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
SEP 23 2016
ND Oil & Gas Division

Well File No. **29242**

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

- [ ] Notice of Intent — Approximate Start Date
- [x] Report of Work Done — Date Work Completed: **September 9, 2016**
- [ ] 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
- [ ] Redrilling or Repair
- [ ] Casing or Liner
- [ ] Plug Well
- [ ] Supplemental History
- [ ] Temporarily Abandon
- [ ] Other **Well is now on pump**
- [ ] Spill Report
- [ ] Shooting
- [ ] Acidizing
- [ ] Fracture Treatment
- [x] Change Production Method
- [ ] Reclamation

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	Pool	County			
Baker	**Bakken**	**McKenzie**			

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)			
Address	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		Telephone Number
Oasis Petroleum North America LLC		**281-404-9436**
Address		
1001 Fannin, Suite 1500		
City	State	Zip Code
Houston	**TX**	**77002**
Signature	Printed Name	
	Jennifer Swenson	
Title	Date	
Regulatory Specialist	**September 22, 2016**	
Email Address		
jswenson@oasispetroleum.com		

FOR STATE USE ONLY

[x] Received	[ ] Approved
Date 11-2-2016	
By Taylor Roth	
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
FEB 22 2016
ND Oil & Gas Division

Well File No. **29242**

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

☐ Notice of Intent	Approximate Start Date	☐ Drilling Prognosis	☐ Spill Report
☑ Report of Work Done	Date Work Completed **December 6, 2015**	☐ Redrilling or Repair	☐ Shooting
☐ 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	☐ Casing or Liner	☐ Acidizing
		☐ Plug Well	☐ Fracture Treatment
		☐ Supplemental History	☑ Change Production Method
		☐ Temporarily Abandon	☐ Reclamation
		☐ Other **Well is now on pump**	

Well Name and Number				
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	Pool	County		
Baker	**Bakken**	**McKenzie**		

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)			
Address	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**	Zip Code **77002**
Signature	Printed Name **Jennifer Swenson**	
Title **Regulatory Specialist**	Date **February 19, 2016**	
Email Address **jswenson@oasispetroleum.com**		

FOR STATE USE ONLY

☑ Received	☐ Approved
Date 3-8-2016	
By Taylor Roth	
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)

SEP 2015 RECEIVED ND OIL & GAS DIVISION

Well File No. 29242

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

Designate Type of Completion
☑ Oil Well ☐ EOR Well ☐ Recompletion ☐ Deepened Well ☐ Added Horizontal Leg ☐ Extended Horizontal Leg
☐ Gas Well ☐ SWD Well ☐ Water Supply Well ☐ Other:

Well Name and Number: 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: ☐ Wildcat ☑ Development ☐ Extension

LOCATION OF WELL

At Surface	Qtr-Qtr	Section	Township	Range	County
1050 F N L 277 F WL	LOT1	18	153 N	100 W	McKenzie

Spud Date	Date TD Reached	Drilling Contractor and Rig Number	KB Elevation (Ft)	Graded Elevation (Ft)
March 10, 2015	May 21, 2015	Nabors B27	2078	2053

Type of Electric and Other Logs Run (See Instructions)
MWD/GR from KOP to TD; CBL from int. TD to surface

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

Well Bore	String Type	String Size (Inch)	Top Set (MD Ft)	Depth Set (MD Ft)	Hole Size (Inch)	Weight (Lbs/Ft)	Anchor Set (MD Ft)	Packer Set (MD Ft)	Sacks Cement	Top of Cement
Surface Hole	Surface	13 3/8	0	2139	17 1/2	54.5			954	0
Vertical Hole	Intermediate	7	0	11083	8 3/4	32			879	2140
Lateral1	Liner	4 1/2	10148	20891	6	13.5			530	10148

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Drillers Depth (MD Ft)	Completion Type	Open Hole/Perforated Interval (MD,Ft) Top	Bottom	Kick-off Point (MD Ft)	Top of Casing Window (MD Ft)	Date Perf'd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20896	Perforations	11083	20891	10200		07/16/2015			

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft)	Name of Zone (If Different from Pool Name)
Lateral 1- 11083' to 20891'	

Date Well Completed (SEE INSTRUCTIONS)	Producing Method	Pumping-Size & Type of Pump	Well Status (Producing or Shut-In)
August 25, 2015	Flowing		Producing

Date of Test	Hours Tested	Choke Size	Production for Test	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Oil Gravity-API (Corr.)	Disposition of Gas
08/25/2015	24	45 /64		998	1082	3731	°	Sold

Flowing Tubing Pressure (PSI)	Flowing Casing Pressure (PSI)	Calculated 24-Hour Rate	Oil (Bbls)	Gas (MCF)	Water (Bbls)	Gas-Oil Ratio
	1500		998	1082	3731	1084

GEOLOGICAL MARKERS

Formation	MD (Ft)	TVD (Ft)
Dakota	**5510**	**5510**
Kibbey Lime	**8353**	**8351**
First Charles Salt	**8507**	**8505**
UB	**9127**	**9125**
Base Last Salt	**9199**	**9197**
Ratcliffe	**9233**	**9231**
Mission Canyon	**9426**	**9424**
Lodgepole	**9984**	**9982**
False Bakken	**10848**	**10694**
Scallion		
Upper Bakken	**10874**	**10704**
Middle Bakken	**10936**	**10725**
Target		

PLUG BACK INFORMATION

Well Bore	Type of Plug	Top (Ft)	Bottom (Ft)	Sacks Cement

CORES CUT

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

Drill Stem Test

Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								
Test Date	Formation	Top (Ft)	Bottom (Ft)	BH Temp (°F)	CL ppm	H2S ppm	Shut-in 1 (PSIG)	Shut-in 2 (PSIG)
Drill Pipe Recovery								
Sample Chamber Recovery								

Well Specific Stimulations

Date Stimulated	Stimulated Formation	Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
07/16/2015	Bakken	11083	20891	36	209044	Barrels

Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)	Maximum Treatment Rate (BBLS/Min)
Sand Frac		4192230	9205	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	Date
	jswenson@oasispetroleum.com	09/29/2015
Signature	Printed Name	Title
	Jennifer Swenson	Regulatory Specialist

SEP 2015
RECEIVED
ND OIL & GAS
DIVISION

TK

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	Qtr-Qtr	Section	Township	Range	County
KLINE FEDERAL 5300 11-18 5B	LOT1	18	153	100	Mckenzie

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

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

Name of First Purchaser	Telephone Number	% Purchased	Date Effective
Oasis Petroleum Marketing LLC	(281) 404-9627	100%	August 22, 2015

Principal Place of Business	City	State	Zip Code
1001 Fannin, Suite 1500	Houston	TX	77002

Field Address	City	State	Zip Code

Transporter	Telephone Number	% Transported	Date Effective
Hiland Crude, LLC	(580) 616-2058	75%	August 22, 2015

Address	City	State	Zip Code
P.O. Box 3886	Enid	OK	73702

The above named producer authorizes the above named purchaser to purchase the percentage of oil stated above which is produced from the lease designated above until further notice. The oil will be transported by the above named transporter.

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective

Other Transporters Transporting From This Lease	% Transported	Date Effective
Power Crude Transport	25%	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
Signature	Printed Name	Title
Dina Barron	Dina Barron	Mktg. Contracts Administrator

Above Signature Witnessed By:

Signature	Printed Name	Title
	Jeremy Harris	Marketing Scheduler

FOR STATE USE ONLY

Date Approved	SEP 18 2015
By	Erin Roberson
Title	Oil & Gas Production Analyst

Industrial Commission of North Dakota
Oil and Gas Division
Verbal Approval To Purchase and Transport Oil

Well or Facility No **29242**

Tight Hole **Yes**

OPERATOR

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

WELL INFORMATION

Well Name
KLINE FEDERAL 5300 11-18 5B

Inspector
Richard Dunn

Well Location	QQ	Sec	Twp		Rng	
	LOT1	**18**	**153**	**N**	**100**	**W**

County
MCKENZIE

Field
BAKER

Footages
1050 Feet From the **N** Line
277 Feet From the **W** Line

Pool
BAKKEN

Date of First Production Through Permanent Wellhead **This Is Not The First Sales**

PURCHASER / TRANSPORTER

Purchaser	Transporter
Kinder Morgan	**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	
BBLS	BBLS	
BBLS	BBLS	
BBLS	BBLS	
BBLS	BBLS	
BBLS	BBLS	
BBLS	BBLS	
BBLS	BBLS	
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)

JUL 2015 RECEIVED ND OIL & GAS DIVISION

Well File No. **29242**

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

- [x] 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 ~~1080~~ 1050 F N L ~~263~~ 277 F W L	Qtr-Qtr **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 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 ise 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 montioring equipement;
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		Telephone Number
Oasis Petroleum North America LLC		**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

- [ ] Received
- [x] Approved

Date: July 31, 2015

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)

RECEIVED AUG 10 2015 ND OIL & GAS DIVISION

Well File No. 29242

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

- [x] Notice of Intent — Approximate Start Date: August 9th, 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
- [ ] Redrilling or Repair
- [ ] Casing or Liner
- [ ] Plug Well
- [ ] Supplemental History
- [ ] Temporarily Abandon
- [ ] Spill Report
- [ ] Shooting
- [ ] Acidizing
- [ ] Fracture Treatment
- [ ] Change Production Method
- [ ] Reclamation
- [x] Other: Change well status to CONFIDENTIAL

Well Name and Number					
Kline Federal 5300 11-18 5B					
Footages ~~1080~~ 1050 F N L ~~263~~ 277 F W L	Qtr-Qtr: 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

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

This well has not been completed

OFF CONFIDENTIAL 2/10/16

Company	Telephone Number
Oasis Petroleum North America LLC	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

- [ ] Received
- [x] Approved

Date: 8/12/15

By: Alice D. Webber

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 that 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

OPERATOR:	**Oasis Petroleum North America, LLC**
ADDRESS:	1001 Fannin, Suite 1500 Houston, TX 77002
WELL NAME:	**Kline Federal 5300 11-18 5B**
API #:	33-053-06223
WELL FILE #:	29242
SURFACE LOCATION:	1,050' FNL & 277' FWL Lot 1 Section 18, T153N, R100W
FIELD/ OBJECTIVE:	Baker Field / Middle Bakken
COUNTY, STATE	McKenzie County, North Dakota
BASIN:	Williston
WELL TYPE:	Middle Bakken Horizontal
ELEVATION:	GL: 2,052' KB: 2,068'
RE-ENTRY DATE:	May 15, 2015
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
CLOSURE COORDINATES:	Closure Azimuth: 96.53° Closure Distance: 10,009.64'
TOTAL DEPTH / DATE:	20,895' on May 20, 2015 83% within target interval
TOTAL DRILLING DAYS:	6 days
CONTRACTOR:	Xtreme #21

PUMPS:	Continental-Emsco F1600 (12" stroke length; 5 ½" liners) Output: 0.0838 bbls/stk at 95% efficiency
TOOLPUSHERS:	Josh Barkell, Allen Franklin
FIELD SUPERVISORS:	Bruce Jorgenson, Marty Amsbaugh
CHEMICAL COMPANY:	Mi Swaco
MUD ENGINEER:	Chris Mooren
MUD TYPE:	Salt water in lateral
PROSPECT GEOLOGIST:	Curtis Johnson
WELLSITE GEOLOGISTS:	Dillon Johnson, Matt Hegland
GEOSTEERING SYSTEM:	Sunburst Digital Wellsite Geological System
ROCK SAMPLING:	50' from 11,122' - 20,895' (TD)
SAMPLE EXAMINATION:	Binocular microscope & fluoroscope
SAMPLE CUTS:	Trichloroethylene
GAS DETECTION:	MSI (Mudlogging Systems, Inc.) TGC - total gas with chromatograph Serial Number(s): ML-488
DIRECTIONAL DRILLERS:	RPM Consulting, Inc. Marty Amsbaugh, Bruce Jorgenson
MWD:	Gyro/data in vertical in curve Ryan Directional Service in lateral Sammy Hayman, John Lanclos, Nick Brochu, Carlo Marrufo, David Foley
CASING:	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'
SAFETY/ H_2S MONITORING:	Oilind Safety

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

STAKED ON 6/18/14
VERTICAL CONTROL DATUM WAS BASED UPON CONTROL POINT 4 WITH AN ELEVATION OF 2090.8'

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

DARYL D. KASEMAN LS-3880

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE 6/19/14
NORTH DAKOTA

VICINITY MAP

Revision No.	Date	By	Description
REV 1	8/18/14	BHK	MOVED WELLS

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

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

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

INTERSTATE ENGINEERING

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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

0 1000
1" = 1000'

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- MONUMENT – NOT RECOVERED

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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'.

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE 6/19/14
NORTH DAKOTA

VICINITY MAP

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OASIS PETROLEUM NORTH AMERICA, LLC
SECTION BREAKDOWN
SECTIONS 17 & 18, T153N, R100W
MKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.S. Project No.: S14-05-212-01
Checked By: D.D.K. Date: JUNE 2014

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INTERSTATE ENGINEERING

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.

BERM

DITCH

Proposed Contours

Original Contours

V-DITCH DETAIL

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REGISTERED LAND SURVEYOR DARYL D. KASEMAN LS-3880 DATE 6/19/14 NORTH DAKOTA

0 60
1" = 60'

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

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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

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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	6/16/14	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

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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	8/18/14	BHH	MOVED 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
0	5/15	11,122'	-	-	-	-	-	-	-	-	-	-	Rig up, Nipple up. Test BOP. Pick up BHA. pick up drill pipe.	Middle Bakken
1	5/16	11,526'	404	1	9	41	17	327	3300	0	88	317	Pick up drill pipe. Drill out cement. Lubricate rig. Drill F/11,122'-11,491'. Lubricate rig. Drill F/11,491'-11,526'. Trouble shoot problems with hydraulic pump and blower on top drive.	Middle Bakken
2	5/17	12,568'	1042	1	13	41	21	327	3400	88	0	317	Drill F/11,526'-12,568'. Lubricate rig. Troubleshoot planetary lube pump & blower motor.	Middle Bakken
3	5/18	15,150'	2582	1	20	46	30	327	3950	89	0	317	Drill F/12,568'-13,377'. Lubricate rig, draw works. Drill F/13,377'-15,150'.	Middle Bakken
4	5/19	18,390'	3240	1	16	50	-	-	3200	-	-	-	Drill F/15,150'-17,225. Lubricate rig. Drill F/17,225'-18,390'.	Middle Bakken
5	5/20	20,784'	2394	1	20	40	50	314	4100	85	0	305	Drill F/18,390'-19,620'. Lubricate rig. Drill F/19,620'-20,784'.	Middle Bakken
6	5/21	20,895'	111	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.	Middle Bakken

DAILY MUD SUMMARY

Date 2015	Mud Depth	Mud WT (ppg)	VIS (sec/qt)	PV (cP)	YP (lbs/ 100 ft^2)	Gels (lbs/ 100 ft^2)	600/ 300	NAP/ H_20 (ratio)	NAP/ H_20 (% by vol)	Cor. Solids (%)	Oil/ H_20 (%)	pH	Cl^- (mg/L)	LGS/ HGS (%)	Gain/ Loss (bbls)
05/16	11,684'	9.4	27	1	1	1/1/1	3/2	0/100	99.4	0.6	99.4	8	110000	8.6/5.2	-
05/17	12,400'	9.4	28	-	-	-		-	-	-	-	-	-	-	-
05/18	15,616'	9.45	27	1	1	1/1/1	3/2	0/100	-/100	1	-/100	8	109000	1.0/9.5	-
05/19	18,375'	9.5	28	-	-	-	-	-	-	-	-	-	-	-	-
05/20	20,800'	9.5	28	-	-	-	-	-	-	-	-	-	-	-	-

BOTTOM HOLE ASSEMBLY RECORD

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

SUNBURST CONSULTING
A GEOLOGY SERVICE

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
Lot 1. Sec. 18, T153N, R100W

Bottom Hole Location
1,137.92' S & 9,944.75' E
of surface location or approx.
2,187.92' FNL & 325.56' FEL
Lot 1. Sec. 17, T153N, R100W

Gross apparent dip = -0.2°

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

SUNBURST CONSULTING
A GEOLOGY SERVICE

PROFILE

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

SUNBURST CONSULTING
A GEOLOGY SERVICE

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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
Tie	141.00	0.30	279.40	141.00	0.06	-0.36	-0.36	0.00
1	233.00	0.50	268.80	233.00	0.09	-1.00	-1.00	0.23
2	327.00	0.50	300.80	326.99	0.29	-1.76	-1.76	0.29
3	420.00	0.50	319.90	419.99	0.81	-2.37	-2.37	0.18
4	513.00	0.70	339.90	512.99	1.65	-2.83	-2.83	0.31
5	604.00	0.50	357.70	603.98	2.57	-3.03	-3.03	0.30
6	695.00	0.60	19.20	694.98	3.42	-2.89	-2.89	0.25
7	788.00	0.50	3.50	787.97	4.28	-2.71	-2.71	0.19
8	880.00	0.60	26.10	879.97	5.12	-2.47	-2.47	0.26
9	971.00	0.10	80.00	970.97	5.56	-2.18	-2.18	0.60
10	1063.00	0.10	148.70	1062.97	5.51	-2.06	-2.06	0.12
11	1157.00	0.50	321.10	1156.97	5.75	-2.28	-2.28	0.64
12	1247.00	0.50	322.20	1246.96	6.37	-2.77	-2.77	0.01
13	1338.00	0.70	327.00	1337.96	7.15	-3.31	-3.31	0.23
14	1432.00	0.70	349.30	1431.95	8.20	-3.73	-3.73	0.29
15	1526.00	0.30	5.40	1525.95	9.00	-3.82	-3.82	0.45
16	1620.00	0.30	78.90	1619.95	9.30	-3.55	-3.55	0.38
17	1714.00	0.90	72.80	1713.94	9.56	-2.60	-2.60	0.64
18	1808.00	1.10	66.70	1807.93	10.14	-1.07	-1.07	0.24
19	1902.00	1.10	79.10	1901.91	10.67	0.64	0.64	0.25
20	1996.00	1.10	98.40	1995.89	10.70	2.42	2.42	0.39
21	2082.00	1.50	114.40	2081.87	10.12	4.27	4.27	0.62
22	2179.00	1.70	116.90	2178.83	8.94	6.70	6.70	0.22
23	2274.00	1.40	179.00	2273.80	7.15	7.98	7.98	1.70
24	2368.00	1.00	204.40	2367.78	5.25	7.66	7.66	0.70
25	2462.00	0.90	227.70	2461.77	4.01	6.78	6.78	0.42
26	2556.00	1.10	233.70	2555.76	2.98	5.50	5.50	0.24
27	2651.00	2.10	271.60	2650.72	2.48	3.03	3.03	1.48
28	2745.00	1.00	294.00	2744.68	2.87	0.56	0.56	1.31
29	2839.00	1.10	291.90	2838.67	3.54	-1.03	-1.03	0.11
30	2933.00	1.70	288.80	2932.64	4.32	-3.19	-3.19	0.64
31	3028.00	1.20	255.60	3027.61	4.53	-5.48	-5.48	1.01
32	3122.00	1.20	243.10	3121.59	3.84	-7.31	-7.31	0.28
33	3216.00	1.10	251.40	3215.57	3.11	-9.05	-9.05	0.21
34	3310.00	1.00	259.80	3309.56	2.67	-10.71	-10.71	0.19
35	3405.00	1.00	202.50	3404.54	1.76	-11.84	-11.84	1.01
36	3499.00	1.10	187.50	3498.53	0.11	-12.27	-12.27	0.31
37	3593.00	0.90	184.30	3592.51	-1.52	-12.45	-12.45	0.22

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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
190	12771.00	89.50	88.80	10760.91	-1147.14	1823.68	1823.68	0.23
191	12866.00	90.70	88.90	10760.74	-1145.24	1918.66	1918.66	1.27
192	12962.00	91.80	88.50	10758.65	-1143.06	2014.61	2014.61	1.22
193	13057.00	91.30	88.90	10756.08	-1140.90	2109.55	2109.55	0.67
194	13153.00	91.00	89.90	10754.15	-1139.90	2205.52	2205.52	1.09
195	13247.00	90.30	90.30	10753.08	-1140.06	2299.52	2299.52	0.86
196	13342.00	89.50	90.40	10753.25	-1140.64	2394.51	2394.51	0.85
197	13436.00	89.40	89.70	10754.15	-1140.72	2488.51	2488.51	0.75
198	13532.00	89.50	89.40	10755.07	-1139.97	2584.50	2584.50	0.33
199	13626.00	89.30	89.30	10756.06	-1138.90	2678.49	2678.49	0.24
200	13723.00	89.20	88.90	10757.33	-1137.38	2775.47	2775.47	0.43
201	13817.00	89.80	89.00	10758.15	-1135.66	2869.45	2869.45	0.65
202	13912.00	90.20	88.70	10758.15	-1133.75	2964.43	2964.43	0.53
203	14008.00	89.90	89.40	10758.06	-1132.16	3060.42	3060.42	0.79
204	14103.00	89.40	89.00	10758.64	-1130.83	3155.40	3155.40	0.67
205	14198.00	89.10	88.20	10759.89	-1128.51	3250.37	3250.37	0.90
206	14292.00	89.40	89.40	10761.12	-1126.54	3344.34	3344.34	1.32
207	14387.00	90.70	90.80	10761.03	-1126.71	3439.33	3439.33	2.01
208	14483.00	89.30	90.60	10761.03	-1127.88	3535.32	3535.32	1.47
209	14577.00	89.10	91.00	10762.35	-1129.20	3629.30	3629.30	0.48
210	14672.00	89.60	91.00	10763.42	-1130.85	3724.28	3724.28	0.53
211	14766.00	90.90	91.00	10763.01	-1132.49	3818.27	3818.27	1.38
212	14861.00	88.80	90.80	10763.26	-1133.99	3913.25	3913.25	2.22
213	14959.00	88.00	91.10	10766.00	-1135.61	4011.20	4011.20	0.87
214	15055.00	91.40	92.00	10766.50	-1138.21	4107.14	4107.14	3.66
215	15151.00	89.80	90.90	10765.50	-1140.64	4203.10	4203.10	2.02
216	15246.00	89.60	91.10	10765.99	-1142.29	4298.09	4298.09	0.30
217	15340.00	90.60	91.40	10765.83	-1144.34	4392.06	4392.06	1.11
218	15434.00	89.40	90.90	10765.83	-1146.23	4486.04	4486.04	1.38
219	15530.00	90.30	91.10	10766.08	-1147.91	4582.03	4582.03	0.96
220	15625.00	88.70	91.00	10766.91	-1149.65	4677.00	4677.00	1.69
221	15720.00	88.00	91.00	10769.65	-1151.30	4771.95	4771.95	0.74
222	15815.00	90.30	91.30	10771.06	-1153.21	4866.91	4866.91	2.44
223	15911.00	89.20	90.00	10771.47	-1154.30	4962.90	4962.90	1.77
224	16007.00	87.50	89.90	10774.24	-1154.22	5058.86	5058.86	1.77
225	16103.00	88.10	90.40	10777.92	-1154.47	5154.79	5154.79	0.81
226	16200.00	89.50	90.30	10779.95	-1155.06	5251.76	5251.76	1.45
227	16296.00	90.00	90.00	10780.37	-1155.31	5347.76	5347.76	0.61

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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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	Directional Supervision:	
County State:	McKenzie County, ND	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 AZM	TVD	N-S	E-W	SECT	DLS/ 100
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:							
Operator:	**Oasis Petroleum North America, LLC**							
Well Name:	**Kline Federal 5300 11-18 5B**							
Location:	1,050' FNL & 277' FWL							
	Lot 1 Section 18, T153N, R100W							
Elevation:	GL: 2,052'	Sub: 16	KB: 2,068'					
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.**
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 Berentson	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

13,150-13,200 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

13,200-13,250 SILTY SANDSTONE: light-medium 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

13,250-13,300 SILTY SANDSTONE: light-medium gray brown, off white, 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

13,300-13,350 SILTY SANDSTONE: light-medium gray brown, off white, 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

13,350-13,400 SILTY SANDSTONE: tan, off white, medium gray 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, moderate pale yellow streaming becoming diffuse cut fluorescence

13,400 SILTY SANDSTONE: tan, off white, medium gray 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

13,450-13,500 SILTY SANDSTONE: off white, medium gray 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, moderate pale yellow streaming becoming diffuse cut fluorescence

13,500-13,550 SILTY SANDSTONE: light-medium gray brown, 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, moderate pale yellow streaming becoming diffuse cut fluorescence

13,550-13,600 SILTY SANDSTONE: off white, medium gray brown, tan, 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

13,600-13,650 SILTY SANDSTONE: off white, medium gray brown, tan, 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

13,650-13,700 SILTY SANDSTONE: off white, medium gray brown, tan, fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,700-13,750 SILTY SANDSTONE: off white, medium gray brown, tan, fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,750-13,800 SILTY SANDSTONE: medium brown, light gray, off white, fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,800-13,850 SILTY SANDSTONE: medium brown, light gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, rare nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,850-13,900 SILTY SANDSTONE: medium brown, light gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,900-13,950 SILTY SANDSTONE: light-medium brown gray, off white, very fine grained, firm, sub angular, moderately sorted, calcareous cement, well cemented, common disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, moderate pale yellow streaming becoming diffuse cut fluorescence

13,950-14,000 SILTY SANDSTONE: light-medium brown 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

14,000-14,050 SILTY SANDSTONE: medium brown, light 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

14,050-14,100 SILTY SANDSTONE: medium brown, light 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

14,100-14,150 SILTY SANDSTONE: medium brown 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

14,150-14,200 SILTY SANDSTONE: light-medium brown 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

14,200-14,250 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

14,250-14,300 SILTY SANDSTONE: medium brown, light 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

14,300-14,350 SILTY SANDSTONE: medium brown, light 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

14,350-14,400 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

14,400-14,450 SILTY SANDSTONE: light-medium gray 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

14,450-14,500 SILTY SANDSTONE: light-medium gray 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

14,500-14,550 SILTY SANDSTONE: light-medium gray 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

14,550-14,600 SILTY SANDSTONE: off white, light brown, medium gray, 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

14,600-14,650 SILTY SANDSTONE: off white, light brown, medium 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, moderate 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 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

16,200-16,250 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, fine-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, sample moderately contaminated with lube

16,250-16,300 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, fine-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, sample moderately contaminated with lube

16,300-16,350 SILTY SANDSTONE: off white, light-medium gray, 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, sample moderately contaminated with lube

16,350-16,400 SILTY SANDSTONE: dark gray, off white, light-medium gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,400-16,450 SILTY SANDSTONE: light brown, light brown gray, light-medium gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,450-16,500 SILTY SANDSTONE: light brown, light brown gray, light-medium gray, very fine grained, firm, sub angular, moderately sorted, calcareous cement, moderately cemented, trace disseminated pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,500-16,550 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, fine-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, sample moderately contaminated with lube

16,550-16,600 SILTY SANDSTONE: dark gray, light-medium gray, light brown, light brown gray, 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

16,550-16,600 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

16,600-16,650 SILTY SANDSTONE: light-medium gray, light brown, light brown gray, off white, fine-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, sample moderately contaminated with lube

16,650-16,700 SILTY SANDSTONE: light gray, light brown, light brown gray, 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, sample moderately contaminated with lube

16,700-16,750 SILTY SANDSTONE: off white, light-medium gray, fine-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, sample moderately contaminated with lube

16,750-16,800 SILTY SANDSTONE: off white, light-medium gray, fine-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, sample moderately contaminated with lube

16,800-16,850 SILTY SANDSTONE: light-medium gray brown, 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, sample moderately contaminated with lube

16,850-16,900 SILTY SANDSTONE: light-medium gray brown, dark gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, rare nodules pyrite, trace intergranular porosity, rare light brown spotty oil stain, sample moderately contaminated with lube

16,900-16,950 SILTY SANDSTONE: light-medium gray, tan-medium brown, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, occasional nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

16,950-17,000 SILTY SANDSTONE: light-medium gray, tan-medium brown, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, rare disseminated pyrite, occasional nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,000-17,050 SILTY SANDSTONE: medium brown, light gray, off white, 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, sample moderately contaminated with lube

17,050-17,100 SILTY SANDSTONE: medium gray brown, tan, off white, 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, sample moderately contaminated with lube

17,100-17,150 SILTY SANDSTONE: medium gray brown, tan, off white, 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, sample moderately contaminated with lube

17,150-17,200 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

17,200-17,250 SILTY SANDSTONE: off white, light gray, medium brown, 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

17,250-17,300 SILTY SANDSTONE: off white, light gray, medium brown, fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,300-17,350 SILTY SANDSTONE: light-medium brown gray, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,350-17,400 SILTY SANDSTONE: light gray, medium brown, tan, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,400-17,450 SILTY SANDSTONE: tan-medium brown, off white, medium-dark gray, 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

17,450-17,500 SILTY SANDSTONE: tan-medium brown, off white, medium-dark gray, 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, sample moderately contaminated with lube

17,500-17,550 SILTY SANDSTONE: medium gray brown, tan, off white, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,550-17,600 SILTY SANDSTONE: off white, light-medium brown, light gray, 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

17,600-17,650 SILTY SANDSTONE: off white, light-medium brown, light gray, fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, occasional nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

17,650-17,700 SILTY SANDSTONE: light 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

17,700-17,750 SILTY SANDSTONE: light 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, sample moderately contaminated with lube

17,750-17,800 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

17,800-17,850 SILTY SANDSTONE: tan-medium brown, off white, medium gray, 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

17,850-17,900 SILTY SANDSTONE: tan-medium brown, off white, medium 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

17,900-17,950 SILTY SANDSTONE: light gray, medium brown, off white, 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

17,950-1,800 SILTY SANDSTONE: light gray brown, off white, 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

18,000-18,050 SILTY SANDSTONE: light gray brown, off white, dark gray, very fine grained, firm, occasional hard, sub angular, moderately sorted, calcareous cement, moderately-well cemented, occasional disseminated pyrite, trace nodules pyrite, trace intergranular porosity, trace light brown spotty oil stain, sample moderately contaminated with lube

18,050-18,100 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

18,100-18,150 SILTY SANDSTONE: medium gray, tan, 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

18,150-18,200 SILTY SANDSTONE: off white, medium brown, light gray, 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

18,200-18,250 SILTY SANDSTONE: off white, medium brown, light gray, 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

18,250-18,300 SILTY SANDSTONE: off white, light-medium gray, dark gray, 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

18,300-18,350 SILTY SANDSTONE: light brown, cream, off white, medium brown, light gray, fine grained, firm, occasional hard, sub angular, occasional sub rounded, 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

18,350-18,400 SILTY SANDSTONE: light brown gray, off white, medium brown, light gray, very fine grained, firm, occasional hard, sub angular, occasional sub rounded, 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

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

RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

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.

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'**

Surveyor Name	*Surveyor Title*	*Borehole Number*	*Start Depth*	*End Depth*	*Start Date*	*End Date*	*Type of*	*TD Straight Line Projection*
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'**

Surveyor Name	*Surveyor Title*	*Borehole Number*	*Start Depth*	*End Depth*	*Start Date*	*End Date*	*Type of*	*TD Straight Line Projection*
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.

Report #: 1

Date: 20-Mar-15

RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 8691

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**

Report #: 1

Date: 20-Mar-15

RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 8691

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**

Report #: 1

Date: 20-Mar-15

RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 8691

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**

Report #: 1

Date: 20-Mar-15

RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 8691

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**

Report #: 1

Date: 20-Mar-15

RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

Ryan Job # 8691

SURVEY REPORT

Customer: Oasis Petroleum

Well Name: Kline Federal 5300 11-18 5B

Rig #: Nabors B27

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Calculation Method: Minimum Curvature Calculation

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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 (09-2006)

RECEIVED APR 2015 ND OIL & GAS DIVISION

Well File No. **29242**

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

- [x] Notice of Intent — Approximate Start Date: **April 9, 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
- [ ] Redrilling or Repair
- [ ] Casing or Liner
- [ ] Plug Well
- [ ] Supplemental History
- [ ] Temporarily Abandon
- [ ] Spill Report
- [ ] Shooting
- [ ] Acidizing
- [ ] Fracture Treatment
- [ ] Change Production Method
- [ ] Reclamation
- [x] Other **Suspension of Drilling**

Well Name and Number				
Kline Federal 5300 11-18 5B				
Footages	Qtr-Qtr	Section	Township	Range
1050 F N L 273 F W L	**11**	**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 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		Telephone Number
Oasis Petroleum North America LLC		**281-404-9575**
Address: **1001 Fannin St, Suite 1500**		
City: **Houston**	State: **TX**	Zip Code: **77002**
Signature: Michael Kukuk	Printed Name: **Michael Kukuk**	
Title: **Regulatory Supervisor**	Date: **March 26, 2015**	
Email Address: **mkukuk@oasispetroleum.com**		

FOR STATE USE ONLY

- [ ] Received
- [x] Approved

Date: 4/8/15

By: [signature]

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 (09-2006)

RECEIVED MAR 2015 OIL & GAS DIVISION

Well File No. 29242

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

☑ Notice of Intent — Approximate Start Date: March 5, 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: 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	Pool	County			
Baker	Bakken	McKenzie			

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)			
Address	City	State	Zip Code

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

FOR STATE USE ONLY

☐ Received ☑ Approved

Date: 3-3-2015

By: David Burns

Title: Engineering Tech.

WELL LOCATION PLAT

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

VICINITY MAP

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.

STAKED ON 6/18/14
VERTICAL CONTROL DATUM WAS BASED UPON CONTROL POINT 4 WITH AN ELEVATION OF 2090.8'

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

DARYL D. KASEMAN LS-3880

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

✠ - MONUMENT - RECOVERED
✠ - MONUMENT - NOT RECOVERED

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Revision No.	Date	By	Description
REV 1	6/24/14	DHJ	UPDATE WELLS
REV 2	7/29/14	AB	CHANGED BOTTOM HOLE
REV 3	1/29/15	DHJ	CHANGED WELL NAMES & SHL

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: JMS Project No.: 114-09-17.03
Checked By: DDK Date: APRIL 2014

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

INTERSTATE ENGINEERING
Professionally yours, creatively your's

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): 1050' fnl	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(est)

MARKER		DEPTH (Surf Loc)	DATUM (Surf Loc)
Pierre	NDIC MAP	1,968	110
Greenhorn		5,023	(2,945)
Mowry		5,103	(3,025)
Dakota		5,469	(3,391)
Rierdon		6,450	(4,372)
Dunham Salt		6,785	(4,707)
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)
Opeche Salt		7,341	(5,263)
Opeche Salt Base		7,371	(5,293)
Broom Creek (Top of Minnelusa Gp.)		7,573	(5,495)
Amsden		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)
UB		8,141	(7,063)
Base Last Salt		9,216	(7,138)
Ratcliffe		9,264	(7,186)
Mission Canyon		9,421	(7,343)
Lodgepole		9,999	(7,921)
Lodgepole Fracture Zone		10,173	(8,095)
False Bakken		10,696	(8,620)
Upper Bakken		10,706	(8,630)
Middle Bakken		10,722	(8,644)
Middle Bakken Sand Target		10,731	(8,653)
Base Middle Bakken Sand Target		10,741	(8,663)
Lower Bakken		10,766	(8,688)
Three Forks		10,781	(8,703)

Dip Rate: -0.3

Max. Anticipated BHP: 4665

LOGS:

Type	Interval
OH Logs: Triple Combo KOP to Kibby (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	

DEVIATION:

Surf: 3 deg. max., 1 deg / 100'; srvy every 500'
Prod: 5 deg. max., 1 deg / 100'; srvy every 100'

DST'S: None planned

CORES: None planned

MUDLOGGING:

Two-Man: 8,317'
~200' above the Charles (Kibbey) to Casing point; Casing point to TD
30' samples at direction of wellsite geologist; 10' through target @ curve land

BOP: 11" 5000 psi blind, pipe & annular

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' -	11,006'	Invert	9.5-10.4	40-50	30+HtHp	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:	13-3/8"	54.5#	17-1/2"	2,068'		To Surface	12	100' into Pierre
Dakota Contingency:	9-5/8"	36#	12-1/4"	6,450'		To Surface	12	Below Dakota
Intermediate:	7"	32#	8-3/4"	11,006'		4969	24	500' above Dakota
Production Liner:	4.5"	13.5#	6"	20,969'	TOL @ 10,209'			50' above KOP

PROBABLE PLUGS, IF REQ'D:

OTHER:

	MD	TVD	FNL/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'	10,768'	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) 68476-34-6 (Primary Name: Fuels, diesel, No. 2)68476-30-2 (Primary Name: Fuel oil No. 2)
68476-31-3 (Primary Name: Fuel oil, No. 4)8008-20-6 (Primary Name: Kerosene)

OASIS PETROLEUM

Geology: M. Steed 5/12/2014 Engineering: hlbader 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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	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	(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 il/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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift**	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	Burst	Tension
			(psi) a	(psi) b	(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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
4-1/2"	10209' - 20969'	13.5	P-110	BTC	3.920"	3.795"	2270	3020	3780

Interval	Length	Desctiption	Collapse	Burst	Tension
			(psi) a	(psi) b	(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

OASIS PETROLEUM

WELL DETAILS: Kline Federal 5300 11-18 5B

Ground Level: 2053.0

Northing	Easting	Latitude	Longitude
408903.85	1210198.28	48° 4' 44.790 N	103° 36' 10.800 W

Azimuths to True North
Magnetic North: 8.41°

Magnetic Field
Strength: 56376.8snT
Dip Angle: 72.99°
Date: 4/22/2014
Model: IGRF2015

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	11006.3	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	
2210.0	0.50	210.96	2210.0	0.0	0.0	5.00	
8881.9	0.50	210.96	8881.6	-50.0	-30.0	0.00	
8891.9	0.00	0.00	8891.6	-50.0	-30.0	5.00	
10258.8	0.00	0.00	10258.5	-50.0	-30.0	0.00	
11006.3	89.70	141.50	10736.0	-421.7	265.7	12.00	
12722.7	89.70	90.00	10745.5	-1142.6	1760.1	3.00	
20968.5	89.70	90.00	10788.0	-1143.3	10005.8	0.00	Kline 5B

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	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	1,717.5 usft	Northing:	408,903.85 usft	Latitude:	48° 4' 44.790 N
	+E/-W	39.4 usft	Easting:	1,210,198.28 usft	Longitude:	103° 36' 10.800 W
Position Uncertainty		2.0 usft	Wellhead Elevation:		Ground Level:	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	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	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	-16.4	-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	-10.8	-10.8	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	-14.8	-14.8	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	6,199.8	-29.9	-17.9	-17.9	0.00	0.00	0.00
6,300.0	0.50	210.96	6,299.8	-30.6	-18.4	-18.4	0.00	0.00	0.00
6,400.0	0.50	210.96	6,399.8	-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
9 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	0.50	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	16.95	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	10,639.6	-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	10,735.9	-416.8	261.8	261.8	12.00	12.00	0.00
11,006.3	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	962.6	962.6	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	102.69	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	90.00	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	90.00	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	-1,142.9	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	10,777.9	-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	9,837.3	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 - hit/miss target - Shape	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	5,489.0	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 +N/-S (usft)	+E/-W (usft)	Comment
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 6671.9 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"
1056' FEET FROM NORTH LINE AND 277' FEET FROM WEST LINE
SECTIONS 17 & 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

0 1000
1" = 1000'

- MONUMENT – RECOVERED
- MONUMENT – NOT RECOVERED

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'.

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE 1/29/15
NORTH DAKOTA

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Revision No.	Date	By	Description
REV 1	2/24/14	DJK	ADDED WELLS
REV 2	3/28/14	JAE	CHANGED BOTTOM HOLE
REV 3	1/29/15	DJK	CHANGED WELL NAMES & BHL

OASIS PETROLEUM NORTH AMERICA, LLC
SECTION BREAKDOWN
SECTIONS 17 & 18, T153N, R100W
MKENZIE COUNTY, NORTH DAKOTA

Drawn By: J.S.H. Project No.: S14-09-273
Checked By: D.D.K. Date: APRIL 2014

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Other offices in Minnesota, North Dakota and South Dakota

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Professional plan, report, graphic or document

PAD LAYOUT

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 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

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REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

0 60
1" = 60'

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

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

Drawn By: B.H.H. Project No.: S14-08-127.03
Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	MOVED WELLS
REV 2	12/18/14	JJS	CHANGED BOTTOM HOLE
REV 3	1/29/15	BHH	CHANGED WELL NAMES & BHL

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

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

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Revision No.	Date	By	Description
REV 1	1/16/14	BH	ADDED WELLS
REV 2	1/22/14	JS	CHANGED BOTTOM HOLE
REV 3	1/27/14	DHK	CHANGED WELL NAMES & BH.

OASIS PETROLEUM NORTH AMERICA, LLC
ACCESS APPROACH
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.M.H. Proj. No.: S14-06-127.03
Checked By: D.D.K. Date: APR. 2014

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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	6/18/14	BHH	MOVED WELLS
REV 2	12/30/14	JLS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & SHL

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

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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	6/11/14	BHH	MOVED WELLS
REV 2	12/30/14	AB	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BHL

CROSS SECTIONS

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

STA. 2+82

STA. 2+00

STA. 1+00

STA. 0+00

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
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'

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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: APR. 2014

Revision No.	Date	By	Description
REV 1	6/16/14	BHH	UPDED WELLS
REV 2	11/26/14	AB	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED TOTAL GAMES & SHL

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
	1,906
EMBANKMENT	869
PLUS SHRINKAGE (30%)	261
	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

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8/8
SHEET NO.

INTERSTATE ENGINEERING
Professionals you need, people you trust

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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.: S14-09-177.03		
Checked By: D.D.K.	Date: APR. 2014		

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

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)

FEB 2015 RECEIVED ND OIL & GAS DIVISION

Well File No. **29242**

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

☑ Notice of Intent — Approximate Start Date: **June 9, 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 **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	Pool	County			
Baker	Bakken	McKenzie			

24-HOUR PRODUCTION RATE

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

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

FOR STATE USE ONLY

☐ Received	☑ 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
"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.

0 1000
1" = 1000'

✚ – MONUMENT – RECOVERED
✚ – MONUMENT – NOT RECOVERED

STAKED ON 6/18/14
VERTICAL CONTROL DATUM WAS BASED UPON CONTROL POINT 4 WITH AN ELEVATION OF 2090.8'

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

DARYL D. KASEMAN LS-3880

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

VICINITY MAP

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

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
SECTION 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: BKH Project No.: S14-06-127.03
Checked By: DDK Date: APRIL 2014

Interstate Engineering, Inc.
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INTERSTATE ENGINEERING
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SHEET NO. 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' fnl 263' fwl		
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)

MARKER		DEPTH (Surf Loc)	DATUM (Surf Loc)
Pierre	NDIC MAP	1,968	110
Greenhorn		5,023	(2,945)
Mowry		5,103	(3,025)
Dakota		5,469	(3,391)
Rierdon		6,450	(4,372)
Dunham Salt		6,785	(4,707)
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)
Opeche Salt		7,341	(5,263)
Opeche Salt Base		7,371	(5,293)
Broom Creek (Top of Minnelusa Gp.)		7,573	(5,495)
Amsden		7,853	(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)
UB		9,141	(7,063)
Base Last Salt		9,216	(7,138)
Ratcliffe		9,264	(7,186)
Mission Canyon		9,421	(7,343)
Lodgepole		9,999	(7,921)
Lodgepole Fracture Zone		10,173	(8,095)
False Bakken		10,698	(8,620)
Upper Bakken		10,708	(8,630)
Middle Bakken		10,722	(8,644)
Middle Bakken Sand Target		10,731	(8,653)
Base Middle Bakken Sand Target		10,741	(8,663)
Lower Bakken		10,766	(8,688)
Three Forks		10,781	(8,703)

Dip Rate: -0.3

Max. Anticipated BHP: 4665

LOGS:

	Type	Interval
OH Logs:	Triple Combo KOP to Kibby (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	

DEVIATION:

Surf:	3 deg. max., 1 deg / 100'; srvy every 500'
Prod:	5 deg. max., 1 deg / 100'; srvy every 100'

DST'S: None planned

CORES: None planned

MUDLOGGING:

Two-Man: 8,317'

~200' above the Charles (Kibbey) to Casing point; Casing point to TD

30' samples at direction of wellsite geologist; 10' through target @ curve land

BOP: 11" 5000 psi blind, pipe & annular

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' -	11,006'	Invert	9.5-10.4	40-50	30+HtHp	Circ Mud Tanks
Lateral:	11,006' -	20,943'	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
Dakota Contingency:	9-5/8"	40#	12-1/4"	6,450'		To Surface	12	Below Dakota
Intermediate:	7"	29/32#	8-3/4"	11,006'		4969	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/FSL	FEL/FWL	S-T-R	AZI
Surface:	2,068	2,068	1080' FNL	263' FWL	SEC 18-T153N-R100W	
KOP:	10,259'	10,259'	1130' FNL	278' FWL	SEC 18-T153N-R100W	
EOC:	11,006'	10,736'	1500' FNL	576' FWL	SEC 18-T153N-R100W	141.10
Casing Point:	11,006'	10,736'	1500' FNL	576' 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

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) 68476-34-6 (Primary Name: Fuels, diesel, No. 2)68476-30-2 (Primary Name: Fuel oil No. 2)

68476-31-3 (Primary Name: Fuel oil, No. 4)8008-20-6 (Primary Name: Kerosene)

OASIS PETROLEUM

Geology: M. Steed 5/12/2014 **Engineering:** hlbader 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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	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	(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 il/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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
9-5/8"	0' - 6450'	36	HCL-80	LTC	8.835"	8.75"	5450	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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift**	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	Burst	Tension
			(psi) a	(psi) b	(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

							Make-up Torque (ft-lbs)		
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
4-1/2"	10209' - 20943'	13.5	P-110	BTC	3.920"	3.795"	2270	3020	3780

Interval	Length	Desctiption	Collapse	Burst	Tension
			(psi) a	(psi) b	(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

OASIS PETROLEUM

WELL DETAILS: Kline Federal 5300 11-18 5B

Ground Level: 2053.0

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

Azimuths to True North
Magnetic North: 8.41°

Magnetic Field
Strength: 56376.7snT
Dip Angle: 72.99°
Date: 4/22/2014
Model: IGRF2015

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	163.30	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:	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		

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**	1,688.1 usft	**Northing:**	408,875.00 usft	**Latitude:**	48° 4' 44.500 N
	+E/-W	25.8 usft	**Easting:**	1,210,183.52 usft	**Longitude:**	103° 36' 11.000 W
Position Uncertainty		2.0 usft	**Wellhead Elevation:**		**Ground Level:**	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	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	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	163.30	
8,181.9	0.50	163.30	8,181.7	-49.9	15.0	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	180.00	
10,258.7	0.00	0.00	10,258.5	-50.0	15.0	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	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 5965.3 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	8.7	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	183.30	7,099.8	-40.9	12.3	12.3	0.00	0.00	0.00

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
7,300.0	0.50	163.30	7,299.8	-42.6	12.8	12.8	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
7,500.0	0.50	163.30	7,499.8	-44.2	13.3	13.3	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
7,700.0	0.50	163.30	7,699.8	-45.9	13.8	13.8	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
7,900.0	0.50	163.30	7,899.8	-47.6	14.3	14.3	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
8,100.0	0.50	163.30	8,099.8	-49.2	14.8	14.8	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
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
Start 2060.1 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
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
10,400.0	16.95	141.10	10,397.7	-66.1	28.0	28.0	12.00	12.00	0.00
10,500.0	28.95	141.10	10,489.6	-96.4	52.5	52.5	12.00	12.00	0.00
10,600.0	40.95	141.10	10,571.4	-140.9	88.4	88.4	12.00	12.00	0.00
10,700.0	52.95	141.10	10,639.6	-197.7	134.2	134.2	12.00	12.00	0.00
10,800.0	64.95	141.10	10,691.1	-264.3	187.9	187.9	12.00	12.00	0.00
10,900.0	76.95	141.10	10,723.6	-337.7	247.1	247.1	12.00	12.00	0.00
11,000.0	88.95	141.10	10,735.9	-414.8	309.4	309.4	12.00	12.00	0.00
11,006.2	89.70	141.10	10,736.0	-419.8	313.2	313.2	12.00	12.00	0.00
Start DLS 3.00 TFO -90.15 - 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	636.4	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
12,800.0	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									
12,600.0	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	10,746.1	-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	69.70	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	10,756.6	-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	10,757.6	-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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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

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

Design Targets

Target Name - hit/miss target - Shape	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

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	Rierdon	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	7,246.2	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	Amsden	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 +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
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

0 1000
1" = 1000'

- MONUMENT – RECOVERED
- MONUMENT – NOT RECOVERED

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'.

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

VICINITY MAP

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Revision No.	Date	By	Description
REV 1	5/14/14	BKH	ADDED WELLS
REV 2	12/30/14	JAS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BKH	CHANGED WELL NAMES & SHL

OASIS PETROLEUM NORTH AMERICA, LLC
SECTION BREAKDOWN
SECTIONS 17 & 18, T153N, R100W
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: BKH Project No.: S14-09-127.03
Checked By: DDK Date: APRIL 2014

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Other offices in Minnesota, North Dakota and South Dakota

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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

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REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

0 60
1" = 60'

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

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

Drawn By: B.H.H. | Project No.: S11-09-127.03
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	JJS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BHL

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

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

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0 500
1" = 500'

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

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

OASIS PETROLEUM NORTH AMERICA, LLC
ACCESS APPROACH
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

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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	8/18/14	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

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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
REV 2	12/30/14	JJS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BHL

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

STA. 2+82

STA. 2+00

STA. 1+00

STA. 0+00

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 1/29/15
NORTH DAKOTA

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

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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	JJS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & SHL

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
	1,906
EMBANKMENT	869
PLUS SHRINKAGE (30%)	261
	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

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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	12/30/14	JJS	CHANGED BOTTOM HOLE
REV 3	1/27/15	BHH	CHANGED WELL NAMES & BHL

NORTH DAKOTA
OIL AND GAS DIVISION

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:
     - 30' maximum intervals through all vertical and build sections.
     - 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)

AUG 2014
RECEIVED
ND OIL & GAS DIVISION

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 2, 2014	☑ Drilling Prognosis	☐ Spill Report
☐ Report of Work Done	Date Work Completed:	☐ Redrilling or Repair	☐ Shooting
☐ 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:	☐ Casing or Liner	☐ Acidizing
		☐ Plug Well	☐ Fracture Treatment
		☐ Supplemental History	☐ Change Production Method
		☐ Temporarily Abandon	☐ Reclamation
		☑ Other	Waiver to rule Rule 43-02-03-31

Well Name and Number					
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			

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)			
Address	City	State	Zip Code

DETAILS OF WORK

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

#20275

The Oasis Petroleum/ Kline Federal 5300 11-18H located within a mile of the subject well

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

Company: Oasis Petroleum North America LLC		Telephone Number: 281-404-9563
Address: 1001 Fannin, Suite 1500		
City: Houston	State: TX	Zip Code: 77002
Signature: Heather McCowan	Printed Name: Heather McCowan	
Title: Regulatory Assistant	Date: May 24, 2014	
Email Address: hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

☐ Received	☒ Approved
Date: 8-26-2014	
By:	
Title: 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)

AUG 2014 RECEIVED ND OIL & GAS DIVISION

Well File No. 29242

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

☑ Notice of Intent	Approximate Start Date **August 22, 2014**	☐ Drilling Prognosis	☐ Spill Report
☐ Report of Work Done	Date Work Completed	☐ Redrilling or Repair	☐ Shooting
☐ 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	☐ Casing or Liner	☐ Acidizing
		☐ Plug Well	☐ Fracture Treatment
		☐ Supplemental History	☐ Change Production Method
		☐ Temporarily Abandon	☐ Reclamation
		☑ Other **Address**	

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**			

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 addres 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 Heather McCowan	Printed Name **Heather McCowan**	
Title **Regulatory Assistant**	Date **August 22, 2014**	
Email Address **hmccowan@oasispetroleum.com**		

FOR STATE USE ONLY

☒ Received	☐ Approved
Date 8/26/2014	
By Matthew Messana	
Title **ENGINEERING TECHNICIAN**	

SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

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 2, 2014	☐ Drilling Prognosis	☐ Spill Report
☐ Report of Work Done	Date Work Completed:	☐ Redrilling or Repair	☐ Shooting
		☐ Casing or Liner	☐ Acidizing
		☐ Plug Well	☐ Fracture Treatment
☐ 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:	☐ Supplemental History	☐ Change Production Method
		☐ Temporarily Abandon	☐ Reclamation
		☑ Other	Suspension of Drilling

Well Name and Number					
KLINE FEDERAL 5300 11-18 5B					
Footages	Qtr-Qtr	Section	Township	Range	
1080 F N L 263 F WL	LOT 1	18	153 N	100 W	
Field	Pool	County			
BAKER	BAKKEN	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 LL will plug and abandon the well and reclaim the well site if the well is not drilled by the larger rotary rig within 90 days after spudding the well with the smaller drilling rig.

NOTIFY NDIC INSPECTOR RICHARD DUNN AT (701) 770-3554 WITH SPUD & 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: Heather McCowan	Printed Name: Heather McCowan	
Title: Regulatory Assistant	Date: July 2, 2014	
Email Address: hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

☐ Received	☒ Approved
Date 8/26/2014	
By Matthew Messana	
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	Type of Well	Approximate Date Work Will Start	Confidential Status
New Location	Oil & Gas	10 / 1 / 2013	No

Operator	Telephone Number
OASIS PETROLEUM NORTH AMERICA LLC	281-404-9563

Address	City	State	Zip Code
1001 Fannin Suite 1500	Houston	TX	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	Well Number
KLINE FEDERAL	5300 11-18 5B

Surface Footages	Qtr-Qtr	Section	Township	Range	County
1080 F N L 263 F W L	LOT1	18	153 N	100 W	McKenzie

Longstring Casing Point Footages	Qtr-Qtr	Section	Township	Range	County
1541 F N L 518 F W L	LOT1	18	153 N	100 W	McKenzie

Longstring Casing Point Coordinates From Well Head	Azimuth	Longstring Total Depth
461 S From WH 255 E From WH	150 °	11021 Feet MD 10750 Feet TVD

Bottom Hole Footages From Nearest Section Line	Qtr-Qtr	Section	Township	Range	County
2530 F N L 206 F E L	SENE	17	153 N	100 W	McKenzie

Bottom Hole Coordinates From Well Head	KOP Lateral 1	Azimuth Lateral 1	Estimated Total Depth Lateral 1
1450 S From WH 10078 E From WH	10274 Feet MD	90 °	21197 Feet MD 10804 Feet TVD

Latitude of Well Head	Longitude of Well Head	NAD Reference	Description of (Subject to NDIC Approval)
48 ° 04 ' 44.50 "	-103 ° 36 ' 11.00 "	NAD83	Spacing Unit: Sections 18 & 17 T153N R100W

Ground Elevation	Acres in Spacing/Drilling Unit	Spacing/Drilling Unit Setback Requirement	Industrial Commission Order
2053 Feet Above S.L.	1280	500 Feet N/S 200 Feet E/W	23339

North Line of Spacing/Drilling Unit	South Line of Spacing/Drilling Unit	East Line of Spacing/Drilling Unit	West Line of Spacing/Drilling Unit
10544 Feet	10489 Feet	5244 Feet	5256 Feet

Objective Horizons	Pierre Shale Top
BAKKEN	1967

Proposed	Size	Weight	Depth	Cement Volume	
Surface Casing	9 - 5/8 "	36 Lb./Ft.	2068 Feet	984 Sacks	NOTE: Surface hole must be drilled with fresh water and surface casing must be cemented back to surface.

Proposed	Size	Weight(s)	Longstring Total Depth	Cement Volume	Cement Top	Top Dakota Sand
Longstring Casing	7 - "	29/32 Lb./Ft.	11021 Feet MD 10750 Feet TVD	821 Sacks	3947 Feet	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)	Drilling Mud Type (Lateral)
Invert	Salt Water Gel

Survey Type in Vertical Portion of Well	Survey Frequency: Build Section	Survey Frequency: Lateral	Survey Contractor
MWD Every 100 Feet	30 Feet	90 Feet	Ryan

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

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

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

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

See Page 2 for Comments section and signature block.

COMMENTS, ADDITIONAL INFORMATION, AND/OR LIST OF ATTACHMENTS

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

Lateral 2

KOP Lateral 2 Feet MD	Azimuth Lateral 2 °	Estimated Total Depth Lateral 2 Feet MD / Feet TVD	KOP Coordinates From Well Head From WH / From WH	
Formation Entry Point Coordinates From Well Head From WH / 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 McCowan**	Title **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

VICINITY MAP

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

STAKED ON 6/18/14
VERTICAL CONTROL DATUM WAS BASED UPON CONTROL POINT 4 WITH AN ELEVATION OF 2090.8'

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

DARYL D. KASEMAN LS-3880

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 6/19/14
NORTH DAKOTA

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

G:\2014\314-09-127-03 - Oasis Petroleum - 4th Well at 1 on Good Pasture for Kline Wells\CAD\Kline Federal 5300 11-18 5B.dwg - 6/19/2014 8:51 AM jean schmierer

OASIS PETROLEUM NORTH AMERICA, LLC
WELL LOCATION PLAT
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

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Sidney, Montana 59270
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www.interstateeng.com
Other offices in Minnesota, North Dakota and South Dakota

INTERSTATE ENGINEERING
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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

600 E Boulevard Ave - Dept 405, Bismarck, North Dakota 58505-0840 Phone (701)328-8020 Fax (701)328-8022

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	
EST. T.D.	21,197'	**GROUND ELEV:**	2052 Finished Pad Elev. **Sub Height:** 25
	TOTAL LATERA 10,176'	**KB ELEV:**	2077

PROGNOSIS: Based on 2,077' KB(est)

MARKER		DEPTH (Surf Loc)	DATUM (Surf Loc)
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)
Dunham Salt		6,784	(4,707)
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)
Broom Creek (Top of Minnelusa Gp.)		7,572	(5,495)
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)
Charles Salt		8,516	(6,439)
UB		9,167	(7,090)
Base Last Salt		9,215	(7,138)
Ratcliffe		9,263	(7,186)
Mission Canyon		9,439	(7,362)
Lodgepole		10,001	(7,924)
Lodgepole Fracture Zone		10,207	(8,130)
False Bakken		10,697	(8,620)
Upper Bakken		10,707	(8,630)
Middle Bakken		10,721	(8,644)
Middle Bakken Sand Target		10,738	(8,661)
Base Middle Bakken Sand Target		10,750	(8,673)
Lower Bakken		10,766	(8,689)
Three Forks		10,792	(8,715)

Dip Rate: -0.3

Max. Anticipated BHP: 4665

LOGS:

	Type	Interval
OH Logs:	Triple Combo KOP to Kibby (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	

DEVIATION:

Surf:	3 deg. max., 1 deg / 100'; srvy every 500'
Prod:	5 deg. max., 1 deg / 100'; srvy every 100'

DST'S: None planned

CORES: None planned

MUDLOGGING:

Two-Man: 8,316'

~200' above the Charles (Kibbey) to Casing point; Casing point to TD

30' samples at direction of wellsite geologist; 10' through target @ curve land

BOP: 11" 5000 psi blind, pipe & annular

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
Lateral:	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
Inermediate (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:
KOP:	10,274'	10,272'	1129' FNL	281' FWL	SEC 18-T153N-R100W	Build Rate: 12 deg /100'
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)

OASIS PETROLEUM

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 buoyed 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% $CaCl_2$, 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 l 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

							Make-up Torque (ft-lbs)		
Size	**Interval**	**Weight**	**Grade**	**Coupling**	**I.D.**	**Drift**	**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)

Company: Oasis Petroleum
Field: Indian Hills
Location: 153N-100W-17/18
Well: Kline Federal 5300 11-18 5B
Wellbore #1
Plan: Design #6 (Kline Federal 5300 11-18 5B/Wellbore #1)

gyrodata
Precision Wellbore Placement

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	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

WELL DETAILS: Kline Federal 5300 21-18 5B

Ground Level: 2053.0

+N/-S	+E/-W	Northing	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

TVD	MD	Annotation
2500.0	2500.0	Start Build 2.00
2649.9	2650.0	Start 851.2 hold at 2650.0 MD
3500.0	3501.2	Start DLS 2.00 TFO -180.00
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

CASING DETAILS

TVD	MD	Name	Size
2068.0	2068.0	13 3/8" Casing	13-3/8
10749.8	11021.1	7" Casing	7
6100.0	6101.3	9 5/8" Casing	9-5/8

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

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

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

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:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	North Dakota Northern Zone		

Site 153N-100W-17/18

Site Position:		**Northing:**	408,992.30 usft	**Latitude:**	48° 4' 45.680 N
From:	Lat/Long	**Easting:**	1,210,243.30 usft	**Longitude:**	103° 36' 10.190 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-2.31 °

Well Kline Federal 5300 21-18 5B

Well Position	**+N/-S**	-119.6 usft	**Northing:**	408,875.04 usft	**Latitude:**	48° 4' 44.500 N
	+E/-W	-55.0 usft	**Easting:**	1,210,183.53 usft	**Longitude:**	103° 36' 11.000 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	2,053.0 usft

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	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	160.00	
3,501.2	3.00	160.00	3,500.0	-45.6	16.6	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	
11,021.1	89.70	150.00	10,749.8	-460.6	255.4	12.00	12.00	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	
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
Amsden									
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
10,209.3	0.00	0.00	10,208.0	-49.2	17.9	24.8	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
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
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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 - Shape	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

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
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 targe			
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 +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
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
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

– MONUMENT – RECOVERED

– MONUMENT – NOT RECOVERED

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'.

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 6/19/14
NORTH DAKOTA

VICINITY MAP

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

OASIS PETROLEUM NORTH AMERICA, LLC
SECTION BREAKDOWN
SECTIONS 17 & 18, T153N, R100W
MKENZIE COUNTY, NORTH DAKOTA

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

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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

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REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 6/19/14
NORTH DAKOTA

0 60
1" = 60'

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

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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

O:\2014\S14-09-\127.03 Oasis Petroleum - 4th Well of 4 on Quad Pad for Kline Infills\CAD\Kline Federal 5300 11-18 5B.dwg - 6/19/2014 8:52 AM josh schmierer

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
	1,906
EMBANKMENT	869
PLUS SHRINKAGE (30%)	261
	1,130
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

DITCH DETAIL

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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

STA. 2+82

STA. 2+00

STA. 1+00

STA. 0+00

REGISTERED LAND SURVEYOR
DARYL D. KASEMAN
LS-3880
DATE: 6/19/14
NORTH DAKOTA

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

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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

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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	6/16/14	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

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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

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.

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OASIS PETROLEUM NORTH AMERICA, LLC
ACCESS APPROACH
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

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OASIS PETROLEUM

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

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.

Notary Public in and for the State of Texas
My Commission expires: 6·5·18

ARMANDINA BARRON
Notary Public, State of Texas
My Commission Expires
June 05, 2018

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 1st production aproximately every 5th day thereafter

Estimated Flow Rate:	Kline Federal 5300 11-18 5B (well only)		Kline DSU (10 wells)	
	MCFD	BOPD	MCFD	BOPD
30 Days:	762	846	5,100	5,646
60 Days:	654	727	6,302	6,982
180 Days:	391	435	3,543	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 11-18 5B
Section 18 T153N R100W
McKenzie County, North Dakota

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

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

OASIS PETROLEUM

Gas Capture Plan - Overview
KLINE FEDERAL 5300 11-18 5B
Section 18 T153N R100W
McKenzie County, North Dakota

- Proposed Well
- Hiland Gas Line
- Processing Plant

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

OASIS PETROLEUM

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 2T2"
960 FEET FROM NORTH LINE AND 318 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

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REGISTERED LAND SURVEYOR DARYL D. KASEMAN LS-3880 DATE: 6/19/14 NORTH DAKOTA

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

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0 60
1" = 60'

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

Drawn By: B.K.H.	Project No.: S14-09-127
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"
800 FEET FROM NORTH LINE AND 350 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

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

Drawn By: B.H.H. Project No.: S12-09-146
Checked By: D.D.K. Date: MAY 2012

Revision No.	Date	By	Description

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

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

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

Drawn By: J.J.S.	Project No.: S10-9-160		
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

gyrodata
Precision Wellbore Placement

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	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.0 usft	**Error Surface:**	Elliptical Conic
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

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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

Survey Program: 2261-MWD, 13302-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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

Survey Program: 2261-MWD, 13302-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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 covergent 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

Survey Program: 2261-MWD, 13302-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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

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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 11-18 2T2 - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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	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 covergent 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 11-18 2T2 - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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 covergent 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 11-18 2T2 - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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 covergent 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 11-18 2T2 - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft
Survey Program: 0-MWD
Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	

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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 11-18 3T - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 11-18 3T - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	

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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 11-18 3T - Wellbore #1 - Design #6

Offset Site Error: 0.0 usft
Survey Program: 0-MWD
Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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

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

Survey Program: 2175-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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

Survey Program: 2175-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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

Survey Program: 2175-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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

Survey Program: 2175-MWD

Offset Site Error: 0.0 usft

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	
14,800.0	10,770.6	14,383.8	10,757.0	111.5	107.1	-90.60	-434.8	3,671.8	998.4	786.3	212.12	4.707	
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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	

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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	

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
Offset Well Error: 0.0 usft

Survey Program: 0-MWD

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance 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 covergent 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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
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	**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 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°

LEGEND

deral 5300 21-18 4T2, Wellbore #1, Design #6 V0
Kline Federal 5300 11-18H, Wellbore #1, Wellbore #1 V0
Ash Federal 5300 11-18T, Wellbore #1, We
deral 5300 11-18 2T2, Wellbore #1, Design #6 V0
Kline Federal 5300 11-18 3T, Wellbore #1, Design #6 V0

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 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°

LEGEND

deral 5300 21-18 4T2, Wellbore #1, Design #6 V0
deral 5300 11-18 2T2, Wellbore #1, Design #6 V0
Kline Federal 5300 11-18H, Wellbore #1, Wellbore #1 V0
Kline Federal 5300 11-18 3T, Wellbore #1, Design #6 V0
Ash Federal 5300 11-18T, Wellbore #1, We