965.4	463.2	502.25	1.922
19,900.0	10,797.3	19,470.9	10,777.5	255.9	254.7	-90.25		-479.0	8,757.3	967.9	460.0	507.91	1.906
20,000.0	10,797.8	19,573.9	10,777.6	258.8	257.7	-90.23		-476.5	8,860.3	970.6	456.7	513.83	1.889
20,100.0	10,798.4	19,678.0	10,777.4	261.7	260.8	-90.18		-474.7	8,964.4	972.5	452.8	519.78	1.871
20,200.0	10,798.9	19,772.4	10,777.6	264.6	263.5	-90.17		-472.9	9,058.7	974.7	449.2	525.45	1.855
20,300.0	10,799.4	19,874.2	10,777.9	267.5	266.5	-90.15		-470.5	9,160.5	977.3	446.0	531.34	1.839
20,400.0	10,799.9	19,971.6	10,777.9	270.4	269.3	-90.12		-468.6	9,257.9	979.6	442.5	537.10	1.824
20,500.0	10,800.5	20,073.6	10,778.3	273.3	272.3	-90.12		-466.1	9,359.9	982.3	439.3	542.99	1.809
20,600.0	10,801.0	20,175.5	10,778.3	276.2	275.2	-90.09		-464.1	9,461.7	984.5	435.6	548.88	1.794
20,700.0	10,801.5	20,278.5	10,777.9	279.1	278.2	-90.03		-462.3	9,564.7	986.5	431.7	554.81	1.778
20,800.0	10,802.0	20,377.3	10,777.4	282.0	281.1	-89.97		-460.7	9,663.5	988.4	427.8	560.61	1.763
20,900.0	10,802.5	20,480.6	10,777.0	284.9	284.1	-89.91		-459.0	9,766.8	990.3	423.7	566.54	1.748
21,000.0	10,803.1	20,587.3	10,775.5	287.8	287.2	-89.80		-457.8	9,873.5	991.7	419.2	572.58	1.732
21,100.0	10,803.6	20,650.0	10,774.2	290.7	289.0	-89.70		-457.4	9,936.2	993.3	416.0	577.32	1.721 SF
21,197.4	10,804.1	20,650.0	10,774.2	293.5	289.0	-89.70		-457.4	9,936.2	1,002.7	422.5	580.17	1.728

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	24.81	29.4	13.6	32.4				
100.0	100.0	100.0	100.0	0.1	0.1	24.81	29.4	13.6	32.4	32.2	0.17	192.019	
200.0	200.0	200.0	200.0	0.3	0.3	24.81	29.4	13.6	32.4	31.8	0.62	52.369	
300.0	300.0	300.0	300.0	0.5	0.5	24.81	29.4	13.6	32.4	31.3	1.07	30.319	
400.0	400.0	400.0	400.0	0.8	0.8	24.81	29.4	13.6	32.4	30.9	1.52	21.335	
500.0	500.0	500.0	500.0	1.0	1.0	24.81	29.4	13.6	32.4	30.4	1.97	16.459	
600.0	600.0	600.0	600.0	1.2	1.2	24.81	29.4	13.6	32.4	30.0	2.42	13.397	
700.0	700.0	700.0	700.0	1.4	1.4	24.81	29.4	13.6	32.4	29.5	2.87	11.295	
800.0	800.0	800.0	800.0	1.7	1.7	24.81	29.4	13.6	32.4	29.1	3.32	9.764	
900.0	900.0	900.0	900.0	1.9	1.9	24.81	29.4	13.6	32.4	28.6	3.76	8.598	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	24.81	29.4	13.6	32.4	28.2	4.21	7.681	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	24.81	29.4	13.6	32.4	27.7	4.66	6.940	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	24.81	29.4	13.6	32.4	27.3	5.11	6.330	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	24.81	29.4	13.6	32.4	26.8	5.56	5.819	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	24.81	29.4	13.6	32.4	26.4	6.01	5.384	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	24.81	29.4	13.6	32.4	25.9	6.46	5.009	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	24.81	29.4	13.6	32.4	25.5	6.91	4.683	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	24.81	29.4	13.6	32.4	25.0	7.36	4.397	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	24.81	29.4	13.6	32.4	24.6	7.81	4.144	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	24.81	29.4	13.6	32.4	24.1	8.26	3.919	
2,000.0	2,000.0	2,000.0	2,000.0	4.4	4.4	24.81	29.4	13.6	32.4	23.7	8.71	3.716	
2,100.0	2,100.0	2,100.0	2,100.0	4.6	4.6	24.81	29.4	13.6	32.4	23.2	9.16	3.534	
2,200.0	2,200.0	2,200.0	2,200.0	4.8	4.8	24.81	29.4	13.6	32.4	22.8	9.61	3.369	
2,300.0	2,300.0	2,300.0	2,300.0	5.0	5.0	24.81	29.4	13.6	32.4	22.3	10.06	3.218	
2,400.0	2,400.0	2,400.0	2,400.0	5.3	5.3	24.81	29.4	13.6	32.4	21.9	10.51	3.081	
2,500.0	2,500.0	2,500.0	2,500.0	5.5	5.5	24.81	29.4	13.6	32.4	21.4	10.96	2.954	
2,600.0	2,600.0	2,600.9	2,600.9	5.7	5.7	-139.22	28.5	12.0	32.2	20.9	11.36	2.840	
2,612.8	2,612.7	2,613.7	2,613.7	5.7	5.7	-140.32	28.3	11.6	32.2	20.8	11.40	2.828 CC	
2,650.0	2,649.9	2,651.2	2,651.1	5.8	5.8	-144.25	27.4	10.1	32.3	20.8	11.53	2.803	
2,700.0	2,699.9	2,701.1	2,701.0	5.8	5.9	-150.11	26.1	7.9	32.7	21.0	11.71	2.796	
2,800.0	2,799.7	2,800.9	2,800.6	6.0	6.1	-161.14	23.5	3.3	34.6	22.5	12.07	2.862	
2,900.0	2,899.6	2,900.6	2,900.2	6.2	6.3	-170.75	20.9	-1.2	37.5	25.1	12.45	3.014	
3,000.0	2,999.5	3,000.4	2,999.9	6.4	6.5	-178.78	18.3	-5.7	41.4	28.5	12.82	3.225	
3,100.0	3,099.3	3,100.2	3,099.5	6.6	6.7	-174.67	15.6	-10.2	45.9	32.7	13.21	3.472	
3,200.0	3,199.2	3,200.0	3,199.1	6.8	6.9	-169.34	13.0	-14.7	50.9	37.3	13.60	3.741	
3,300.0	3,299.0	3,299.7	3,298.8	7.0	7.1	-164.99	10.4	-19.3	56.2	42.2	14.00	4.018	
3,400.0	3,398.9	3,399.5	3,398.4	7.2	7.3	-161.41	7.8	-23.8	61.9	47.5	14.40	4.297	
3,501.2	3,500.0	3,500.5	3,499.3	7.4	7.5	-158.41	5.2	-28.4	67.8	53.0	14.81	4.576	
3,600.0	3,598.7	3,599.1	3,597.7	7.6	7.7	-155.44	2.6	-32.8	72.1	56.9	15.24	4.733	
3,651.2	3,649.9	3,650.3	3,648.8	7.7	7.8	-46.43	1.2	-35.2	73.3	57.8	15.47	4.734	
3,700.0	3,698.7	3,699.0	3,697.5	7.8	7.9	-48.33	0.0	-37.4	74.0	58.3	15.69	4.719	
3,800.0	3,798.7	3,798.8	3,797.2	8.0	8.2	-52.08	-2.6	-41.9	75.8	59.7	16.13	4.702	
3,900.0	3,898.7	3,899.8	3,898.1	8.2	8.4	-54.56	-4.4	-45.0	77.3	60.7	16.56	4.664	
4,000.0	3,998.7	4,000.4	3,998.7	8.5	8.6	-54.87	-4.7	-45.4	77.4	60.5	16.99	4.558	
4,100.0	4,098.7	4,100.4	4,098.7	8.7	8.8	-54.87	-4.7	-45.4	77.4	60.0	17.43	4.444	
4,200.0	4,198.7	4,200.4	4,198.7	8.9	9.0	-54.87	-4.7	-45.4	77.4	59.6	17.87	4.334	
4,300.0	4,298.7	4,300.4	4,298.7	9.1	9.2	-54.87	-4.7	-45.4	77.4	59.1	18.31	4.230	
4,400.0	4,398.7	4,400.4	4,398.7	9.3	9.4	-54.87	-4.7	-45.4	77.4	58.7	18.75	4.131	
4,500.0	4,498.7	4,500.4	4,498.7	9.6	9.7	-54.87	-4.7	-45.4	77.4	58.3	19.19	4.036	
4,600.0	4,598.7	4,600.4	4,598.7	9.8	9.9	-54.87	-4.7	-45.4	77.4	57.8	19.63	3.946	
4,700.0	4,698.7	4,700.4	4,698.7	10.0	10.1	-54.87	-4.7	-45.4	77.4	57.4	20.07	3.859	
4,800.0	4,798.7	4,800.4	4,798.7	10.2	10.3	-54.87	-4.7	-45.4	77.4	56.9	20.51	3.776	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
4,900.0	4,898.7	4,900.4	4,898.7	10.4	10.5	-54.87	-4.7	-45.4	77.4	56.5	20.95	3.697	
5,000.0	4,998.7	5,000.4	4,998.7	10.7	10.8	-54.87	-4.7	-45.4	77.4	56.1	21.39	3.620	
5,100.0	5,098.7	5,100.4	5,098.7	10.9	11.0	-54.87	-4.7	-45.4	77.4	55.6	21.84	3.547	
5,200.0	5,198.7	5,200.4	5,198.7	11.1	11.2	-54.87	-4.7	-45.4	77.4	55.2	22.28	3.476	
5,300.0	5,298.7	5,300.4	5,298.7	11.3	11.4	-54.87	-4.7	-45.4	77.4	54.7	22.72	3.409	
5,400.0	5,398.7	5,400.4	5,398.7	11.6	11.6	-54.87	-4.7	-45.4	77.4	54.3	23.16	3.343	
5,500.0	5,498.7	5,500.4	5,498.7	11.8	11.9	-54.87	-4.7	-45.4	77.4	53.8	23.61	3.281	
5,600.0	5,598.7	5,600.4	5,598.7	12.0	12.1	-54.87	-4.7	-45.4	77.4	53.4	24.05	3.220	
5,700.0	5,698.7	5,700.4	5,698.7	12.2	12.3	-54.87	-4.7	-45.4	77.4	53.0	24.49	3.162	
5,800.0	5,798.7	5,800.4	5,798.7	12.4	12.5	-54.87	-4.7	-45.4	77.4	52.5	24.94	3.105	
5,900.0	5,898.7	5,900.4	5,898.7	12.7	12.8	-54.87	-4.7	-45.4	77.4	52.1	25.38	3.051	
6,000.0	5,998.7	6,000.4	5,998.7	12.9	13.0	-54.87	-4.7	-45.4	77.4	51.6	25.83	2.999	
6,100.0	6,098.7	6,100.4	6,098.7	13.1	13.2	-54.87	-4.7	-45.4	77.4	51.2	26.27	2.948	
6,200.0	6,198.7	6,200.4	6,198.7	13.3	13.4	-54.87	-4.7	-45.4	77.4	50.7	26.72	2.899	
6,300.0	6,298.7	6,300.4	6,298.7	13.6	13.6	-54.87	-4.7	-45.4	77.4	50.3	27.16	2.851	
6,400.0	6,398.7	6,400.4	6,398.7	13.8	13.9	-54.87	-4.7	-45.4	77.4	49.8	27.61	2.805	
6,500.0	6,498.7	6,500.4	6,498.7	14.0	14.1	-54.87	-4.7	-45.4	77.4	49.4	28.05	2.761	
6,600.0	6,598.7	6,600.4	6,598.7	14.2	14.3	-54.87	-4.7	-45.4	77.4	48.9	28.50	2.718	
6,700.0	6,698.7	6,700.4	6,698.7	14.4	14.5	-54.87	-4.7	-45.4	77.4	48.5	28.94	2.676	
6,800.0	6,798.7	6,800.4	6,798.7	14.7	14.7	-54.87	-4.7	-45.4	77.4	48.1	29.39	2.635	
6,900.0	6,898.7	6,900.4	6,898.7	14.9	15.0	-54.87	-4.7	-45.4	77.4	47.6	29.83	2.596	
7,000.0	6,998.7	7,000.4	6,998.7	15.1	15.2	-54.87	-4.7	-45.4	77.4	47.2	30.28	2.558	
7,100.0	7,098.7	7,100.4	7,098.7	15.3	15.4	-54.87	-4.7	-45.4	77.4	46.7	30.73	2.521	
7,200.0	7,198.7	7,200.4	7,198.7	15.6	15.6	-54.87	-4.7	-45.4	77.4	46.3	31.17	2.485	
7,300.0	7,298.7	7,300.4	7,298.7	15.8	15.9	-54.87	-4.7	-45.4	77.4	45.8	31.62	2.449	
7,400.0	7,398.7	7,400.4	7,398.7	16.0	16.1	-54.87	-4.7	-45.4	77.4	45.4	32.06	2.415	
7,500.0	7,498.7	7,500.4	7,498.7	16.2	16.3	-54.87	-4.7	-45.4	77.4	44.9	32.51	2.382	
7,600.0	7,598.7	7,600.4	7,598.7	16.5	16.5	-54.87	-4.7	-45.4	77.4	44.5	32.96	2.350	
7,700.0	7,698.7	7,700.4	7,698.7	16.7	16.7	-54.87	-4.7	-45.4	77.4	44.0	33.40	2.319	
7,800.0	7,798.7	7,800.4	7,798.7	16.9	17.0	-54.87	-4.7	-45.4	77.4	43.6	33.85	2.288	
7,900.0	7,898.7	7,900.4	7,898.7	17.1	17.2	-54.87	-4.7	-45.4	77.4	43.1	34.30	2.258	
8,000.0	7,998.7	8,000.4	7,998.7	17.3	17.4	-54.87	-4.7	-45.4	77.4	42.7	34.74	2.229	
8,100.0	8,098.7	8,100.4	8,098.7	17.6	17.6	-54.87	-4.7	-45.4	77.4	42.3	35.19	2.201	
8,200.0	8,198.7	8,200.4	8,198.7	17.8	17.9	-54.87	-4.7	-45.4	77.4	41.8	35.64	2.173	
8,200.3	8,199.0	8,200.7	8,199.0	17.8	17.9	-54.87	-4.7	-45.4	77.4	41.8	35.64	2.173	
8,300.0	8,298.7	8,300.4	8,298.7	18.0	18.1	-54.87	-4.7	-45.4	77.4	41.4	36.08	2.146	
8,300.8	8,299.5	8,301.2	8,299.5	18.0	18.1	-54.87	-4.7	-45.4	77.4	41.4	36.09	2.146	
8,400.0	8,398.7	8,400.4	8,398.7	18.2	18.3	-54.87	-4.7	-45.4	77.4	40.9	36.53	2.120	
8,400.8	8,399.5	8,401.2	8,399.5	18.2	18.3	-54.87	-4.7	-45.4	77.4	40.9	36.53	2.120	
8,500.0	8,498.7	8,500.4	8,498.7	18.5	18.5	-54.87	-4.7	-45.4	77.4	40.5	36.98	2.094	
8,500.3	8,499.0	8,500.7	8,499.0	18.5	18.5	-54.87	-4.7	-45.4	77.4	40.5	36.98	2.094	
8,600.0	8,598.7	8,600.4	8,598.7	18.7	18.8	-54.87	-4.7	-45.4	77.4	40.0	37.42	2.069	
8,600.3	8,599.0	8,600.7	8,599.0	18.7	18.8	-54.87	-4.7	-45.4	77.4	40.0	37.43	2.069	
8,700.0	8,698.7	8,700.4	8,698.7	18.9	19.0	-54.87	-4.7	-45.4	77.4	39.6	37.87	2.045	
8,700.8	8,699.5	8,701.2	8,699.5	18.9	19.0	-54.87	-4.7	-45.4	77.4	39.6	37.88	2.045	
8,800.0	8,798.7	8,800.4	8,798.7	19.1	19.2	-54.87	-4.7	-45.4	77.4	39.1	38.32	2.021	
8,800.3	8,799.0	8,800.7	8,799.0	19.1	19.2	-54.87	-4.7	-45.4	77.4	39.1	38.32	2.021	
8,900.0	8,898.7	8,900.4	8,898.7	19.4	19.4	-54.87	-4.7	-45.4	77.4	38.7	38.77	1.998	
8,900.8	8,899.5	8,901.2	8,899.5	19.4	19.4	-54.87	-4.7	-45.4	77.4	38.7	38.77	1.998	
9,000.0	8,998.7	9,000.4	8,998.7	19.6	19.6	-54.87	-4.7	-45.4	77.4	38.2	39.21	1.975	
9,000.8	8,999.5	9,001.2	8,999.5	19.6	19.7	-54.87	-4.7	-45.4	77.4	38.2	39.22	1.975	
9,100.0	9,098.7	9,100.4	9,098.7	19.8	19.9	-54.87	-4.7	-45.4	77.4	37.8	39.66	1.953	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodta, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
9,100.5	9,099.2	9,100.9	9,099.2	19.8	19.9	-54.87		-4.7	-45.4	77.4	37.8	39.66	1.953
9,200.0	9,198.7	9,200.4	9,198.7	20.0	20.1	-54.87		-4.7	-45.4	77.4	37.3	40.11	1.931
9,200.8	9,199.5	9,201.2	9,199.5	20.0	20.1	-54.87		-4.7	-45.4	77.4	37.3	40.11	1.931
9,300.0	9,298.7	9,300.4	9,298.7	20.3	20.3	-54.87		-4.7	-45.4	77.4	36.9	40.56	1.910
9,300.8	9,299.5	9,301.2	9,299.5	20.3	20.3	-54.87		-4.7	-45.4	77.4	36.9	40.56	1.909
9,400.0	9,398.7	9,400.4	9,398.7	20.5	20.5	-54.87		-4.7	-45.4	77.4	36.4	41.00	1.889
9,400.3	9,399.0	9,400.7	9,399.0	20.5	20.5	-54.87		-4.7	-45.4	77.4	36.4	41.00	1.889
9,500.0	9,498.7	9,500.4	9,498.7	20.7	20.8	-54.87		-4.7	-45.4	77.4	36.0	41.45	1.868
9,500.8	9,499.5	9,501.2	9,499.5	20.7	20.8	-54.87		-4.7	-45.4	77.4	36.0	41.45	1.868
9,600.0	9,598.7	9,600.4	9,598.7	20.9	21.0	-54.87		-4.7	-45.4	77.4	35.5	41.90	1.848
9,600.8	9,599.5	9,601.2	9,599.5	20.9	21.0	-54.87		-4.7	-45.4	77.4	35.5	41.90	1.848
9,700.0	9,698.7	9,700.4	9,698.7	21.2	21.2	-54.87		-4.7	-45.4	77.4	35.1	42.35	1.829
9,700.8	9,699.5	9,701.2	9,699.5	21.2	21.2	-54.87		-4.7	-45.4	77.4	35.1	42.35	1.829
9,800.0	9,798.7	9,800.4	9,798.7	21.4	21.4	-54.87		-4.7	-45.4	77.4	34.7	42.79	1.810
9,800.8	9,799.5	9,801.2	9,799.5	21.4	21.4	-54.87		-4.7	-45.4	77.4	34.6	42.80	1.810
9,900.0	9,898.7	9,900.4	9,898.7	21.6	21.7	-54.87		-4.7	-45.4	77.4	34.2	43.24	1.791
9,900.8	9,899.5	9,901.2	9,899.5	21.6	21.7	-54.87		-4.7	-45.4	77.4	34.2	43.24	1.791
10,000.0	9,998.7	10,000.4	9,998.7	21.8	21.9	-54.87		-4.7	-45.4	77.4	33.8	43.69	1.773
10,000.3	9,999.0	10,000.7	9,999.0	21.8	21.9	-54.87		-4.7	-45.4	77.4	33.8	43.69	1.773
10,100.0	10,098.7	10,100.4	10,098.7	22.0	22.1	-54.87		-4.7	-45.4	77.4	33.3	44.14	1.755
10,100.8	10,099.5	10,101.2	10,099.5	22.1	22.1	-54.87		-4.7	-45.4	77.4	33.3	44.14	1.755
10,200.0	10,198.7	10,200.4	10,198.7	22.3	22.3	-54.87		-4.7	-45.4	77.4	32.9	44.58	1.737
10,273.6	10,272.3	10,274.0	10,272.3	22.4	22.5	-54.87		-4.7	-45.4	77.4	32.5	44.91	1.724
10,275.0	10,273.7	10,275.4	10,273.7	22.4	22.5	155.13		-4.7	-45.4	77.4	32.6	44.88	1.726
10,300.0	10,298.7	10,300.4	10,298.7	22.5	22.6	155.32		-4.7	-45.4	78.1	33.2	44.94	1.738
10,325.0	10,323.6	10,325.3	10,323.6	22.5	22.6	155.84		-4.7	-45.4	80.0	35.0	44.92	1.780
10,350.0	10,348.4	10,350.1	10,348.4	22.6	22.7	156.63		-4.7	-45.4	83.0	38.2	44.84	1.852
10,375.0	10,372.9	10,376.9	10,375.1	22.6	22.7	157.71		-4.8	-45.3	87.2	42.5	44.67	1.951
10,400.0	10,397.2	10,406.6	10,404.8	22.7	22.8	158.79		-6.4	-44.5	91.3	46.9	44.42	2.056
10,425.0	10,421.2	10,436.7	10,434.7	22.7	22.8	159.70		-9.6	-42.7	95.3	51.2	44.09	2.161
10,450.0	10,444.7	10,467.2	10,464.7	22.8	22.9	160.47		-14.5	-40.0	99.0	55.4	43.69	2.267
10,475.0	10,467.8	10,498.1	10,494.6	22.8	22.9	161.11		-21.1	-36.3	102.5	59.3	43.21	2.373
10,500.0	10,490.3	10,529.3	10,524.2	22.9	23.0	161.63		-29.5	-31.6	105.7	63.1	42.66	2.478
10,525.0	10,512.2	10,560.8	10,553.5	23.0	23.0	162.06		-39.7	-26.0	108.7	66.6	42.06	2.584
10,550.0	10,533.5	10,592.6	10,582.2	23.0	23.1	162.38		-51.7	-19.3	111.3	69.9	41.39	2.688
10,575.0	10,554.1	10,624.6	10,610.1	23.1	23.2	162.62		-65.5	-11.7	113.5	72.8	40.68	2.791
10,600.0	10,573.9	10,656.9	10,637.1	23.2	23.2	162.78		-81.0	-3.1	115.4	75.5	39.92	2.892
10,625.0	10,592.8	10,689.4	10,663.0	23.3	23.3	162.85		-98.1	6.4	117.0	77.9	39.13	2.990
10,650.0	10,610.9	10,722.0	10,687.6	23.4	23.3	162.85		-116.8	16.8	118.2	79.8	38.32	3.084
10,675.0	10,628.1	10,754.7	10,710.7	23.5	23.4	162.78		-137.1	28.0	119.0	81.5	37.49	3.173
10,700.0	10,644.2	10,787.5	10,732.3	23.6	23.5	162.63		-158.7	39.9	119.4	82.7	36.67	3.256
10,725.0	10,659.4	10,820.3	10,752.1	23.7	23.7	162.41		-181.5	52.6	119.4	83.6	35.86	3.330
10,750.0	10,673.5	10,853.1	10,770.1	23.8	23.8	162.11		-205.5	65.9	119.1	84.0	35.09	3.394
10,775.0	10,686.5	10,885.8	10,786.1	24.0	24.0	161.74		-230.4	79.7	118.4	84.0	34.37	3.444
10,800.0	10,698.4	10,918.3	10,800.0	24.1	24.2	161.28		-256.1	94.0	117.3	83.6	33.71	3.479
10,825.0	10,709.1	10,950.7	10,811.9	24.3	24.4	160.75		-282.5	108.6	115.8	82.7	33.14	3.495
10,850.0	10,718.6	10,982.9	10,821.7	24.5	24.6	160.13		-309.3	123.5	114.0	81.4	32.69	3.489
10,875.0	10,726.8	11,014.9	10,829.3	24.7	24.9	159.41		-336.5	138.5	111.9	79.6	32.36	3.459
10,900.0	10,733.9	11,046.6	10,834.8	24.9	25.1	158.59		-363.8	153.6	109.5	77.3	32.18	3.402
10,925.0	10,739.6	11,078.0	10,838.1	25.1	25.4	157.67		-391.1	168.8	106.7	74.6	32.16	3.319
10,950.0	10,744.1	11,109.1	10,839.4	25.3	25.7	156.63		-418.2	183.8	103.7	71.4	32.33	3.208
10,975.0	10,747.3	11,134.5	10,839.6	25.6	26.0	155.83		-440.5	196.2	101.1	68.6	32.54	3.107

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference			Offset		Semi Major Axis				Distance				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,000.0	10,749.2	11,160.0	10,839.7	25.8	26.2	155.40	-462.6	208.8	99.6	66.8	32.74	3.041	
11,021.1	10,749.8	11,181.6	10,839.8	26.0	26.5	155.37	-481.2	219.6	99.1	66.2	32.85	3.016	
11,036.1	10,749.8	11,196.9	10,839.9	26.2	26.6	155.50	-494.4	227.5	99.0	66.1	32.92	3.006	
11,100.0	10,750.2	11,262.1	10,840.3	26.9	27.4	156.18	-549.6	262.2	98.5	65.3	33.21	2.966	
11,200.0	10,750.7	11,364.2	10,840.8	28.2	28.8	157.32	-633.6	320.1	97.7	64.0	33.67	2.900	
11,300.0	10,751.3	11,466.1	10,841.4	29.7	30.3	158.53	-714.3	382.4	96.9	62.7	34.16	2.835	
11,400.0	10,751.8	11,567.9	10,842.0	31.3	32.0	159.82	-791.4	448.8	96.0	61.4	34.64	2.773	
11,500.0	10,752.4	11,669.5	10,842.6	33.0	33.8	161.17	-864.8	519.1	95.3	60.2	35.09	2.715	
11,600.0	10,753.0	11,771.1	10,843.2	34.9	35.8	162.60	-934.3	593.2	94.5	59.0	35.48	2.663	
11,700.0	10,753.6	11,872.5	10,843.8	36.9	37.8	164.10	-999.6	670.7	93.8	58.0	35.82	2.618	
11,800.0	10,754.2	11,973.7	10,844.4	39.0	39.9	165.65	-1,060.7	751.4	93.1	57.0	36.10	2.579	
11,900.0	10,754.8	12,074.8	10,845.0	41.1	42.1	167.27	-1,117.3	835.2	92.5	56.2	36.34	2.546	
12,000.0	10,755.4	12,175.8	10,845.6	43.3	44.3	168.94	-1,169.3	921.7	91.9	55.4	36.54	2.516	
12,100.0	10,756.0	12,276.6	10,846.2	45.5	46.6	170.66	-1,216.7	1,010.7	91.5	54.7	36.75	2.488	
12,200.0	10,756.6	12,377.3	10,846.8	47.8	48.9	172.42	-1,259.2	1,101.9	91.0	54.0	37.01	2.460	
12,300.0	10,757.2	12,477.8	10,847.4	50.1	51.2	174.21	-1,296.7	1,195.2	90.7	53.4	37.36	2.428	
12,400.0	10,757.8	12,578.2	10,848.0	52.4	53.5	176.02	-1,329.3	1,290.1	90.5	52.6	37.85	2.390	
12,500.0	10,758.4	12,678.4	10,848.6	54.8	55.8	177.86	-1,356.8	1,386.4	90.3	51.8	38.53	2.344	
12,600.0	10,759.0	12,778.5	10,849.2	57.1	58.1	179.70	-1,379.2	1,484.0	90.2	50.8	39.45	2.288	
12,620.9	10,759.1	12,799.4	10,849.3	57.6	58.6	-179.91	-1,383.3	1,504.5	90.2	50.6	39.67	2.275	
12,700.0	10,759.5	12,878.4	10,849.8	59.4	60.4	-178.45	-1,396.5	1,582.4	90.3	49.6	40.63	2.222	
12,800.0	10,760.1	12,978.2	10,850.3	61.7	62.6	-176.62	-1,408.5	1,681.4	90.4	48.3	42.07	2.148	
12,900.0	10,760.6	13,077.8	10,850.9	64.0	64.9	-174.80	-1,415.4	1,780.8	90.6	46.8	43.79	2.069	
13,000.0	10,761.2	13,177.4	10,851.4	66.2	67.1	-173.11	-1,417.2	1,880.3	90.9	45.2	45.69	1.989	
13,031.0	10,761.3	13,208.4	10,851.6	66.9	67.8	-172.97	-1,417.3	1,911.4	90.9	44.8	46.12	1.971	
13,100.0	10,761.7	13,277.4	10,851.9	68.5	69.3	-173.04	-1,417.6	1,980.3	90.9	43.9	47.00	1.934	
13,200.0	10,762.2	13,377.4	10,852.4	70.8	71.6	-173.12	-1,418.0	2,080.3	90.9	42.6	48.28	1.882	
13,300.0	10,762.8	13,477.4	10,853.0	73.1	74.0	-173.21	-1,418.4	2,180.3	90.8	41.3	49.57	1.833	
13,400.0	10,763.3	13,577.4	10,853.5	75.5	76.4	-173.30	-1,418.8	2,280.3	90.8	40.0	50.87	1.786	
13,500.0	10,763.8	13,677.4	10,854.0	77.9	78.8	-173.39	-1,419.2	2,380.3	90.8	38.6	52.18	1.740	
13,600.0	10,764.3	13,777.4	10,854.5	80.3	81.2	-173.48	-1,419.7	2,480.3	90.8	37.3	53.50	1.697	
13,700.0	10,764.8	13,877.4	10,855.1	82.8	83.7	-173.57	-1,420.1	2,580.3	90.8	36.0	54.82	1.656	
13,800.0	10,765.4	13,977.4	10,855.6	85.3	86.2	-173.67	-1,420.5	2,680.3	90.8	34.6	56.15	1.617	
13,900.0	10,765.9	14,077.4	10,856.1	87.8	88.8	-173.76	-1,420.9	2,780.3	90.7	33.3	57.48	1.579	
14,000.0	10,766.4	14,177.4	10,856.6	90.4	91.3	-173.85	-1,421.3	2,880.3	90.7	31.9	58.82	1.543	
14,100.0	10,766.9	14,277.4	10,857.2	93.0	93.9	-173.94	-1,421.7	2,980.3	90.7	30.6	60.16	1.508	
14,200.0	10,767.5	14,377.4	10,857.7	95.6	96.5	-174.03	-1,422.1	3,080.3	90.7	29.2	61.50	1.475 Level 3	
14,300.0	10,768.0	14,477.4	10,858.2	98.2	99.1	-174.12	-1,422.5	3,180.3	90.7	27.8	62.85	1.443 Level 3	
14,400.0	10,768.5	14,577.4	10,858.7	100.8	101.8	-174.21	-1,422.9	3,280.3	90.7	26.5	64.19	1.413 Level 3	
14,500.0	10,769.0	14,677.4	10,859.2	103.5	104.4	-174.30	-1,423.3	3,380.3	90.7	25.1	65.54	1.383 Level 3	
14,600.0	10,769.6	14,777.4	10,859.8	106.1	107.1	-174.39	-1,423.7	3,480.3	90.6	23.8	66.89	1.355 Level 3	
14,700.0	10,770.1	14,877.4	10,860.3	108.8	109.8	-174.48	-1,424.1	3,580.3	90.6	22.4	68.24	1.328 Level 3	
14,800.0	10,770.6	14,977.4	10,860.8	111.5	112.5	-174.57	-1,424.5	3,680.3	90.6	21.0	69.60	1.302 Level 3	
14,900.0	10,771.1	15,077.4	10,861.3	114.2	115.2	-174.66	-1,425.0	3,780.3	90.6	19.7	70.95	1.277 Level 3	
15,000.0	10,771.7	15,177.4	10,861.9	116.9	117.9	-174.75	-1,425.4	3,880.3	90.6	18.3	72.30	1.253 Level 3	
15,100.0	10,772.2	15,277.4	10,862.4	119.6	120.6	-174.84	-1,425.8	3,980.3	90.6	16.9	73.65	1.230 Level 2	
15,200.0	10,772.7	15,377.4	10,862.9	122.4	123.4	-174.93	-1,426.2	4,080.3	90.6	15.6	75.01	1.207 Level 2	
15,300.0	10,773.2	15,477.4	10,863.4	125.1	126.1	-175.02	-1,426.6	4,180.3	90.6	14.2	76.36	1.186 Level 2	
15,400.0	10,773.7	15,577.4	10,864.0	127.9	128.9	-175.11	-1,427.0	4,280.3	90.5	12.8	77.71	1.165 Level 2	
15,500.0	10,774.3	15,677.4	10,864.5	130.6	131.6	-175.20	-1,427.4	4,380.3	90.5	11.5	79.07	1.145 Level 2	
15,600.0	10,774.8	15,777.4	10,865.0	133.4	134.4	-175.29	-1,427.8	4,480.3	90.5	10.1	80.42	1.126 Level 2	
15,700.0	10,775.3	15,877.4	10,865.5	136.2	137.2	-175.38	-1,428.2	4,580.3	90.5	8.7	81.77	1.107 Level 2	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Gyrodata, Inc.
Anticollision Report



Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6												Offset Site Error:	0.0 usft
Survey Program: 0-MWD				Distance								Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,800.0	10,775.8	15,977.4	10,866.1	139.0	140.0	-175.47	-1,428.6	4,680.3	90.5	7.4	83.12	1.089	Level 2
15,900.0	10,776.4	16,077.4	10,866.6	141.8	142.8	-175.56	-1,429.0	4,780.3	90.5	6.0	84.47	1.071	Level 2
16,000.0	10,776.9	16,177.4	10,867.1	144.6	145.5	-175.65	-1,429.4	4,880.3	90.5	4.6	85.82	1.054	Level 2
16,100.0	10,777.4	16,277.4	10,867.6	147.4	148.3	-175.75	-1,429.8	4,980.3	90.5	3.3	87.18	1.038	Level 2
16,200.0	10,777.9	16,377.4	10,868.1	150.2	151.2	-175.84	-1,430.2	5,080.3	90.5	1.9	88.53	1.022	Level 2
16,300.0	10,778.5	16,477.4	10,868.7	153.0	154.0	-175.93	-1,430.7	5,180.3	90.4	0.6	89.88	1.006	Level 2
16,400.0	10,779.0	16,577.4	10,869.2	155.8	156.8	-176.02	-1,431.1	5,280.3	90.4	-0.8	91.23	0.991	Level 1
16,500.0	10,779.5	16,677.4	10,869.7	158.6	159.6	-176.11	-1,431.5	5,380.3	90.4	-2.2	92.58	0.977	Level 1
16,600.0	10,780.0	16,777.4	10,870.2	161.4	162.4	-176.20	-1,431.9	5,480.3	90.4	-3.5	93.93	0.963	Level 1
16,700.0	10,780.6	16,877.4	10,870.8	164.2	165.2	-176.29	-1,432.3	5,580.3	90.4	-4.9	95.27	0.949	Level 1
16,800.0	10,781.1	16,977.4	10,871.3	167.1	168.1	-176.38	-1,432.7	5,680.3	90.4	-6.2	96.62	0.935	Level 1
16,900.0	10,781.6	17,077.4	10,871.8	169.9	170.9	-176.47	-1,433.1	5,780.2	90.4	-7.6	97.97	0.923	Level 1
17,000.0	10,782.1	17,177.4	10,872.3	172.7	173.7	-176.56	-1,433.5	5,880.2	90.4	-8.9	99.32	0.910	Level 1
17,100.0	10,782.7	17,277.4	10,872.9	175.6	176.6	-176.65	-1,433.9	5,980.2	90.4	-10.3	100.67	0.898	Level 1
17,200.0	10,783.2	17,377.4	10,873.4	178.4	179.4	-176.74	-1,434.3	6,080.2	90.4	-11.7	102.02	0.886	Level 1
17,300.0	10,783.7	17,477.4	10,873.9	181.3	182.3	-176.84	-1,434.7	6,180.2	90.3	-13.0	103.37	0.874	Level 1
17,400.0	10,784.2	17,577.4	10,874.4	184.1	185.1	-176.93	-1,435.1	6,280.2	90.3	-14.4	104.73	0.863	Level 1
17,500.0	10,784.7	17,677.4	10,875.0	187.0	188.0	-177.02	-1,435.5	6,380.2	90.3	-15.7	106.08	0.852	Level 1
17,600.0	10,785.3	17,777.4	10,875.5	189.8	190.8	-177.11	-1,436.0	6,480.2	90.3	-17.1	107.43	0.841	Level 1
17,700.0	10,785.8	17,877.4	10,876.0	192.7	193.7	-177.20	-1,436.4	6,580.2	90.3	-18.5	108.78	0.830	Level 1
17,800.0	10,786.3	17,977.4	10,876.5	195.5	196.5	-177.29	-1,436.8	6,680.2	90.3	-19.8	110.14	0.820	Level 1
17,900.0	10,786.8	18,077.4	10,877.0	198.4	199.4	-177.38	-1,437.2	6,780.2	90.3	-21.2	111.49	0.810	Level 1
18,000.0	10,787.4	18,177.4	10,877.6	201.3	202.3	-177.47	-1,437.6	6,880.2	90.3	-22.6	112.85	0.800	Level 1
18,100.0	10,787.9	18,277.4	10,878.1	204.1	205.1	-177.56	-1,438.0	6,980.2	90.3	-23.9	114.21	0.791	Level 1
18,200.0	10,788.4	18,377.4	10,878.6	207.0	208.0	-177.65	-1,438.4	7,080.2	90.3	-25.3	115.57	0.781	Level 1
18,300.0	10,788.9	18,477.4	10,879.1	209.9	210.9	-177.75	-1,438.8	7,180.2	90.3	-26.6	116.93	0.772	Level 1
18,400.0	10,789.5	18,577.4	10,879.7	212.7	213.7	-177.84	-1,439.2	7,280.2	90.3	-28.0	118.29	0.763	Level 1
18,500.0	10,790.0	18,677.4	10,880.2	215.6	216.6	-177.93	-1,439.6	7,380.2	90.3	-29.4	119.66	0.754	Level 1
18,600.0	10,790.5	18,777.4	10,880.7	218.5	219.5	-178.02	-1,440.0	7,480.2	90.3	-30.8	121.03	0.746	Level 1
18,700.0	10,791.0	18,877.4	10,881.2	221.3	222.3	-178.11	-1,440.4	7,580.2	90.3	-32.1	122.39	0.737	Level 1
18,800.0	10,791.6	18,977.4	10,881.8	224.2	225.2	-178.20	-1,440.8	7,680.2	90.3	-33.5	123.77	0.729	Level 1
18,900.0	10,792.1	19,077.4	10,882.3	227.1	228.1	-178.29	-1,441.2	7,780.2	90.3	-34.9	125.14	0.721	Level 1
19,000.0	10,792.6	19,177.4	10,882.8	230.0	231.0	-178.38	-1,441.7	7,880.2	90.2	-36.3	126.52	0.713	Level 1
19,100.0	10,793.1	19,277.4	10,883.3	232.9	233.9	-178.47	-1,442.1	7,980.2	90.2	-37.7	127.90	0.706	Level 1
19,200.0	10,793.6	19,377.4	10,883.9	235.7	236.7	-178.57	-1,442.5	8,080.2	90.2	-39.0	129.28	0.698	Level 1
19,300.0	10,794.2	19,477.4	10,884.4	238.6	239.6	-178.66	-1,442.9	8,180.2	90.2	-40.4	130.66	0.691	Level 1
19,400.0	10,794.7	19,577.4	10,884.9	241.5	242.5	-178.75	-1,443.3	8,280.2	90.2	-41.8	132.05	0.683	Level 1
19,500.0	10,795.2	19,677.4	10,885.4	244.4	245.4	-178.84	-1,443.7	8,380.2	90.2	-43.2	133.44	0.676	Level 1
19,600.0	10,795.7	19,777.4	10,886.0	247.3	248.3	-178.93	-1,444.1	8,480.2	90.2	-44.6	134.84	0.669	Level 1
19,700.0	10,796.3	19,877.4	10,886.5	250.2	251.2	-179.02	-1,444.5	8,580.2	90.2	-46.0	136.24	0.662	Level 1
19,800.0	10,796.8	19,977.4	10,887.0	253.0	254.1	-179.11	-1,444.9	8,680.2	90.2	-47.4	137.64	0.655	Level 1
19,900.0	10,797.3	20,077.4	10,887.5	255.9	256.9	-179.20	-1,445.3	8,780.2	90.2	-48.8	139.05	0.649	Level 1
20,000.0	10,797.8	20,177.4	10,888.0	258.8	259.8	-179.30	-1,445.7	8,880.2	90.2	-50.2	140.46	0.642	Level 1
20,100.0	10,798.4	20,277.4	10,888.6	261.7	262.7	-179.39	-1,446.1	8,980.2	90.2	-51.7	141.87	0.636	Level 1
20,200.0	10,798.9	20,377.4	10,889.1	264.6	265.6	-179.48	-1,446.5	9,080.2	90.2	-53.1	143.29	0.630	Level 1
20,300.0	10,799.4	20,477.4	10,889.6	267.5	268.5	-179.57	-1,447.0	9,180.2	90.2	-54.5	144.72	0.623	Level 1
20,400.0	10,799.9	20,577.4	10,890.1	270.4	271.4	-179.66	-1,447.4	9,280.2	90.2	-55.9	146.14	0.617	Level 1
20,500.0	10,800.5	20,677.4	10,890.7	273.3	274.3	-179.75	-1,447.8	9,380.2	90.2	-57.4	147.58	0.611	Level 1
20,600.0	10,801.0	20,777.4	10,891.2	276.2	277.2	-179.84	-1,448.2	9,480.2	90.2	-58.8	149.02	0.605	Level 1
20,700.0	10,801.5	20,877.4	10,891.7	279.1	280.1	-179.93	-1,448.6	9,580.2	90.2	-60.2	150.46	0.600	Level 1
20,772.0	10,801.9	20,949.4	10,892.1	281.2	282.2	-180.00	-1,448.9	9,652.1	90.2	-61.3	151.50	0.595	Level 1
20,800.0	10,802.0	20,977.4	10,892.2	282.0	283.0	-179.97	-1,449.0	9,680.2	90.2	-61.7	151.91	0.594	Level 1

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Oasis Petroleum	Local Co-ordinate Reference:	Well Kline Federal 5300 21-18 5B
Project:	Indian Hills	TVD Reference:	WELL @ 2078.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2078.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 11-18 5B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 5000.1 Single User Db
Reference Design:	Design #6	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 21-18 4T2 - Wellbore #1 - Design #6													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
20,900.0	10,802.5	21,077.4	10,892.8	284.9	285.9	179.88	-1,449.4	9,780.2	90.2	-63.2	153.36	0.588	Level 1	
21,000.0	10,803.1	21,177.4	10,893.3	287.8	288.8	179.79	-1,449.8	9,880.2	90.2	-64.6	154.82	0.583	Level 1	
21,100.0	10,803.6	21,277.4	10,893.8	290.7	291.7	179.70	-1,450.2	9,980.2	90.2	-66.1	156.29	0.577	Level 1	
21,197.4	10,804.1	21,374.8	10,894.3	293.5	294.5	179.61	-1,450.6	10,077.5	90.2	-67.5	157.72	0.572	Level 1, ES, SF	

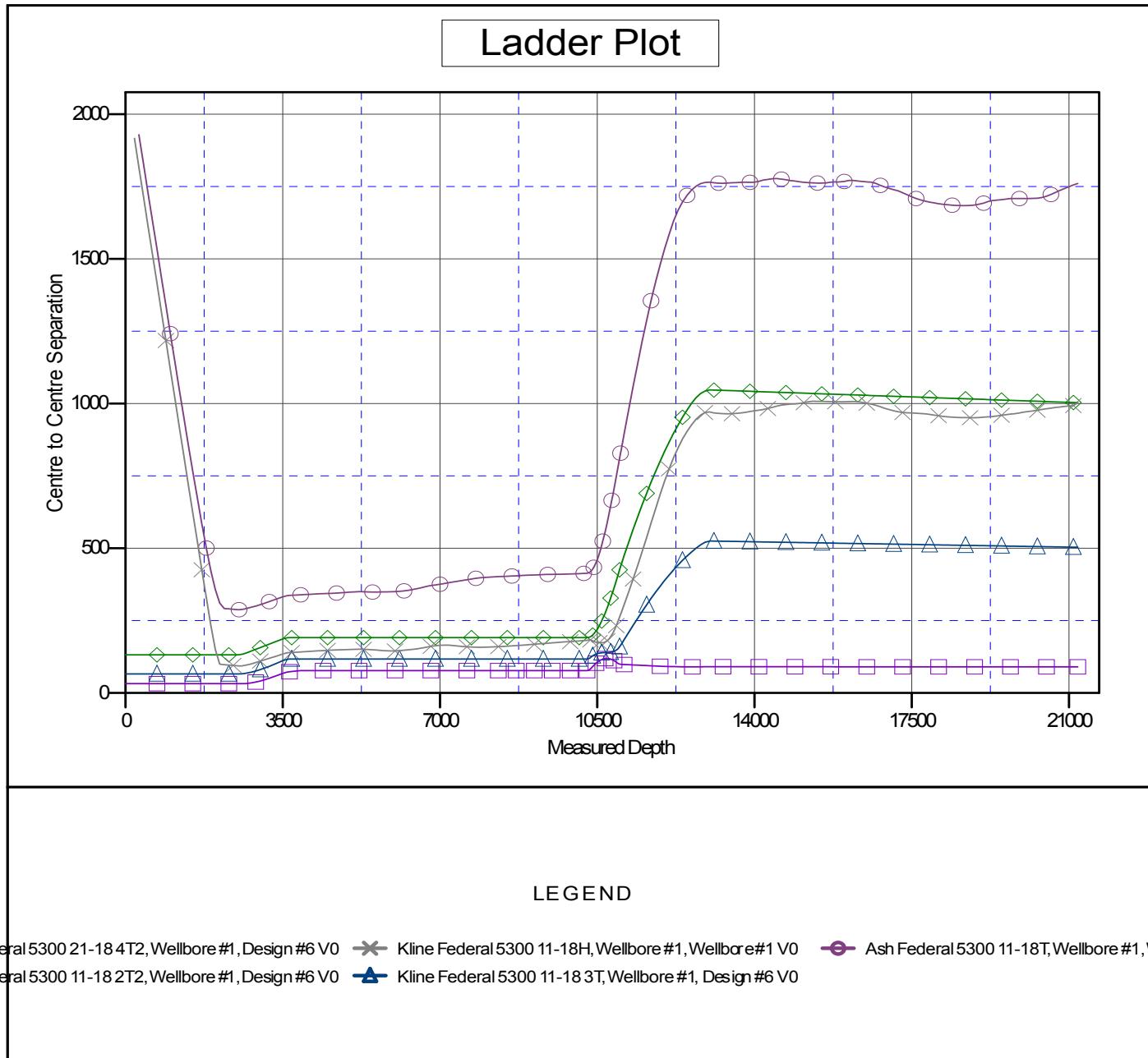
Company:	Oasis Petroleum
Project:	Indian Hills
Reference Site:	153N-100W-17/18
Site Error:	0.0 usft
Reference Well:	Kline Federal 5300 11-18 5B
Well Error:	0.0 usft
Reference Wellbore	Wellbore #1
Reference Design:	Design #6

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Output errors are at
Database:
Offset TVD Reference:

Well Kline Federal 5300 21-18 5B
WELL @ 2078.0usft (Original Well Elev)
WELL @ 2078.0usft (Original Well Elev)
True
Minimum Curvature
2.00 sigma
EDM 5000.1 Single User Db
Offset Datum

Reference Depths are relative to WELL @ 2078.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 100° 30' 0.000 W

Coordinates are relative to: Kline Federal 5300 11-18 5B
Coordinate System is US State Plane 1983, North Dakota Northern Zone
Grid Convergence at Surface is: -2.31°



Company:	Oasis Petroleum
Project:	Indian Hills
Reference Site:	153N-100W-17/18
Site Error:	0.0 usft
Reference Well:	Kline Federal 5300 11-18 5B
Well Error:	0.0 usft
Reference Wellbore	Wellbore #1
Reference Design:	Design #6

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Output errors are at
Database:
Offset TVD Reference:

Well Kline Federal 5300 21-18 5B
WELL @ 2078.0usft (Original Well Elev)
WELL @ 2078.0usft (Original Well Elev)
True
Minimum Curvature
2.00 sigma
EDM 5000.1 Single User Db
Offset Datum

Reference Depths are relative to WELL @ 2078.0usft (Original Well Ele
 Offset Depths are relative to Offset Datum
 Central Meridian is 100° 30' 0.000 W

Coordinates are relative to: Kline Federal 5300 11-18 5B
 Coordinate System is US State Plane 1983, North Dakota Northern Zone
 Grid Convergence at Surface is: -2.31°

