



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

OCT 20 2016

Well File No.

28754

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

<input type="checkbox"/> Notice of Intent	Approximate Start Date
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed September 22, 2016
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date

- | | |
|---|--|
| <input type="checkbox"/> Drilling Prognosis | <input type="checkbox"/> Spill Report |
| <input type="checkbox"/> Redrilling or Repair | <input type="checkbox"/> Shooting |
| <input type="checkbox"/> Casing or Liner | <input type="checkbox"/> Acidizing |
| <input type="checkbox"/> Plug Well | <input type="checkbox"/> Fracture Treatment |
| <input type="checkbox"/> Supplemental History | <input checked="" type="checkbox"/> Change Production Method |
| <input type="checkbox"/> Temporarily Abandon | <input type="checkbox"/> Reclamation |
| <input type="checkbox"/> Other | Well is now on pump |

Well Name and Number Kline Federal 5300 31-18 8B				
Footages 2523 F S L	Qtr-Qtr 238 F W L	Section LOT3	Township 18	Range 153 N 100 W
Field Baker	Pool Bakken	County McKenzie		

24-HOUR PRODUCTION RATE

	Before	After
Oil	Bbls	Oil
Water	Bbls	Water
Gas	MCF	Gas

Name of Contractor(s)			
Address		City	State
			Zip Code

DETAILS OF WORK

Effective 09/22/2016 the above referenced well was converted to rod pump.

End of Tubing: 2-7/8" L-80 tubing @ 9959.56'

Pump: 2-1/2" x 2.0" x 24' insert pump @ 9857.90'

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 October 19, 2016	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 10-28-2016	
By 	
Title TAYLOR ROTH Engineering Technician	



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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

Received

Well File No.
28754

MAR 1 2016

ND Oil & Gas Division

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

<input type="checkbox"/> Notice of Intent	Approximate Start Date
<input checked="" type="checkbox"/> Report of Work Done	Date Work Completed December 1, 2015
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.	Approximate Start Date

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

Well Name and Number Kline Federal 5300 31-18 8B				
Footages 2523 F S L	Qtr-Qtr 238 F W L	Section LOT3	Township 18	Range 153 N 100 W
Field Baker	Pool Bakken	County McKenzie		

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

Name of Contractor(s)			
Address	City	State	Zip Code

DETAILS OF WORK

Effective 12/01/2015 the above referenced well is on pump.

End of Tubing: 2-7/8" L-80 tubing @ 10075'

Pump: ESP @ 9815.67'

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		

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 3-9-16	
By 	
Title JARED THUNE Engineering Technician	



AUTHORIZATION TO PURCHASE AND TRANSPORT OIL FROM LEASE - Form 8

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5898 (03-2000)

Well File No.
28784
NDIC CTB No.
0

22865/

McKenzie

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND FOUR COPIES.

Well Name and Number KLINE FEDERAL 5300 31-18 8B	Qtr-Qtr LOT3	Section 18	Township 153	Range 100	County Williams
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Operator Oasis Petroleum North America LLC	Telephone Number (281) 404-9573	Field BAKER
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Address 1001 Fannin, Suite 1500	City Houston	State TX	Zip Code 77002
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Name of First Purchaser Oasis Petroleum Marketing LLC	Telephone Number (281) 404-9627	% Purchased 100%	Date Effective September 20, 2015
Principal Place of Business 1001 Fannin, Suite 1500	City Houston	State TX	Zip Code 77002
Field Address	City	State	Zip Code
Transporter Hiland Crude, LLC	Telephone Number (580) 616-2058	% Transported 75%	Date Effective September 20, 2015
Address P.O. Box 3886	City Enid	State OK	Zip Code 73702
The above named producer authorizes the above named purchaser to purchase the percentage of oil stated above which is produced from the lease designated above until further notice. The oil will be transported by the above named transporter.			

Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other First Purchasers Purchasing From This Lease	% Purchased	Date Effective
Other Transporters Transporting From This Lease	% Transported	Date Effective
Power Crude Transport	25%	September 20, 2015
Other Transporters Transporting From This Lease	% Transported	Date Effective
		September 20, 2015
Comments		

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Date October 22, 2015
Signature 	Printed Name Brianna Sellinas
	Title Marketing Assistant

Above Signature Witnessed By:	Signature 	Printed Name Laura Whitten	Title Marketing Analyst II
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FOR STATE USE ONLY	
Date Approved	OCT 27 2015
By	
Title	Oil & Gas Production Analyst

Oil & Gas Production Analyst



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
SBN 2468 (04-2010)

A circular stamp with a date scale from 1 to 31 around the perimeter. The center contains the text "RECEIVED" in large letters, "ND OIL & GAS" in smaller letters, and "OCT 2015" below it.

Well File No.
28754

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 31-18 8B		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

LOCATION OF WELL

At Surface	2523 F S L	238 F WL	Qtr-Qtr Lot 3	Section 18	Township 153 N	Range 100 W	County McKenzie
Spud Date ✓	Date TD Reached		Drilling Contractor and Rig Number		KB Elevation (Ft)		Graded Elevation (Ft)
February 19, 2015	May 1, 2015		Nabors B22		2033		2008

Type of Electric and Other Logs Run (See Instructions)

MWD/GR from KOP to TD: CBL from Int. TD to surface

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

PERFORATION & OPEN HOLE INTERVALS

PRODUCTION

Current Producing Open Hole or Perforated Interval(s), This Completion, Top and Bottom, (MD Ft) Lateral 1- 11042' to 20390'								Name of Zone (If Different from Pool Name)
Date Well Completed (SEE INSTRUCTIONS) September 20, 2015			Producing Method flowing		Pumping-Size & Type of Pump			Well Status (Producing or Shut-In) producing
Date of Test 09/20/2015	Hours Tested 24	Choke Size 36 /64	Production for Test		Oil (Bbls) 1914	Gas (MCF) 1474	Water (Bbls) 2732	Oil Gravity-API (Corr.) 41.3 °
Flowing Tubing Pressure (PSI)		Flowing Casing Pressure (PSI)		Calculated 24-Hour Rate	Oil (Bbls) 1914	Gas (MCF) 1474	Water (Bbls) 2732	Gas-Oil Ratio 770

GEOLOGICAL MARKERS

PLUG BACK INFORMATION

CORES CUT

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

Drill Stem Test

Well Specific Stimulation

Date Stimulated	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 100 Mesh White: 49260 40/70 White: 194740 30/50 White: 333940							
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 100 Mesh White: 258200 40/70 White: 1289420 30/50 White: 1992560							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							
Date Stimulated	Stimulated Formation		Top (Ft)	Bottom (Ft)	Stimulation Stages	Volume	Volume Units
Type Treatment	Acid %	Lbs Proppant	Maximum Treatment Pressure (PSI)		Maximum Treatment Rate (BBLS/Min)		
Details							

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address jswenson@oasispetroleum.com	Date 10/20/2015
--	---	--------------------

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



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)



TK

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Designate Type of Completion							
<input checked="" type="checkbox"/> Oil Well		<input type="checkbox"/> EOR Well		<input type="checkbox"/> Recompletion		<input type="checkbox"/> Deepened Well	
<input type="checkbox"/> Gas Well		<input type="checkbox"/> SWD Well		<input type="checkbox"/> Water Supply Well		<input type="checkbox"/> Added Horizontal Leg	
						<input type="checkbox"/> Extended Horizontal Leg	
						<input type="checkbox"/> Other:	
Well Name and Number Kline Federal 5300 31-18 8B				Spacing Unit Description Sec. 17/18 T153N R100W			
Operator Oasis Petroleum North America		Telephone Number (281) 404-9591		Field Baker			
Address 1001 Fannin, Suite 1500				Pool Bakken			
City Houston		State TX	Zip Code 77002	Permit Type <input type="checkbox"/> Wildcat <input checked="" type="checkbox"/> Development <input type="checkbox"/> Extension			

LOCATION OF WELL

At Surface 2523 F S L		Qtr-Qtr 238 F WL	Section Lot 3	Township 18	Range 153 N	County 100 W McKenzie
Spud Date / February 19, 2015		Date TD Reached May 1, 2015	Drilling Contractor and Rig Number Nabors B22		KB Elevation (Ft) 2033	Graded Elevation (Ft) 2008

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	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	2110	17 1/2	54.5			1204	0
Vertical Hole	Intermediate	7	0	11042	8 3/4	32			830	2100
Lateral1	Liner	4 1/2	10125	20390	6	13.5			503	10125

PERFORATION & OPEN HOLE INTERVALS

Well Bore	Well Bore TD Driller's 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 Perfd or Drilled	Date Isolated	Isolation Method	Sacks Cement
Lateral1	20395	Perforations		10160					

PRODUCTION

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

GEOLOGICAL MARKERS

PLUG BACK INFORMATION

CORES CUT

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

Drill Stem Test

Well Specific Stabilizations

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

ADDITIONAL INFORMATION AND/OR LIST OF ATTACHMENTS

This is a preliminary completion report. A supplemental report will be filed upon first production of the well.

I hereby swear or affirm that the information provided is true, complete and correct as determined from all available records.	Email Address jswenson@oasispetroleum.com	Date 08/31/2015
Signature 	Printed Name Jennifer Swenson	Title Regulatory Specialist



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.
28754



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date July 14, 2015	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
Approximate Start Date		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input type="checkbox"/> Other	Waiver from tubing/packer requirement

Well Name and Number Holmes 5501 11-5 3B					
Footages 2523 F S L	Qtr-Qtr 238 F W L	Section LOT3	Township 18	Range 153 N	Range 100 W
Field Baker	Pool Bakken	County McKenzie			

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

Name of Contractor(s)			
Address	City	State	Zip Code

DETAILS OF WORK

Oasis Petroleum North America LLC requests a variance to NDAC 43-02-03-21 for the tubing/packer requirement: Casing, tubing, and cementing requirements during the completion period immediately following the upcoming fracture stimulation.

The following assurances apply:

1. the well is equipped with new 29# and 32# casing at surface with an API burst rating of 11,220 psi;
2. The Frac design will use a safety factor of 0.85 API burst rating to determine the maximum pressure;
3. Damage to the casing during the frac would be detected immediately by monitoring equipment;
4. The casing is exposed to significantly lower rates and pressures during flowback than during the frac job;
5. The frac fluid and formation fluids have very low corrosion and erosion rates;
6. Production equipment will be installed as soon as possible after the well ceases flowing;
7. A 300# gauge will be installed on the surface casing during the flowback period

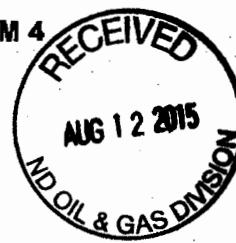
Company Oasis Petroleum North America LLC	Telephone Number 281-404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date July 14, 2015	
Email Address jswenson@oasispetroleum.com		

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



SUNDY NOTICES AND REPORTS ON WELLS - FORM 4

INDUSTRIAL COMMISSION OF NORTH DAKOTA
OIL AND GAS DIVISION
600 EAST BOULEVARD DEPT 405
BISMARCK, ND 58505-0840
SFN 5749 (09-2008)



Well File No.
28754

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

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date August 12, 2015	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03. Approximate Start Date		<input type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input checked="" type="checkbox"/> Other	<u>Change well status to CONFIDENTIAL</u>

Well Name and Number Kline Federal 5300 31-18 83					
Footages	Qtr-Qtr	Section	Township	Range	
2523 F S L	238 F W L	LOT3	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
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DETAILS OF WORK

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

This well has not been completed

OFF CONFIDENTIAL 2/12/16.

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9436	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Jennifer Swenson	
Title Regulatory Specialist	Date August 12, 2015	
Email Address jswenson@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8/13/15	
By 	
Title Engineering Technician	



Oasis Petroleum North America, LLC

Kline Federal 5300 31-18 8B

2,523' FSL & 238' FWL

Lot 3 Section 18, T153N, R100W

Baker Field / Middle Bakken Member

McKenzie County, North Dakota

BOTTOM HOLE LOCATION:

165.41' S & 9,951.14' E of surface location or approx.

2,357.59' FSL & 300.10' FEL NE SE Sec. 17, T153N, R100W

Prepared for:

Brendan Hargrove
Oasis Petroleum North America, LLC
1001 Fannin Suite 1500
Houston, TX 77002

Prepared by:

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

WELL EVALUATION

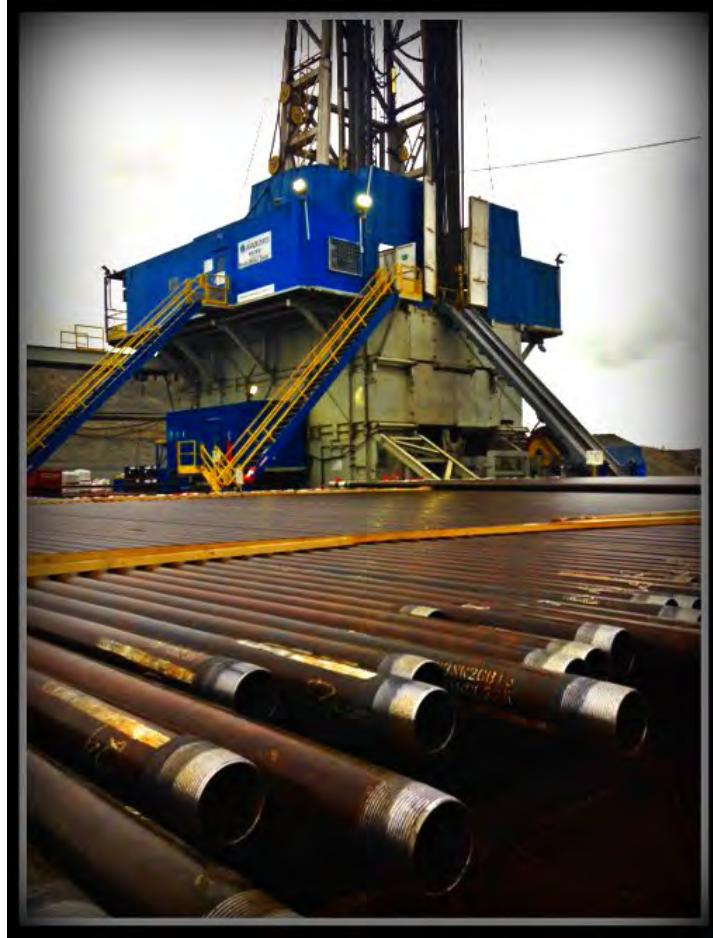


Figure 1. Nabors Drilling rig B22 at the Oasis Petroleum Kline Federal 5300 31-18 8B During April, 2015 in McKenzie County, North Dakota.

INTRODUCTION

The **Oasis Petroleum North America, LLC Kline Federal 5300 31-18 8B** [Lot 3 Section 18, T153N, R100W] is located in Baker Field of the Williston Basin in western North Dakota. This section lies approximately 7 miles south of the town of Williston and adjacent to Lake Sakakawea in McKenzie County. The Kline Federal 5300 31-18 8B is a horizontal Middle Bakken well, in a double-section, laydown spacing unit permitted to drill to the east from the surface location within Section 18, continuing through Section 17 to the proposed bottom-hole location (PBHL) in that section. There are 500' setbacks along the north and south borders and 200' setbacks from the east and west borders within the 1,280 acre spacing unit. The well consists of one Middle Bakken lateral. The vertical hole was planned to be drilled to approximately 10,221'. The curve would be built at 12 degrees per 100' to land within the Middle Bakken. Directional drilling technologies and geosteering techniques were used to land in the Middle Bakken reservoir and maintain exposure to the ideal target rock. Oasis Petroleum is targeting a silty sandstone facies of the Middle Bakken with intent to intersect porosity and fracture trends enhancing reservoir quality.

OFFSET WELLS

Offset well data used for depth correlation during curve operations are found in the ‘Control Data’ section appended to this report. Offset well control was essential in providing control data, making it possible to develop a prognosis of formation tops and landing target depth. By referencing the gamma signature of these offsets, a model was formed for the target interval pinpointing a strategic landing. Formation thicknesses expressed by gamma ray signatures in these wells were compared to gamma data collected during drilling operations in order to successfully land the curve. The target landing true vertical depth (TVD) was periodically updated during drilling to ensure accurate landing of the curve.

GEOLOGY

The Mission Canyon Formation [Mississippian Madison Group] was logged 9,393' MD 9,392' TVD (-7,359' SS). The Mission Canyon Formation consisted of a lime mudstone that was described as light gray, light brown to brown, gray brown, trace dark gray in color. The lime mudstone was predominately friable to firm, with an earthy to rare crystalline texture. Some intervals contained a trace of black-brown algal material, traces of fossil fragments, and traces of disseminated pyrite. Also present was an argillaceous lime mudstone that was described as light gray, occasional medium gray, rare gray tan, rare off white, trace dark gray in color. The argillaceous lime mudstone was predominately firm to friable, crystalline to chalky texture. Some intervals contained a trace of disseminated pyrite. Gas shows were not present. Rare intercrystalline porosity was noted as well as trace *spotty light brown oil stain* while logging the Mission Canyon Formation.

The Upper Bakken Shale [Mississippian-Bakken Formation] was drilled at 10,835' MD 10,671' TVD (-8,638' SS). Entry into this member was characterized by high gamma, elevated background gas and increased rates of penetration. The black to black gray carbonaceous and *petroliferous* shale was hard with a sub blocky to sub platy texture. Fracture porosity was noted, and trace minerals were observed including disseminated pyrite and calcite fracture fill. Hydrocarbons evaluated in this interval reached a maximum of 775 units of drilling gas.

The Middle Bakken [Mississippian-Devonian Bakken Formation] was reached at 10,883' MD 10,687' TVD (-8,654' SS) which was 0' low to the Oasis Petroleum NA LLC Kline Federal 5300 31-18 15T. The target zone of the Middle Bakken was to be drilled in a predominately 16 foot zone beginning 12 feet below the Upper Bakken Shale.

Samples in the Middle Bakken were predominantly silty sandstone which was described as light-medium brown, occasional light gray brown, rare light gray in color. It was very fine grained, firm-friable, sub rounded to sub angular, smooth, moderately sorted, calcite cement moderately cemented. A trace of disseminated and nodular pyrite was noted as was occasional intergranular porosity. Also noted was *common light to medium brown spotty to even oil stain*.

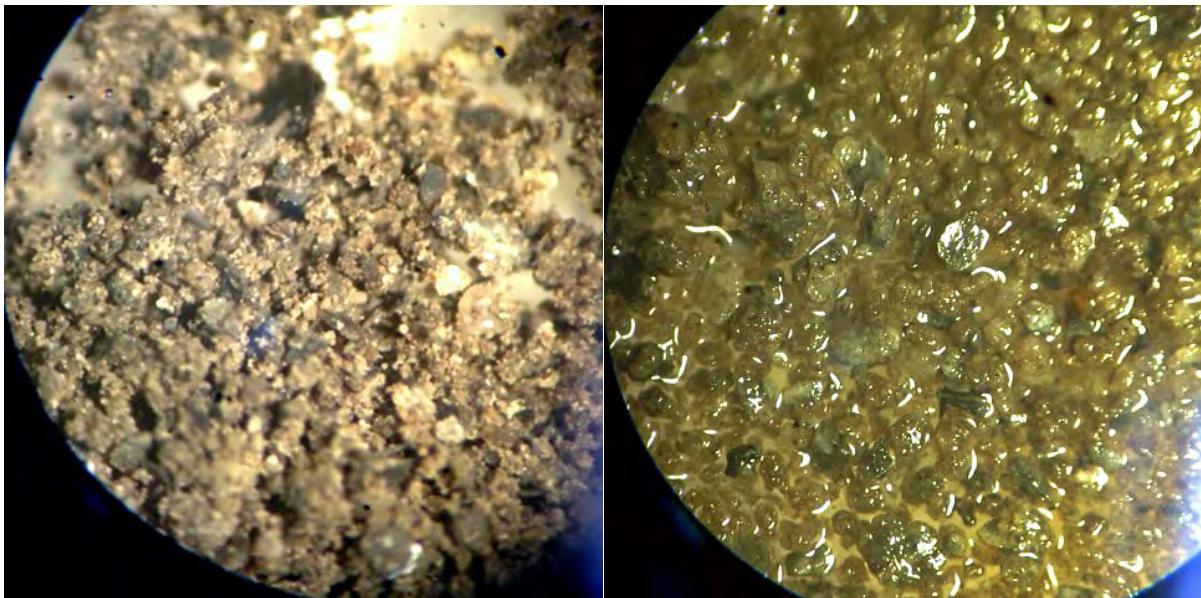


Figure 2 & 3. Middle Bakken silty sandstone dry (left) and wet (right) samples from the target zone.

Hydrocarbon Shows

Gas monitoring and fluid gains provided evidence of a hydrocarbon saturated reservoir during the drilling of the Kline Federal 5300 31-18 8B. Oil and gas shows at the shakers and in samples were continuously monitored. In the closed mud system, hydrostatic conditions were maintained near balance, this allowed for gas and fluid gains from the well to be evaluated. Gas varied according to stratigraphic position and penetration rates which may have reflected increased porosity. During the vertical, gas peaks of 20 to 31 units were noted, against a 9.4-10.2 lb/gal diesel-invert mud weight. Background concentrations in the lateral ranged from 1,000 to 6,000 units, against a 9.7-10.4 lb/gal saltwater gel drilling fluid. Connection peaks 5,000 to 7,139 units were observed, as were drilling gas shows of 500 units to 6,823 units coinciding with the best shows. Chromatography of gas revealed typical concentrations of methane, ethane and propane characteristic of Middle Bakken Member gas.



Figure 4. Chromatography of a gas sample on the Kline Federal 5300 31-18 8B.

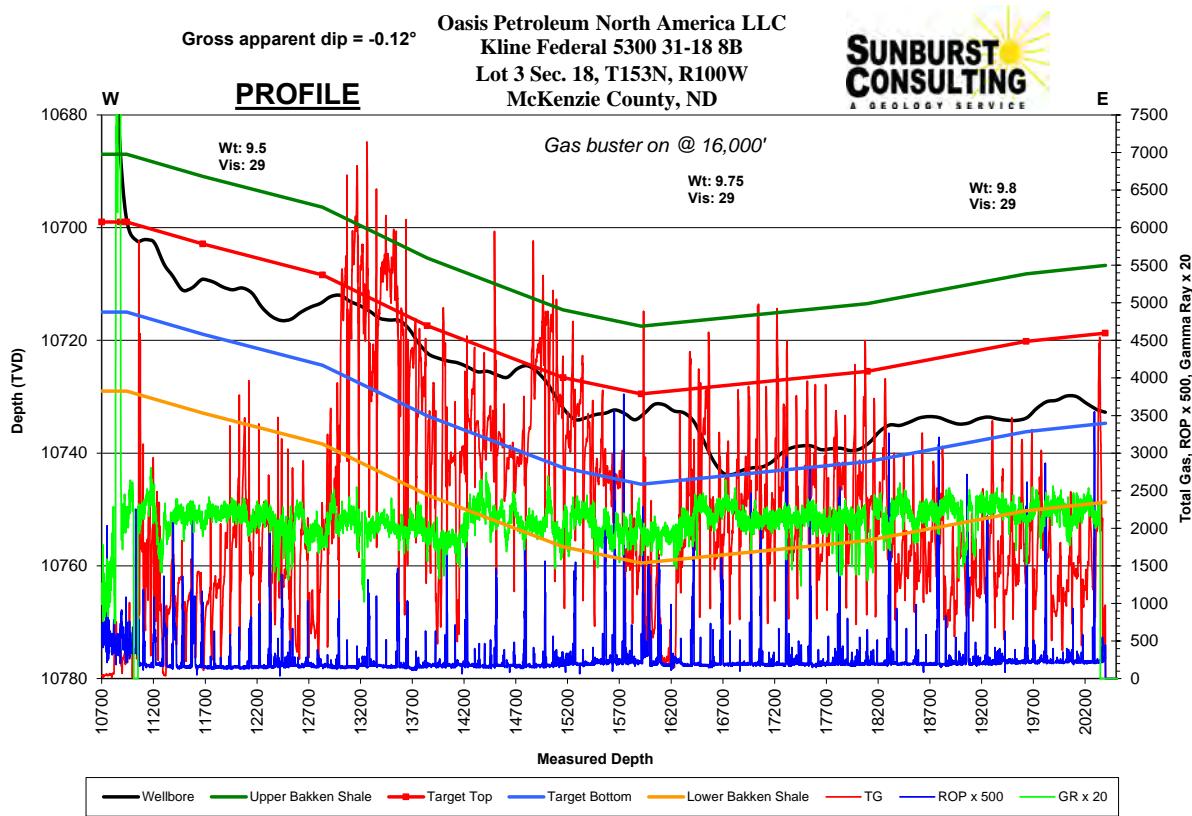


Figure 5. Profile displaying total gas, gamma ray and rate of penetration.

Geosteering

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

The 1,029' curve was drilled in 26 hours. It was drilled with a bottom hole assembly (BHA) consisting of bit #3, a Security MMD55M PDC bit, attached to a 2.38 degree fixed NOV stage 7/8 5.0 motor and MWD tools. The curve was successfully landed at 11,058' MD and 10,702' TVD, approximately 15' into the Middle Bakken. Seven inch diameter 32# HCP-110 intermediate casing was set to 11,042' MD.

Geologic structure maps of the Kline Federal 5300 31-18 8B and surrounding control wells had estimated gross formation dip to be down at approximately -0.2° to the TD of the lateral. The preferred drilling interval consisted of a 16 foot zone located approximately 12 feet into the Middle Bakken. Penetration rates, gas shows, gamma ray data, and sample observations were utilized to keep the wellbore in the preferred stratigraphic position in the target zone. Using offset well data provided by Oasis representatives, projected porosity zones were identified in the preferred drilling areas.

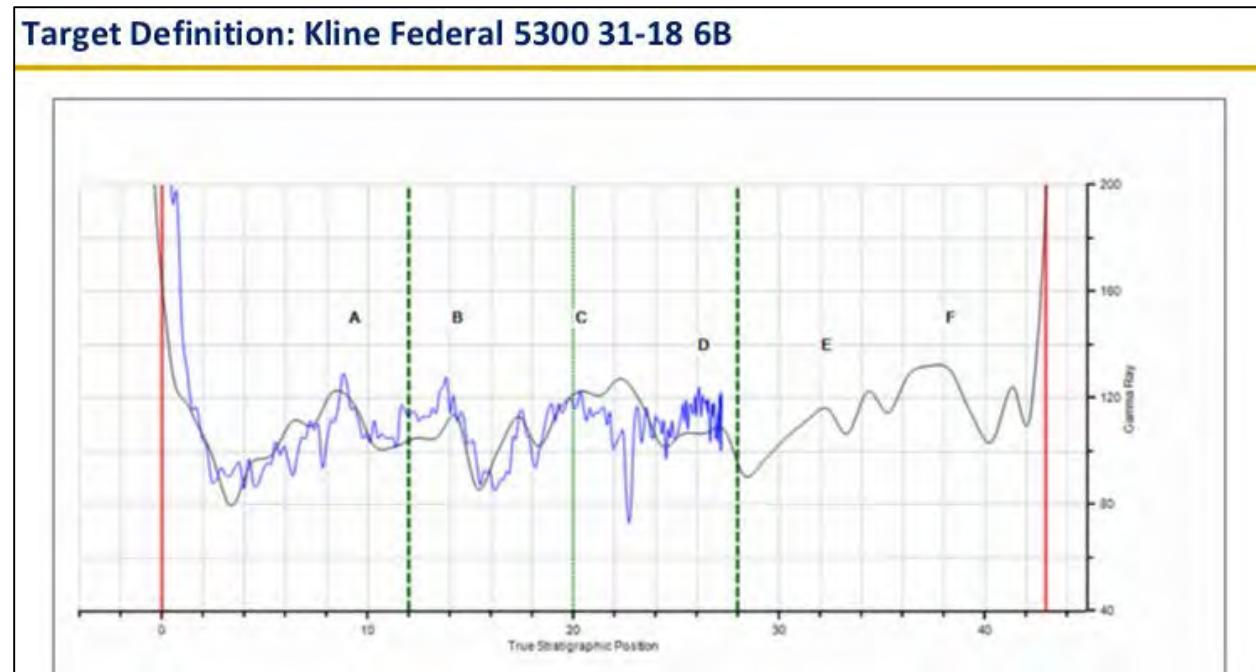


Figure 6. Offset well target definition of the Kline Federal 5300 31-18 6B (Blue gamma line), Indian Hills Prospect (Oasis). *Due to landing high in target the 6B proved to be more reliable than the target definition seen when landing the 8B.

Steering decisions were made by using gamma markers identified by Oasis representatives. The high gamma (C) in the central portion of the drilling zone was useful in identifying the well-bore

placement in formation. The slightly lower gamma (between B & C) was observed as the well-bore moved to the top of the target zone, followed by lower gamma as the well-bore moved higher, out of the target zone. As the well-bore moved lower in formation, the lower gamma (below D) was seen when at the bottom of the target zone. Samples collected when drilling low in the target zone tended to have a greater concentration of the light gray to gray silty sandstone than did the samples collected when the well-bore was higher in the target zone. This lateral was drilled in a little over 5 days from casing exit to TD, with one necessitated trip at 15,933' for a mud motor failure at which time the bit was replaced. Well site teams worked closely together with directional to maximize penetration rates averaging 200 to 280 feet per hour while rotating, resulting in 3 days of over 2,000' of lateral progress. The well site team was able to keep the well bore in the desired target the entire well. The TD of 20,395' MD was achieved at 10:00 hours CDT April 30, 2015. The wellbore was completed with 100% of the lateral in target, opening 9,353' (measurement taken from uncased lateral portion) of potentially productive reservoir rock. The hole was then circulated and reamed for completion.

SUMMARY

The Kline Federal 5300 31-18 8B is a successful well in Oasis Petroleum's horizontal Middle Bakken development program in Baker Field. The project was drilled from surface casing to TD in 13.25 days. The TD of 20,395' MD was achieved at 10:00 hours CDT May 1, 2015. The well site team worked together to maintain the well bore in the desired target interval for 100% of the lateral, opening 9,353' of potentially productive reservoir rock.

Samples in the Middle Bakken were predominantly silty sandstone which was described as light-medium brown, occasional light gray brown, rare light gray in color. It was very fine grained, firm-friable, sub rounded to sub angular, smooth, moderately sorted, calcite cement moderately cemented. A trace of disseminated and nodular pyrite was noted as was occasional intergranular porosity. Also noted was *common light to medium brown spotty to even oil stain*.

Hydrocarbon shows on the Kline Federal 5300 31-18 8B varied according to stratigraphic position and penetration rates which may have reflected increased porosity. The overall gas and hydrocarbon shows were encouraging and indicate a hydrocarbon-rich system in the Middle Bakken.

The Oasis Petroleum North America, LLC. Kline Federal 5300 31-18 8B awaits completion operations to determine its ultimate production potential.

Respectfully submitted,

Michelle R. Baker
Sunburst Consulting, Inc.
May 5, 2015

WELL DATA SUMMARY

OPERATOR: **Oasis Petroleum North America, LLC**

ADDRESS: 1001 Fannin Suite 1500
Houston, TX 77002

WELL NAME: **Kline Federal 5300 31-18 8B**

API #: 33-053-006055

WELL FILE #: 28754

SURFACE LOCATION: 2,523' FSL & 238' FWL
Lot 3 Section 18, T153N, R100W

FIELD/ OBJECTIVE: Baker Field / Middle Bakken Member

COUNTY, STATE McKenzie County, North Dakota

BASIN: Williston

WELL TYPE: Middle Bakken Member

ELEVATION: GL: 2,008'
KB: 2,033'

SPUD/ RE-ENTRY DATE: March 19, 2015

BOTTOM HOLE LOCATION: 165.41' S & 9,951.14' E of surface location or approx.
2,357.59' FSL & 300.10' FEL NE SE Sec. 17, T153N, R100W

CLOSURE COORDINATES: Closure Azimuth: 90.95°
Closure Distance: 9,952.51'

TOTAL DEPTH / DATE: 20,395' on April 30, 2015
100% within target interval

TOTAL DRILLING DAYS: 13 days

CONTRACTOR: Nabors B22

<u>PUMPS:</u>	H&H Triplex (stroke length - 12")
<u>TOOLPUSHERS:</u>	Darren Birkeland, Jessie Tibbits
<u>FIELD SUPERVISORS:</u>	John Gordan, Dan Thompson, Mike Bader, Doug Rakstad
<u>CHEMICAL COMPANY:</u>	NOV
<u>MUD ENGINEER:</u>	Adam Fallis, Ken Rockeman
<u>MUD TYPE:</u>	Fresh water in surface hole Diesel invert in curve; Salt water in lateral
<u>MUD LOSSES:</u>	Invert Mud: 246 bbls., Salt Water: Not tracked
<u>PROSPECT GEOLOGIST:</u>	Brendan Hargrove
<u>WELLSITE GEOLOGISTS:</u>	Michelle R. Baker, G. Wayne Peterson, Zachary Moses
<u>GEOSTEERING SYSTEM:</u>	Sunburst Digital Wellsite Geological System
<u>ROCK SAMPLING:</u>	30' from 8,240' - 20,395' (TD)
<u>SAMPLE EXAMINATION:</u>	Binocular microscope & fluoroscope
<u>SAMPLE CUTS:</u>	Trichloroethylene
<u>GAS DETECTION:</u>	MSI (Mudlogging Systems, Inc.) TGC - total gas with chromatograph Serial Number(s): ML-414
<u>ELECTRIC LOGS:</u>	None
<u>DRILL STEM TESTS:</u>	None
<u>DIRECTIONAL DRILLERS:</u>	RPM John Gordan, Dan Thompson, Mike Bader, Doug Rakstad
<u>MWD:</u>	Ryan Directional Services Mike McCammond, Sammy Hayman

CASING: Surface: 13 3/8" 36# J-55 set to 2,023'
Intermediate: 7" 29# & 32# HCP-110 set to 11,042'

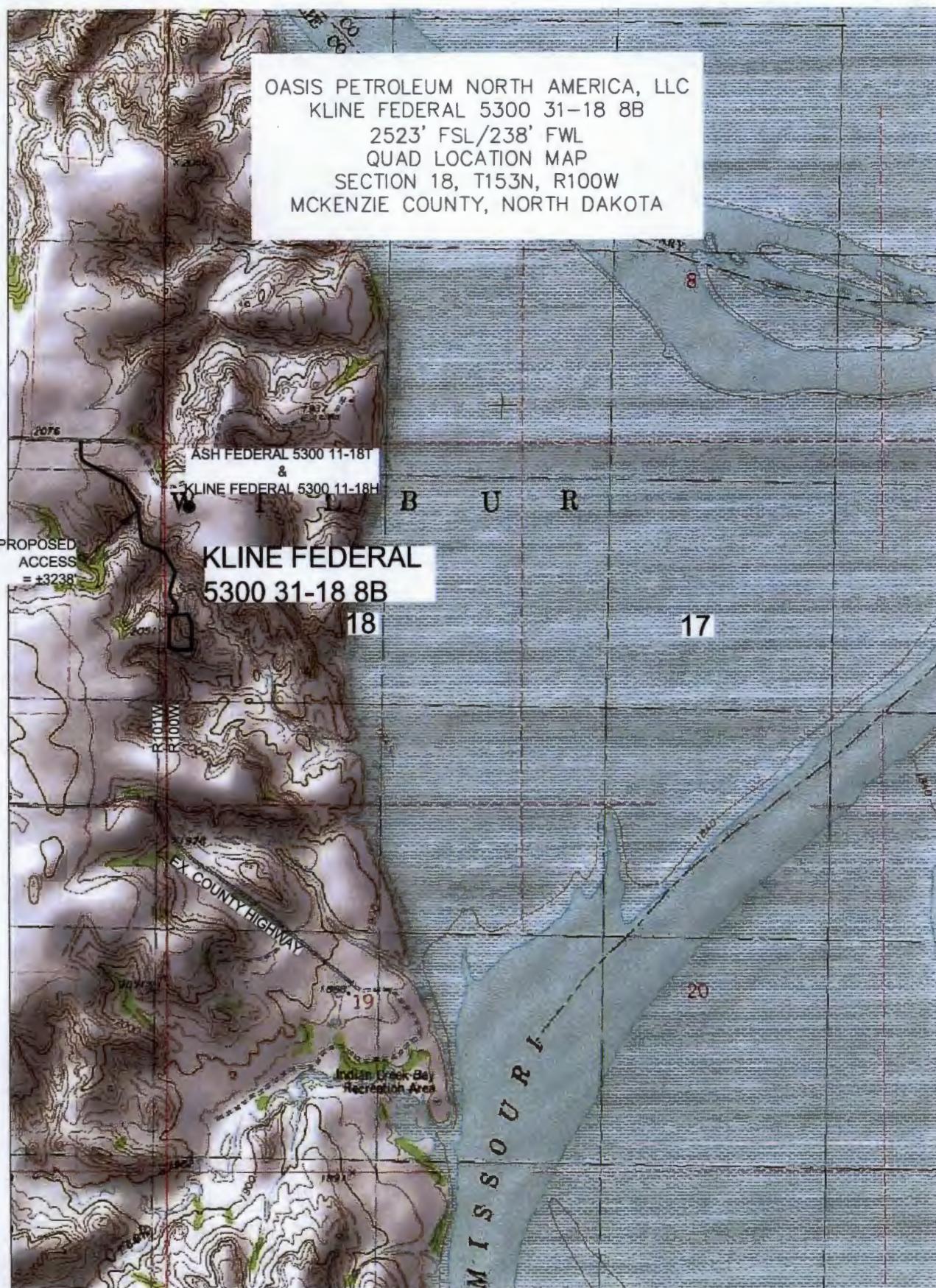
SAFETY/ H₂S MONITORING: Total Safety

KEY OFFSET WELLS:

Oasis Petroleum North America, LLC
Ash Federal 5300 11-18T
Lot 1 Section 18, T153N, R100W
McKenzie County, ND
KB: 2,078'

Oasis Petroleum North America, LLC
Kline 5300 11-18H
NENE Section 18 T153N R100W
McKenzie County, ND
KB: 2,079'

Oasis Petroleum North America, LLC
Kline Federal 5300 31-18 15T
Lot 3 Section 18, T153N, R100W
McKenzie County, ND
KB: 2,033'



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Other offices in Minnesota, North Dakota and South Dakota

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

MCKENZIE COUNTY, NORTH DAKOTA

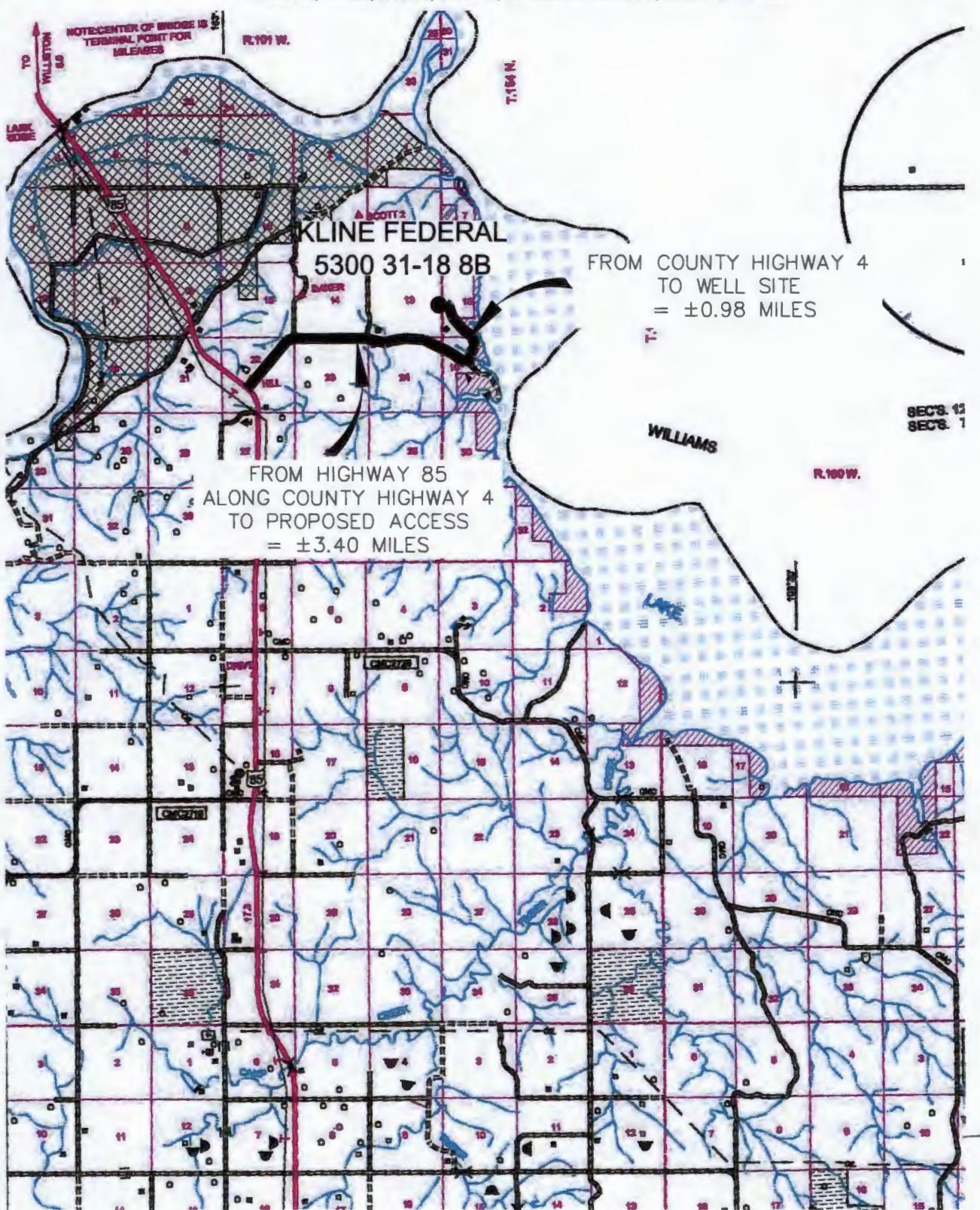
Drawn By:	B.H.H.	Project No.:	S14-09-109.02
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	BWH	CHANGED WELL NAMES & BH.
REV 2	2/05/15	JJS	UPDATED ACCESS ROAD ROUTE

COUNTY ROAD MAP

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 8B"

2523 FEET FROM SOUTH LINE AND 238 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

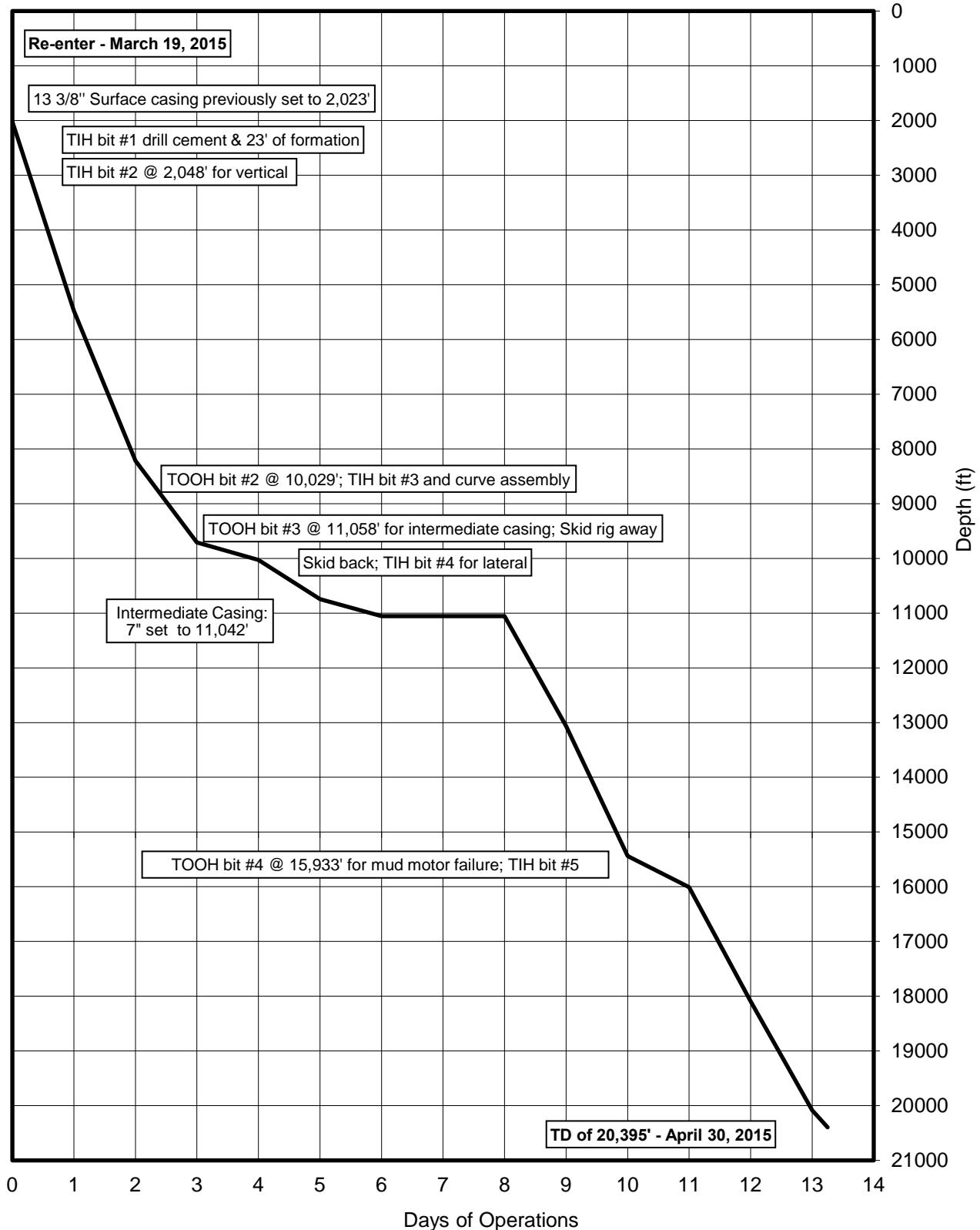
Drawn By: B.H.H.	Project No.: S14-09-108.02
Checked By: D.D.K.	Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	B.H.H.	CHANGED WELL NAMES & SHL
REV 2	2/08/15	JJS	UPDATED ACCESS ROAD ROUTE

TIME VS. DEPTH

Oasis Petroleum North America, LLC

Kline Federal 5300 31-18 8B



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	3/19	2,023'	-	-	-	-	-	-	-	-	-	-	Skid from Kline Federal 5300 31-18 15T. Rig accepted @ 18:00 on 3/18/2015. Nipple up BOPS. Service rig. Pre job safety with Recon. Test BOPS. Gather BHA. Install wear bushing.	-	
1	3/20	5,479'	3,456'	1/2	25	60	-	-	1500	78	78	549	Pick up 12.25" BHA. TIH. Service rig. Drill cement float. Downtime instrumentation. Drill cement shoe track and 17' of new hole. FIT test at 2,148'. TOH. Lay down 12.25" BHA. Pick up 8.75" BHA. Drill and survey	Rierdon	
2	3/21	8,217'	2,738'	2	28	60	-	132	3500	78	78	549	Service top drive. Downtime- top drive. Drill ahead rotating from 5,479'-7,035'. Otter		
3	3/22	9,710'	1,493'	2	41	40	-	125	3800	74	74	521	Service top drive. Drill and survey 7,035'-8,217'. Mission Canyon		
4	3/23	10,029'	319'	2	48	61	-	122	3800	72	72	507	Drill and survey 9,710'-10,029'. TOH, pump dry job. Service top drive. Downtime-top drive oil. Service rig. TCH, remove RHR and install trip nipple. Lodgepole		
5	3/24	10,746'	717'	3	25	20	25	160	3600	72	72	553	Cut drilling line. TIH. Reaming/washing salt from 8,530'-8,726'. TIH. Drill and survey from 10,029'-10,160. Trough at 103 degrees. Drill and survey from 10,160'-10,653'; Service top drive, function pipe rams 6 sec. SPR @ 10,653' 40 stks P#1 591, P#2 599. Drill and survey from 10,653'-10,746'. Lodgepole		
6													Drill and survey curve, sliding as need, from 10,746'-11,058'. Reach intermediate casing point, land curve. TOOH to start casing operations. Wiper trip/short trip. Circulate and condition. Remove rotating head, install trip nipple. TOOH. Lay down BHA. Rack 3 monrels. Install wear bushing, remove wear bushing. Service rig. Rig up casing crew. Hold safety meeting. Run casing. Middle Bakken Member		
7	3/26	11,058'	312'	3	25	20	25	160	3300	72	72	553	Make up shoe and float. Run casing. Running 7" intermediate casing in the hole. Prepare cement. Break circulation. Run casing. Wash to bottom. Circulate and condition. Rig down casing crew. Rig up cementing crew. Hold safety meeting. Primary cementing. Rig up cement head. Cementing. Rig down cement crew. Nipple down BOPs. Rig down flow line, choke, fill line, unbolt BOP using Weatherford services. Set casing slips. Rig down bell extensions, casing elevators. Cut casing. Install well head. Install night cap on well head. Prepare to walk rig. Release rig at 04:00 hours CST on March 26, 2015.	Middle Bakken Member	
8	4/25	11,058'	-	-	-	-	-	-	-	-	-	-	Skid rig to Oasis Kline Federal 5300 31-18 8B. Rig accepted at 16:00 hours CDT on April 24, 2015. Nipple up BOPs. Turn buckles on BOP. Rig up catwalk. Install mouse hole. Test BOPs. Test casing. Service top drive and rig. Pick up BHA; lateral assembly. TIH. Drill cement from 10,849'-10,910'. Continue drilling cement out of casing.	Middle Bakken Member	

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
9	4/26	13,067'	2,009'	4	14	40	22	254	3800	-	90	317	Drill cement. FIT. Drill out cement at intermediate casing. Drill float @ 10,953', shoe @ 11,042'. FIT test 13 ppg to 1,868 psi; good test. Drill and survey, sliding as needed, from 11,042'-11,563'. Rig service. Drill and survey, sliding as needed, from 11,563'-11,747'. Rig service. BOP drill. Drill and survey, sliding as needed, from 11,563'-13,067'.		Middle Bakken Member
10	4/27	15,438'	2,371'	4	14	40	30	242	3900	-	86	303	BOP drill. Drill and survey, sliding as needed, from 13,067'-14,205'. Service rig. Drill and survey, sliding as needed, from 14,205'-15,153'. Rig service. Drill and survey, sliding as needed, from 15,153'-15,438'.		Middle Bakken Member
11	4/28	16,007'	569'	4/5	10	30	40	237	3300	-	84	296	Drill and survey, sliding as needed, from 15,438'-15,933'. Circulate and condition, build and pump dry job. TOH for suspected motor failure; stalling out, inadequate returns from slides, diminished ROP. Remove rotating head, install trip nipple. TOH. Laydown BHA. Pick up new BHA. TIH. Slip and cut drill line. TIH. Circulate and condition. Drill and survey, sliding as needed, from 15,933'-16,007'.		Middle Bakken Member
12	4/29	18,093'	2,086'	5	14	40	30	226	3900	-	80	282	Drill and survey, sliding as needed, from 16,007'-16,671'. Service rig. Drill and survey, sliding as needed, from 16,671'-17,524'. Rig service. Drill and survey, sliding as needed, from 17,524'-18,093'.		Middle Bakken Member
13	4/30	20,083'	1,990'	5	17	40	23	220	3900	-	78	275	Drill and survey, sliding as needed, from 18,093'-18,851'. Service rig. Drill and survey, sliding as needed, from 18,851'-19,609'. Rig service. Drill and survey, sliding as needed, from 19,609'-20,083'.		Middle Bakken Member
13.25	5/1	20,395'	312'	5	17	40	23	220	3900	-	78	275	Drill and survey, sliding as needed, from 20,083'-20,395'. Reach TD of 20,395' MD at 10:00 hours CDT on April 30, 2015. Pump pill. Short trip/wiper trip. Circulate bottoms up twice. Circulate and condition. TOOH to start completion operations. TIH with liner.		Middle Bakken Member

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 ₂ O (ratio)	NAP/H ₂ O (% by vol)	Cake (API/ HTHP)	Cor. Solids (%)	Oil/H ₂ O (%)	Alk	pH	Excess Line (lb/bbl)	Cl ⁻ (mg/L)	LGS/ HGS (%)	Salinity (ppm)	Electrical Stability	Gain/ Loss (bbls)
03/19	2,023'	10.4	92	21	11	11/17/-	53/32	78.2/21.8	66.5/18.5	-	12.5	66.5/18.5	2.4	-	310	52k	9.1/3.4	264320	600	-
03/20	2,086'	9.95	77	14	7	5/10/-	35/21	80.5/19.5	70/17	3	10.7	70/17	1.6	-	2.1	40k	7.5/3.3	264320	575	-
03/21	5,560'	9.7	58	16	6	7/11/-	38/22	80.1/19.9	70.5/17.5	2	10	80.1/19.9	1.8	-	2.3	33k	6.6/3.4	237087	560	-34
03/22	8,380'	9.9	54	18	10	10/15/-	46/28	79.3/20.7	69/18	2	11.1	69/18	2.4	-	3.1	32k	7.5/3.6	226592	580	-60
03/23	9,865'	10.1	67	19	10	12/18/-	48/19	81.2/18.8	69/16	2	12.9	69/16	2.4	-	3.1	45k	7.2/5.7	264320	680	-90
03/24	10,029'	10.2	83	19	12	11/16/-	50/31	80.2/19.8	69/17	2	11.7	69/17	2.4	-	3.1	50k	8.4/3.3	264320	820	-32
03/25	10,837'	10.3	60	23	11	12/21/-	57/34	80.0/20.0	68/17	2	12.7	68/17	2.4	-	3.1	48k	8.2/4.5	264320	780	-30
03/26	11,058'																			
04/25	11,477'	9.5	29	1	3	-	5/4	2.6/97.4	2/90	-	0.4	-	-	-	10	-	127k	-	-	-
04/26	7,880'	9.75	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/27	15,548'	9.8	29	1	3	-	5/4	0/100	0/93	-	0	-	-	-	9	-	178k	-	-	-
04/28	16,007'	9.8	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/29	18,315'	9.75	29	1	3	-	5/4	-	1/88.7	-	10.3	-	-	-	8	-	182k	-	-	-
04/30	20,395'	9.75	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Change mud from diesel invert to salt water

BOTTOM HOLE ASSEMBLY RECORD

Bit #	Size (in.)	Type	Make	Model	Bit Data					Motor Data				Reason For Removal	
					Depth In	Depth Out	Footage	Hours	Σ hrs	Vert. Dev.	Make	Model	Bend	Rev/Gal	
1	12 1/4	PDC	Atlas Copco	-	2,023'	2,048'	25'	1	1	Vertical	-	-	-	Drill cement	
2	8 3/4	PDC	Reed	DS616M	2,048'	10,029'	7,981'	62	63	Vertical	Hunting	7/8 5.7	1.50°	0.24	Vertical TD
3	8 3/4	PDC	Security	MMD55M	10,029'	11,058'	1,029'	26	89	Curve	NOV	7/8 5.0	2.38°	0.29	TD Curve
4	6	PDC	Reed	SK516M-A1-Z	11,058'	15,933'	4,875'	60	149	Curve	Ryan	6/7 8.0	1.50°	0.8	Motor failure
5	6	PDC	Reed	SK516M-A1-Z	15,933'	20,395'	4,462'	51	200	Lateral	Ryan	6/7 8.0	1.50°	0.8	TD well



PLAN VIEW

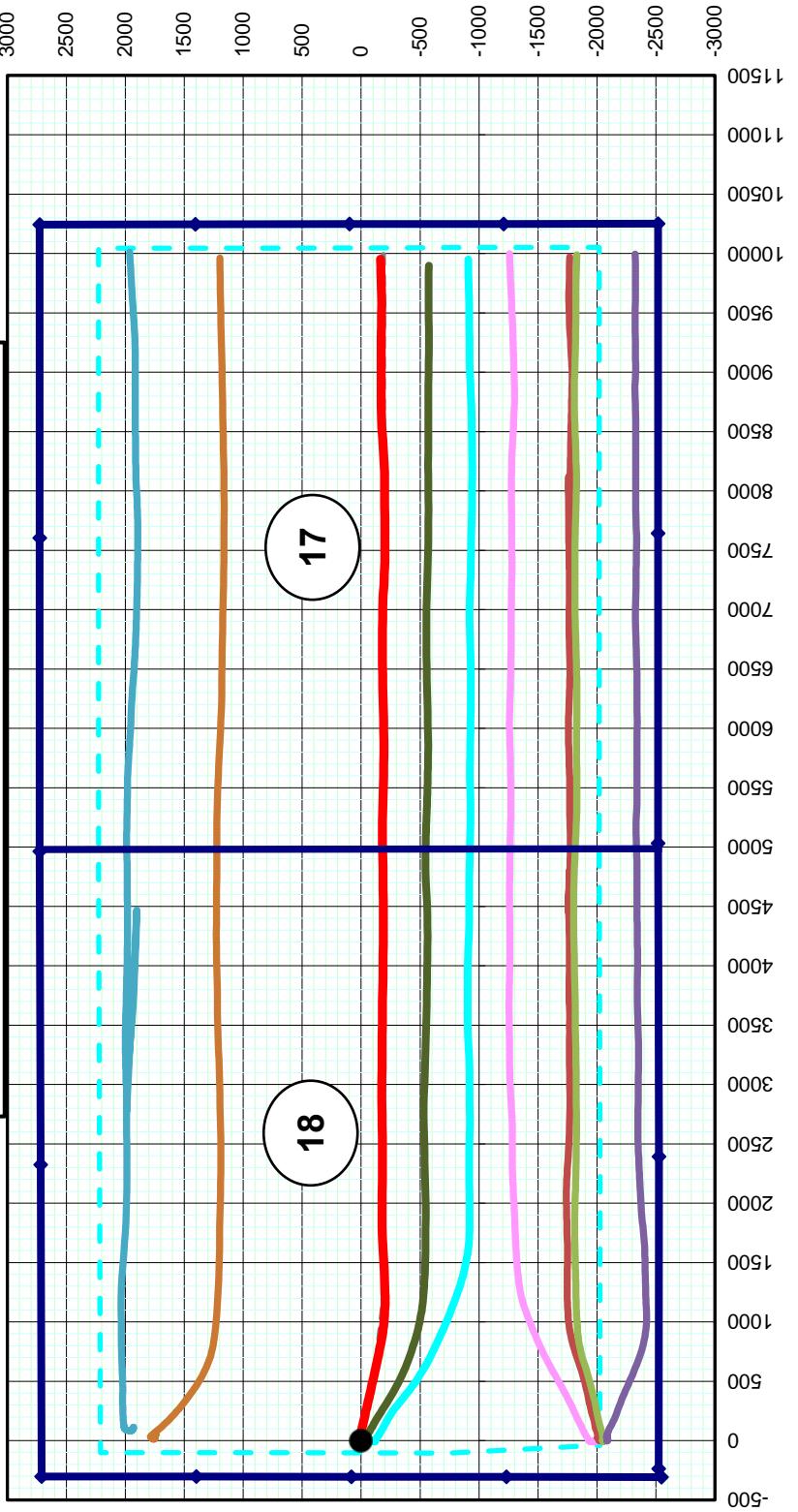
Note: 1,280 acre laydown spacing unit
with 500' N/S & 200' E/W setbacks



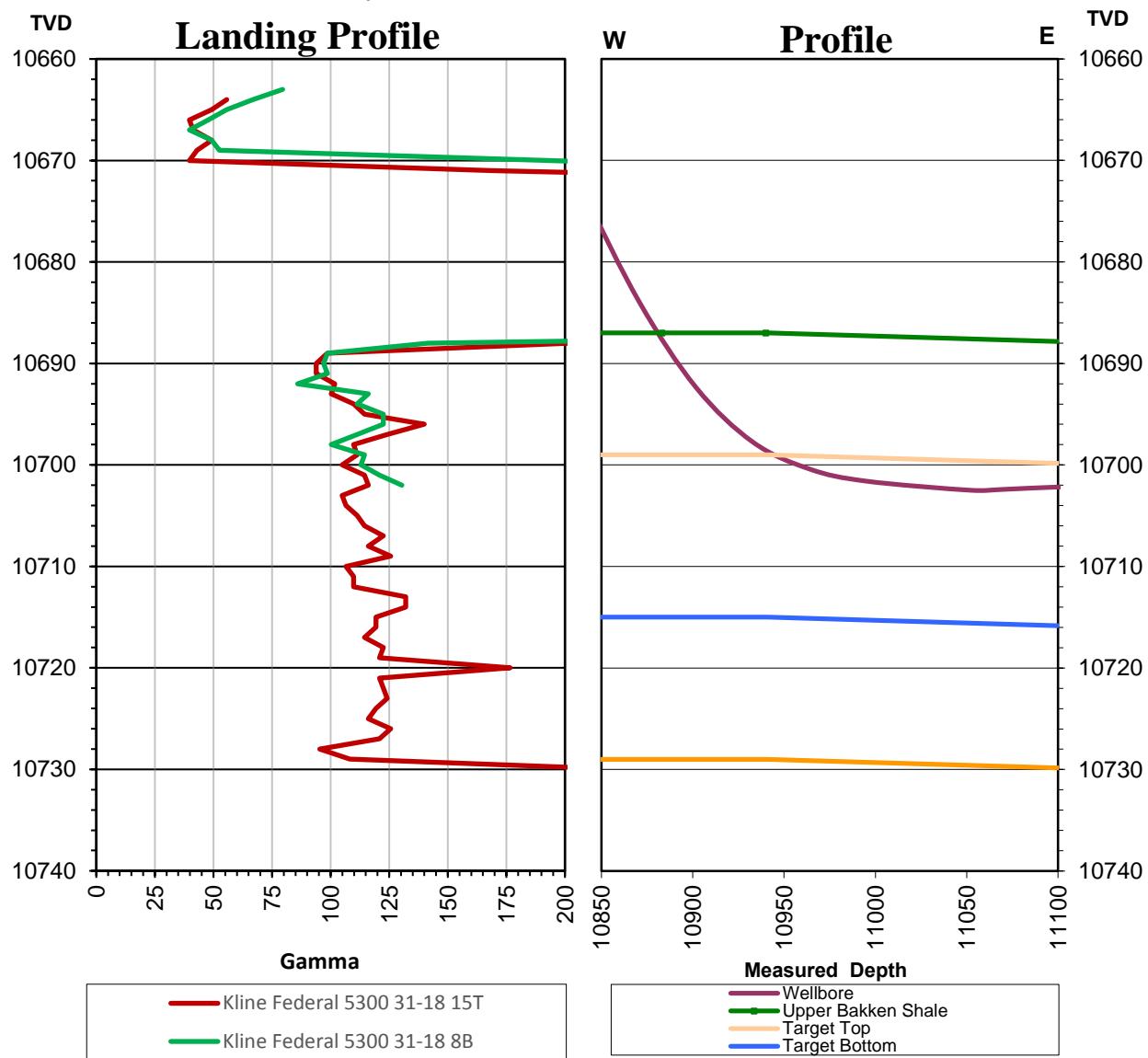
Oasis Petroleum North America LLC
Kline Federal 5300 31-18 8B
Surface Location
2,523' FSL & 238' FWL
Lot 3 Sec. 18, T153N, R100W

• Surface	— Hardline	— Subject Well	— Proposed lateral:
●	—	—	— Section Line
	—	—	— - - Proposed lateral:
	—	—	Kline Federal 5300 11-18H
	—	—	Kline Federal 5300 41-18 10B
	—	—	Kline Federal 5300 41-18 12TX
	—	—	Kline Federal 5300 31-18 7T
	—	—	Ash Federal 5300 31-18T
	—	—	Kline Federal 5300 31-18 6B

Bottom Hole Location
165.41' S & 9,951.14' E
of surface location or approx.
2,357.59' FSL & 300.10' FWL
NE SE Sec. 17, T153N, R100W



Oasis Petroleum
Kline Federal 5300 31-
2,523' FSL & 238' FWL
Lot 3 Sec. 18, T153N, R100W
McKenzie County, ND



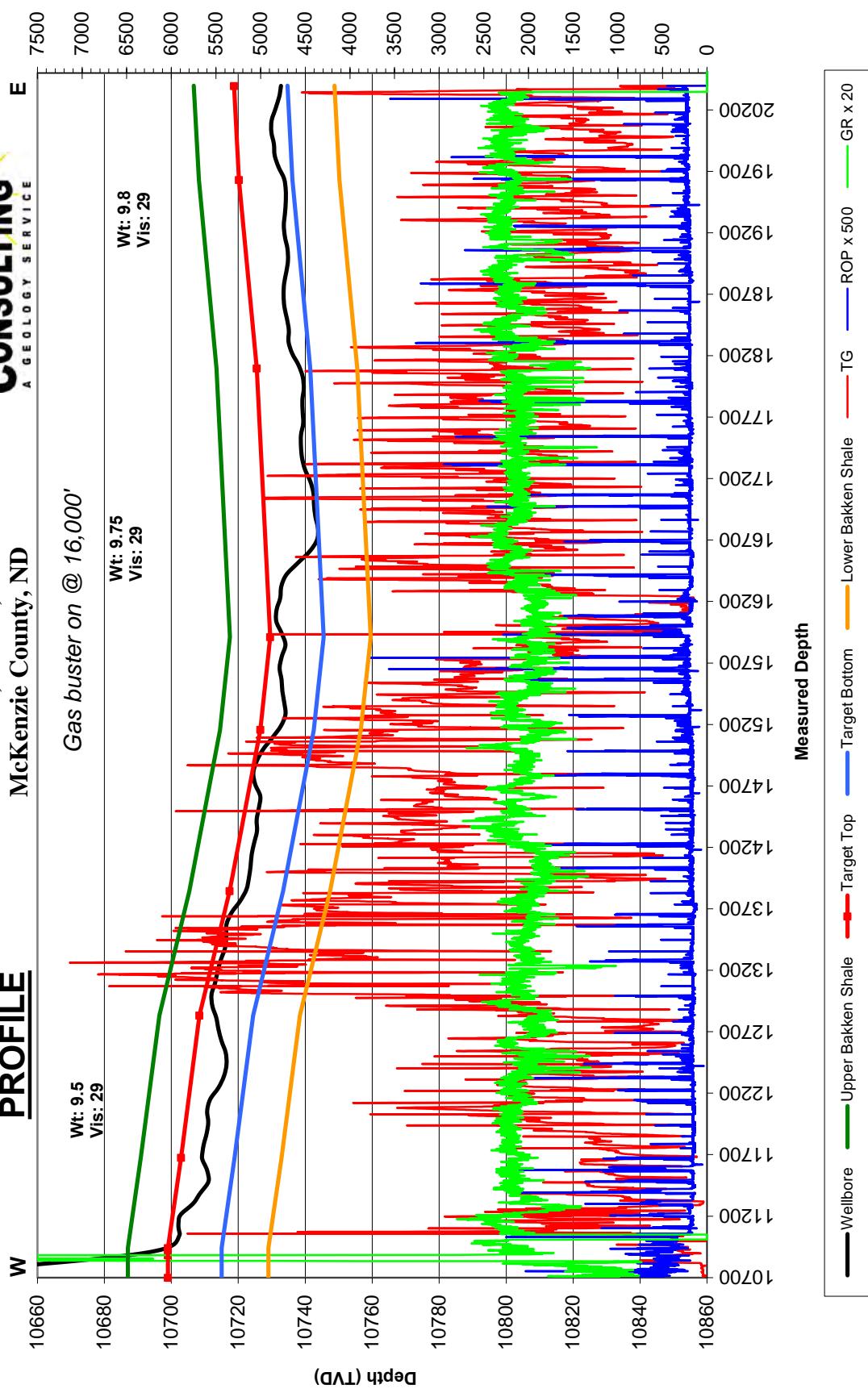


Oasis Petroleum North America LLC
Kline Federal 5300 31-18 8B
Lot 3 Sec. 18, T153N, R100W
McKenzie County, ND

PROFILE

Gross apparent dip = -0.12°

Total Gas, ROP x 500, Gamma Ray x 20



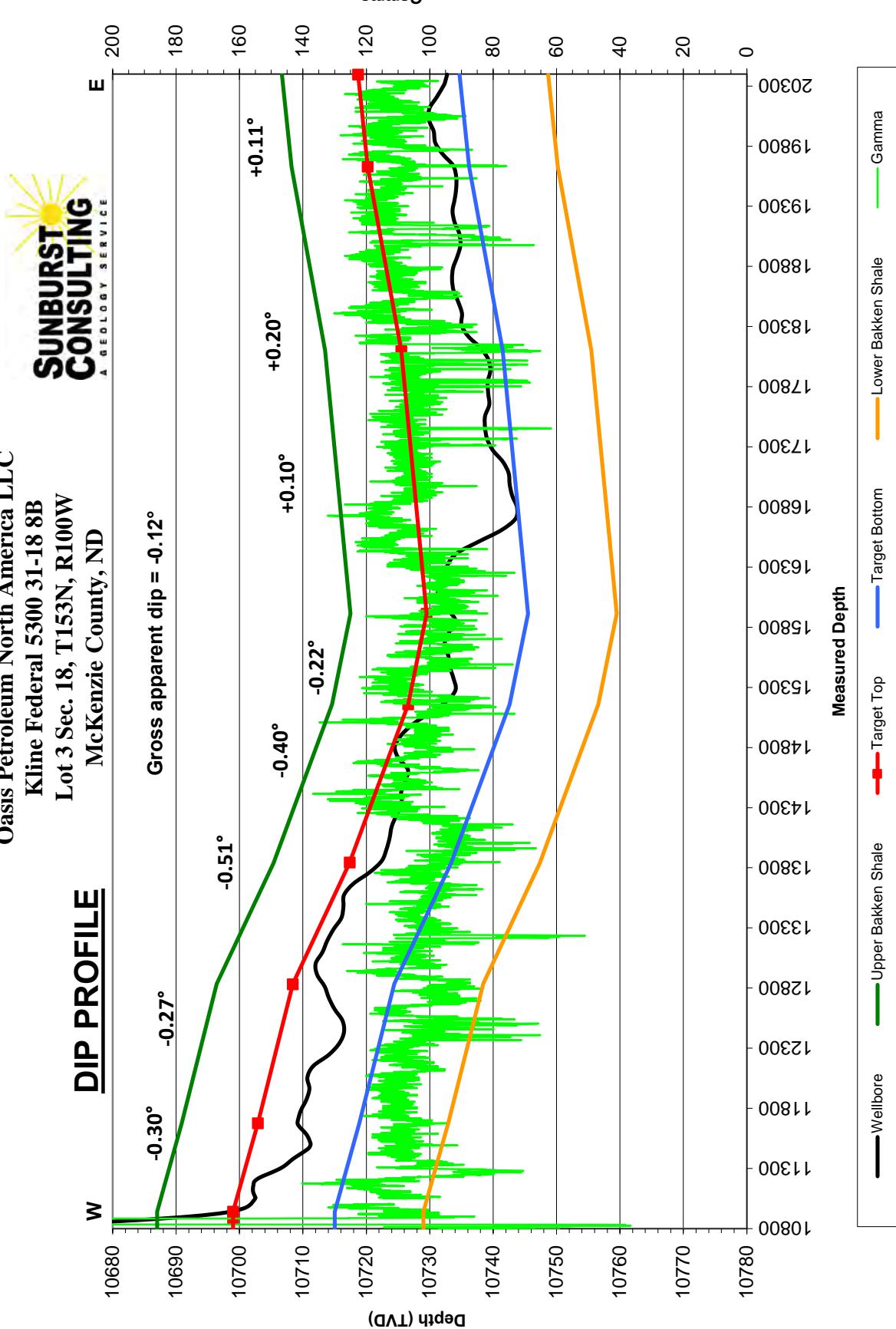
FORMATION MARKERS & DIP ESTIMATES

Oasis Petroleum North America LLC - Kline Federal 5300 31-18 8B

Dip Change Points	MD	TVD	TVD diff.	MD diff.	Dip	Dipping up/down	Type of Marker
Marker							
UBS Shale	10,883	10,699.00					Gamma
Target Entry	10,940'	10,699.00	0.00	57.00	0.00	Flat	Gamma
Low gamma between B & C	11,675'	10,702.90	3.90	735.00	-0.30	Down	Gamma
Low gamma between B & C	12,832'	10,708.40	5.50	1157.00	-0.27	Down	Gamma
Low gamma between B & C	13,844'	10,717.40	9.00	1012.00	-0.51	Down	Gamma
Low gamma between B & C	15,158'	10,726.60	9.20	1314.00	-0.40	Down	Gamma
Low gamma between B & C	15,911'	10,729.50	2.90	753.00	-0.22	Down	Gamma
Cool gamma below D	18,097'	10,725.50	-4.00	2186.00	0.10	Up	Gamma
Cool gamma below D	19,630'	10,720.20	-5.30	1533.00	0.20	Up	Gamma
Cool gamma below D	20,395'	10,718.70	-1.50	765.00	0.11	Up	Gamma
Gross Dip							
Initial Target Contact	10,940'	10,699.00					
Projected Final Target Contact	20,395	10,718.70	19.70	9455.00	-0.12	Down	Projection

Oasis Petroleum North America LLC
 Kline Federal 5300 31-18 8B
 Lot 3 Sec. 18, T153N, R100W
 McKenzie County, ND

DIP PROFILE



<

SUNBURST CONSULTING, INC.

>

Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
Tie	2059.00	0.90	147.30	2058.93	0.54	8.77	8.77	0.47
1	2154.00	1.10	148.00	2153.92	-0.86	9.66	9.66	0.21
2	2247.00	0.90	152.70	2246.90	-2.27	10.46	10.46	0.23
3	2340.00	1.10	117.90	2339.89	-3.33	11.59	11.59	0.68
4	2434.00	1.30	97.20	2433.87	-3.89	13.44	13.44	0.50
5	2527.00	1.40	78.10	2526.84	-3.79	15.60	15.60	0.49
6	2621.00	0.90	66.00	2620.82	-3.25	17.40	17.40	0.59
7	2714.00	0.60	16.90	2713.82	-2.49	18.21	18.21	0.73
8	2807.00	0.20	352.70	2806.81	-1.86	18.33	18.33	0.46
9	2901.00	1.50	90.30	2900.80	-1.70	19.54	19.54	1.64
10	2994.00	1.80	102.30	2993.76	-2.02	22.18	22.18	0.49
11	3087.00	2.10	102.40	3086.71	-2.70	25.27	25.27	0.32
12	3181.00	1.50	83.10	3180.66	-2.92	28.18	28.18	0.90
13	3274.00	1.20	82.30	3273.64	-2.64	30.35	30.35	0.32
14	3368.00	0.90	79.10	3367.62	-2.37	32.05	32.05	0.33
15	3461.00	0.90	71.80	3460.61	-2.01	33.46	33.46	0.12
16	3554.00	1.00	75.10	3553.60	-1.57	34.94	34.94	0.12
17	3648.00	0.70	55.30	3647.59	-1.03	36.21	36.21	0.44
18	3741.00	0.60	47.30	3740.58	-0.38	37.03	37.03	0.14
19	3835.00	0.50	9.30	3834.58	0.36	37.46	37.46	0.39
20	3928.00	0.30	317.90	3927.58	0.94	37.36	37.36	0.42
21	4021.00	0.40	300.10	4020.57	1.28	36.92	36.92	0.16
22	4115.00	0.40	315.00	4114.57	1.68	36.40	36.40	0.11
23	4208.00	0.20	304.00	4207.57	2.00	36.04	36.04	0.22
24	4302.00	0.30	332.20	4301.57	2.31	35.79	35.79	0.17
25	4395.00	0.40	328.60	4394.57	2.80	35.50	35.50	0.11
26	4488.00	0.80	98.30	4487.57	2.99	35.98	35.98	1.18
27	4582.00	0.70	87.00	4581.56	2.92	37.20	37.20	0.19
28	4675.00	0.50	70.10	4674.55	3.09	38.15	38.15	0.28
29	4769.00	0.80	57.40	4768.55	3.58	39.09	39.09	0.35
30	4862.00	0.70	23.10	4861.54	4.46	39.86	39.86	0.49
31	4955.00	0.80	23.20	4954.53	5.57	40.34	40.34	0.11
32	5049.00	0.10	51.70	5048.53	6.23	40.66	40.66	0.76
33	5142.00	0.30	291.30	5141.53	6.37	40.50	40.50	0.39
34	5235.00	0.30	207.60	5234.53	6.24	40.16	40.16	0.43
35	5329.00	0.70	185.00	5328.52	5.45	39.99	39.99	0.47
36	5422.00	0.40	215.00	5421.52	4.62	39.76	39.76	0.44
37	5516.00	0.30	250.80	5515.52	4.27	39.34	39.34	0.25

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
38	5609.00	0.30	225.70	5608.52	4.02	38.93	38.93	0.14
39	5702.00	0.40	332.80	5701.51	4.14	38.61	38.61	0.61
40	5796.00	0.40	34.30	5795.51	4.70	38.64	38.64	0.44
41	5889.00	0.40	26.70	5888.51	5.26	38.97	38.97	0.06
42	5982.00	0.10	305.20	5981.51	5.59	39.05	39.05	0.43
43	6076.00	0.40	212.80	6075.51	5.37	38.81	38.81	0.44
44	6169.00	0.70	211.60	6168.50	4.61	38.33	38.33	0.32
45	6262.00	0.70	226.70	6261.50	3.74	37.62	37.62	0.20
46	6356.00	1.00	188.70	6355.49	2.53	37.08	37.08	0.66
47	6449.00	1.80	177.60	6448.46	0.27	37.02	37.02	0.90
48	6542.00	1.70	134.20	6541.42	-2.15	38.07	38.07	1.39
49	6636.00	0.90	115.40	6635.40	-3.44	39.74	39.74	0.95
50	6729.00	1.30	143.10	6728.38	-4.60	41.03	41.03	0.70
51	6822.00	0.40	146.90	6821.37	-5.71	41.84	41.84	0.97
52	6916.00	0.60	164.10	6915.36	-6.46	42.15	42.15	0.26
53	7009.00	0.70	168.60	7008.36	-7.49	42.40	42.40	0.12
54	7102.00	0.60	157.50	7101.35	-8.49	42.70	42.70	0.17
55	7196.00	0.40	186.90	7195.35	-9.27	42.85	42.85	0.34
56	7289.00	0.80	63.70	7288.35	-9.31	43.39	43.39	1.15
57	7382.00	1.00	51.50	7381.33	-8.51	44.61	44.61	0.30
58	7475.00	1.10	40.00	7474.32	-7.33	45.82	45.82	0.25
59	7568.00	1.00	46.50	7567.30	-6.08	46.98	46.98	0.17
60	7662.00	0.80	59.70	7661.29	-5.19	48.14	48.14	0.31
61	7755.00	0.90	59.70	7754.28	-4.49	49.33	49.33	0.11
62	7848.00	0.80	51.50	7847.27	-3.72	50.47	50.47	0.17
63	7942.00	0.80	25.30	7941.26	-2.72	51.26	51.26	0.39
64	8035.00	0.70	8.80	8034.25	-1.57	51.63	51.63	0.25
65	8128.00	0.70	0.30	8127.25	-0.44	51.72	51.72	0.11
66	8222.00	0.90	341.40	8221.24	0.83	51.49	51.49	0.35
67	8315.00	0.80	340.40	8314.23	2.14	51.03	51.03	0.11
68	8409.00	0.80	355.70	8408.22	3.41	50.77	50.77	0.23
69	8502.00	0.50	346.20	8501.21	4.45	50.62	50.62	0.34
70	8595.00	0.40	326.40	8594.21	5.12	50.34	50.34	0.20
71	8689.00	0.40	334.90	8688.21	5.69	50.02	50.02	0.06
72	8782.00	0.50	342.90	8781.20	6.37	49.77	49.77	0.13
73	8875.00	0.60	327.60	8874.20	7.17	49.39	49.39	0.19
74	8969.00	0.60	314.90	8968.20	7.93	48.77	48.77	0.14
75	9062.00	0.50	333.60	9061.19	8.64	48.25	48.25	0.22

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				DLS/ 100
			AZM	TVD	N-S	E-W	
76	9155.00	0.60	327.60	9154.19	9.41	47.81	47.81 0.12
77	9248.00	0.50	312.10	9247.18	10.10	47.24	47.24 0.19
78	9342.00	0.60	323.60	9341.18	10.77	46.65	46.65 0.16
79	9435.00	0.50	316.30	9434.17	11.45	46.08	46.08 0.13
80	9528.00	0.50	322.00	9527.17	12.07	45.55	45.55 0.05
81	9622.00	0.70	241.00	9621.17	12.11	44.79	44.79 0.84
82	9715.00	0.70	252.20	9714.16	11.66	43.76	43.76 0.15
83	9808.00	0.50	253.90	9807.15	11.38	42.83	42.83 0.22
84	9901.00	0.40	241.70	9900.15	11.11	42.15	42.15 0.15
85	9972.00	0.40	265.50	9971.15	10.97	41.68	41.68 0.23
86	10030.00	0.50	261.20	10029.15	10.92	41.23	41.23 0.18
87	10124.00	0.40	290.10	10123.15	10.97	40.52	40.52 0.26
88	10155.00	1.20	100.20	10154.14	10.95	40.74	40.74 5.15
89	10186.00	5.40	112.10	10185.09	10.34	42.41	42.41 13.65
90	10217.00	8.60	112.60	10215.85	8.90	45.90	45.90 10.32
91	10248.00	12.60	106.90	10246.32	7.03	51.28	51.28 13.32
92	10279.00	15.70	104.80	10276.37	4.97	58.57	58.57 10.13
93	10310.00	18.20	103.30	10306.02	2.79	67.34	67.34 8.19
94	10342.00	20.90	103.90	10336.18	0.26	77.74	77.74 8.46
95	10373.00	24.20	106.60	10364.80	-2.88	89.20	89.20 11.15
96	10404.00	26.90	104.80	10392.77	-6.49	102.08	102.08 9.06
97	10435.00	30.30	102.90	10419.98	-10.03	116.48	116.48 11.35
98	10466.00	34.20	103.20	10446.20	-13.76	132.59	132.59 12.59
99	10497.00	37.20	102.90	10471.37	-17.84	150.22	150.22 9.69
100	10528.00	40.70	102.90	10495.47	-22.19	169.21	169.21 11.29
101	10560.00	45.00	102.60	10518.93	-26.99	190.43	190.43 13.45
102	10591.00	45.10	101.80	10540.83	-31.63	211.87	211.87 1.85
103	10622.00	47.90	102.10	10562.16	-36.29	233.87	233.87 9.06
104	10653.00	50.30	104.20	10582.46	-41.62	256.68	256.68 9.28
105	10684.00	54.10	103.80	10601.46	-47.55	280.44	280.44 12.30
106	10715.00	59.20	103.60	10618.50	-53.68	305.60	305.60 16.46
107	10746.00	63.10	103.70	10633.45	-60.08	331.98	331.98 12.58
108	10778.00	65.20	102.80	10647.40	-66.68	360.01	360.01 7.03
109	10809.00	65.30	102.50	10660.38	-72.85	387.47	387.47 0.94
110	10840.00	66.80	102.70	10672.96	-79.03	415.12	415.12 4.87
111	10871.00	71.40	102.80	10684.02	-85.42	443.36	443.36 14.84
112	10902.00	77.20	102.70	10692.41	-92.00	472.46	472.46 18.71
113	10933.00	82.90	102.70	10697.76	-98.71	502.23	502.23 18.39

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
114	10964.00	87.30	103.00	10700.41	-105.58	532.34	532.34	14.23
115	10995.00	88.30	102.50	10701.60	-112.42	562.55	562.55	3.61
116	11052.00	89.90	100.80	10702.49	-123.92	618.36	618.36	4.10
117	11069.00	90.60	102.90	10702.42	-127.41	635.00	635.00	13.02
118	11101.00	90.30	102.80	10702.17	-134.53	666.20	666.20	0.99
119	11131.00	89.90	102.40	10702.11	-141.07	695.48	695.48	1.89
120	11161.00	89.80	102.40	10702.19	-147.52	724.78	724.78	0.33
121	11192.00	89.60	101.80	10702.36	-154.01	755.09	755.09	2.04
122	11223.00	87.50	101.20	10703.14	-160.19	785.45	785.45	7.05
123	11255.00	87.51	101.20	10704.53	-166.40	816.81	816.81	0.03
124	11285.00	87.50	101.30	10705.84	-172.25	846.21	846.21	0.33
125	11315.00	88.40	99.00	10706.91	-177.53	875.72	875.72	8.23
126	11346.00	88.80	98.20	10707.67	-182.17	906.36	906.36	2.88
127	11376.00	88.60	98.10	10708.35	-186.42	936.05	936.05	0.75
128	11407.00	88.20	95.60	10709.22	-190.11	966.81	966.81	8.16
129	11437.00	88.40	94.90	10710.11	-192.86	996.67	996.67	2.43
130	11469.00	88.70	94.40	10710.92	-195.45	1028.56	1028.56	1.82
131	11500.00	90.20	93.60	10711.21	-197.61	1059.48	1059.48	5.48
132	11530.00	90.40	93.60	10711.06	-199.50	1089.42	1089.42	0.67
133	11560.00	90.50	93.40	10710.82	-201.33	1119.36	1119.36	0.75
134	11591.00	90.90	91.20	10710.44	-202.57	1150.34	1150.34	7.21
135	11621.00	91.10	90.30	10709.92	-202.96	1180.33	1180.33	3.07
136	11652.00	90.90	89.50	10709.38	-202.91	1211.32	1211.32	2.66
137	11684.00	89.90	87.90	10709.15	-202.18	1243.31	1243.31	5.90
138	11779.00	89.50	87.80	10709.65	-198.62	1338.24	1338.24	0.43
139	11872.00	89.40	87.30	10710.54	-194.65	1431.15	1431.15	0.55
140	11964.00	90.00	87.30	10711.03	-190.31	1523.05	1523.05	0.65
141	12056.00	90.40	86.80	10710.70	-185.58	1614.93	1614.93	0.70
142	12151.00	88.50	87.40	10711.62	-180.77	1709.80	1709.80	2.10
143	12245.00	88.50	88.70	10714.08	-177.57	1803.71	1803.71	1.38
144	12340.00	89.50	89.80	10715.73	-176.33	1898.68	1898.68	1.56
145	12435.00	89.60	90.60	10716.48	-176.66	1993.68	1993.68	0.85
146	12530.00	90.70	91.20	10716.23	-178.15	2088.66	2088.66	1.32
147	12625.00	90.80	90.70	10714.99	-179.73	2183.64	2183.64	0.54
148	12720.00	90.30	90.20	10714.08	-180.48	2278.63	2278.63	0.74
149	12814.00	90.50	89.90	10713.42	-180.56	2372.63	2372.63	0.38
150	12909.00	90.90	90.00	10712.26	-180.47	2467.63	2467.63	0.43
151	13004.00	89.40	89.30	10712.01	-179.89	2562.62	2562.62	1.74

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
152	13099.00	89.30	89.20	10713.09	-178.65	2657.61	2657.61	0.15
153	13194.00	89.80	88.80	10713.84	-176.99	2752.59	2752.59	0.67
154	13289.00	89.00	89.80	10714.83	-175.83	2847.57	2847.57	1.35
155	13383.00	89.50	90.10	10716.06	-175.75	2941.56	2941.56	0.62
156	13478.00	90.10	89.70	10716.39	-175.58	3036.56	3036.56	0.76
157	13573.00	89.80	91.30	10716.47	-176.41	3131.56	3131.56	1.71
158	13668.00	88.40	90.40	10717.97	-177.82	3226.53	3226.53	1.75
159	13763.00	88.50	90.00	10720.54	-178.15	3321.50	3321.50	0.43
160	13857.00	89.20	90.40	10722.42	-178.48	3415.48	3415.48	0.86
161	13952.00	89.90	90.20	10723.17	-178.98	3510.47	3510.47	0.77
162	14047.00	89.50	90.60	10723.67	-179.64	3605.47	3605.47	0.60
163	14142.00	90.10	90.60	10724.00	-180.64	3700.46	3700.46	0.63
164	14237.00	89.00	91.30	10724.74	-182.21	3795.44	3795.44	1.37
165	14332.00	90.00	91.10	10725.57	-184.20	3890.42	3890.42	1.07
166	14427.00	90.10	90.60	10725.49	-185.61	3985.41	3985.41	0.54
167	14521.00	89.10	90.40	10726.15	-186.43	4079.40	4079.40	1.08
168	14616.00	90.40	90.60	10726.56	-187.26	4174.39	4174.39	1.38
169	14711.00	91.40	90.20	10725.07	-187.92	4269.38	4269.38	1.13
170	14806.00	89.30	89.90	10724.49	-188.01	4364.37	4364.37	2.23
171	14901.00	89.50	89.80	10725.48	-187.76	4459.36	4459.36	0.24
172	14996.00	88.20	89.60	10727.39	-187.26	4554.34	4554.34	1.38
173	15090.00	88.50	89.70	10730.10	-186.69	4648.30	4648.30	0.34
174	15185.00	88.40	89.40	10732.67	-185.94	4743.26	4743.26	0.33
175	15280.00	89.90	89.80	10734.08	-185.28	4838.25	4838.25	1.63
176	15375.00	90.50	88.70	10733.74	-184.03	4933.24	4933.24	1.32
177	15470.00	90.20	88.00	10733.16	-181.30	5028.19	5028.19	0.80
178	15564.00	90.10	89.50	10732.92	-179.25	5122.17	5122.17	1.60
179	15659.00	90.60	91.60	10732.34	-180.16	5217.16	5217.16	2.27
180	15754.00	88.60	91.30	10733.00	-182.56	5312.12	5312.12	2.13
181	15849.00	90.10	92.20	10734.08	-185.47	5407.07	5407.07	1.84
182	15943.00	91.30	92.30	10732.93	-189.16	5500.98	5500.98	1.28
183	16038.00	90.60	90.00	10731.35	-191.06	5595.95	5595.95	2.53
184	16133.00	89.30	90.40	10731.44	-191.39	5690.94	5690.94	1.43
185	16228.00	89.40	90.40	10732.52	-192.06	5785.93	5785.93	0.11
186	16323.00	90.20	89.70	10732.85	-192.14	5880.93	5880.93	1.12
187	16417.00	88.00	89.20	10734.32	-191.24	5974.91	5974.91	2.40
188	16512.00	87.90	88.60	10737.72	-189.41	6069.83	6069.83	0.64
189	16607.00	87.80	88.60	10741.29	-187.09	6164.74	6164.74	0.11

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
190	16702.00	89.50	89.20	10743.52	-185.27	6259.69	6259.69	1.90
191	16796.00	90.20	88.60	10743.77	-183.47	6353.67	6353.67	0.98
192	16891.00	90.70	89.20	10743.02	-181.64	6448.65	6448.65	0.82
193	16986.00	89.80	89.20	10742.61	-180.32	6543.64	6543.64	0.95
194	17081.00	90.40	90.20	10742.44	-179.82	6638.63	6638.63	1.23
195	17176.00	90.70	89.80	10741.53	-179.82	6733.63	6733.63	0.53
196	17271.00	91.20	90.50	10739.96	-180.07	6828.62	6828.62	0.91
197	17365.00	89.90	91.30	10739.05	-181.54	6922.60	6922.60	1.62
198	17460.00	90.50	90.90	10738.72	-183.37	7017.58	7017.58	0.76
199	17555.00	89.50	93.10	10738.72	-186.68	7112.51	7112.51	2.54
200	17650.00	89.70	93.40	10739.39	-192.07	7207.36	7207.36	0.38
201	17745.00	90.50	92.80	10739.22	-197.21	7302.22	7302.22	1.05
202	17839.00	89.60	91.00	10739.14	-200.32	7396.16	7396.16	2.14
203	17934.00	89.90	89.90	10739.55	-201.07	7491.16	7491.16	1.20
204	18029.00	90.50	89.60	10739.22	-200.65	7586.15	7586.15	0.71
205	18124.00	91.00	90.20	10737.98	-200.49	7681.14	7681.14	0.82
206	18219.00	91.30	89.40	10736.07	-200.16	7776.12	7776.12	0.90
207	18313.00	90.00	89.60	10735.00	-199.34	7870.11	7870.11	1.40
208	18408.00	89.90	90.40	10735.09	-199.34	7965.11	7965.11	0.85
209	18502.00	90.80	89.50	10734.51	-199.26	8059.11	8059.11	1.35
210	18597.00	90.10	88.20	10733.77	-197.35	8154.08	8154.08	1.55
211	18692.00	90.20	86.40	10733.52	-192.87	8248.97	8248.97	1.90
212	18787.00	89.60	86.60	10733.68	-187.07	8343.80	8343.80	0.67
213	18882.00	89.60	86.70	10734.35	-181.52	8438.63	8438.63	0.11
214	18976.00	89.80	86.30	10734.84	-175.78	8532.45	8532.45	0.48
215	19071.00	90.40	89.20	10734.67	-172.06	8627.37	8627.37	3.12
216	19166.00	90.50	88.80	10733.93	-170.40	8722.35	8722.35	0.43
217	19261.00	89.90	89.70	10733.60	-169.15	8817.34	8817.34	1.14
218	19356.00	89.70	90.30	10733.93	-169.15	8912.34	8912.34	0.67
219	19450.00	90.00	89.90	10734.17	-169.32	9006.34	9006.34	0.53
220	19545.00	90.00	89.20	10734.17	-168.57	9101.34	9101.34	0.74
221	19640.00	90.60	91.30	10733.68	-168.99	9196.33	9196.33	2.30
222	19735.00	91.40	90.80	10732.02	-170.73	9291.30	9291.30	0.99
223	19829.00	90.00	90.60	10730.87	-171.88	9385.28	9385.28	1.50
224	19924.00	90.30	91.00	10730.62	-173.20	9480.27	9480.27	0.53
225	20019.00	90.60	89.90	10729.87	-173.95	9575.26	9575.26	1.20
226	20114.00	89.30	88.50	10729.96	-172.62	9670.25	9670.25	2.01
227	20209.00	89.30	88.10	10731.12	-169.80	9765.20	9765.20	0.42

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SUNBURST CONSULTING, INC.

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Operator:	Oasis Petroleum North America LLC	Kick-off:	3/23/2015
Well:	Kline Federal 5300 31-18 8B	Finish:	3/30/2015
Surface Coordinates:	2,523' FSL & 238' FWL		
Surface Location:	Lot 3 Sec. 18, T153N, R100W		
County State:	McKenzie County, ND	Directional Supervision:	Ryan Directional Services

Minimum Curvature Method (SPE-3362)

Proposed dir [] 90

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

No.	MD	INC	TRUE				SECT	DLS/ 100
			AZM	TVD	N-S	E-W		
228	20304.00	89.40	89.00	10732.20	-167.40	9860.16	9860.16	0.95
229	20331.00	89.70	88.70	10732.41	-166.86	9887.16	9887.16	1.57
230	20395.00	89.70	88.70	10732.74	-165.41	9951.14	9951.14	0.00

DEVIATION SURVEYS

Depth	Inclination	Azimuth
132	0.2	99.1
223	0.2	77.2
314	0.4	58.2
407	0.7	27
493	0.8	43.1
579	0.7	39.7
669	0.4	68.6
751	0.4	66.8
839	0.7	76.4
927	0.7	98.6
1013	0.2	141
1100	0.2	151
1189	0.9	200
1277	0.7	226.4
1365	0.3	108.7
1450	0.4	67.4
1536	0.4	91.6
1623	0.5	52.3
1711	0.2	37.8
1799	0.1	40.5
1886	0.1	164.6
1974	0.5	151.4
2059	0.9	147.3

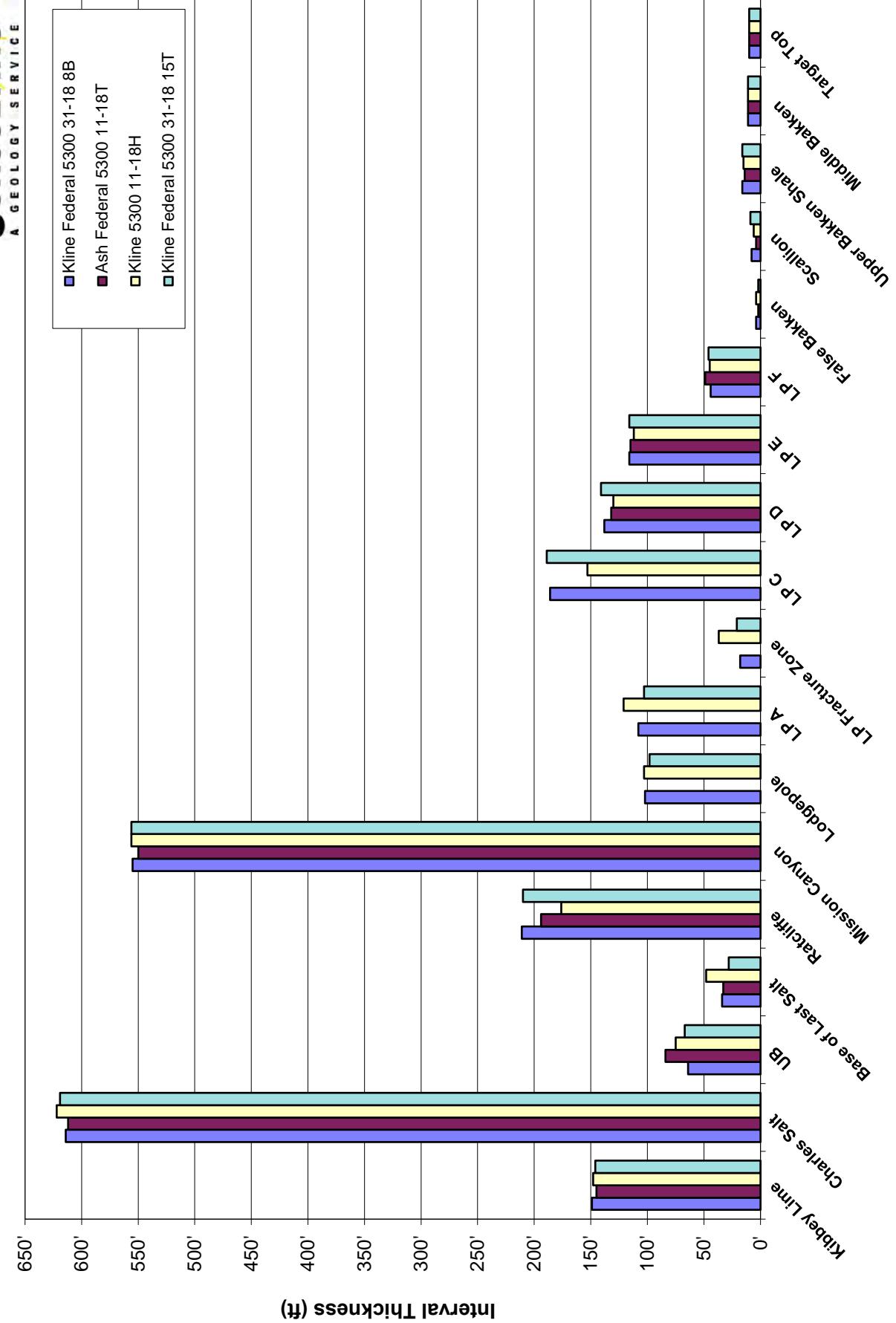
FORMATION TOPS & STRUCTURAL RELATIONSHIPS

CONTROL DATA

Formation/ Zone	Oasis Petroleum North America, LLC			Oasis Petroleum North America, LLC			Oasis Petroleum North America, LLC					
	E-Log Top	Datum (MSL)	Interval Thickness	Thickness to Target	E-Log Top	Datum (MSL)	Interval Thickness	Thickness to Target	E-Log Top	Datum (MSL)	Interval Thickness	Thickness to Target
Kibbey Lime	8,346'	-6,288'	145'	2,384'	8,371'	-6,292'	148'	2,372'	8,320'	-6,287'	146'	2,388'
Charles Salt	8,491'	-6,413'	612'	2,239'	8,519'	-6,440'	622'	2,224'	8,466'	-6,433'	619'	2,242'
UB	9,103'	-7,025'	84'	1,627'	9,141'	-7,062'	75'	1,602'	9,085'	-7,052'	67'	1,623'
Base of Last Salt	9,187'	-7,109'	33'	1,543'	9,216'	-7,137'	48'	1,527'	9,152'	-7,119'	28'	1,556'
Ratcliffe	9,220'	-7,142'	194'	1,510'	9,264'	-7,185'	176'	1,479'	9,180'	-7,147'	210'	1,528'
Mission Canyon	9,414'	-7,336'	550'	1,316'	9,440'	-7,361'	556'	1,303'	9,390'	-7,357'	556'	1,318'
Lodgepole	9,964'	-7,886'	-	766'	9,986'	-7,917'	103'	747'	9,946'	-7,913'	98'	762'
LP A	-	-	-	-	10,099'	-8,020'	121'	644'	10,044'	-8,011'	103'	664'
LP Fracture Zone	-	-	-	-	10,220'	-8,141'	37'	523'	10,147'	-8,114'	21'	561'
LP C	-	-	-	-	10,257'	-8,178'	153'	486'	10,168'	-8,135'	189'	540'
LP D	10,393'	-8,315'	132'	337'	10,410'	-8,331'	130'	333'	10,357'	-8,324'	141'	351'
LP E	10,525'	-8,447'	115'	205'	10,540'	-8,461'	112'	203'	10,498'	-8,465'	116'	210'
LP F	10,640'	-8,562'	49'	90'	10,652'	-8,573'	45'	91'	10,614'	-8,581'	46'	94'
False Bakken	10,689'	-8,611'	2'	41'	10,697'	-8,618'	4'	46'	10,660'	-8,627'	2'	48'
Scallion	10,691'	-8,613'	4'	39'	10,701'	-8,622'	6'	42'	10,662'	-8,629'	9'	46'
Upper Bakken Shale	10,695'	-8,617'	14'	35'	10,707'	-8,628'	15'	36'	10,671'	-8,638'	16'	37'
Middle Bakken	10,709'	-8,631'	11'	21'	10,722'	-8,643'	11'	21'	10,687'	-8,654'	11'	21'
Target Top	10,720'	-8,642'	10'	10'	10,733'	-8,654'	10'	10'	10,698'	-8,665'	10'	10'
Target Landing	10,730'	-8,652'	6'	0'	10,743'	-8,664'	6'	0'	10,708'	-8,675'	6'	0'
Target Base	10,736'	-8,658'	18'	-	10,749'	-8,670'	-	-	10,714'	-8,681'	15'	-
Lower Bakken Shale	10,754'	-8,676'	-	-	-	-	-	-	10,729'	-8,696'	-	-

INTERVAL THICKNESS

Oasis Petroleum North America, LLC - Kline Federal 5300 31-18 8B



LANDING PROJECTION

Formation/Zone:	Proposed Top of Target From:			
	Ash Federal 5300 11-18T	Kline 5300 11-18H	Kline Federal 5300 31-18 15T	Average of Offset Wells
Kibbey Lime	10,704'	10,692'	10,708'	10,701'
Charles Salt	10,708'	10,693'	10,711'	10,704'
UB	10,710'	10,685'	10,706'	10,700'
Base of Last Salt	10,690'	10,674'	10,703'	10,689'
Ratcliffe	10,691'	10,660'	10,709'	10,687'
Mission Canyon	10,708'	10,695'	10,710'	10,704'
Lodgepole	10,713'	10,694'	10,709'	10,705'
LP A	-	10,693'	10,713'	10,703'
LP Fracture Zone	-	10,680'	10,718'	10,699'
LPC	-	10,661'	10,715'	10,688'
LP D	10,698'	10,694'	10,712'	10,701'
LP E	10,704'	10,702'	10,709'	10,705'
LP F	10,705'	10,706'	10,709'	10,707'
False Bakken	10,700'	10,705'	10,707'	10,704'
Scallion	10,702'	10,705'	10,709'	10,705'
Upper Bakken Shale	10,706'	10,707'	10,708'	10,707'
Middle Bakken	10,708'	10,708'	10,708'	10,708'
Target Top	10,708'	10,708'	10,708'	10,708'
Target Landing	10,708'	10,708'	10,708'	10,708'

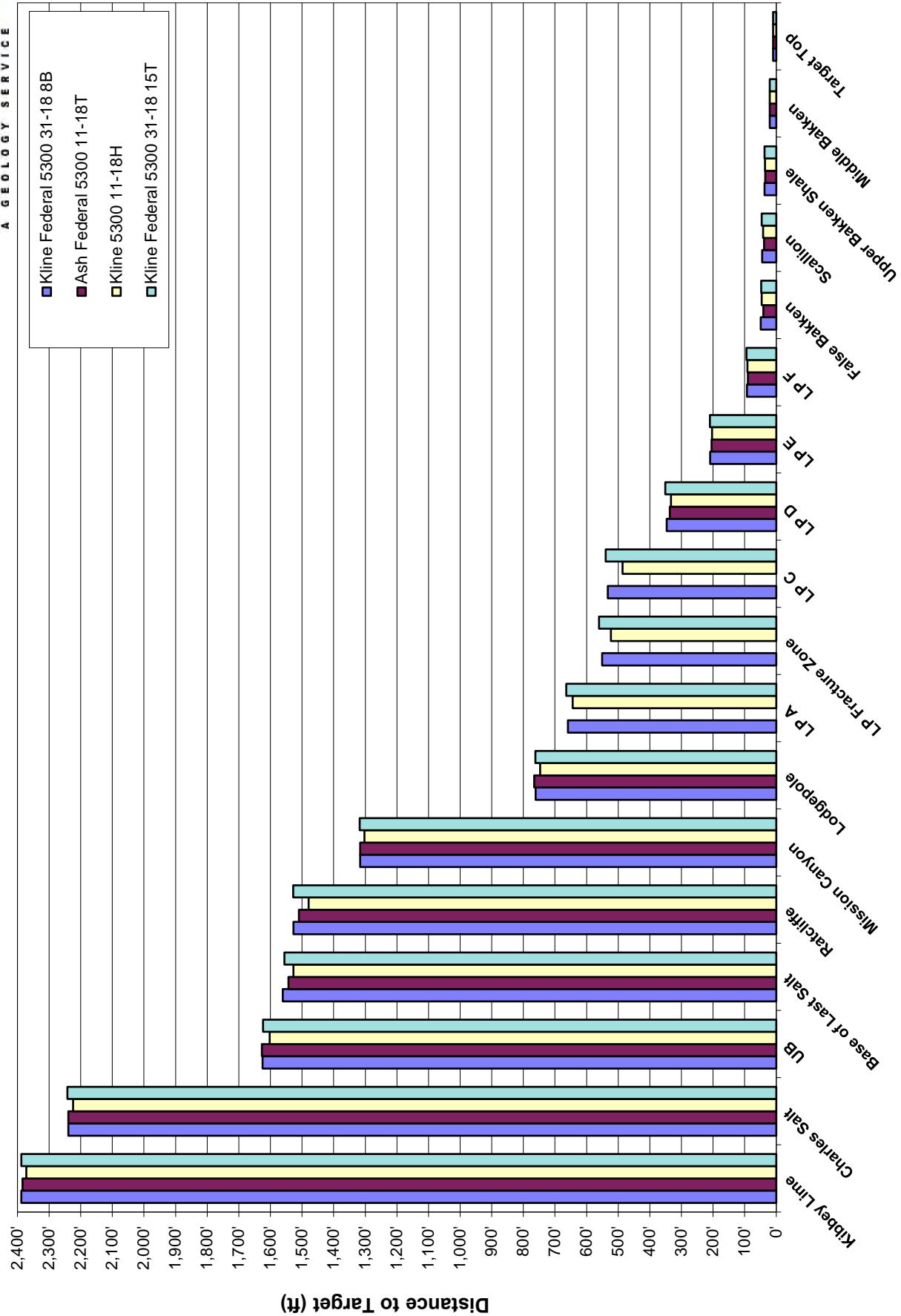
Current Landing Target (21' below the base of the UBS):

10,708'



ISOPACH TO TARGET

Oasis Petroleum North America, LLC - Kline Federal 5300 31-18 8B



LITHOLOGY

Oasis Petroleum North America, LLC Kline Federal 5300 31-18 8B

Rig crews caught 30' sample intervals, under the supervision of Sunburst geologists, from 8,240', to the TD of the lateral at 20,395'. Formation tops and lithologic markers have been inserted into the sample descriptions below for reference. Sample descriptions begin in the Kibbey Formation just prior to the Kibbey Lime. Samples were examined wet and dry under a binocular microscope. Sample fluorescent cuts are masked by invert mud through intermediate casing. Quantifiers in order of increasing abundance are trace, rare, occasional, common and abundant.

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

Drilling in the Kibbey Formation [Mississippian Big Snowy Group]

8,240-8,270 SILTSTONE: orange-red brown, friable-firm, sub blocky, calcareous cement moderately cemented, possible intergranular porosity, no visible oil stain; SILTY SANDSTONE: tan-off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented; rare; ANHYDRITE: off white, light red, soft, amorphous texture

8,270-8,300 SILTSTONE: orange-red brown, friable-firm, sub blocky, calcareous cement moderately cemented, possible intergranular porosity, no visible oil stain; SILTY SANDSTONE: tan-off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented; ANHYDRITE: off white, light red, soft, amorphous texture

Kibbey Lime **8,321' MD / 8,320' TVD (-6,287')**

8,300-8,330 ANHYDRITE: off white, light red, soft, amorphous texture rare SILTSTONE: orange-red brown, friable-firm, sub blocky, calcareous cement moderately cemented, possible intergranular porosity, no visible oil stain; trace LIMESTONE: mudstone-wackestone, light brown, light gray brown, microcrystalline, friable, dense, earthy-chalky, trace vuggy porosity

8,330-8,360 LIMESTONE: mudstone-wackestone, light brown, light gray brown, microcrystalline, friable, dense, earthy-chalky, trace vuggy porosity, trace dead oil stain, ANHYDRITE: off white, light red, soft, amorphous texture trace SILTSTONE: orange-red brown, friable-firm, sub blocky, calcareous cement moderately cemented, possible intergranular porosity, no visible oil stain

8,360-8,390 SILTSTONE: dark orange-light brown, tan, pink, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan-off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

8,390-8,420 SILTSTONE: dark orange-light brown, tan, pink, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan-off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented

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

8,450-8,480 SILTSTONE: dark orange-light brown, tan, pink, soft, sub blocky, calcite cement, poorly cement; trace SILTY SANDSTONE: tan-off white, very fine grained, sub rounded, moderately sorted, calcite cement, poorly cemented; common SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline

Charles Formation [Mississippian Madison Group] **8,470' MD / 8,469' TVD (-6,436')**

8,480-8,510 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline; trace ARGILLACEOUS LIMESTONE: mudstone-wackestone, light-medium brown, tan, rare light-medium gray, rare gray tan, micro crystalline, friable, earthy

8,510-8,540 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline

8,540-8,570 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline

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

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

8,630-8,660 LIMESTONE: mudstone-wackestone, light-medium gray brown, tan, rare light-medium gray, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible porosity; rare SALT: as above; trace DOLOMITE: mudstone, tan, light gray, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible oil stain

8,660-8,690 LIMESTONE: mudstone-wackestone, light-medium gray brown, tan, rare light-medium gray, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible porosity; rare SALT: as above; trace DOLOMITE: mudstone, tan, light gray, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible oil stain

8,690-8,720 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline, massive; rare LIMESTONE: mudstone-wackestone, light-medium gray , tan, rare light-medium gray brown, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible porosity; trace DOLOMITE: as above

8,720-8,750 SALT: clear-translucent, rarely frosted, crystalline, firm, euhedral, crystalline, massive; rare LIMESTONE: mudstone-wackestone, light-medium gray , tan, rare light-medium gray brown, micro crystalline, firm, earthy, argillaceous in part, no visible porosity, no visible porosity; trace DOLOMITE: as above

8,750-8,780 SALT: translucent-transparent, clear, micro crystalline, hard, euhedral, crystalline; occasional LIMESTONE: mudstone, tan, off white-cream, light gray, light brown, fine crystalline, firm, dense, earthy-crystalline texture, rare white-clear calcite, no visible porosity, no visible oil stain; rare ANHYDRITE: off white-cream, tan, white, microcrystalline, soft, massive, earthy

8,780-8,810 LIMESTONE: mudstone, tan, off white-cream, light gray, light brown, fine crystalline, firm, dense, earthy-crystalline texture, rare white-clear calcite, no visible porosity, no visible oil stain; ANHYDRITE: off white-cream, tan, white, microcrystalline, soft, massive, earthy; rare SALT: translucent-transparent, clear, micro crystalline, hard, euhedral, crystalline; rare DOLOMITE: light brown-tan, very fine crystalline, firm, dense, crystalline, no visible porosity, no visible oil stain

8,810-8,840 SALT: translucent-transparent, clear, microcrystalline, hard, euhedral, crystalline

8,840-8,870 LIMESTONE: mudstone, light brown, light gray brown, off white-cream, microcrystalline, firm, laminated, earthy, possible intercrystalline porosity, no oil stain; occasional SALT: translucent-transparent, clear, microcrystalline, hard, euhedral, crystalline

8,870-8,900 LIMESTONE: mudstone, light brown, light gray brown, off white-cream, microcrystalline, firm, laminated, earthy, possible intercrystalline porosity, no oil stain; common DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, possible intercrystalline porosity, no visible oil stain

8,900-8,930 ANHYDRITE: off white-cream, tan-pink, white, microcrystalline, soft, massive, earthy; LIMESTONE: mudstone, light brown, light gray brown, off white-cream, microcrystalline, firm, laminated, earthy, possible intercrystalline porosity, no oil stain; DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, calcareous in part, possible intercrystalline porosity, no visible oil stain

8,930-8,960 SALT: translucent-transparent, clear, microcrystalline, hard, euhedral, crystalline; common CALCAREOUS DOLOMITE: light gray, off white, light brown gray, very fine crystalline, firm, dense, earthy, no visible porosity, no visible oil stain; ANHYDRITE: off white, micro crystalline, soft, massive, earthy

8,960-8,990 SALT: translucent-transparent, clear, microcrystalline, hard, euhedral, crystalline; common DOLOMITE-CALCAREOUS DOLOMITE: light gray, off white, light brown gray, very fine crystalline, firm, dense, earthy, no visible porosity, no visible oil stain; ANHYDRITE: off white, micro crystalline, soft, massive, earthy

8,990-9,020 ANHYDRITE: cream-off white, microcrystalline, soft-firm, massive, earthy; LIMESTONE: mudstone, tan, light brown, cream, very fine crystalline, firm-soft, dense, earthy-crystalline texture, argillaceous in part, no visible porosity, no visible oil stain

9,020-9,050 LIMESTONE: mudstone, tan, light brown, cream, very fine crystalline, firm-soft, dense, earthy-crystalline texture, no visible porosity, no visible oil stain; DOLOMITE: mudstone, light brown, light gray brown, microcrystalline, friable-firm, laminated, earthy, possible intercrystalline porosity, no visible oil stain

9,050-9,080 ANHYDRITE: cream-off white, microcrystalline, soft-firm, massive, earthy; LIMESTONE-ARGILLACEOUS LIMESTONE: mudstone, tan, light brown, cream, very fine crystalline, firm-soft, dense, earthy-crystalline texture, argillaceous in part, no visible porosity, no visible oil stain

Base Last Salt [Charles Formation] **9,084' MD / 9,083' TVD (-7,050')**

9,080-9,110 SALT: translucent-transparent, clear, micro crystalline, hard, euhedral, crystalline; rare LIMESTONE-ARGILLACEOUS LIMESTONE: mudstone, tan, light brown, cream, very fine crystalline, firm-soft, dense, earthy-crystalline texture, argillaceous in part, no visible porosity, no visible oil stain

9,110-9,140 SALT: translucent-transparent, clear, micro crystalline, hard, euhedral, crystalline

Base Last Salt [Charles Formation]**9,148' MD / 9,147' TVD (-7,114')**

9,140-9,170 DOLOMITIC LIMESTONE-DOLOMITE: mudstone, light brown, tan, microcrystalline, firm-friable, dense, crystalline-earthy texture, possible intercrystalline porosity, trace light brown spotty; occasional ANHYDRITE: cream-tan, off white, microcrystalline, soft, massive, earthy

Ratclife [Charles Formation]**9,182' MD / 9,181' TVD (-7,148')**

9,170-9,200 LIMESTONE: mudstone, light brown-brown, microcrystalline, firm, earthy-crystalline texture, trace intercrystalline porosity, trace spotty light brown oil stain; rare ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,200-9,230 LIMESTONE: mudstone, light brown-brown, microcrystalline, firm, earthy-crystalline texture, trace intercrystalline porosity, trace spotty light brown oil stain; rare ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,230-9,260 LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, no visible oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,260-9,290 LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, no visible oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,290-9,320 ARGILLACEOUS LIMESTONE: mudstone, tan, light gray, light gray brown, rare light brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, no visible oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,320-9,350 ARGILLACEOUS LIMESTONE: mudstone, tan, light gray, light gray brown, rare light brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, no visible oil stain; trace ANHYDRITE: off white, cream, soft, microcrystalline, massive, earthy-amorphous

9,350-9,380 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, trace light brown oil stain

Mission Canyon Formation [Mississippian Madison Group]**9,393' MD / 9,392' TVD (-7,359')**

9,380-9,410 LIMESTONE: mudstone, light gray-gray, light gray brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, trace fossil fragments, trace spotty light brown oil stain

9,410-9,440 LIMESTONE: mudstone, light gray-gray, light gray brown, firm, earthy-crystalline texture, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,440-9,470 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, firm, earthy-crystalline texture, possible intercrystalline porosity, trace fossil fragments, trace disseminated pyrite, trace spotty light brown oil stain

9,470-9,500 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, rare tan, firm-friable, earthy-crystalline texture, trace fossil fragments, possible intercrystalline porosity, trace spotty disseminated pyrite, trace light brown oil stain

9,500-9,530 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm-friable, earthy-crystalline texture, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,530-9,560 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm-friable, earthy-crystalline texture, trace fossil fragments, trace Algal material, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,560-9,590 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray brown, rare light brown, firm-friable, earthy-crystalline texture, trace fossil fragments, trace Algal material, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,590-9,620 ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, trace fossil fragments, trace Algal material, trace vuggy porosity, possible intercrystalline porosity, trace spotty disseminated pyrite, trace light brown oil stain

9,620-9,650 ARGILLACEOUS LIMESTONE: mudstone, light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, trace fossil fragments, trace Algal material, trace vuggy porosity, possible intercrystalline porosity, trace spotty disseminated pyrite, trace light brown oil stain

9,650-9,680 LIMESTONE: mudstone, light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, occasional spotty light brown oil stain

9,680-9,710 LIMESTONE: mudstone, light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, possible intercrystalline porosity, trace disseminated pyrite, occasional spotty light brown oil stain

9,710-9,740 LIMESTONE: mudstone, light brown-rarely brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, trace Algal material, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, occasional spotty light brown oil stain

9,740-9,770 LIMESTONE: mudstone, light brown-rarely brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, trace Algal material, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, occasional spotty light brown oil stain

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

9,800-9,830 LIMESTONE: mudstone, brown-light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, common Algal material, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

9,830-9,860 LIMESTONE: mudstone, brown-light brown, light gray brown, rare light gray, firm-friable, earthy-crystalline texture, common Algal material, trace fossil fragments, possible intercrystalline porosity, trace disseminated pyrite, trace spotty light brown oil stain

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

9,890-9,920 LIMESTONE: mudstone, light gray-gray, rare light gray brown, trace dark gray, firm-friable, earthy-crystalline texture, trace fossil fragments, trace disseminated pyrite, trace spotty light brown oil stain

Lodgepole /Mississippian Madison Group / 9,948' MD / 9,947' TVD (-7,914')

9,920-9,950 LIMESTONE: mudstone, light gray-gray, rare light gray brown, trace dark gray, firm-friable, earthy-crystalline texture, trace fossil fragments, trace disseminated pyrite, no visible oil stain

9,950-9,980 LIMESTONE: mudstone, light gray-gray, rare gray brown, trace dark gray, firm-friable, earthy-crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

9,980-10,010 LIMESTONE: mudstone, light gray-gray, rare gray brown, trace dark gray, firm-friable, earthy-crystalline texture, trace disseminated pyrite, no visible porosity, no visible oil stain

10,010-10,029 ARGILLACEOUS LIMESTONE: mudstone, off white, light gray, light gray tan, microcrystalline, firm, dense earthy-crystalline texture, trace disseminated pyrite, no visible porosity no visible oil stain

10,029-10,040 ARGILLACEOUS LIMESTONE: mudstone, off white, light gray, light gray tan, microcrystalline, firm, dense earthy-crystalline texture, trace disseminated pyrite, no visible porosity no visible oil stain

10,040-10,070 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray tan, trace cream-off white, microcrystalline, firm, dense, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

- 10,070-10,100 ARGILLACEOUS LIMESTONE: mudstone, light-medium gray, tan gray, trace light brown, microcrystalline, firm, dense, earthy-trace crystalline texture, no visible porosity, no visible oil stain
- 10,100-10,130 ARGILLACEOUS LIMESTONE: mudstone, light gray, light gray tan, trace cream-off white, microcrystalline, firm, dense, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,130-10,160 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, light gray tan, trace cream-off white, microcrystalline, firm, dense, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,160-10,190 ARGILLACEOUS LIMESTONE: mudstone, light gray-medium gray, light gray tan, trace cream-off white, microcrystalline, firm, dense, earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,190-10,220 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, occasional gray brown, trace cream-off white, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,220-10,250 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, occasional gray brown, trace cream-off white, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,250-10,280 ARGILLACEOUS LIMESTONE: mudstones, light gray-gray, occasional gray brown, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,280-10,310 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, occasional gray brown, trace cream-off white, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,310-10,340 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,340-10,370 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,370-10,400 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,400-10,430 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,430-10,460 ARGILLACEOUS LIMESTONE: mudstone, light gray-gray, light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,460-10,490 ARGILLACEOUS LIMESTONE: mudstone, medium gray-light gray, rare light gray brown, trace dark gray AND off white, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,490-10,520 ARGILLACEOUS LIMESTONE: mudstone, light-medium gray, rare light gray brown, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,520-10,550 ARGILLACEOUS LIMESTONE: mudstone, light gray brown, light gray, tan, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,550-10,580 ARGILLACEOUS LIMESTONE: mudstone, light brown gray, tan, rare light gray, trace medium gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,580-10,610 ARGILLACEOUS LIMESTONE: mudstone, light brown gray, tan, rare light gray, trace medium gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,610-10,640 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,640-10,670 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain
- 10,670-10,700 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

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

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

10,760-10,790 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

False Bakken [Lodgepole Formation] **10,807' MD / 10,659' TVD (-8,626')**

10,790-10,820 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

Scallion [Lodgepole Formation] **10,818' MD / 10,663' TVD (-8,630')**

10,790-10,820 ARGILLACEOUS LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, trace dark gray, firm, crystalline-earthy texture, trace disseminated pyrite, no visible porosity, no visible oil stain

Upper Bakken Shale [Bakken Formation] **10,835' MD / 10,671' TVD (-8,638')**

10,820-10,850 SHALE: black, black gray, hard, splintery, smooth, pyritic, carbonaceous, fracture porosity; LIMESTONE: mudstone, light gray, medium gray, rare light brown gray, firm, crystalline-earthy texture, trace disseminated pyrite, possible intercrystalline porosity, no visible oil stain

10,850-10,880 SHALE: black, black gray, hard, splintery, smooth, pyritic, carbonaceous, fracture porosity

Middle Bakken Member [Bakken Formation] **10,883' MD / 10,687' TVD (-8,654')**

10,880-10,910 SILTSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

10,910-10,940 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

10,940-10,970 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

10,970-11,000 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

11,000-11,030 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

11,030-11,058 SILTY SANDSTONE: light gray brown, light brown, trace light gray, very fine grained, friable sub rounded, smooth, moderately sorted, calcite cement moderately cemented, trace disseminated and nodular pyrite, fair intercrystalline porosity, occasional light brown spotty oil stain

11,058-11,090 SILTY SANDSTONE: light brown-light gray brown, occasional medium brown, trace light gray, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated and nodular pyrite, good intercrystalline porosity, occasional light-medium brown spotty oil stain

11,090-11,120 SILTY SANDSTONE: light brown-light gray brown, occasional medium brown, trace light gray, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated and nodular pyrite, good intercrystalline porosity, occasional light-medium brown spotty oil stain

- 19,790-19,820 SILTY SANDSTONE: light-medium gray, occasional light gray brown, rare cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow green streaming cut fluorescence
- 19,820-19,850 SILTY SANDSTONE: light-medium brown gray, occasional light brown-tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, occasional light-medium brown spotty oil stain; moderately yellow green streaming cut fluorescence
- 19,850-19,880 LTY SANDSTONE: light-medium brown gray, occasional light brown-tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, occasional light-medium brown spotty oil stain; moderately yellow green streaming cut fluorescence
- 19,880-19,910 SILTY SANDSTONE: light-medium brown gray, occasional light brown-tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, occasional light-medium brown spotty oil stain; moderately yellow green streaming cut fluorescence
- 19,910-19,940 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 19,940-19,970 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 19,970-20,000 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 20,000-20,030 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 20,030-20,060 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 20,060-20,090 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 20,090-20,120 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence
- 20,120-20,150 SILTY SANDSTONE: light-medium brown, occasional light brown gray, rare tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, rare disseminated

pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately yellow streaming cut fluorescence

20,150-20,180 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,180-20,210 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,210-20,240 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,240-20,270 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,270-20,300 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,300-20,330 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,330-20,360 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence

20,360-20,395 SILTY SANDSTONE: light brown, occasional light brown gray, rare medium brown and tan, trace cream-off white, very fine grained, friable, sub rounded, smooth, moderately sorted, calcite cement, moderately cemented, trace disseminated pyrite, good intercrystalline porosity, common light-medium brown spotty oil stain; moderately green yellow streaming cut fluorescence



Directional Survey Certification

Operator: Oasis Petroleum LLC **Well Name:** Kline Federal 5300 31-18 8B **API:** 33-053-06055

Enseco Job#: S15074-02 **Job Type:** MWD D&I **County, State:** McKenzie County, N. Dakota

Well Surface Hole Location (SHL): Lot 3, Sec. 18, T153N, R100W (2523' FSL & 238 FWL)

Latitude: 48° 04' 28.160 N **Longitude:** 103° 36' 11.380 W **Datum:** Nad 83

Final MWD Report Date: Feb. 30, 2015 **MWD Survey Run Date:** Feb. 19, 2015 to Feb. 20, 2015

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

MWD Surveyed from 00 ft to 2,059.0 ft MD **Survey Type:** Positive Pulse D&I MWD **Sensor to Bit:** 63 ft

Rig Contractor: Noble **Rig Number:** 2 **RKB Height:** 2,026.0 ft **GL Elevation:** 2,026.0 ft

MWD Surveyor Name: Brett McClain

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

Jonathan Hovland, Well Planner

Enseco Representative Name, Title

Jonathan Hovland

Signature

February 27th 2015

Date Signed

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

Seal: _____
Notary Public

Commission Expiry



Enseco Survey Report

27 February, 2015

Oasis Petroleum LLC

McKenzie County, North Dakota
Lot 3 Sec.18 Twp.153N Rge.100W
Kline Federal 5300 31-18 8B
Job # S15074-02
API#: 33-053-06055

Survey: Final Surveys Vertical Section





ENSECO Energy Services

Survey Report



Company:	Oasis Petroleum LLC	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Project:	McKenzie County, North Dakota	Ground Level Elevation:	2,026.00usft
Site:	Lot 3 Sec.18 Twp.153N Rge.100W	Wellhead Elevation:	WELL @ 2026.00usft (Original Well Elev)
Well:	Kline Federal 5300 31-18 8B	North Reference:	True
Wellbore:	Job # S15074-02	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys Vertical Section	Database:	EDM5000

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

Site	Lot 3 Sec.18 Twp.153N Rge.100W		
Site Position:	Northing:	407,221.74 usft	Latitude: 48° 4' 28.160 N
From: Lat/Long	Easting:	1,210,091.04 usft	Longitude: 103° 36' 11.380 W
Position Uncertainty:	Slot Radius:	13-3/16 "	Grid Convergence: -2.309°

Well	Kline Federal 5300 31-18 8B	API#: 33-053-06055				
Well Position	+N/-S +E/-W	0.00 usft	Northing: Easting:	407,221.74 usft 1,210,091.04 usft	Latitude: Longitude:	48° 4' 28.160 N 103° 36' 11.380 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,026.00usft

Wellbore	Job # S15074-02				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/27/2015	8.304	72.942	56,271

Design:	Final Surveys Vertical Section	Survey Error Model:	Standard ISCWSA MWD Tool		
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.00	0.00	0.00	86.46



ENSECO Energy Services

Survey Report



Company:	Oasis Petroleum LLC	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Project:	McKenzie County, North Dakota	Ground Level Elevation:	2,026.00usft
Site:	Lot 3 Sec.18 Twp.153N Rge.100W	Wellhead Elevation:	WELL @ 2026.00usft (Original Well Elev)
Well:	Kline Federal 5300 31-18 8B	North Reference:	True
Wellbore:	Job # S15074-02	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys Vertical Section	Database:	EDM5000

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N-S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (%/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie-in from Surface										
0.00	0.00	0.00	0.00	2,026.00	0.00	0.00	0.00	0.00	0.00	0.00
132.00	0.20	99.10	132.00	1,894.00	-0.04	0.23	0.22	0.15	0.15	0.00
223.00	0.20	77.20	223.00	1,803.00	-0.03	0.54	0.54	0.08	0.00	-24.07
314.00	0.40	58.20	314.00	1,712.00	0.18	0.96	0.97	0.24	0.22	-20.88
407.00	0.70	27.00	406.99	1,619.01	0.85	1.50	1.55	0.44	0.32	-33.55
493.00	0.80	43.10	492.99	1,533.01	1.76	2.15	2.25	0.27	0.12	18.72
579.00	0.70	39.70	578.98	1,447.02	2.60	2.89	3.05	0.13	-0.12	-3.95
669.00	0.40	68.60	668.97	1,357.03	3.14	3.54	3.72	0.44	-0.33	32.11
751.00	0.40	66.80	750.97	1,275.03	3.36	4.07	4.27	0.02	0.00	-2.20
839.00	0.70	76.40	838.97	1,187.03	3.60	4.87	5.08	0.36	0.34	10.91
927.00	0.70	98.60	926.96	1,099.04	3.65	5.92	6.14	0.31	0.00	25.23
1,013.00	0.20	141.00	1,012.96	1,013.04	3.46	6.54	6.74	0.66	-0.58	49.30
1,100.00	0.20	151.00	1,099.96	926.04	3.20	6.71	6.89	0.04	0.00	11.49
1,189.00	0.90	200.00	1,188.95	837.05	2.41	6.54	6.68	0.88	0.79	55.06
1,277.00	0.70	226.40	1,276.95	749.05	1.39	5.92	5.99	0.47	-0.23	30.00
1,365.00	0.30	108.70	1,364.94	661.06	0.95	5.75	5.79	1.00	-0.45	-133.75
1,450.00	0.40	67.40	1,449.94	576.06	0.99	6.23	6.28	0.31	0.12	-48.59
1,536.00	0.40	91.60	1,535.94	490.06	1.10	6.81	6.86	0.19	0.00	28.14
1,623.00	0.50	52.30	1,622.94	403.06	1.32	7.41	7.48	0.36	0.11	-45.17
1,711.00	0.20	37.80	1,710.94	315.06	1.68	7.81	7.90	0.35	-0.34	-16.48
1,799.00	0.10	40.50	1,798.94	227.06	1.86	7.95	8.05	0.11	-0.11	3.07
1,886.00	0.10	164.60	1,885.94	140.06	1.84	8.02	8.12	0.20	0.00	142.64
1,974.00	0.50	151.40	1,973.93	52.07	1.43	8.23	8.30	0.46	0.45	-15.00
Last MWD Survey										
2,059.00	0.90	147.30	2,058.93	-32.93	0.54	8.77	8.78	0.47	0.47	-4.82

Survey Annotations										
Local Coordinates										
MD (usft)	TVD (usft)	+N-S (usft)	+E/W (usft)	Comment						
0.00	0.00	0.00	0.00	Tie-in from Surface						
2,059.00	2,058.93	0.54	8.77	Last MWD Survey						



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

Friday, May 01, 2015

State of North Dakota

Subject: **Surveys**

Re: **Oasis**
Kline Federal 5300 31-18 8B
McKenzie, ND

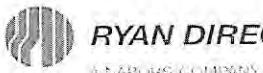
Enclosed, please find the original and one copy of the survey performed on the above-referenced well by Ryan Directional Services, Inc.. Other information required by your office is as follows:

Surveyor Name	Surveyor Title	Borehole Number	Start Depth	End Depth	Start Date	End Date	Type of	TD Straight Line Projection
Mike McCammond	MWD Operator	O.H.	2059'	10995'	03/19/15	03/24/15	MWD	10995'
Mike McCammond	MWD Operator	O.H.	10995'	20331'	04/25/15	04/30/15	MWD	20395'

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

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

Douglas Hudson
Well Planner



RYAN DIRECTIONAL SERVICES, INC.

A NABORS COMPANY

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

Tuesday, March 24, 2015

State of North Dakota
County of McKenzie

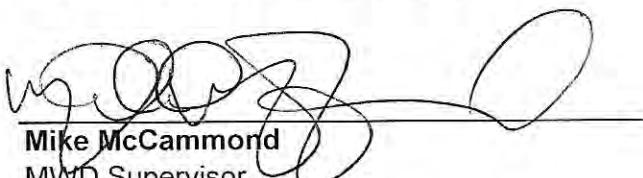
Subject: **Survey Certification Letter**

Survey Company: Ryan Directional Services, Inc.
Job Number: 8796
Survey Job Type: Ryan MWD
Customer: Oasis Petroleum
Well Name: Kline Federal 5300 31-18 8B
Rig Name: Nabors B-22

Surface: 48 4' 28.160 N / 103 36' 11.380 W
A.P.I. No: 33-053-06055
Location: McKenzie, ND
RKB Height: 2033'
Distance to Bit: 62'

<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole Number</i>	<i>Start Depth</i>	<i>End Depth</i>	<i>Start Date</i>	<i>End Date</i>	<i>Type of</i>	<i>TD Straight Line Projection</i>
Mike McCommend	MWD Supervisor	OH	2154'	10995'	03/19/15	03/24/15	MWD	11057'

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



Mike McCommend
MWD Supervisor
Ryan Directional Services, Inc.



RYAN DIRECTIONAL SERVICES, INC.
A NABORS COMPANY

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

Thursday, April 30, 2015

State of North Dakota
County of McKenzie

Subject: **Survey Certification Letter**

Survey Company: **Ryan Directional Services, Inc.**

Job Number: **8832**

Surface: **48 4' 28.160 N / 103 36' 11.380 W**

Survey Job Type: **Ryan MWD**

A.P.I. No: **33-053-06055**

Customer: **Oasis Petroleum**

Location: **McKenzie, North Dakota**

Well Name: **Kline Federal 5300 31-18 8B**

RKB Height: **2033'**

Rig Name: **Nabors B-22**

Distance to Bit: **64'**

<i>Surveyor Name</i>	<i>Surveyor Title</i>	<i>Borehole Number</i>	<i>Start Depth</i>	<i>End Depth</i>	<i>Start Date</i>	<i>End Date</i>	<i>Type of</i>	<i>TD Straight Line Projection</i>
Mike McCommend	MWD Supervisor	OH	11052'	20331'	04/25/15	04/30/15	MWD	20395'

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


Mike McCommend
MWD Supervisor
Ryan Directional Services, Inc.



SURVEY REPORT

Customer: **Oasis Petroleum**
 Well Name: **Kline Federal 5300 31-18 8B**
 Rig #: **Nabors B-22**
 API #: **33-053-06055**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **M McCommand**
 Directional Drillers: **J Gordon / D Thompson**
 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	2059	0.90	147.30		2058.93	8.77	0.54	8.77	0.47
1	2154	1.10	148.00	66.00	2153.92	9.66	-0.86	9.66	0.21
2	2247	0.90	152.70	69.00	2246.90	10.46	-2.27	10.46	0.23
3	2340	1.10	117.90	73.00	2339.89	11.59	-3.33	11.59	0.68
4	2434	1.30	97.20	75.00	2433.87	13.44	-3.89	13.44	0.50
5	2527	1.40	78.10	78.00	2526.84	15.60	-3.79	15.60	0.49
6	2621	0.90	66.00	80.00	2620.82	17.40	-3.25	17.40	0.59
7	2714	0.60	16.90	82.00	2713.82	18.21	-2.49	18.21	0.73
8	2714	0.60	16.90	84.00	2713.82	18.21	-2.49	18.21	0.00
9	2807	0.20	352.70	84.00	2806.81	18.33	-1.86	18.33	0.46
10	2901	1.50	90.30	87.00	2900.80	19.54	-1.70	19.54	1.64
11	2994	1.80	102.30	89.00	2993.76	22.18	-2.02	22.18	0.49
12	3087	2.10	102.40	89.00	3086.71	25.27	-2.70	25.27	0.32
13	3181	1.50	83.10	91.00	3180.66	28.18	-2.92	28.18	0.90
14	3274	1.20	82.30	93.00	3273.64	30.35	-2.64	30.35	0.32
15	3368	0.90	79.10	95.00	3367.62	32.05	-2.37	32.05	0.33
16	3461	0.90	71.80	96.00	3460.61	33.46	-2.01	33.46	0.12
17	3554	1.00	75.10	98.00	3553.60	34.94	-1.57	34.94	0.12
18	3648	0.70	55.30	100.00	3647.59	36.21	-1.03	36.21	0.44
19	3741	0.60	47.30	103.00	3740.58	37.03	-0.38	37.03	0.14
20	3835	0.50	9.30	104.00	3834.58	37.46	0.36	37.46	0.39
21	3928	0.30	317.90	105.00	3927.58	37.36	0.94	37.36	0.42
22	4021	0.40	300.10	107.00	4020.57	36.92	1.28	36.92	0.16
23	4115	0.40	315.00	109.00	4114.57	36.40	1.68	36.40	0.11
24	4208	0.20	304.00	111.00	4207.57	36.04	2.00	36.04	0.22
25	4302	0.30	332.20	113.00	4301.57	35.79	2.31	35.79	0.17
26	4395	0.40	328.60	114.00	4394.57	35.50	2.80	35.50	0.11
27	4488	0.80	98.30	114.00	4487.57	35.98	2.99	35.98	1.18
28	4582	0.70	87.00	116.00	4581.56	37.20	2.92	37.20	0.19
29	4675	0.50	70.10	118.00	4674.55	38.15	3.09	38.15	0.28
30	4769	0.80	57.40	120.00	4768.55	39.09	3.58	39.09	0.35
31	4862	0.70	23.10	122.00	4861.54	39.86	4.46	39.86	0.49
32	4955	0.80	23.20	123.00	4954.53	40.34	5.57	40.34	0.11
33	5049	0.10	51.70	123.00	5048.53	40.66	6.23	40.66	0.76
34	5142	0.30	291.30	125.00	5141.53	40.50	6.37	40.50	0.39
35	5235	0.30	207.60	127.00	5234.53	40.16	6.24	40.16	0.43
36	5329	0.70	185.00	129.00	5328.52	39.99	5.45	39.99	0.47
37	5422	0.40	215.00	118.00	5421.52	39.76	4.62	39.76	0.44
38	5516	0.30	250.80	122.00	5515.52	39.34	4.27	39.34	0.25
39	5609	0.30	225.70	127.00	5608.52	38.93	4.02	38.93	0.14
40	5702	0.40	332.80	129.00	5701.51	38.61	4.14	38.61	0.61
41	5796	0.40	34.30	129.00	5795.51	38.64	4.70	38.64	0.44
42	5889	0.40	26.70	134.00	5888.51	38.97	5.26	38.97	0.06
43	5982	0.10	305.20	136.00	5981.51	39.05	5.59	39.05	0.43
44	6076	0.40	212.80	138.00	6075.51	38.81	5.37	38.81	0.44
45	6169	0.70	211.60	140.00	6168.50	38.33	4.61	38.33	0.32
46	6262	0.70	226.70	141.00	6261.50	37.62	3.74	37.62	0.20
47	6356	1.00	188.70	143.00	6355.49	37.08	2.53	37.08	0.66
48	6449	1.80	177.60	147.00	6448.46	37.02	0.27	37.02	0.90
49	6542	1.70	134.20	147.00	6541.42	38.07	-2.15	38.07	1.39
50	6636	0.90	115.40	149.00	6635.40	39.74	-3.44	39.74	0.95
51	6729	1.30	143.10	154.00	6728.38	41.03	-4.60	41.03	0.70
52	6822	0.40	146.90	154.00	6821.37	41.84	-5.71	41.84	0.97
53	6916	0.60	164.10	159.00	6915.36	42.15	-6.46	42.15	0.26
54	7009	0.70	168.60	161.00	7008.36	42.40	-7.49	42.40	0.12
55	7102	0.60	157.50	165.00	7101.35	42.70	-8.49	42.70	0.17
56	7196	0.40	186.90	167.00	7195.35	42.85	-9.27	42.85	0.34
57	7289	0.80	63.70	163.00	7288.35	43.39	-9.31	43.39	1.15
58	7382	1.00	51.50	165.00	7381.33	44.61	-8.51	44.61	0.30
59	7475	1.10	40.00	168.00	7474.32	45.82	-7.33	45.82	0.25
60	7568	1.00	46.50	170.00	7567.30	46.98	-6.08	46.98	0.17



SURVEY REPORT

Customer: Oasis Petroleum
 Well Name: Kline Federal 5300 31-18 8B
 Rig #: Nabors B-22
 API #: 33-053-06055
 Calculation Method: Minimum Curvature Calculation

MWD Operator: M McCommand
 Directional Drillers: J Gordon / D Thompson
 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	7662	0.80	59.70	172.00	7661.29	48.14	-5.19	48.14	0.31
62	7755	0.90	59.70	172.00	7754.28	49.33	-4.49	49.33	0.11
63	7848	0.80	51.50	174.00	7847.27	50.47	-3.72	50.47	0.17
64	7942	0.80	25.30	174.00	7941.26	51.26	-2.72	51.26	0.39
65	8035	0.70	8.80	176.00	8034.25	51.63	-1.57	51.63	0.25
66	8128	0.70	0.30	177.00	8127.25	51.72	-0.44	51.72	0.11
67	8222	0.90	341.40	179.00	8221.24	51.49	0.83	51.49	0.35
68	8315	0.80	340.40	181.00	8314.23	51.03	2.14	51.03	0.11
69	8409	0.80	355.70	179.00	8408.22	50.77	3.41	50.77	0.23
70	8502	0.50	346.20	179.00	8501.21	50.62	4.45	50.62	0.34
71	8595	0.40	326.40	181.00	8594.21	50.34	5.12	50.34	0.20
72	8689	0.40	334.90	183.00	8688.21	50.02	5.69	50.02	0.06
73	8782	0.50	342.90	185.00	8781.20	49.77	6.37	49.77	0.13
74	8875	0.60	327.60	185.00	8874.20	49.39	7.17	49.39	0.19
75	8969	0.60	314.90	185.00	8968.20	48.77	7.93	48.77	0.14
76	9062	0.50	333.60	190.00	9061.19	48.25	8.64	48.25	0.22
77	9155	0.60	327.60	188.00	9154.19	47.81	9.41	47.81	0.12
78	9248	0.50	312.10	186.00	9247.18	47.24	10.10	47.24	0.19
79	9342	0.60	323.60	188.00	9341.18	46.65	10.77	46.65	0.16
80	9435	0.50	316.30	190.00	9434.17	46.08	11.45	46.08	0.13
81	9528	0.50	322.00	192.00	9527.17	45.55	12.07	45.55	0.05
82	9622	0.70	241.00	190.00	9621.17	44.79	12.11	44.79	0.84
83	9715	0.70	252.20	195.00	9714.16	43.76	11.66	43.76	0.15
84	9808	0.50	253.90	194.00	9807.15	42.83	11.38	42.83	0.22
85	9901	0.40	241.70	192.00	9900.15	42.15	11.11	42.15	0.15
86	9972	0.40	265.50	195.00	9971.15	41.68	10.97	41.68	0.23
87	10030	0.50	261.20	176.00	10029.15	41.23	10.92	41.23	0.18
88	10124	0.40	290.10	181.00	10123.15	40.52	10.97	40.52	0.26
89	10155	1.20	100.20	185.00	10154.14	40.74	10.95	40.74	5.15
90	10186	5.40	112.10	185.00	10185.09	42.41	10.34	42.41	13.65
91	10217	8.60	112.60	185.00	10215.85	45.90	8.90	45.90	10.32
92	10248	12.60	106.90	186.00	10246.32	51.28	7.03	51.28	13.32
93	10279	15.70	104.80	186.00	10276.37	58.57	4.97	58.57	10.13
94	10310	18.20	103.30	186.00	10306.02	67.34	2.79	67.34	8.19
95	10342	20.90	103.90	188.00	10336.18	77.74	0.26	77.74	8.46
96	10373	24.20	106.60	188.00	10364.80	89.20	-2.88	89.20	11.15
97	10404	26.90	104.80	188.00	10392.77	102.08	-6.49	102.08	9.06
98	10435	30.30	102.90	190.00	10419.98	116.48	-10.03	116.48	11.35
99	10466	34.20	103.20	190.00	10446.20	132.59	-13.76	132.59	12.59
100	10497	37.20	102.90	190.00	10471.37	150.22	-17.84	150.22	9.69
101	10528	40.70	102.90	192.00	10495.47	169.21	-22.19	169.21	11.29
102	10560	45.00	102.60	192.00	10518.93	190.43	-26.99	190.43	13.45
103	10591	45.10	101.80	192.00	10540.83	211.87	-31.63	211.87	1.85
104	10622	47.90	102.10	192.00	10562.16	233.87	-36.29	233.87	9.06
105	10653	50.30	104.20	194.00	10582.46	256.68	-41.62	256.68	9.28
106	10684	54.10	103.80	194.00	10601.46	280.44	-47.55	280.44	12.30
107	10715	59.20	103.60	195.00	10618.50	305.60	-53.68	305.60	16.46
108	10746	63.10	103.70	195.00	10633.45	331.98	-60.08	331.98	12.58
109	10778	65.20	102.80	197.00	10647.40	360.01	-66.68	360.01	7.03
110	10809	65.30	102.50	197.00	10660.38	387.47	-72.85	387.47	0.94
111	10840	66.80	102.70	197.00	10672.96	415.12	-79.03	415.12	4.87
112	10871	71.40	102.80	195.00	10684.02	443.36	-85.42	443.36	14.84
113	10902	77.20	102.70	197.00	10692.41	472.46	-92.00	472.46	18.71
114	10933	82.90	102.70	199.00	10697.76	502.23	-98.71	502.23	18.39
115	10964	87.30	103.00	199.00	10700.41	532.34	-105.58	532.34	14.23
116	10995	88.30	102.50	197.00	10701.60	562.55	-112.42	562.55	3.61
117	11052	89.90	100.80	221.00	10702.49	618.36	-123.92	618.36	4.10
118	11069	90.60	102.90	222.00	10702.42	635.00	-127.41	635.00	13.02
119	11101	90.30	102.80	222.00	10702.17	666.20	-134.53	666.20	0.99
120	11131	89.90	102.40	221.00	10702.11	695.48	-141.07	695.48	1.89



SURVEY REPORT

Customer: Oasis Petroleum
 Well Name: Kline Federal 5300 31-18 8B
 Rig #: Nabors B-22
 API #: 33-053-06055
 Calculation Method: Minimum Curvature Calculation

MWD Operator: M McCommand
 Directional Drillers: J Gordon / D Thompson
 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	11161	89.80	102.40	221.00	10702.19	724.78	-147.52	724.78	0.33
122	11192	89.60	101.80	221.00	10702.36	755.09	-154.01	755.09	2.04
123	11223	87.50	101.20	221.00	10703.14	785.45	-160.19	785.45	7.05
124	11255	87.51	101.20	221.00	10704.53	816.81	-166.40	816.81	0.03
125	11285	87.50	101.30	221.00	10705.84	846.21	-172.25	846.21	0.33
126	11315	88.40	99.00	221.00	10706.91	875.72	-177.53	875.72	8.23
127	11346	88.80	98.20	221.00	10707.67	906.36	-182.17	906.36	2.88
128	11376	88.60	98.10	221.00	10708.35	936.05	-186.42	936.05	0.75
129	11407	88.20	95.60	221.00	10709.22	966.81	-190.11	966.81	8.16
130	11437	88.40	94.90	222.00	10710.11	996.67	-192.86	996.67	2.43
131	11469	88.70	94.40	222.00	10710.92	1028.56	-195.45	1028.56	1.82
132	11500	90.20	93.60	222.00	10711.21	1059.48	-197.61	1059.48	5.48
133	11530	90.40	93.60	222.00	10711.06	1089.42	-199.50	1089.42	0.67
134	11560	90.50	93.40	222.00	10710.82	1119.36	-201.33	1119.36	0.75
135	11591	90.90	91.20	222.00	10710.44	1150.34	-202.57	1150.34	7.21
136	11621	91.10	90.30	224.00	10709.92	1180.33	-202.96	1180.33	3.07
137	11652	90.90	89.50	224.00	10709.38	1211.32	-202.91	1211.32	2.66
138	11684	89.90	87.90	224.00	10709.15	1243.31	-202.18	1243.31	5.90
139	11779	89.50	87.80	228.00	10709.65	1338.24	-198.62	1338.24	0.43
140	11872	89.40	87.30	230.00	10710.54	1431.15	-194.65	1431.15	0.55
141	11964	90.00	87.30	231.00	10711.03	1523.05	-190.31	1523.05	0.65
142	12056	90.40	86.80	233.00	10710.70	1614.93	-185.58	1614.93	0.70
143	12151	88.50	87.40	233.00	10711.62	1709.80	-180.77	1709.80	2.10
144	12245	88.50	88.70	233.00	10714.08	1803.71	-177.57	1803.71	1.38
145	12340	89.50	89.80	235.00	10715.73	1898.68	-176.33	1898.68	1.56
146	12435	89.60	90.60	235.00	10716.48	1993.68	-176.66	1993.68	0.85
147	12530	90.70	91.20	237.00	10716.23	2088.66	-178.15	2088.66	1.32
148	12625	90.80	90.70	239.00	10714.99	2183.64	-179.73	2183.64	0.54
149	12720	90.30	90.20	240.00	10714.08	2278.63	-180.48	2278.63	0.74
150	12814	90.50	89.90	242.00	10713.42	2372.63	-180.56	2372.63	0.38
151	12909	90.90	90.00	242.00	10712.26	2467.63	-180.47	2467.63	0.43
152	13004	89.40	89.30	242.00	10712.01	2562.62	-179.89	2562.62	1.74
153	13099	89.30	89.20	244.00	10713.09	2657.61	-178.65	2657.61	0.15
154	13194	89.80	88.80	244.00	10713.84	2752.59	-176.99	2752.59	0.67
155	13289	89.00	89.80	244.00	10714.83	2847.57	-175.83	2847.57	1.35
156	13383	89.50	90.10	246.00	10716.06	2941.56	-175.75	2941.56	0.62
157	13478	90.10	89.70	246.00	10716.39	3036.56	-175.58	3036.56	0.76
158	13573	89.80	91.30	244.00	10716.47	3131.56	-176.41	3131.56	1.71
159	13668	88.40	90.40	246.00	10717.97	3226.53	-177.82	3226.53	1.75
160	13763	88.50	90.00	248.00	10720.54	3321.50	-178.15	3321.50	0.43
161	13857	89.20	90.40	249.00	10722.42	3415.48	-178.48	3415.48	0.86
162	13952	89.90	90.20	249.00	10723.17	3510.47	-178.98	3510.47	0.77
163	14047	89.50	90.60	249.00	10723.67	3605.47	-179.64	3605.47	0.60
164	14142	90.10	90.60	249.00	10724.00	3700.46	-180.64	3700.46	0.63
165	14237	89.00	91.30	248.00	10724.74	3795.44	-182.21	3795.44	1.37
166	14332	90.00	91.10	251.00	10725.57	3890.42	-184.20	3890.42	1.07
167	14427	90.10	90.60	251.00	10725.49	3985.41	-185.61	3985.41	0.54
168	14521	89.10	90.40	251.00	10726.15	4079.40	-186.43	4079.40	1.08
169	14616	90.40	90.60	253.00	10726.56	4174.39	-187.26	4174.39	1.38
170	14711	91.40	90.20	253.00	10725.07	4269.38	-187.92	4269.38	1.13
171	14806	89.30	89.90	251.00	10724.49	4364.37	-188.01	4364.37	2.23
172	14901	89.50	89.80	253.00	10725.48	4459.36	-187.76	4459.36	0.24
173	14996	88.20	89.60	253.00	10727.39	4554.34	-187.26	4554.34	1.38
174	15090	88.50	89.70	255.00	10730.10	4648.30	-186.69	4648.30	0.34
175	15185	88.40	89.40	255.00	10732.67	4743.26	-185.94	4743.26	0.33
176	15280	89.90	89.80	255.00	10734.08	4838.25	-185.28	4838.25	1.63
177	15375	90.50	88.70	257.00	10733.74	4933.24	-184.03	4933.24	1.32
178	15470	90.20	88.00	258.00	10733.16	5028.19	-181.30	5028.19	0.80
179	15564	90.10	89.50	255.00	10732.92	5122.17	-179.25	5122.17	1.60
180	15659	90.60	91.60	255.00	10732.34	5217.16	-180.16	5217.16	2.27



SURVEY REPORT

Customer: **Oasis Petroleum**
 Well Name: **Kline Federal 5300 31-18 8B**
 Rig #: **Nabors B-22**
 API #: **33-053-06055**
 Calculation Method: **Minimum Curvature Calculation**

MWD Operator: **M McCommand**
 Directional Drillers: **J Gordon / D Thompson**
 Survey Corrected To: **True North**
 Vertical Section Direction: **90**
 Total Correction: **8.30**
 Temperature Forecasting Model (Chart Only): **Logarithmic**

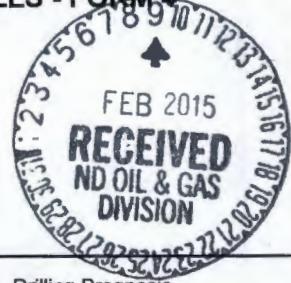
Survey #	MD	Inc	Azm	Temp	TVD	VS	N/S	E/W	DLS
181	15754	88.60	91.30	255.00	10733.00	5312.12	-182.56	5312.12	2.13
182	15849	90.10	92.20	257.00	10734.08	5407.07	-185.47	5407.07	1.84
183	15943	91.30	92.30	255.00	10732.93	5500.98	-189.16	5500.98	1.28
184	16038	90.60	90.00	257.00	10731.35	5595.95	-191.06	5595.95	2.53
185	16133	89.30	90.40	258.00	10731.44	5690.94	-191.39	5690.94	1.43
186	16228	89.40	90.40	260.00	10732.52	5785.93	-192.06	5785.93	0.11
187	16323	90.20	89.70	260.00	10732.85	5880.93	-192.14	5880.93	1.12
188	16417	88.00	89.20	260.00	10734.32	5974.91	-191.24	5974.91	2.40
189	16512	87.90	88.60	260.00	10737.72	6069.83	-189.41	6069.83	0.64
190	16607	87.80	88.60	260.00	10741.29	6164.74	-187.09	6164.74	0.11
191	16702	89.50	89.20	260.00	10743.52	6259.69	-185.27	6259.69	1.90
192	16796	90.20	88.60	262.00	10743.77	6353.67	-183.47	6353.67	0.98
193	16891	90.70	89.20	262.00	10743.02	6448.65	-181.64	6448.65	0.82
194	16986	89.80	89.20	262.00	10742.61	6543.64	-180.32	6543.64	0.95
195	17081	90.40	90.20	260.00	10742.44	6638.63	-179.82	6638.63	1.23
196	17176	90.70	89.80	262.00	10741.53	6733.63	-179.82	6733.63	0.53
197	17271	91.20	90.50	260.00	10739.96	6828.62	-180.07	6828.62	0.91
198	17365	89.90	91.30	262.00	10739.05	6922.60	-181.54	6922.60	1.62
199	17460	90.50	90.90	262.00	10738.72	7017.58	-183.37	7017.58	0.76
200	17555	89.50	93.10	262.00	10738.72	7112.51	-186.68	7112.51	2.54
201	17650	89.70	93.40	264.00	10739.39	7207.36	-192.07	7207.36	0.38
202	17745	90.50	92.80	264.00	10739.22	7302.22	-197.21	7302.22	1.05
203	17839	89.60	91.00	264.00	10739.14	7396.16	-200.32	7396.16	2.14
204	17934	89.90	89.90	264.00	10739.55	7491.16	-201.07	7491.16	1.20
205	18029	90.50	89.60	264.00	10739.22	7586.15	-200.65	7586.15	0.71
206	18124	91.00	90.20	266.00	10737.98	7681.14	-200.49	7681.14	0.82
207	18219	91.30	89.40	266.00	10736.07	7776.12	-200.16	7776.12	0.90
208	18313	90.00	89.60	264.00	10735.00	7870.11	-199.34	7870.11	1.40
209	18408	89.90	90.40	264.00	10735.09	7965.11	-199.34	7965.11	0.85
210	18502	90.80	89.50	266.00	10734.51	8059.11	-199.26	8059.11	1.35
211	18597	90.10	88.20	266.00	10733.77	8154.08	-197.35	8154.08	1.55
212	18692	90.20	86.40	266.00	10733.52	8248.97	-192.87	8248.97	1.90
213	18787	89.60	86.60	264.00	10733.68	8343.80	-187.07	8343.80	0.67
214	18882	89.60	86.70	264.00	10734.35	8438.63	-181.52	8438.63	0.11
215	18976	89.80	86.30	266.00	10734.84	8532.45	-175.78	8532.45	0.48
216	19071	90.40	89.20	264.00	10734.67	8627.37	-172.06	8627.37	3.12
217	19166	90.50	88.80	266.00	10733.93	8722.35	-170.40	8722.35	0.43
218	19261	89.90	89.70	264.00	10733.60	8817.34	-169.15	8817.34	1.14
219	19356	89.70	90.30	266.00	10733.93	8912.34	-169.15	8912.34	0.67
220	19450	90.00	89.90	266.00	10734.17	9006.34	-169.32	9006.34	0.53
221	19545	90.00	89.20	266.00	10734.17	9101.34	-168.57	9101.34	0.74
222	19640	90.60	91.30	266.00	10733.68	9196.33	-168.99	9196.33	2.30
223	19735	91.40	90.80	266.00	10732.02	9291.30	-170.73	9291.30	0.99
224	19829	90.00	90.60	264.00	10730.87	9385.28	-171.88	9385.28	1.50
225	19924	90.30	91.00	266.00	10730.62	9480.27	-173.20	9480.27	0.53
226	20019	90.60	89.90	267.00	10729.87	9575.26	-173.95	9575.26	1.20
227	20114	89.30	88.50	266.00	10729.96	9670.25	-172.62	9670.25	2.01
228	20209	89.30	88.10	266.00	10731.12	9765.20	-169.80	9765.20	0.42
229	20304	89.40	89.00	266.00	10732.20	9860.16	-167.40	9860.16	0.95
230	20331	89.70	88.70	266.00	10732.41	9887.16	-166.86	9887.16	1.57
Projection	20395	89.70	88.70	PTB	10732.74	9951.14	-165.41	9951.14	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)

Well File No.
28754



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

Notice of Intent

Approximate Start Date
May 15, 2015

Report of Work Done

Date Work Completed

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

Approximate Start Date

Drilling Prognosis

Spill Report

Redrilling or Repair

Shooting

Casing or Liner

Acidizing

Plug Well

Fracture Treatment

Supplemental History

Change Production Method

Temporarily Abandon

Reclamation

Other

Physical Address

Well Name and Number
Kline Federal 5300 31-18 8B

Footages	Qtr-Qtr	Section	Township	Range
2523 F S L	238 F W L	Lot 3	18	153 N 100 W
Field	Pool		County	
Baker	Bakken		McKenzie	

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

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

DETAILS OF WORK

Oasis Petroleum respectfully submits the following physical address for above well:

13767 45th Street NW
Alexander, ND 58831

See attached McKenzie County address letter.

Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9652	
Address 1001 Fannin Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Victoria Siemieniewski	
Title Regulatory Specialist	Date February 6, 2015	
Email Address vsiemieniewski@oasispetroleum.com		

FOR STATE USE ONLY

<input checked="" type="checkbox"/> Received	<input type="checkbox"/> Approved
Date 3/16/2015	
By	
Title ENGINEERING TECHNICIAN	

July 10, 2014

UPDATED: February 4, 2015

Proposed Address for:

Oasis Petroleum North America, LLC

Kline Federal 5300 31-18 6B, 7T, 8B & 15T Pad

Attn: Kristy Aasheim

Section: 18 Township: 153 N Range: 100 W

McKenzie County, ND

This address will be located within Alexander, ND 58831

The following address is assuming that the driveway or access road connects with 45th Street NW. If this is not the case, then the address will need to be re-evaluated.

1.) Physical Address for Kline Federal 5300 31-18 6B, 7T, 8B & 15T Pad:

**13767 45th Street NW
Alexander, ND 58831**

Approximate Geographical Location:

103° 36' 10.401" W 48° 4' 28.178" N

Sincerely,

Aaron Chisholm

GIS Coordinator
McKenzie County, ND
701 - 444- 7417
achisholm@co.mckenzie.nd.us

Oasis Petroleum North America, LLC

Kline Federal 5300 31-18 6B, 7T, 8B & 15T Pad

Attn: Kristy Aasheim

Section: 18 Township: 153 N Range: 100 W

McKenzie County, ND

This image is meant to be used as a visual aid and is not intended to be used for geographical accuracy

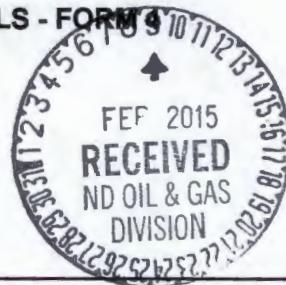




SUNDRY NOTICES AND REPORTS ON WELLS - FORM 9

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.
28754



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

Notice of Intent

Approximate Start Date
May 15, 2015

Report of Work Done

Date Work Completed

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

Approximate Start Date

Drilling Prognosis

Spill Report

Redrilling or Repair

Shooting

Casing or Liner

Acidizing

Plug Well

Fracture Treatment

Supplemental History

Change Production Method

Temporarily Abandon

Reclamation

Other

Well Permit Changes

Well Name and Number

Kline Federal 5300 31-18 8T

Footages	2523 F S L	238 F W L	Qtr-Qtr Lot 3	Section 18	Township 153 N	Range 100 W
Field	Baker	Pool Bakken		County McKenzie		

24-HOUR PRODUCTION RATE

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

Name of Contractor(s)

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

DETAILS OF WORK

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

Name Change: Kline Federal 5300-31-18 8B (previously 8T)

Formation Change: Bakken (previously three forks first bench)

251' NPIC Calc

BHL change: 2335' FSL & 250' FEL Sec 18 T153N R100W

(previously: 2250' FSL & 200' FEL)

Surface casing design:

Contingency Casing of 9 5/8" set at 6,437' (previously set at 6,101')

Intermediate Casing of 7" set at 10,969' (previously set at 11,036')

Production liner of 4 1/2" set from 10,171' to 20,520' (previously set from 10,238' to 20,656')

See attached supporting documents.

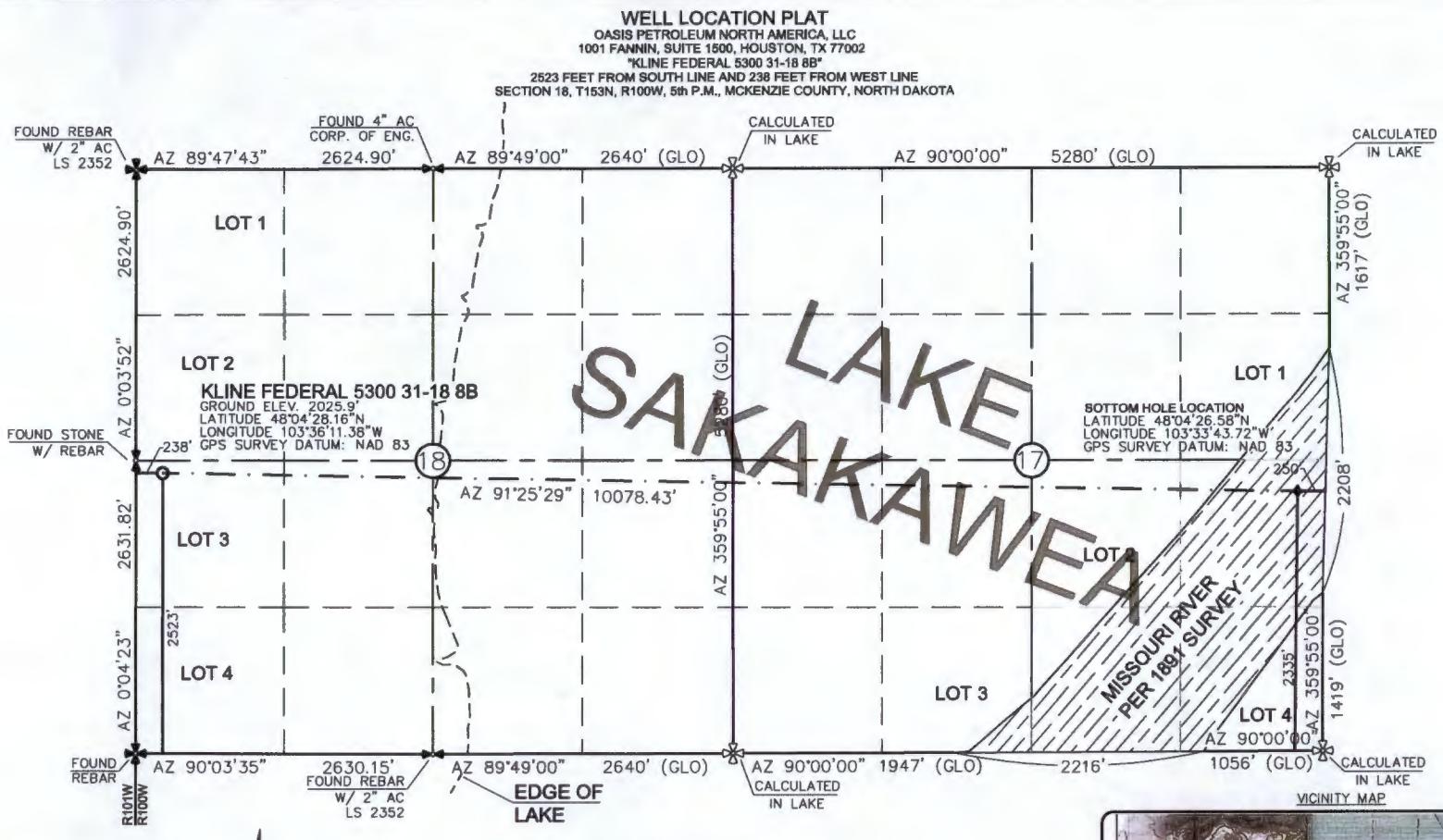
cc 25.00 2-20-15 KB

CC 25.00

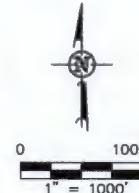
Company Oasis Petroleum North America LLC	Telephone Number (281) 404-9652	
Address 1001 Fannin Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>V.S.</i>	Printed Name Victoria Siemieniewski	
Title Regulatory Specialist	Date February 5, 2015	
Email Address vsiemieniewski@oasispetroleum.com		

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

David Burns
Engineering Tech.

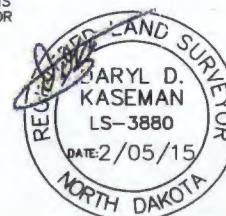


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- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

DARYL D. KASEMAN LS-3880



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Project No.	Date	By	Description
REV 1	7/27/15	REV 1	UPDATED WELL NAMES & BM.
REV 2	2/05/15	REV 2	ADDED ROAD ROUTE



Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8B
Section 18 T153N R100W
McKenzie County, ND

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' - 2023'	54.5	J-55	STC	12.615"	12.459"	4100	5470	6840

Interval	Description	Collapse (psi) / a	Burst (psi) / b	Tension (1000 lbs) / c
0' - 2023'	13-3/8", 54.5#, J-55, LTC, 8rd	1130 / 1.19	2730 / 1.99	514 / 2.63

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 9 ppg fluid on backside (2023' setting depth).
- b) Burst pressure based on 13 ppg fluid with no fluid on backside (2023' setting depth).
- c) Based on string weight in 9 ppg fluid at 2023' TVD plus 100k# overpull. (Buoyed weight equals 95k 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: **677 sks** (350 bbls), 11.5 lb/gal, 2.97 cu. Ft./sk Varicem Cement with 0.125 lb/sk Lost Circulation Additive

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

Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8B
Section 18 T153N R100W
McKenzie County, ND

Contingency INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' - 6437'	36	HCL-80	LTC	8.835"	8.75"	5450	7270	9090

Interval	Description	Collapse	Burst	Tension
		(psi) / a	(psi) / b	(1000 lbs) / c
0' - 6437'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.16	3520 / 1.29	453 / 1.53

API Rating & Safety Factor

- a) Collapse based on full casing evacuation with 10.4 ppg fluid on backside (6437' 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 6437' 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: 564 sks (291 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: 615 sks (127 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 31-18 8B
Section 18 T153N R100W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift**	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' - 10969'	32	HCP-110	LTC	6.094"	6.000***	6730	8970	9870

**Special Drift 7"32# to 6.0"

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) / c
0' - 10969'	10969'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.12*	12460 / 1.28	897 / 2.25
6765' - 9181'	2416'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.07**	12460 / 1.30	

API Rating & Safety Factor

- a) *Assume full casing evacuation with 10 ppg fluid on backside. **Assume full casing evacuation with 1.2 psi/ft equivalent fluid gradient across salt intervals.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10698' TVD.
- c) Based on string weight in 10 ppg fluid, (297k lbs buoied 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: **177 sks** (82 bbls), 11.8 ppg, 2.55 cu. ft./sk Econocem Cement with .3% Fe-2 and .25 lb/sk Lost Circulation Additive

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

Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8B
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10171' - 20462'	13.5	P-110	BTC	3.920"	3.795"	2270	3020	3780

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c
10171' - 20462'	10291	4-1/2", 13.5 lb, P-110, BTC	10670 / 2.01	12410 / 1.28	443 / 2.02

API Rating & Safety Factor

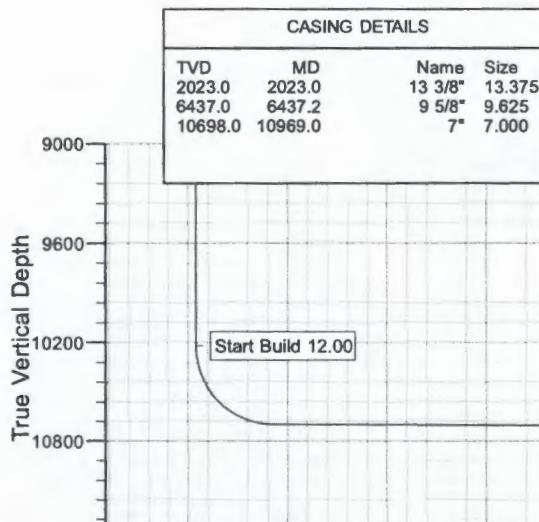
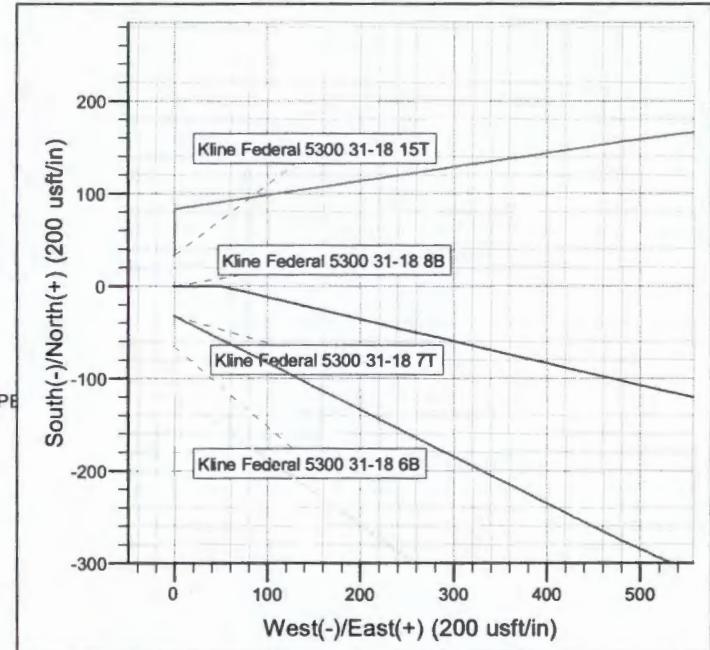
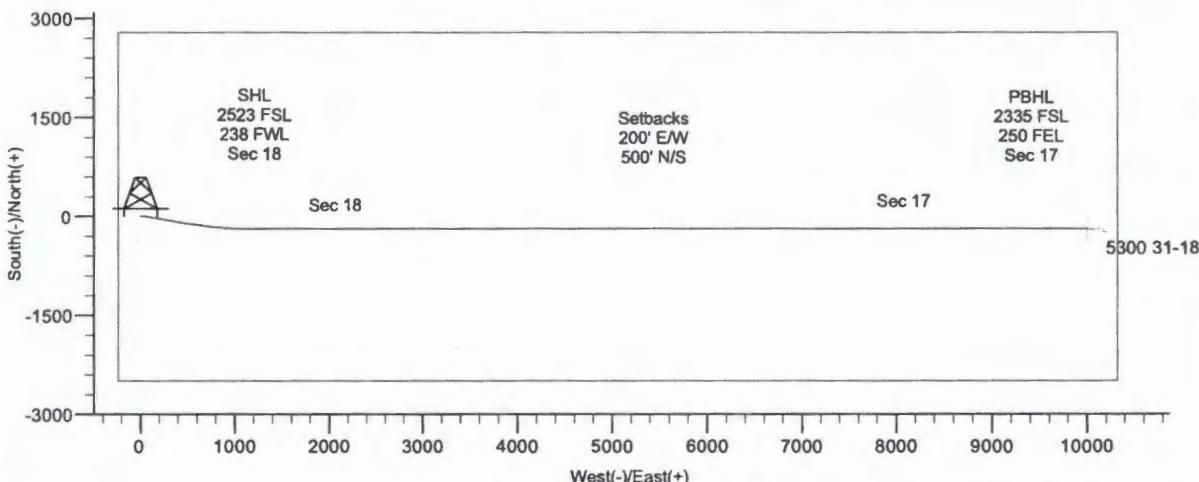
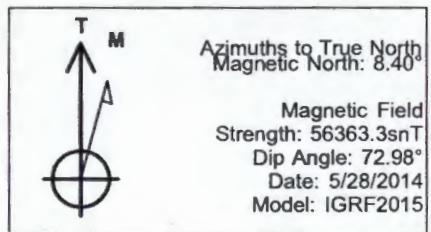
- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10731' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10731' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 119k lbs.) plus 100k lbs overpull.

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 31-18 8B
 Wellbore: Kline Federal 5300 31-18 8B
 Design: Design #2



WELL DETAILS: Kline Federal 5300 31-18 8B

Northing	407221.72	Ground Level:	2008.0
		Easting	1210091.04
		Latitude	48° 4' 28.160 N
		Longitude	103° 36' 11.380 W



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	
2150.0	0.00	0.00	2150.0	0.0	0.0	0.00	
2160.0	0.50	90.00	2160.0	0.0	0.0	5.00	
7879.7	0.50	90.00	7879.4	0.0	50.0	0.00	
7889.7	0.00	0.00	7889.4	0.0	50.0	5.00	
10220.7	0.00	0.00	10220.5	0.0	50.0	0.00	
10969.0	89.80	103.40	10698.0	-110.3	512.8	12.00	
11639.1	89.80	90.00	10700.3	-188.3	1176.8	2.00	
20462.4	89.80	90.00	10731.0	-188.0	10000.0	0.00	KLINE FEDERAL 5300 31-18 8B PBHL

Vertical Section at 90.00°

TD at 20462.4

KLINE FEDERAL 5300 31-18 8B PBHL

Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8B

Kline Federal 5300 31-18 8B

Kline Federal 5300 31-18 8B

Plan: Design #2

Standard Planning Report

17 February, 2015

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8B		
Design:	Design #2		

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 31-18 8B				
Well Position	+N-S +E-W	32.4 usft 0.0 usft	Northing: Easting:	407,221.72 usft 1,210,091.03 usft	Latitude: Longitude:
Position Uncertainty	2.0 usft		Wellhead Elevation:		Ground Level:
					2,008.0 usft

Wellbore	Kline Federal 5300 31-18 8B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/28/2014	8.40	72.98	56,363

Design	Design #2				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
		0.0	0.0	0.0	90.00

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,160.0	0.50	90.00	2,160.0	0.0	0.0	5.00	5.00	0.00	90.00	
7,879.7	0.50	90.00	7,879.4	0.0	50.0	0.00	0.00	0.00	0.00	
7,889.7	0.00	0.00	7,889.4	0.0	50.0	5.00	-5.00	0.00	180.00	
10,220.7	0.00	0.00	10,220.5	0.0	50.0	0.00	0.00	0.00	0.00	
10,969.0	89.80	103.40	10,698.0	-110.3	512.8	12.00	12.00	0.00	103.40	
11,639.1	89.80	90.00	10,700.3	-188.3	1,176.8	2.00	0.00	-2.00	-90.02	
20,462.4	89.80	90.00	10,731.0	-188.0	10,000.0	0.00	0.00	0.00	0.00	5300 31-18 8B PBHL

Planning Report

Database: OpenWellsCompass - EDM Prod
Company: Oasis
Project: Indian Hills
Site: 153N-100W-17/18
Well: Kline Federal 5300 31-18 8B
Wellbore: Kline Federal 5300 31-18 8B
Design: Design #2

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Kline Federal 5300 31-18 8B
 WELL @ 2033.0usft (Original Well Elev)
 WELL @ 2033.0usft (Original Well Elev)
 True
 Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (/100ft)	Build Rate (/100ft)	Turn Rate (/100ft)	
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.0	0.00	0.00	0.00	
Start Build 5.00										
2,160.0	0.50	90.00	2,160.0	0.0	0.0	0.0	5.00	5.00	0.00	
Start 5719.7 hold at 2160.0 MD										
2,200.0	0.50	90.00	2,200.0	0.0	0.4	0.4	0.00	0.00	0.00	
2,300.0	0.50	90.00	2,300.0	0.0	1.3	1.3	0.00	0.00	0.00	
2,400.0	0.50	90.00	2,400.0	0.0	2.1	2.1	0.00	0.00	0.00	
2,500.0	0.50	90.00	2,500.0	0.0	3.0	3.0	0.00	0.00	0.00	
2,600.0	0.50	90.00	2,600.0	0.0	3.9	3.9	0.00	0.00	0.00	
2,700.0	0.50	90.00	2,700.0	0.0	4.8	4.8	0.00	0.00	0.00	
2,800.0	0.50	90.00	2,800.0	0.0	5.6	5.6	0.00	0.00	0.00	
2,900.0	0.50	90.00	2,900.0	0.0	6.5	6.5	0.00	0.00	0.00	
3,000.0	0.50	90.00	3,000.0	0.0	7.4	7.4	0.00	0.00	0.00	
3,100.0	0.50	90.00	3,100.0	0.0	8.2	8.2	0.00	0.00	0.00	
3,200.0	0.50	90.00	3,200.0	0.0	9.1	9.1	0.00	0.00	0.00	
3,300.0	0.50	90.00	3,300.0	0.0	10.0	10.0	0.00	0.00	0.00	
3,400.0	0.50	90.00	3,400.0	0.0	10.9	10.9	0.00	0.00	0.00	
3,500.0	0.50	90.00	3,499.9	0.0	11.7	11.7	0.00	0.00	0.00	
3,600.0	0.50	90.00	3,599.9	0.0	12.6	12.6	0.00	0.00	0.00	
3,700.0	0.50	90.00	3,699.9	0.0	13.5	13.5	0.00	0.00	0.00	
3,800.0	0.50	90.00	3,799.9	0.0	14.4	14.4	0.00	0.00	0.00	
3,900.0	0.50	90.00	3,899.9	0.0	15.2	15.2	0.00	0.00	0.00	
4,000.0	0.50	90.00	3,999.9	0.0	16.1	16.1	0.00	0.00	0.00	
4,100.0	0.50	90.00	4,099.9	0.0	17.0	17.0	0.00	0.00	0.00	
4,200.0	0.50	90.00	4,199.9	0.0	17.8	17.8	0.00	0.00	0.00	
4,300.0	0.50	90.00	4,299.9	0.0	18.7	18.7	0.00	0.00	0.00	
4,400.0	0.50	90.00	4,399.9	0.0	19.6	19.6	0.00	0.00	0.00	
4,500.0	0.50	90.00	4,499.9	0.0	20.5	20.5	0.00	0.00	0.00	
4,600.0	0.50	90.00	4,599.9	0.0	21.3	21.3	0.00	0.00	0.00	
4,700.0	0.50	90.00	4,699.9	0.0	22.2	22.2	0.00	0.00	0.00	
4,800.0	0.50	90.00	4,799.9	0.0	23.1	23.1	0.00	0.00	0.00	
4,900.0	0.50	90.00	4,899.9	0.0	24.0	24.0	0.00	0.00	0.00	
5,000.0	0.50	90.00	4,999.9	0.0	24.8	24.8	0.00	0.00	0.00	
5,100.0	0.50	90.00	5,099.9	0.0	25.7	25.7	0.00	0.00	0.00	
5,200.0	0.50	90.00	5,199.9	0.0	26.6	26.6	0.00	0.00	0.00	
5,300.0	0.50	90.00	5,299.9	0.0	27.4	27.4	0.00	0.00	0.00	
5,400.0	0.50	90.00	5,399.9	0.0	28.3	28.3	0.00	0.00	0.00	
5,500.0	0.50	90.00	5,499.9	0.0	29.2	29.2	0.00	0.00	0.00	
5,600.0	0.50	90.00	5,599.9	0.0	30.1	30.1	0.00	0.00	0.00	
5,700.0	0.50	90.00	5,699.9	0.0	30.9	30.9	0.00	0.00	0.00	
5,800.0	0.50	90.00	5,799.9	0.0	31.8	31.8	0.00	0.00	0.00	
5,900.0	0.50	90.00	5,899.9	0.0	32.7	32.7	0.00	0.00	0.00	
6,000.0	0.50	90.00	5,999.9	0.0	33.6	33.6	0.00	0.00	0.00	
6,100.0	0.50	90.00	6,099.8	0.0	34.4	34.4	0.00	0.00	0.00	
6,200.0	0.50	90.00	6,199.8	0.0	35.3	35.3	0.00	0.00	0.00	
6,300.0	0.50	90.00	6,299.8	0.0	36.2	36.2	0.00	0.00	0.00	
6,400.0	0.50	90.00	6,399.8	0.0	37.0	37.0	0.00	0.00	0.00	
6,437.2	0.50	90.00	6,437.0	0.0	37.4	37.4	0.00	0.00	0.00	
9 5/8"										
6,500.0	0.50	90.00	6,499.8	0.0	37.9	37.9	0.00	0.00	0.00	
6,600.0	0.50	90.00	6,599.8	0.0	38.8	38.8	0.00	0.00	0.00	
6,700.0	0.50	90.00	6,699.8	0.0	39.7	39.7	0.00	0.00	0.00	
6,800.0	0.50	90.00	6,799.8	0.0	40.5	40.5	0.00	0.00	0.00	
6,900.0	0.50	90.00	6,899.8	0.0	41.4	41.4	0.00	0.00	0.00	
7,000.0	0.50	90.00	6,999.8	0.0	42.3	42.3	0.00	0.00	0.00	

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8B		
Design:	Design #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
7,100.0	0.50	90.00	7,099.8	0.0	43.2	43.2	0.00	0.00	0.00	0.00
7,200.0	0.50	90.00	7,199.8	0.0	44.0	44.0	0.00	0.00	0.00	0.00
7,300.0	0.50	90.00	7,299.8	0.0	44.9	44.9	0.00	0.00	0.00	0.00
7,400.0	0.50	90.00	7,399.8	0.0	45.8	45.8	0.00	0.00	0.00	0.00
7,500.0	0.50	90.00	7,499.8	0.0	46.6	46.6	0.00	0.00	0.00	0.00
7,600.0	0.50	90.00	7,599.8	0.0	47.5	47.5	0.00	0.00	0.00	0.00
7,700.0	0.50	90.00	7,699.8	0.0	48.4	48.4	0.00	0.00	0.00	0.00
7,800.0	0.50	90.00	7,799.8	0.0	49.3	49.3	0.00	0.00	0.00	0.00
7,879.7	0.50	90.00	7,879.4	0.0	50.0	50.0	0.00	0.00	0.00	0.00
Start Drop -5.00										
7,889.7	0.00	0.00	7,889.4	0.0	50.0	50.0	5.00	-5.00	0.00	0.00
Start 2331.1 hold at 7889.7 MD										
10,220.7	0.00	0.00	10,220.5	0.0	50.0	50.0	0.00	0.00	0.00	0.00
Start Build 12.00										
10,300.0	9.51	103.40	10,299.4	-1.5	56.4	56.4	12.00	12.00	0.00	0.00
10,400.0	21.51	103.40	10,395.6	-7.7	82.4	82.4	12.00	12.00	0.00	0.00
10,500.0	33.51	103.40	10,484.1	-18.4	127.2	127.2	12.00	12.00	0.00	0.00
10,600.0	45.51	103.40	10,561.1	-33.1	189.0	189.0	12.00	12.00	0.00	0.00
10,700.0	57.51	103.40	10,623.3	-51.2	265.0	265.0	12.00	12.00	0.00	0.00
10,800.0	69.51	103.40	10,667.8	-71.9	351.9	351.9	12.00	12.00	0.00	0.00
10,900.0	81.51	103.40	10,692.7	-94.3	445.9	445.9	12.00	12.00	0.00	0.00
10,969.0	89.79	103.40	10,698.0	-110.3	512.8	512.8	12.00	12.00	0.00	0.00
Start DLS 2.00 TFO -90.02 - 7"										
11,000.0	89.80	102.78	10,698.1	-117.3	543.0	543.0	2.00	0.02	-2.00	-2.00
11,100.0	89.80	100.78	10,698.4	-137.7	640.9	640.9	2.00	0.00	-2.00	-2.00
11,200.0	89.80	98.78	10,698.8	-154.7	739.4	739.4	2.00	0.00	-2.00	-2.00
11,300.0	89.80	96.78	10,699.1	-168.2	838.5	838.5	2.00	0.00	-2.00	-2.00
11,400.0	89.80	94.78	10,699.5	-178.3	938.0	938.0	2.00	0.00	-2.00	-2.00
11,500.0	89.80	92.78	10,699.8	-184.9	1,037.8	1,037.8	2.00	0.00	-2.00	-2.00
11,600.0	89.80	90.78	10,700.2	-188.0	1,137.7	1,137.7	2.00	0.00	-2.00	-2.00
11,639.1	89.80	90.00	10,700.3	-188.3	1,176.8	1,176.8	2.00	0.00	-2.00	-2.00
Start 8823.2 hold at 11639.1 MD										
11,700.0	89.80	90.00	10,700.5	-188.3	1,237.7	1,237.7	0.00	0.00	0.00	0.00
11,800.0	89.80	90.00	10,700.9	-188.3	1,337.7	1,337.7	0.00	0.00	0.00	0.00
11,900.0	89.80	90.00	10,701.2	-188.2	1,437.7	1,437.7	0.00	0.00	0.00	0.00
12,000.0	89.80	90.00	10,701.6	-188.2	1,537.7	1,537.7	0.00	0.00	0.00	0.00
12,100.0	89.80	90.00	10,701.9	-188.2	1,637.7	1,637.7	0.00	0.00	0.00	0.00
12,200.0	89.80	90.00	10,702.3	-188.2	1,737.7	1,737.7	0.00	0.00	0.00	0.00
12,300.0	89.80	90.00	10,702.6	-188.2	1,837.7	1,837.7	0.00	0.00	0.00	0.00
12,400.0	89.80	90.00	10,703.0	-188.2	1,937.7	1,937.7	0.00	0.00	0.00	0.00
12,500.0	89.80	90.00	10,703.3	-188.2	2,037.7	2,037.7	0.00	0.00	0.00	0.00
12,600.0	89.80	90.00	10,703.6	-188.2	2,137.7	2,137.7	0.00	0.00	0.00	0.00
12,700.0	89.80	90.00	10,704.0	-188.2	2,237.7	2,237.7	0.00	0.00	0.00	0.00
12,800.0	89.80	90.00	10,704.3	-188.2	2,337.7	2,337.7	0.00	0.00	0.00	0.00
12,900.0	89.80	90.00	10,704.7	-188.2	2,437.7	2,437.7	0.00	0.00	0.00	0.00
13,000.0	89.80	90.00	10,705.0	-188.2	2,537.7	2,537.7	0.00	0.00	0.00	0.00
13,100.0	89.80	90.00	10,705.4	-188.2	2,637.7	2,637.7	0.00	0.00	0.00	0.00
13,200.0	89.80	90.00	10,705.7	-188.2	2,737.7	2,737.7	0.00	0.00	0.00	0.00
13,300.0	89.80	90.00	10,706.1	-188.2	2,837.7	2,837.7	0.00	0.00	0.00	0.00
13,400.0	89.80	90.00	10,706.4	-188.2	2,937.7	2,937.7	0.00	0.00	0.00	0.00
13,500.0	89.80	90.00	10,706.8	-188.2	3,037.7	3,037.7	0.00	0.00	0.00	0.00
13,600.0	89.80	90.00	10,707.1	-188.2	3,137.7	3,137.7	0.00	0.00	0.00	0.00
13,700.0	89.80	90.00	10,707.5	-188.2	3,237.7	3,237.7	0.00	0.00	0.00	0.00
13,800.0	89.80	90.00	10,707.8	-188.2	3,337.7	3,337.7	0.00	0.00	0.00	0.00

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8B		
Design:	Design #2		

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)
13,900.0	89.80	90.00	10,708.2	-188.2	3,437.7	3,437.7	0.00	0.00	0.00
14,000.0	89.80	90.00	10,708.5	-188.2	3,537.7	3,537.7	0.00	0.00	0.00
14,100.0	89.80	90.00	10,708.9	-188.2	3,637.7	3,637.7	0.00	0.00	0.00
14,200.0	89.80	90.00	10,709.2	-188.2	3,737.7	3,737.7	0.00	0.00	0.00
14,300.0	89.80	90.00	10,709.6	-188.2	3,837.7	3,837.7	0.00	0.00	0.00
14,400.0	89.80	90.00	10,709.9	-188.2	3,937.7	3,937.7	0.00	0.00	0.00
14,500.0	89.80	90.00	10,710.3	-188.2	4,037.7	4,037.7	0.00	0.00	0.00
14,600.0	89.80	90.00	10,710.6	-188.2	4,137.7	4,137.7	0.00	0.00	0.00
14,700.0	89.80	90.00	10,711.0	-188.2	4,237.7	4,237.7	0.00	0.00	0.00
14,800.0	89.80	90.00	10,711.3	-188.2	4,337.7	4,337.7	0.00	0.00	0.00
14,900.0	89.80	90.00	10,711.7	-188.2	4,437.7	4,437.7	0.00	0.00	0.00
15,000.0	89.80	90.00	10,712.0	-188.2	4,537.7	4,537.7	0.00	0.00	0.00
15,100.0	89.80	90.00	10,712.3	-188.2	4,637.7	4,637.7	0.00	0.00	0.00
15,200.0	89.80	90.00	10,712.7	-188.1	4,737.7	4,737.7	0.00	0.00	0.00
15,300.0	89.80	90.00	10,713.0	-188.1	4,837.7	4,837.7	0.00	0.00	0.00
15,400.0	89.80	90.00	10,713.4	-188.1	4,937.7	4,937.7	0.00	0.00	0.00
15,500.0	89.80	90.00	10,713.7	-188.1	5,037.7	5,037.7	0.00	0.00	0.00
15,600.0	89.80	90.00	10,714.1	-188.1	5,137.7	5,137.7	0.00	0.00	0.00
15,700.0	89.80	90.00	10,714.4	-188.1	5,237.7	5,237.7	0.00	0.00	0.00
15,800.0	89.80	90.00	10,714.8	-188.1	5,337.7	5,337.7	0.00	0.00	0.00
15,900.0	89.80	90.00	10,715.1	-188.1	5,437.7	5,437.7	0.00	0.00	0.00
16,000.0	89.80	90.00	10,715.5	-188.1	5,537.7	5,537.7	0.00	0.00	0.00
16,100.0	89.80	90.00	10,715.8	-188.1	5,637.7	5,637.7	0.00	0.00	0.00
16,200.0	89.80	90.00	10,716.2	-188.1	5,737.7	5,737.7	0.00	0.00	0.00
16,300.0	89.80	90.00	10,716.5	-188.1	5,837.7	5,837.7	0.00	0.00	0.00
16,400.0	89.80	90.00	10,716.9	-188.1	5,937.7	5,937.7	0.00	0.00	0.00
16,500.0	89.80	90.00	10,717.2	-188.1	6,037.7	6,037.7	0.00	0.00	0.00
16,600.0	89.80	90.00	10,717.6	-188.1	6,137.7	6,137.7	0.00	0.00	0.00
16,700.0	89.80	90.00	10,717.9	-188.1	6,237.7	6,237.7	0.00	0.00	0.00
16,800.0	89.80	90.00	10,718.3	-188.1	6,337.7	6,337.7	0.00	0.00	0.00
16,900.0	89.80	90.00	10,718.6	-188.1	6,437.7	6,437.7	0.00	0.00	0.00
17,000.0	89.80	90.00	10,719.0	-188.1	6,537.7	6,537.7	0.00	0.00	0.00
17,100.0	89.80	90.00	10,719.3	-188.1	6,637.7	6,637.7	0.00	0.00	0.00
17,200.0	89.80	90.00	10,719.7	-188.1	6,737.7	6,737.7	0.00	0.00	0.00
17,300.0	89.80	90.00	10,720.0	-188.1	6,837.7	6,837.7	0.00	0.00	0.00
17,400.0	89.80	90.00	10,720.3	-188.1	6,937.7	6,937.7	0.00	0.00	0.00
17,500.0	89.80	90.00	10,720.7	-188.1	7,037.7	7,037.7	0.00	0.00	0.00
17,600.0	89.80	90.00	10,721.0	-188.1	7,137.7	7,137.7	0.00	0.00	0.00
17,700.0	89.80	90.00	10,721.4	-188.1	7,237.7	7,237.7	0.00	0.00	0.00
17,800.0	89.80	90.00	10,721.7	-188.1	7,337.7	7,337.7	0.00	0.00	0.00
17,900.0	89.80	90.00	10,722.1	-188.1	7,437.7	7,437.7	0.00	0.00	0.00
18,000.0	89.80	90.00	10,722.4	-188.1	7,537.7	7,537.7	0.00	0.00	0.00
18,100.0	89.80	90.00	10,722.8	-188.1	7,637.7	7,637.7	0.00	0.00	0.00
18,200.0	89.80	90.00	10,723.1	-188.1	7,737.7	7,737.7	0.00	0.00	0.00
18,300.0	89.80	90.00	10,723.5	-188.1	7,837.7	7,837.7	0.00	0.00	0.00
18,400.0	89.80	90.00	10,723.8	-188.1	7,937.7	7,937.7	0.00	0.00	0.00
18,500.0	89.80	90.00	10,724.2	-188.1	8,037.7	8,037.7	0.00	0.00	0.00
18,600.0	89.80	90.00	10,724.5	-188.0	8,137.7	8,137.7	0.00	0.00	0.00
18,700.0	89.80	90.00	10,724.9	-188.0	8,237.7	8,237.7	0.00	0.00	0.00
18,800.0	89.80	90.00	10,725.2	-188.0	8,337.7	8,337.7	0.00	0.00	0.00
18,900.0	89.80	90.00	10,725.6	-188.0	8,437.7	8,437.7	0.00	0.00	0.00
19,000.0	89.80	90.00	10,725.9	-188.0	8,537.7	8,537.7	0.00	0.00	0.00
19,100.0	89.80	90.00	10,726.3	-188.0	8,637.7	8,637.7	0.00	0.00	0.00
19,200.0	89.80	90.00	10,726.6	-188.0	8,737.7	8,737.7	0.00	0.00	0.00
19,300.0	89.80	90.00	10,727.0	-188.0	8,837.7	8,837.7	0.00	0.00	0.00

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8B		
Design:	Design #2		

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)
19,400.0	89.80	90.00	10,727.3	-188.0	8,937.7	8,937.7	0.00	0.00	0.00
19,500.0	89.80	90.00	10,727.7	-188.0	9,037.7	9,037.7	0.00	0.00	0.00
19,600.0	89.80	90.00	10,728.0	-188.0	9,137.7	9,137.7	0.00	0.00	0.00
19,700.0	89.80	90.00	10,728.3	-188.0	9,237.7	9,237.7	0.00	0.00	0.00
19,800.0	89.80	90.00	10,728.7	-188.0	9,337.6	9,337.6	0.00	0.00	0.00
19,900.0	89.80	90.00	10,729.0	-188.0	9,437.6	9,437.6	0.00	0.00	0.00
20,000.0	89.80	90.00	10,729.4	-188.0	9,537.6	9,537.6	0.00	0.00	0.00
20,100.0	89.80	90.00	10,729.7	-188.0	9,637.6	9,637.6	0.00	0.00	0.00
20,200.0	89.80	90.00	10,730.1	-188.0	9,737.6	9,737.6	0.00	0.00	0.00
20,300.0	89.80	90.00	10,730.4	-188.0	9,837.6	9,837.6	0.00	0.00	0.00
20,400.0	89.80	90.00	10,730.8	-188.0	9,937.6	9,937.6	0.00	0.00	0.00
20,462.4	89.80	90.00	10,731.0	-188.0	10,000.0	10,000.0	0.00	0.00	0.00

TD at 20462.4 - 5300 31-18 8B PBHL

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
5300 31-18 8B PBHL - plan hits target center - Point	0.00	0.00	10,731.0	-188.0	10,000.0	406,630.97	1,220,075.34	48° 4' 26.278 N	103° 33' 44.121 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,023.0	2,023.0 13 3/8"		13.375	17.500
6,437.2	6,437.0 9 5/8"		9.625	12.250
10,969.0	10,698.0 7"		7.000	8.750

Planning Report

Database:	OpenWellsCompass - EDM Prod	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8B
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8B		
Design:	Design #2		

Formations

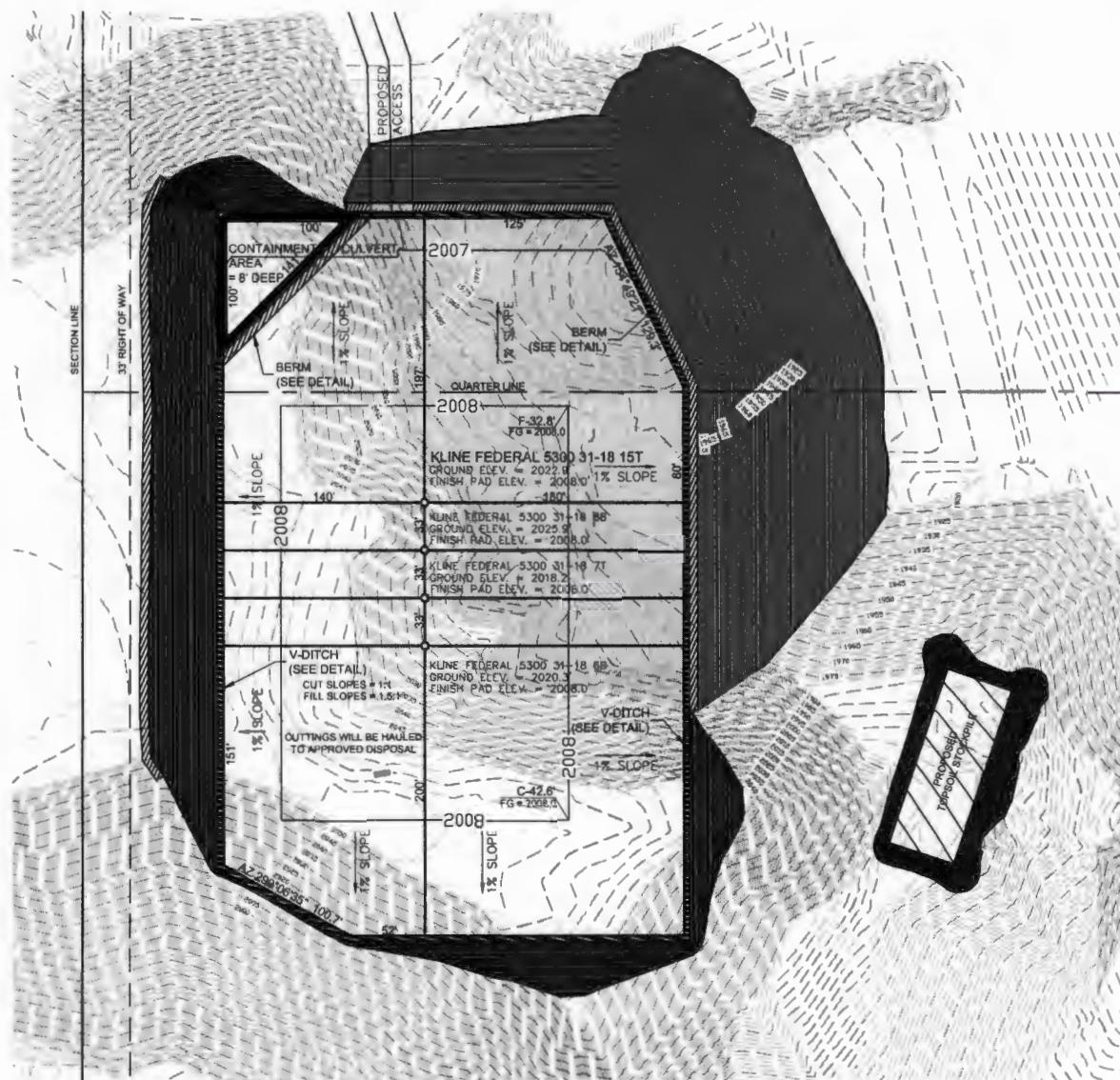
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,923.0	1,923.0	Pierre			
4,597.1	4,597.0	Greenhorn			
5,008.1	5,008.0	Mowry			
5,422.1	5,422.0	Dakota			
6,437.2	6,437.0	Rierdon			
6,765.2	6,765.0	Dunham Salt			
6,880.2	6,880.0	Dunham Salt Base			
6,975.2	6,975.0	Spearfish			
7,234.2	7,234.0	Pine Salt			
7,269.2	7,269.0	Pine Salt Base			
7,325.2	7,325.0	Opeche Salt			
7,354.2	7,354.0	Opeche Salt Base			
7,556.2	7,556.0	Broom Creek (Top of Minnelusa Gp.)			
7,635.2	7,635.0	Amsden			
7,804.2	7,804.0	Tyler			
7,998.2	7,998.0	Otter (Base of Minnelusa Gp.)			
8,341.2	8,341.0	Kibbey Lime			
8,493.2	8,493.0	Charles Salt			
9,110.2	9,110.0	UB			
9,181.2	9,181.0	Base Last Salt			
9,244.2	9,244.0	Ratcliffe			
9,387.2	9,387.0	Mission Canyon			
9,955.2	9,955.0	Lodgepole			
10,142.2	10,142.0	Lodgepole Fracture Zone			
10,778.5	10,659.0	False Bakken			
10,800.7	10,668.0	Upper Bakken			
10,855.0	10,684.0	Middle Bakken			
10,901.8	10,693.0	Middle Bakken Sand Target			
12,413.4	10,703.0	Base Middle Bakken Sand Target			
16,725.3	10,718.0	Lower Bakken			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N-S (usft)	+E-W (usft)		
2,150.0	2,150.0	0.0	0.0	Start Build 5.00	
2,160.0	2,160.0	0.0	0.0	Start 5719.7 hold at 2160.0 MD	
7,879.7	7,879.4	0.0	50.0	Start Drop -5.00	
7,889.7	7,889.4	0.0	50.0	Start 2331.1 hold at 7889.7 MD	
10,220.7	10,220.5	0.0	50.0	Start Build 12.00	
10,969.0	10,698.0	-110.3	512.8	Start DLS 2.00 TFO -90.02	
11,639.1	10,700.3	-188.3	1,176.8	Start 8823.2 hold at 11639.1 MD	
20,462.4	10,731.0	-188.0	10,000.0	TD at 20462.4	

EXISTING CONTOURS
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 15" 4WZ11
2556 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

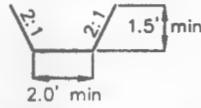
I.C
7002
4 well Pack
M.WEST LINC



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



V-DITCH DETAIL



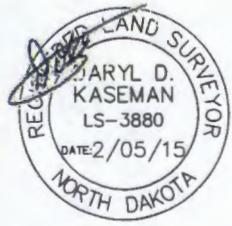
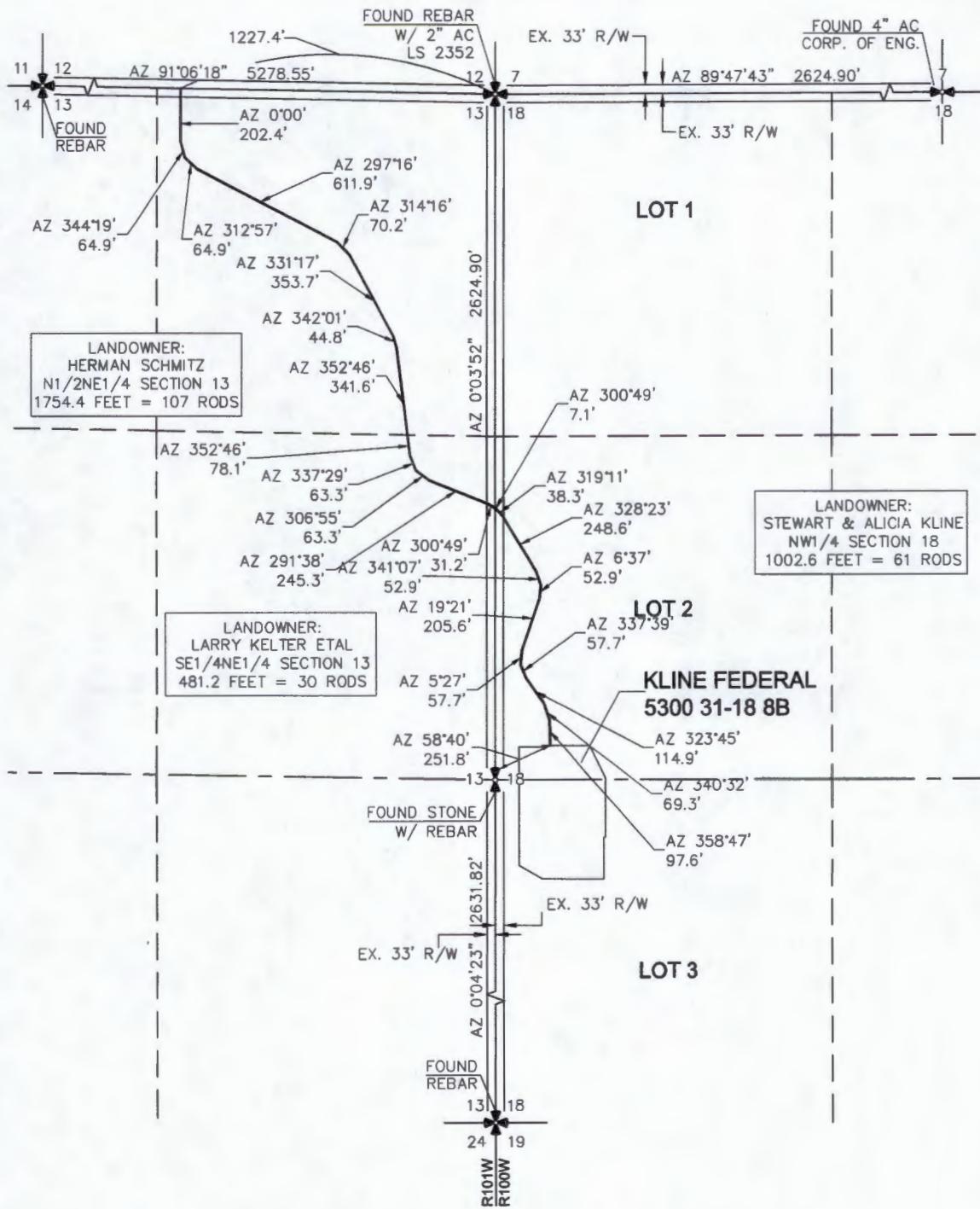
— Proposed Contours — BERM
 - - - - - Original Contours — DITCH

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

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

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ACCESS APPROACH
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 KLINE FEDERAL 5300 31-18 8B
 2523 FEET FROM SOUTH LINE AND 238 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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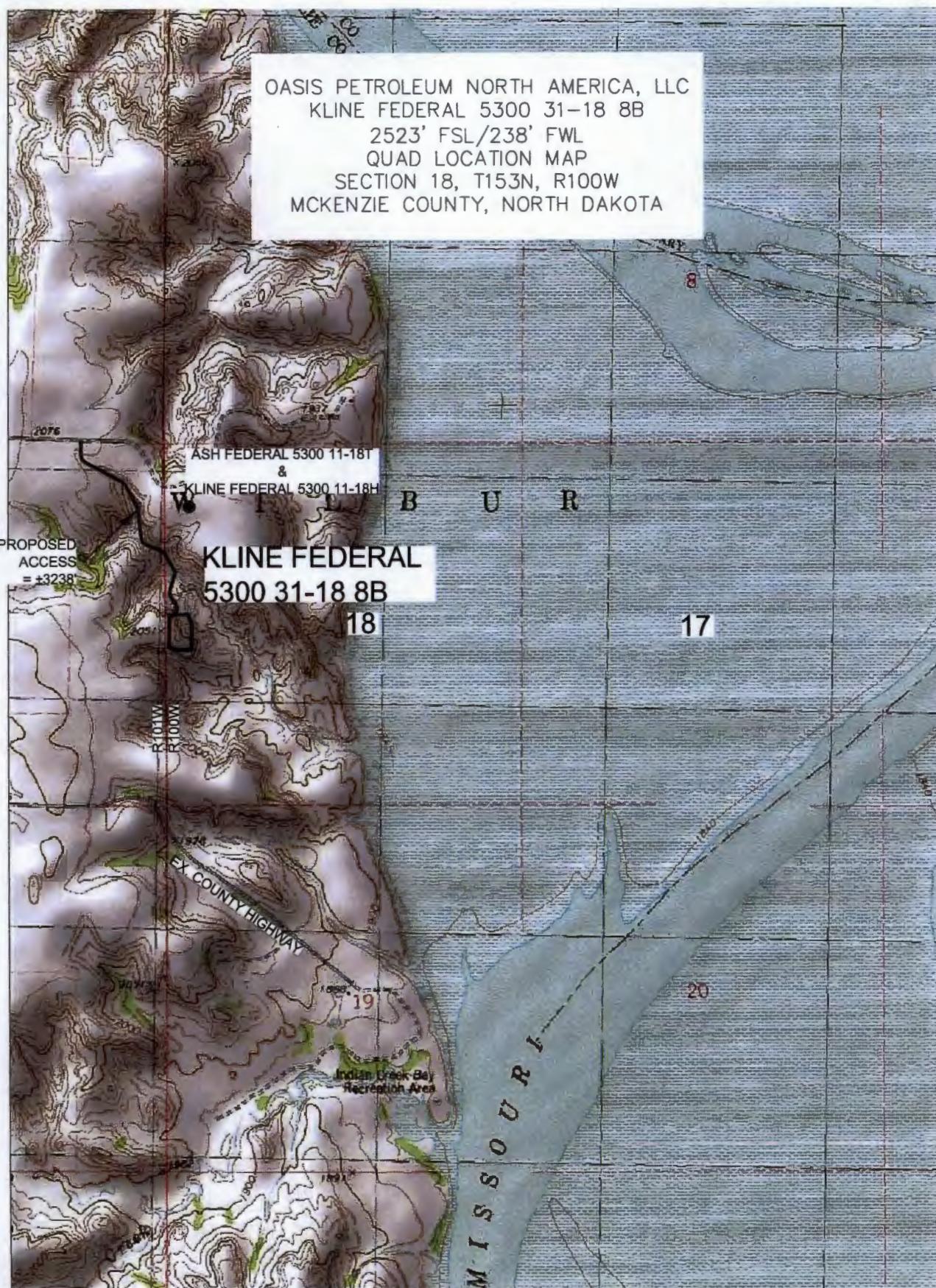
4/8

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 Glendive, Montana 59230
 Ph: (406) 433-0817
 Fax: (406) 433-0816
www.interstateengineering.com
 Other offices in Billings, North Dakota and Great Falls

OASIS PETROLEUM NORTH AMERICA, LLC
 ACCESS APPROACH
 SECTION 18, T153N, R100W
 MCKENZIE COUNTY, NORTH DAKOTA
 Drawn By: B.J.H.L. Project No.: E14-05-1000-03
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	BH	CHANGED WELL NAMES & BH.
REV 2	2/05/15	JJS	UPDATED ACCESS ROAD ROUTE



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Other offices in Minnesota, North Dakota and South Dakota

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

MCKENZIE COUNTY, NORTH DAKOTA

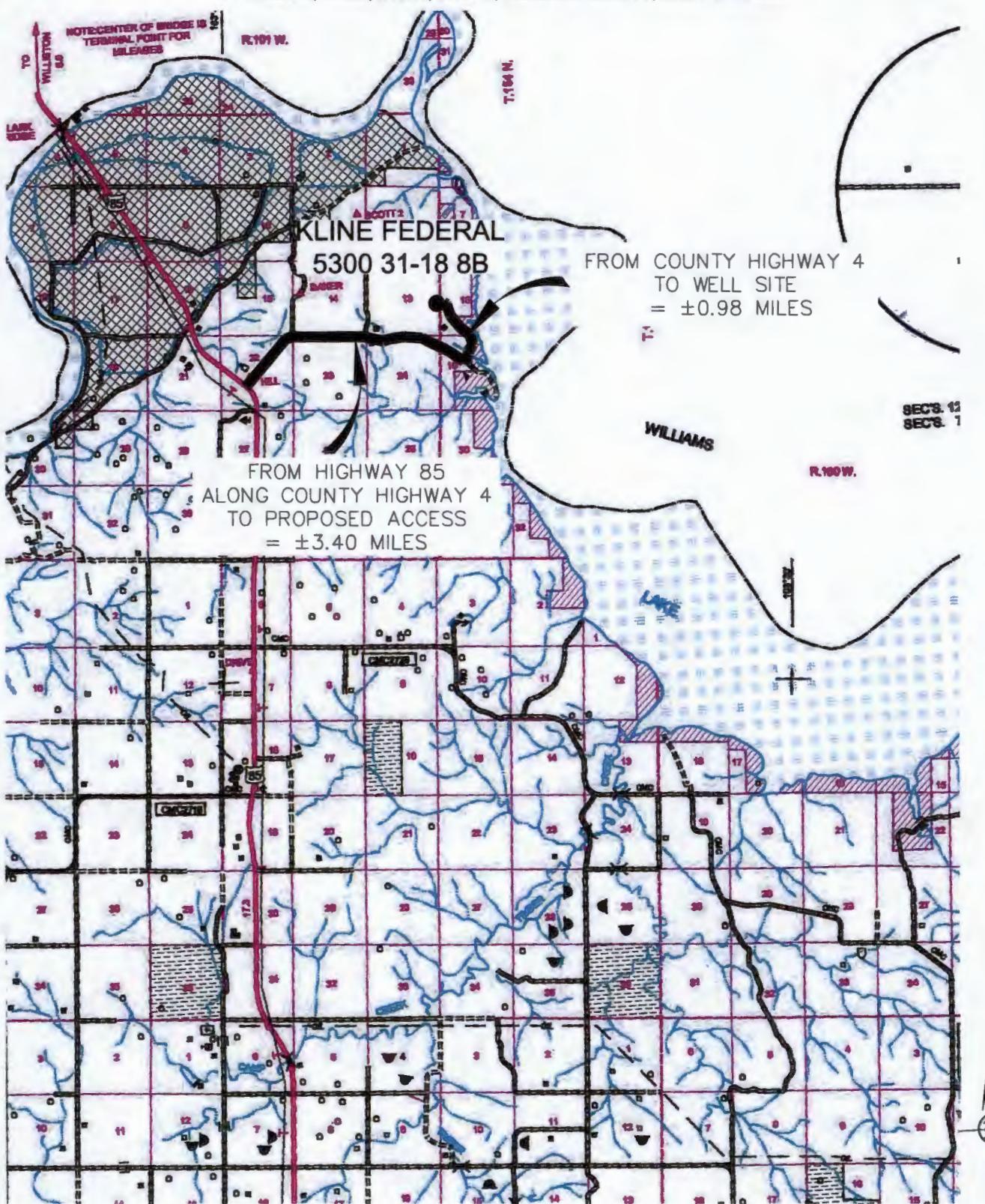
Drawn By:	B.H.H.	Project No.:	S14-09-109.02
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	BWH	CHANGED WELL NAMES & BH.
REV 2	2/05/15	JJS	UPDATED ACCESS ROAD ROUTE

COUNTY ROAD MAP

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 8B"

2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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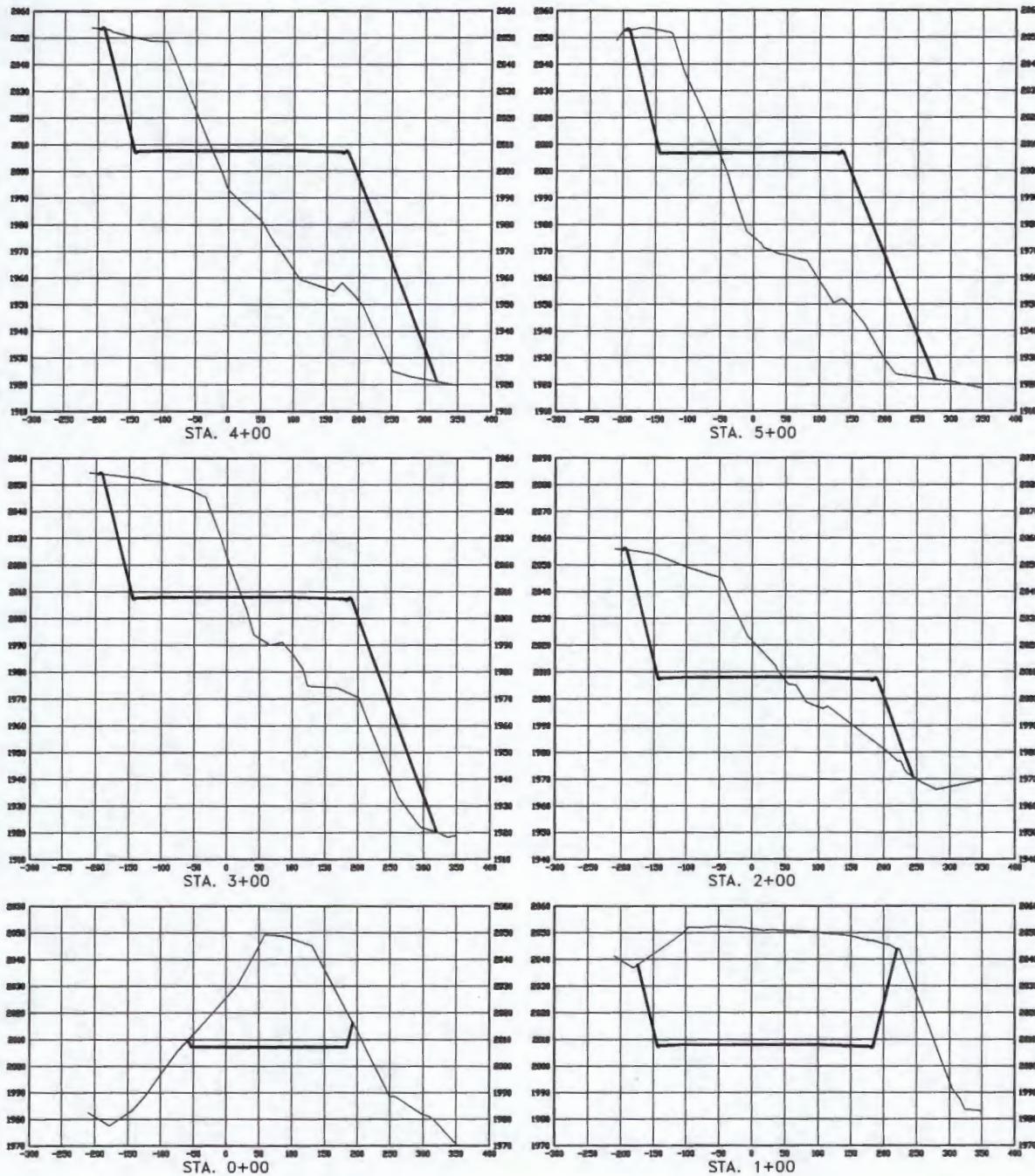
Other offices in Minnesota, North Dakota and South Dakota

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

Drawn By:	B.H.H.	Project No.:	S14-09-108.02
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	B.H.H.	CHANGED WELL NAMES & SHL
REV 2	2/08/15	JJS	UPDATED ACCESS ROAD ROUTE

CROSS SECTIONS
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 31-18 BB"
 2523 FEET FROM SOUTH LINE AND 238 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 2/05/15 AND THE
 ORIGINAL DOCUMENTS ARE
 STORED AT THE OFFICES OF
 INTERSTATE ENGINEERING, INC.

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

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

Drawn By: B.H.K.	Project No.: B14-08-108.02
Checked By: D.D.K.	Date: APRIL 2014

Reason	Date	By	Description
REV 1	1/27/15	B.H.K.	CHANGED WELL NAMES & BBL
REV 2	2/05/15	AJS	UPDATED ACCESS ROAD ROUTE

WELL LOCATION SITE QUANTITIES
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 31-18 8B"
 2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2025.9
WELL PAD ELEVATION	2008.0

EXCAVATION	146,179
PLUS PIT	0
	146,179
EMBANKMENT	113,287
PLUS SHRINKAGE (25%)	28,322
	141,609
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	4,701
BERMS	1,076 LF = 349 CY
DITCHES	1,350 LF = 207 CY
CONTAINMENT AREA	1,238 CY
STOCKPILE MATERIAL	965
DISTURBED AREA FROM PAD	5.83 ACRES

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

CUT END SLOPES AT 1:1

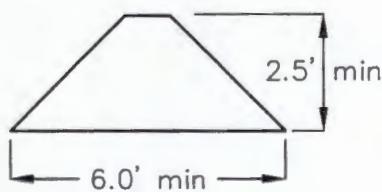
FILL END SLOPES AT 1.5:1

WELL SITE LOCATION

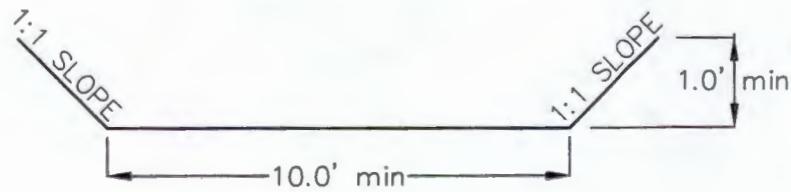
2523' FSL

238' FWL

BERM DETAIL



DIVERSION DITCH DETAIL



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www.interstateeng.com

Other offices in Minnesota, North Dakota and South Dakota

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

Drawn By: B.H.J. Project No.: S14-09-109.02
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description
REV 1	1/27/15	B.H.J.	CHANGED WELL NAMES & SHL
REV 2	3/05/15	J.B.	UPDATED ACCESS ROAD ROUTE



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.

28754



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

 Notice of Intent

Approximate Start Date
July 28, 2014

 Report of Work Done

Date Work Completed

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

Approximate Start Date

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

Well Name and Number

Kline Federal 5300 31-18 8T

Footages 2523 F S L	238 F W L	Qtr-Qtr LOT3	Section 18	Township 153 N	Range 100 W
Field Baker	Pool Bakken	County McKenzie			

24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)

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

DETAILS OF WORK

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

Surface Casing: 13-3/8, 54.5#, 17-1/2" Hole, 2,023' MD

Dakota Contingency: 9-5/8, 40#, 12-1/4" Hole, 6,101' MD

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

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 28, 2014	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8-5-14	
By 	
Title Petroleum Resource Specialist	

Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8T

Kline Federal 5300 31-18 8T

Design #1

Anticollision Report

18 July, 2014

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kine Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0 us
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program		Date	7/18/2014	Tool Name			Description	
From (usft)	To (usft)	Survey (Wellbore)						
0.0	20,656.4	Design #1 (Kline Federal 5300 31-18 8T)	MWD				MWD - Standard	

Summary		Reference	Offset	Distance				
Site Name	Measured Depth (usft)	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning	
Offset Well - Wellbore - Design								
153N-100W-17/18								
Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18	2,200.0	2,200.0	65.9	55.5	6.328	CC		
Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18	20,656.4	20,694.5	507.7	-69.9	0.879	Level 1, ES, SF		
Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18	2,200.0	2,200.0	32.4	22.0	3.115	CC		
Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18	20,656.4	20,831.5	500.8	-85.3	0.854	Level 1, ES, SF		

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1										Offset Site Error:	0.0 usft		
Survey Program: 0-MWD										Offset Well Error:	2.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	2.0	2.0	180.00	-65.9	0.0	65.9				
100.0	100.0	100.0	100.0	2.0	2.0	180.00	-65.9	0.0	65.9	61.9	4.00	16.451	
200.0	200.0	200.0	200.0	2.0	2.0	180.00	-65.9	0.0	65.9	61.8	4.05	16.272	
300.0	300.0	300.0	300.0	2.1	2.1	180.00	-65.9	0.0	65.9	61.7	4.14	15.908	
400.0	400.0	400.0	400.0	2.1	2.1	180.00	-65.9	0.0	65.9	61.6	4.28	15.395	
500.0	500.0	500.0	500.0	2.2	2.2	180.00	-65.9	0.0	65.9	61.4	4.46	14.776	
600.0	600.0	600.0	600.0	2.3	2.3	180.00	-65.9	0.0	65.9	61.2	4.67	14.094	
700.0	700.0	700.0	700.0	2.5	2.5	180.00	-65.9	0.0	65.9	60.9	4.92	13.385	
800.0	800.0	800.0	800.0	2.6	2.6	180.00	-65.9	0.0	65.9	60.7	5.20	12.677	
900.0	900.0	900.0	900.0	2.7	2.7	180.00	-65.9	0.0	65.9	60.4	5.49	11.990	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	180.00	-65.9	0.0	65.9	60.1	5.81	11.335	
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	180.00	-65.9	0.0	65.9	59.7	6.14	10.719	
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	180.00	-65.9	0.0	65.9	59.4	6.49	10.145	
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	180.00	-65.9	0.0	65.9	59.0	6.85	9.612	
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	180.00	-65.9	0.0	65.9	58.6	7.22	9.120	
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	180.00	-65.9	0.0	65.9	58.3	7.60	8.666	
1,600.0	1,600.0	1,600.0	1,600.0	4.0	4.0	180.00	-65.9	0.0	65.9	57.9	7.99	8.247	
1,700.0	1,700.0	1,700.0	1,700.0	4.2	4.2	180.00	-65.9	0.0	65.9	57.5	8.38	7.861	
1,800.0	1,800.0	1,800.0	1,800.0	4.4	4.4	180.00	-65.9	0.0	65.9	57.1	8.78	7.505	
1,900.0	1,900.0	1,900.0	1,900.0	4.6	4.6	180.00	-65.9	0.0	65.9	56.7	9.18	7.176	
2,000.0	2,000.0	2,000.0	2,000.0	4.8	4.8	180.00	-65.9	0.0	65.9	56.3	9.58	6.872	
2,100.0	2,100.0	2,100.0	2,100.0	5.0	5.0	180.00	-65.9	0.0	65.9	55.9	9.99	6.590	
2,200.0	2,200.0	2,200.0	2,200.0	5.2	5.2	180.00	-65.9	0.0	65.9	55.5	10.41	6.328 CC	

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
2,216.7	2,216.7	2,216.1	2,216.1	5.2	5.2	180.00	-65.9	0.0	66.0	55.5	10.47	6.303			
2,300.0	2,300.0	2,299.4	2,299.4	5.4	5.4	180.00	-66.7	0.0	67.5	56.7	10.77	6.261			
2,400.0	2,400.0	2,399.4	2,399.4	5.6	5.5	180.00	-67.5	0.0	69.2	58.1	11.14	6.210			
2,500.0	2,500.0	2,499.4	2,499.4	5.8	5.7	180.00	-68.4	0.0	70.9	59.4	11.52	6.159			
2,600.0	2,600.0	2,599.4	2,599.4	6.0	5.9	180.00	-69.3	0.0	72.7	60.8	11.90	6.109			
2,700.0	2,700.0	2,699.4	2,699.3	6.3	6.0	180.00	-70.1	0.0	74.4	62.2	12.28	6.060			
2,800.0	2,800.0	2,799.3	2,799.3	6.5	6.2	180.00	-71.0	0.0	76.2	63.5	12.67	6.012			
2,900.0	2,900.0	2,899.3	2,899.3	6.7	6.4	180.00	-71.9	0.0	77.9	64.9	13.06	5.965			
3,000.0	3,000.0	2,999.3	2,999.3	6.9	6.6	180.00	-72.8	0.0	79.7	66.2	13.46	5.919			
3,100.0	3,100.0	3,099.3	3,099.3	7.1	6.7	180.00	-73.6	0.0	81.4	67.6	13.86	5.875			
3,200.0	3,200.0	3,199.3	3,199.2	7.3	6.9	180.00	-74.5	0.0	83.2	68.9	14.26	5.831			
3,300.0	3,300.0	3,299.3	3,299.2	7.5	7.1	180.00	-75.4	0.0	84.9	70.2	14.67	5.789			
3,400.0	3,400.0	3,399.2	3,399.2	7.8	7.3	180.00	-76.3	0.0	86.7	71.6	15.07	5.749			
3,500.0	3,500.0	3,499.2	3,499.2	8.0	7.5	180.00	-77.1	0.0	88.4	72.9	15.48	5.709			
3,600.0	3,599.9	3,599.2	3,599.2	8.2	7.7	180.00	-78.0	0.0	90.1	74.3	15.90	5.671			
3,700.0	3,699.9	3,699.2	3,699.1	8.4	7.9	180.00	-78.9	0.0	91.9	75.6	16.31	5.634			
3,800.0	3,799.9	3,799.2	3,799.1	8.6	8.1	180.00	-79.7	0.0	93.6	76.9	16.73	5.598			
3,900.0	3,899.9	3,899.2	3,899.1	8.9	8.3	180.00	-80.6	0.0	95.4	78.2	17.14	5.564			
4,000.0	3,999.9	3,999.2	3,999.1	9.1	8.5	180.00	-81.5	0.0	97.1	79.6	17.56	5.530			
4,100.0	4,099.9	4,099.1	4,099.1	9.3	8.7	180.00	-82.4	0.0	98.9	80.9	17.98	5.498			
4,200.0	4,199.9	4,199.1	4,199.0	9.5	8.9	180.00	-83.2	0.0	100.6	82.2	18.41	5.467			
4,300.0	4,299.9	4,299.1	4,299.0	9.7	9.1	180.00	-84.1	0.0	102.4	83.5	18.83	5.437			
4,400.0	4,399.9	4,399.1	4,399.0	10.0	9.3	180.00	-85.0	0.0	104.1	84.9	19.25	5.407			
4,500.0	4,499.9	4,499.1	4,499.0	10.2	9.5	180.00	-85.9	0.0	105.9	86.2	19.68	5.379			
4,600.0	4,599.9	4,599.1	4,599.0	10.4	9.7	180.00	-86.7	0.0	107.6	87.5	20.11	5.352			
4,700.0	4,699.9	4,699.0	4,699.0	10.6	9.9	180.00	-87.6	0.0	109.3	88.8	20.53	5.325			
4,800.0	4,799.9	4,799.0	4,798.9	10.8	10.1	180.00	-88.5	0.0	111.1	90.1	20.96	5.300			
4,900.0	4,899.9	4,899.0	4,898.9	11.1	10.3	180.00	-89.3	0.0	112.8	91.4	21.39	5.275			
5,000.0	4,999.9	4,999.0	4,998.9	11.3	10.6	180.00	-90.2	0.0	114.6	92.8	21.82	5.251			
5,100.0	5,099.9	5,099.0	5,098.9	11.5	10.8	180.00	-91.1	0.0	116.3	94.1	22.25	5.227			
5,200.0	5,199.9	5,199.0	5,198.9	11.7	11.0	180.00	-92.0	0.0	118.1	95.4	22.68	5.205			
5,300.0	5,299.9	5,299.0	5,298.8	11.9	11.2	180.00	-92.8	0.0	119.8	96.7	23.12	5.183			
5,400.0	5,399.9	5,398.9	5,398.8	12.2	11.4	180.00	-93.7	0.0	121.6	98.0	23.55	5.162			
5,500.0	5,499.9	5,498.9	5,498.8	12.4	11.6	180.00	-94.6	0.0	123.3	99.3	23.98	5.141			
5,600.0	5,599.9	5,598.9	5,598.8	12.6	11.8	180.00	-95.4	0.0	125.1	100.6	24.42	5.121			
5,700.0	5,699.9	5,698.9	5,698.8	12.8	12.0	180.00	-96.3	0.0	126.8	101.9	24.85	5.102			
5,800.0	5,799.9	5,798.9	5,798.7	13.1	12.3	180.00	-97.2	0.0	128.5	103.3	25.29	5.083			
5,900.0	5,899.9	5,898.9	5,898.7	13.3	12.5	180.00	-98.1	0.0	130.3	104.6	25.72	5.065			
6,000.0	5,999.9	5,998.8	5,998.7	13.5	12.7	180.00	-98.9	0.0	132.0	105.9	26.16	5.047			
6,100.0	6,099.9	6,098.8	6,098.7	13.7	12.9	180.00	-99.8	0.0	133.8	107.2	26.60	5.030			
6,200.0	6,199.8	6,198.8	6,198.7	13.9	13.1	180.00	-100.7	0.0	135.5	108.5	27.04	5.013			
6,300.0	6,299.8	6,298.8	6,298.6	14.2	13.3	180.00	-101.6	0.0	137.3	109.8	27.47	4.996			
6,400.0	6,399.8	6,398.8	6,398.6	14.4	13.6	180.00	-102.4	0.0	139.0	111.1	27.91	4.981			
6,500.0	6,499.8	6,498.8	6,498.6	14.6	13.8	180.00	-103.3	0.0	140.8	112.4	28.35	4.965			
6,600.0	6,599.8	6,598.8	6,598.6	14.8	14.0	180.00	-104.2	0.0	142.5	113.7	28.79	4.950			
6,700.0	6,699.8	6,698.7	6,698.6	15.1	14.2	180.00	-105.0	0.0	144.2	115.0	29.23	4.935			
6,800.0	6,799.8	6,798.7	6,798.6	15.3	14.4	180.00	-105.9	0.0	146.0	116.3	29.67	4.921			
6,900.0	6,899.8	6,898.7	6,898.5	15.5	14.6	180.00	-106.8	0.0	147.7	117.6	30.11	4.907			
7,000.0	6,999.8	6,998.7	6,998.5	15.7	14.9	180.00	-107.7	0.0	149.5	118.9	30.55	4.894			
7,100.0	7,099.8	7,098.7	7,098.5	15.9	15.1	180.00	-108.5	0.0	151.2	120.2	30.99	4.880			
7,200.0	7,199.8	7,198.7	7,198.5	16.2	15.3	180.00	-109.4	0.0	153.0	121.5	31.43	4.868			
7,300.0	7,299.8	7,298.6	7,298.5	16.4	15.5	180.00	-110.3	0.0	154.7	122.9	31.87	4.855			

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Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
7,400.0	7,399.8	7,398.6	7,398.4	16.6	15.7	180.00	-111.2	0.0	156.5	124.2	32.31	4.843			
7,500.0	7,499.8	7,498.6	7,498.4	16.8	16.0	180.00	-112.0	0.0	158.2	125.5	32.75	4.831			
7,600.0	7,599.8	7,598.6	7,598.4	17.1	16.2	180.00	-112.9	0.0	160.0	126.8	33.19	4.819			
7,700.0	7,699.8	7,698.6	7,698.4	17.3	16.4	180.00	-113.8	0.0	161.7	128.1	33.63	4.808			
7,800.0	7,799.8	7,798.6	7,798.4	17.5	16.6	180.00	-114.6	0.0	163.4	129.4	34.08	4.796			
7,900.0	7,899.8	7,898.6	7,898.3	17.7	16.8	180.00	-115.5	0.0	165.2	130.7	34.52	4.786			
7,926.7	7,926.4	7,925.2	7,925.0	17.8	16.9	180.00	-115.7	0.0	165.7	131.0	34.64	4.783			
7,943.3	7,943.1	7,943.3	7,943.1	17.8	16.9	180.00	-115.8	0.0	165.8	131.1	34.74	4.773			
8,000.0	7,999.8	8,000.0	7,999.8	17.9	17.1	180.00	-115.8	0.0	165.8	130.8	34.96	4.742			
8,100.0	8,099.8	8,100.0	8,099.8	18.2	17.2	180.00	-115.8	0.0	165.8	130.4	35.38	4.687			
8,200.0	8,199.8	8,200.0	8,199.8	18.4	17.4	180.00	-115.8	0.0	165.8	130.0	35.79	4.633			
8,300.0	8,299.8	8,300.0	8,299.8	18.6	17.6	180.00	-115.8	0.0	165.8	129.6	36.21	4.580			
8,400.0	8,399.8	8,400.0	8,399.8	18.8	17.8	180.00	-115.8	0.0	165.8	129.2	36.62	4.528			
8,500.0	8,499.8	8,500.0	8,499.8	19.1	18.0	180.00	-115.8	0.0	165.8	128.8	37.04	4.477			
8,600.0	8,599.8	8,600.0	8,599.8	19.3	18.2	180.00	-115.8	0.0	165.8	128.4	37.45	4.427			
8,700.0	8,699.8	8,700.0	8,699.8	19.5	18.4	180.00	-115.8	0.0	165.8	127.9	37.87	4.378			
8,800.0	8,799.8	8,800.0	8,799.8	19.7	18.6	180.00	-115.8	0.0	165.8	127.5	38.29	4.330			
8,900.0	8,899.8	8,900.0	8,899.8	19.9	18.8	180.00	-115.8	0.0	165.8	127.1	38.71	4.283			
9,000.0	8,999.8	9,000.0	8,999.8	20.2	19.0	180.00	-115.8	0.0	165.8	126.7	39.13	4.237			
9,100.0	9,099.8	9,100.0	9,099.8	20.4	19.2	180.00	-115.8	0.0	165.8	126.3	39.55	4.192			
9,200.0	9,199.8	9,200.0	9,199.8	20.6	19.4	180.00	-115.8	0.0	165.8	125.8	39.97	4.148			
9,300.0	9,299.8	9,300.0	9,299.8	20.8	19.6	180.00	-115.8	0.0	165.8	125.4	40.39	4.105			
9,400.0	9,399.8	9,400.0	9,399.8	21.1	19.8	180.00	-115.8	0.0	165.8	125.0	40.82	4.062			
9,500.0	9,499.8	9,500.0	9,499.8	21.3	20.0	180.00	-115.8	0.0	165.8	124.6	41.24	4.021			
9,600.0	9,599.8	9,600.0	9,599.8	21.5	20.2	180.00	-115.8	0.0	165.8	124.1	41.66	3.980			
9,700.0	9,699.8	9,700.0	9,699.8	21.7	20.4	180.00	-115.8	0.0	165.8	123.7	42.09	3.940			
9,800.0	9,799.8	9,800.0	9,799.8	22.0	20.6	180.00	-115.8	0.0	165.8	123.3	42.51	3.900			
9,900.0	9,899.8	9,900.0	9,899.8	22.2	20.8	180.00	-115.8	0.0	165.8	122.9	42.94	3.862			
10,000.0	9,999.8	10,000.0	9,999.8	22.4	21.0	180.00	-115.8	0.0	165.8	122.4	43.36	3.824			
10,100.0	10,099.8	10,100.0	10,099.8	22.6	21.2	180.00	-115.8	0.0	165.8	122.0	43.79	3.786			
10,200.0	10,199.8	10,200.0	10,199.8	22.9	21.4	180.00	-115.8	0.0	165.8	121.6	44.22	3.750			
10,200.4	10,200.2	10,200.4	10,200.2	22.9	21.4	180.00	-115.8	0.0	165.8	121.6	44.22	3.750			
10,287.8	10,287.6	10,278.7	10,278.3	23.1	21.6	179.24	-117.2	2.2	167.4	122.8	44.58	3.756			
10,300.0	10,299.8	10,288.9	10,288.5	23.1	21.6	69.36	-117.8	3.2	168.1	123.5	44.62	3.768			
10,325.0	10,324.7	10,309.8	10,309.2	23.1	21.6	68.65	-119.4	5.9	169.6	124.9	44.70	3.795			
10,350.0	10,349.6	10,330.6	10,329.6	23.2	21.7	68.02	-121.4	9.3	171.3	126.5	44.76	3.827			
10,375.0	10,374.3	10,350.0	10,348.5	23.2	21.7	67.49	-123.7	13.1	173.1	128.3	44.81	3.862			
10,400.0	10,398.8	10,372.0	10,369.7	23.3	21.8	67.00	-126.8	18.3	175.0	130.1	44.85	3.901			
10,425.0	10,422.9	10,392.7	10,389.2	23.3	21.8	66.61	-130.2	23.9	176.9	132.1	44.88	3.943			
10,450.0	10,446.7	10,413.2	10,408.5	23.4	21.9	66.30	-134.0	30.1	179.0	134.1	44.89	3.988			
10,475.0	10,470.0	10,433.8	10,427.3	23.4	21.9	66.07	-138.2	37.1	181.2	136.3	44.90	4.036			
10,500.0	10,492.9	10,454.2	10,445.7	23.5	22.0	65.91	-142.8	44.7	183.4	138.5	44.89	4.086			
10,525.0	10,515.1	10,475.0	10,464.0	23.6	22.0	65.82	-147.9	53.2	185.7	140.9	44.88	4.139			
10,550.0	10,536.8	10,495.1	10,481.2	23.6	22.1	65.79	-153.1	62.0	188.1	143.3	44.87	4.193			
10,575.0	10,557.8	10,515.4	10,498.3	23.7	22.1	65.83	-158.9	71.5	190.6	145.7	44.86	4.248			
10,600.0	10,578.0	10,535.8	10,514.8	23.8	22.2	65.94	-165.0	81.7	193.1	148.2	44.86	4.303			
10,625.0	10,597.4	10,556.1	10,530.8	23.8	22.3	66.10	-171.5	92.4	195.6	150.8	44.88	4.359			
10,650.0	10,616.0	10,575.0	10,545.2	23.9	22.3	66.27	-177.8	102.9	198.3	153.4	44.91	4.415			
10,675.0	10,633.7	10,596.7	10,561.1	24.0	22.4	66.58	-185.4	115.5	200.9	156.0	44.97	4.468			
10,700.0	10,650.5	10,617.0	10,575.4	24.2	22.5	66.89	-192.8	127.9	203.7	158.6	45.06	4.521			
10,725.0	10,666.2	10,637.3	10,589.0	24.3	22.6	67.25	-200.6	140.8	206.5	161.3	45.18	4.571			
10,750.0	10,680.9	10,657.6	10,602.0	24.4	22.7	67.65	-208.6	154.2	209.4	164.0	45.33	4.618			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toeface (°)	Offset Wellbore Centre +N/S (usft)	+E/W (usft)	Distance Between Centres (usft)	Between Ellipse (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
10,775.0	10,694.5	10,677.9	10,614.3	24.6	22.8	68.08	-217.0	168.0	212.3	166.8	45.53	4.663			
10,800.0	10,707.0	10,700.0	10,626.9	24.7	23.0	68.63	-226.3	183.5	215.3	169.5	45.79	4.702			
10,825.0	10,718.4	10,718.7	10,636.9	24.9	23.1	69.06	-234.5	197.0	218.3	172.3	46.05	4.741			
10,850.0	10,728.6	10,739.1	10,647.1	25.1	23.2	69.59	-243.6	212.2	221.5	175.1	46.39	4.774			
10,875.0	10,737.6	10,759.6	10,656.6	25.4	23.4	70.15	-253.0	227.8	224.6	177.9	46.77	4.803			
10,900.0	10,745.3	10,780.1	10,665.3	25.6	23.6	70.73	-262.6	243.7	227.9	180.7	47.19	4.829			
10,925.0	10,751.8	10,800.0	10,673.0	25.8	23.8	71.30	-272.0	259.4	231.2	183.6	47.65	4.852			
10,950.0	10,757.0	10,821.5	10,680.4	26.1	24.0	71.95	-282.4	276.7	234.6	186.4	48.18	4.869			
10,975.0	10,760.9	10,842.2	10,686.7	26.4	24.2	72.59	-292.6	293.7	238.1	189.3	48.74	4.884			
11,000.0	10,763.6	10,863.1	10,692.1	26.7	24.4	73.24	-303.0	310.9	241.6	192.2	49.33	4.897			
11,025.0	10,764.9	10,884.1	10,696.7	27.0	24.6	73.90	-313.6	328.5	245.2	195.2	49.97	4.907			
11,035.3	10,765.0	10,892.8	10,698.3	27.1	24.7	74.18	-318.0	335.8	246.7	196.4	50.24	4.910			
11,100.0	10,765.4	10,948.2	10,705.1	28.0	25.4	76.25	-346.4	382.9	258.0	205.9	52.05	4.957			
11,200.0	10,765.9	11,048.3	10,706.2	29.6	26.8	77.43	-397.2	469.1	280.4	225.4	55.00	5.099			
11,300.0	10,766.4	11,156.4	10,706.4	31.3	28.6	78.33	-448.9	564.0	303.1	244.7	58.35	5.194			
11,400.0	10,767.0	11,265.5	10,706.6	33.3	30.5	79.10	-497.4	661.7	325.5	263.5	62.04	5.247			
11,500.0	10,767.5	11,375.7	10,706.8	35.3	32.7	79.75	-542.5	762.2	347.7	281.7	65.98	5.270			
11,600.0	10,768.0	11,486.9	10,707.0	37.5	35.1	80.32	-584.2	865.3	369.6	299.4	70.14	5.269			
11,700.0	10,768.6	11,599.3	10,707.2	39.8	37.6	80.82	-622.1	971.1	391.1	316.6	74.45	5.253			
11,800.0	10,769.1	11,712.7	10,707.4	42.1	40.2	81.26	-656.2	1,079.2	412.2	333.3	78.89	5.224			
11,900.0	10,769.6	11,827.2	10,707.6	44.5	43.0	81.64	-686.3	1,189.7	432.8	349.4	83.42	5.188			
12,000.0	10,770.1	11,942.8	10,707.8	46.9	45.8	81.98	-712.1	1,302.4	452.9	364.9	87.98	5.148			
12,010.3	10,770.2	11,954.8	10,707.8	47.1	46.1	82.02	-714.5	1,314.1	455.0	366.5	88.45	5.144			
12,100.0	10,770.7	12,059.8	10,708.0	49.4	48.7	82.30	-733.6	1,417.4	471.1	377.8	93.31	5.049			
12,200.0	10,771.2	12,178.4	10,708.2	51.9	51.7	82.52	-750.5	1,534.8	485.4	386.5	98.88	4.909			
12,300.0	10,771.7	12,298.3	10,708.4	54.4	54.8	82.66	-762.7	1,654.0	495.5	390.9	104.57	4.739			
12,400.0	10,772.2	12,418.9	10,708.6	57.0	57.9	82.72	-770.0	1,774.4	501.5	391.2	110.36	4.544			
12,500.0	10,772.8	12,538.3	10,708.8	59.7	60.9	82.70	-772.1	1,893.8	503.3	387.2	116.15	4.333			
12,600.0	10,773.3	12,638.3	10,709.0	62.3	63.5	82.66	-772.1	1,993.8	503.4	381.9	121.48	4.144			
12,700.0	10,773.8	12,738.3	10,709.2	65.0	66.1	82.63	-772.1	2,093.8	503.4	376.6	126.85	3.969			
12,800.0	10,774.3	12,838.3	10,709.4	67.7	68.7	82.59	-772.1	2,193.8	503.5	371.2	132.26	3.807			
12,900.0	10,774.9	12,938.3	10,709.5	70.4	71.4	82.55	-772.1	2,293.8	503.5	365.8	137.69	3.657			
13,000.0	10,775.4	13,038.3	10,709.7	73.1	74.0	82.51	-772.1	2,393.8	503.6	360.4	143.16	3.518			
13,100.0	10,775.9	13,138.3	10,709.9	75.9	76.7	82.47	-772.1	2,493.8	503.6	355.0	148.65	3.388			
13,200.0	10,776.4	13,238.3	10,710.1	78.7	79.4	82.43	-772.1	2,593.8	503.7	349.5	154.16	3.267			
13,300.0	10,776.9	13,338.3	10,710.2	81.4	82.2	82.39	-772.1	2,693.8	503.7	344.0	159.69	3.154			
13,400.0	10,777.5	13,438.3	10,710.4	84.2	84.9	82.35	-772.1	2,793.8	503.7	338.5	165.23	3.049			
13,500.0	10,778.0	13,538.3	10,710.6	87.0	87.7	82.31	-772.1	2,893.8	503.8	333.0	170.80	2.950			
13,600.0	10,778.5	13,638.3	10,710.8	89.8	90.4	82.27	-772.1	2,993.8	503.8	327.5	176.37	2.857			
13,700.0	10,779.0	13,738.3	10,710.9	92.6	93.2	82.23	-772.1	3,093.8	503.9	321.9	181.96	2.769			
13,800.0	10,779.6	13,838.3	10,711.1	95.4	96.0	82.19	-772.1	3,193.8	503.9	316.4	187.57	2.687			
13,900.0	10,780.1	13,938.3	10,711.3	98.3	98.8	82.15	-772.1	3,293.8	504.0	310.8	193.18	2.609			
14,000.0	10,780.6	14,038.3	10,711.5	101.1	101.6	82.11	-772.1	3,393.8	504.0	305.2	198.80	2.535			
14,100.0	10,781.1	14,138.3	10,711.6	103.9	104.4	82.07	-772.1	3,493.8	504.1	299.6	204.43	2.466			
14,200.0	10,781.7	14,238.3	10,711.8	106.8	107.2	82.04	-772.1	3,593.8	504.1	294.1	210.06	2.400			
14,300.0	10,782.2	14,338.3	10,712.0	109.6	110.0	82.00	-772.1	3,693.8	504.2	288.5	215.71	2.337			
14,400.0	10,782.7	14,438.3	10,712.2	112.5	112.8	81.96	-772.1	3,793.8	504.2	282.9	221.36	2.278			
14,500.0	10,783.2	14,538.3	10,712.3	115.3	115.7	81.92	-772.1	3,893.8	504.3	277.3	227.01	2.221			
14,600.0	10,783.8	14,638.3	10,712.5	118.2	118.5	81.88	-772.1	3,993.8	504.3	271.6	232.68	2.167			
14,700.0	10,784.3	14,738.3	10,712.7	121.1	121.3	81.84	-772.1	4,093.8	504.4	266.0	238.34	2.116			
14,800.0	10,784.8	14,838.3	10,712.9	123.9	124.2	81.80	-772.1	4,193.8	504.4	260.4	244.01	2.067			
14,900.0	10,785.3	14,938.3	10,713.0	126.8	127.0	81.76	-772.1	4,293.8	504.5	254.8	249.69	2.020			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 6T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 6T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 6T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft.		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Distance		Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
				Reference	Offset (usft)				Between Centres (usft)	Between Ellipses (usft)					
15,000.0	10,785.8	15,038.3	10,713.2	129.7	129.9	81.72	-772.1	4,393.8	504.5	249.2	255.36	1.976			
15,100.0	10,786.4	15,138.3	10,713.4	132.5	132.7	81.68	-772.1	4,493.8	504.6	243.5	261.05	1.933			
15,200.0	10,786.9	15,238.3	10,713.6	135.4	135.6	81.64	-772.1	4,593.8	504.6	237.9	266.73	1.892			
15,300.0	10,787.4	15,338.3	10,713.7	138.3	138.5	81.60	-772.1	4,693.8	504.7	232.3	272.42	1.853			
15,400.0	10,787.9	15,438.3	10,713.9	141.2	141.3	81.56	-772.1	4,793.8	504.7	226.6	278.11	1.815			
15,500.0	10,788.5	15,538.3	10,714.1	144.0	144.2	81.52	-772.1	4,893.8	504.8	221.0	283.80	1.779			
15,600.0	10,789.0	15,638.3	10,714.2	146.9	147.1	81.49	-772.1	4,993.8	504.8	215.3	289.49	1.744			
15,700.0	10,789.5	15,738.3	10,714.4	149.8	149.9	81.45	-772.1	5,093.8	504.9	209.7	295.19	1.710			
15,800.0	10,790.0	15,838.3	10,714.6	152.7	152.8	81.41	-772.1	5,193.8	504.9	204.0	300.89	1.678			
15,900.0	10,790.6	15,938.3	10,714.8	155.6	155.7	81.37	-772.1	5,293.8	505.0	198.4	306.58	1.647			
16,000.0	10,791.1	16,038.3	10,714.9	158.5	158.6	81.33	-772.1	5,393.8	505.0	192.7	312.28	1.617			
16,100.0	10,791.6	16,138.3	10,715.1	161.4	161.4	81.29	-772.1	5,493.8	505.1	187.1	317.99	1.588			
16,200.0	10,792.1	16,238.3	10,715.3	164.3	164.3	81.25	-772.1	5,593.8	505.1	181.4	323.69	1.561			
16,300.0	10,792.7	16,338.3	10,715.5	167.2	167.2	81.21	-772.1	5,693.8	505.2	175.8	329.39	1.534			
16,400.0	10,793.2	16,438.3	10,715.6	170.1	170.1	81.17	-772.1	5,793.8	505.2	170.1	335.10	1.508			
16,500.0	10,793.7	16,538.3	10,715.8	173.0	173.0	81.13	-772.1	5,893.8	505.3	164.5	340.80	1.483 Level 3Level 3			
16,600.0	10,794.2	16,638.3	10,716.0	175.9	175.9	81.09	-772.1	5,993.8	505.4	158.8	346.51	1.458 Level 3Level 3			
16,700.0	10,794.8	16,738.3	10,716.2	178.8	178.8	81.06	-772.1	6,093.8	505.4	153.2	352.21	1.435 Level 3Level 3			
16,800.0	10,795.3	16,838.3	10,716.3	181.7	181.6	81.02	-772.1	6,193.8	505.5	147.5	357.92	1.412 Level 3Level 3			
16,900.0	10,795.8	16,938.3	10,716.5	184.6	184.5	80.98	-772.1	6,293.8	505.5	141.9	363.62	1.390 Level 3Level 3			
17,000.0	10,796.3	17,038.3	10,716.7	187.5	187.4	80.94	-772.1	6,393.8	505.6	136.2	369.33	1.369 Level 3Level 3			
17,100.0	10,796.8	17,138.3	10,716.9	190.4	190.3	80.90	-772.1	6,493.8	505.6	130.6	375.04	1.348 Level 3Level 3			
17,200.0	10,797.4	17,238.3	10,717.0	193.3	193.2	80.86	-772.1	6,593.8	505.7	124.9	380.74	1.328 Level 3Level 3			
17,300.0	10,797.9	17,338.3	10,717.2	196.2	196.1	80.82	-772.1	6,693.8	505.7	119.3	386.45	1.309 Level 3Level 3			
17,400.0	10,798.4	17,438.3	10,717.4	199.1	199.0	80.78	-772.1	6,793.8	505.8	113.6	392.16	1.290 Level 3Level 3			
17,500.0	10,798.9	17,538.3	10,717.6	202.0	201.9	80.74	-772.1	6,893.8	505.8	108.0	397.86	1.271 Level 3Level 3			
17,600.0	10,799.5	17,638.3	10,717.7	204.9	204.8	80.70	-772.1	6,993.8	505.9	102.3	403.57	1.254 Level 3Level 3			
17,700.0	10,800.0	17,738.3	10,717.9	207.8	207.7	80.66	-772.1	7,093.8	506.0	96.7	409.28	1.236 Level 2			
17,800.0	10,800.5	17,838.3	10,718.1	210.7	210.6	80.63	-772.1	7,193.8	506.0	91.0	414.98	1.219 Level 2			
17,900.0	10,801.0	17,938.3	10,718.3	213.6	213.5	80.59	-772.1	7,293.8	506.1	85.4	420.69	1.203 Level 2			
18,000.0	10,801.6	18,038.3	10,718.4	216.5	216.4	80.55	-772.1	7,393.8	506.1	79.7	426.39	1.187 Level 2			
18,100.0	10,802.1	18,138.3	10,718.6	219.5	219.3	80.51	-772.1	7,493.8	506.2	74.1	432.10	1.171 Level 2			
18,200.0	10,802.6	18,238.3	10,718.8	222.4	222.2	80.47	-772.1	7,593.8	506.2	68.4	437.80	1.156 Level 2			
18,300.0	10,803.1	18,338.3	10,719.0	225.3	225.1	80.43	-772.1	7,693.8	506.3	62.8	443.50	1.142 Level 2			
18,400.0	10,803.7	18,438.3	10,719.1	228.2	228.0	80.39	-772.1	7,793.8	506.4	57.2	449.21	1.127 Level 2			
18,500.0	10,804.2	18,538.3	10,719.3	231.1	231.0	80.35	-772.1	7,893.8	506.4	51.5	454.91	1.113 Level 2			
18,600.0	10,804.7	18,638.3	10,719.5	234.0	233.9	80.31	-772.1	7,993.8	506.5	45.9	460.61	1.100 Level 2			
18,700.0	10,805.2	18,738.3	10,719.7	236.9	236.8	80.28	-772.1	8,093.8	506.5	40.2	466.31	1.086 Level 2			
18,800.0	10,805.7	18,838.3	10,719.8	239.8	239.7	80.24	-772.1	8,193.8	506.6	34.6	472.01	1.073 Level 2			
18,900.0	10,806.3	18,938.3	10,720.0	242.8	242.6	80.20	-772.1	8,293.8	506.7	28.9	477.71	1.061 Level 2			
19,000.0	10,806.8	19,038.3	10,720.2	245.7	245.5	80.16	-772.1	8,393.7	506.7	23.3	483.41	1.048 Level 2			
19,100.0	10,807.3	19,138.3	10,720.4	248.6	248.4	80.12	-772.1	8,493.7	506.8	17.7	489.11	1.036 Level 2			
19,200.0	10,807.8	19,238.3	10,720.5	251.5	251.3	80.08	-772.1	8,593.7	506.8	12.0	494.81	1.024 Level 2			
19,300.0	10,808.4	19,338.3	10,720.7	254.4	254.2	80.04	-772.1	8,693.7	506.9	6.4	500.50	1.013 Level 2			
19,400.0	10,808.9	19,438.3	10,720.9	257.3	257.1	80.00	-772.1	8,793.7	507.0	0.8	506.20	1.002 Level 2			
19,500.0	10,809.4	19,538.3	10,721.1	260.2	260.1	79.96	-772.1	8,893.7	507.0	-4.9	511.89	0.990 Level 1			
19,600.0	10,809.9	19,638.3	10,721.2	263.2	263.0	79.93	-772.1	8,993.7	507.1	-10.5	517.58	0.980 Level 1			
19,700.0	10,810.5	19,738.3	10,721.4	266.1	265.9	79.89	-772.1	9,093.7	507.1	-16.1	523.28	0.969 Level 1			
19,800.0	10,811.0	19,838.3	10,721.6	269.0	268.8	79.85	-772.1	9,193.7	507.2	-21.8	528.97	0.959 Level 1			
19,900.0	10,811.5	19,938.3	10,721.8	271.9	271.7	79.81	-772.1	9,293.7	507.3	-27.4	534.66	0.949 Level 1			
20,000.0	10,812.0	20,038.3	10,721.9	274.8	274.6	79.77	-772.1	9,393.7	507.3	-33.0	540.35	0.939 Level 1			
20,100.0	10,812.6	20,138.3	10,722.1	277.8	277.5	79.73	-772.1	9,493.7	507.4	-38.6	546.03	0.929 Level 1			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	2.0 usft
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset		Semi Major Axis		Hypsides Toolface (°)	Offset Wellbore Centre +N-S (usft)	Distance			Minimum Separation (usft)	Separation Factor	Warning	
		Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset			+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
20,200.0	10,813.1	20,238.3	10,722.3	280.7	280.4	79.69	-772.1	9,593.7	507.4	-44.3	551.72	0.920	Level 1	
20,300.0	10,813.6	20,338.3	10,722.5	283.6	283.4	79.65	-772.1	9,693.7	507.5	-49.9	557.41	0.910	Level 1	
20,400.0	10,814.1	20,438.3	10,722.6	286.5	286.3	79.61	-772.1	9,793.7	507.6	-55.5	563.09	0.901	Level 1	
20,500.0	10,814.6	20,538.3	10,722.8	289.4	289.2	79.58	-772.1	9,893.7	507.6	-61.1	568.78	0.893	Level 1	
20,600.0	10,815.2	20,638.3	10,723.0	292.4	292.1	79.54	-772.1	9,993.7	507.7	-66.8	574.46	0.884	Level 1	
20,656.4	10,815.6	20,694.5	10,723.1	294.0	293.8	79.52	-772.1	10,050.0	507.7	-69.9	577.66	0.879	Level 1, ES, SF	

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 ST	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toeface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
0.0	0.0	0.0	0.0	2.0	2.0	180.00	-32.4	0.0	32.4						
100.0	100.0	100.0	100.0	2.0	2.0	180.00	-32.4	0.0	32.4	28.4	4.00	8.098			
200.0	200.0	200.0	200.0	2.0	2.0	180.00	-32.4	0.0	32.4	28.4	4.05	8.010			
300.0	300.0	300.0	300.0	2.1	2.1	180.00	-32.4	0.0	32.4	28.3	4.14	7.831			
400.0	400.0	400.0	400.0	2.1	2.1	180.00	-32.4	0.0	32.4	28.1	4.28	7.578			
500.0	500.0	500.0	500.0	2.2	2.2	180.00	-32.4	0.0	32.4	28.0	4.46	7.274			
600.0	600.0	600.0	600.0	2.3	2.3	180.00	-32.4	0.0	32.4	27.7	4.67	6.938			
700.0	700.0	700.0	700.0	2.5	2.5	180.00	-32.4	0.0	32.4	27.5	4.92	6.589			
800.0	800.0	800.0	800.0	2.6	2.6	180.00	-32.4	0.0	32.4	27.2	5.20	6.240			
900.0	900.0	900.0	900.0	2.7	2.7	180.00	-32.4	0.0	32.4	26.9	5.49	5.902			
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	180.00	-32.4	0.0	32.4	26.6	5.81	5.580			
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	180.00	-32.4	0.0	32.4	26.3	6.14	5.277			
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	180.00	-32.4	0.0	32.4	25.9	6.49	4.994			
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	180.00	-32.4	0.0	32.4	25.6	6.85	4.732			
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	180.00	-32.4	0.0	32.4	25.2	7.22	4.490			
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	180.00	-32.4	0.0	32.4	24.8	7.60	4.266			
1,600.0	1,600.0	1,600.0	1,600.0	4.0	4.0	180.00	-32.4	0.0	32.4	24.4	7.99	4.060			
1,700.0	1,700.0	1,700.0	1,700.0	4.2	4.2	180.00	-32.4	0.0	32.4	24.0	8.38	3.870			
1,800.0	1,800.0	1,800.0	1,800.0	4.4	4.4	180.00	-32.4	0.0	32.4	23.6	8.78	3.695			
1,900.0	1,900.0	1,900.0	1,900.0	4.6	4.6	180.00	-32.4	0.0	32.4	23.2	9.18	3.533			
2,000.0	2,000.0	2,000.0	2,000.0	4.8	4.8	180.00	-32.4	0.0	32.4	22.8	9.58	3.383			
2,100.0	2,100.0	2,100.0	2,100.0	5.0	5.0	180.00	-32.4	0.0	32.4	22.4	9.99	3.244			
2,200.0	2,200.0	2,200.0	2,200.0	5.2	5.2	180.00	-32.4	0.0	32.4	22.0	10.41	3.115 CC			
2,216.7	2,216.7	2,216.7	2,216.7	5.2	5.2	180.00	-32.4	0.0	32.5	22.0	10.48	3.101			
2,300.0	2,300.0	2,300.0	2,300.0	5.4	5.4	180.00	-32.4	0.0	33.2	22.4	10.82	3.069			
2,400.0	2,400.0	2,400.0	2,400.0	5.6	5.6	180.00	-32.4	0.0	34.1	22.9	11.24	3.032			
2,500.0	2,500.0	2,500.0	2,500.0	5.8	5.8	180.00	-32.4	0.0	35.0	23.3	11.66	2.998			
2,600.0	2,600.0	2,600.0	2,600.0	6.0	6.0	180.00	-32.4	0.0	35.8	23.8	12.09	2.985			
2,700.0	2,700.0	2,700.0	2,700.0	6.3	6.3	180.00	-32.4	0.0	36.7	24.2	12.51	2.934			
2,800.0	2,800.0	2,800.0	2,800.0	6.5	6.5	180.00	-32.4	0.0	37.6	24.6	12.94	2.905			
2,900.0	2,900.0	2,900.0	2,900.0	6.7	6.7	180.00	-32.4	0.0	38.5	25.1	13.37	2.877			
3,000.0	3,000.0	3,000.0	3,000.0	6.9	6.9	180.00	-32.4	0.0	39.3	25.5	13.80	2.851			
3,100.0	3,100.0	3,100.0	3,100.0	7.1	7.1	180.00	-32.4	0.0	40.2	26.0	14.23	2.826			
3,200.0	3,200.0	3,200.0	3,200.0	7.3	7.3	180.00	-32.4	0.0	41.1	26.4	14.66	2.802			
3,300.0	3,300.0	3,300.0	3,300.0	7.5	7.5	180.00	-32.4	0.0	41.9	26.9	15.09	2.779			
3,400.0	3,400.0	3,400.0	3,400.0	7.8	7.8	180.00	-32.4	0.0	42.8	27.3	15.53	2.758			
3,500.0	3,500.0	3,500.0	3,500.0	8.0	8.0	180.00	-32.4	0.0	43.7	27.7	15.96	2.737			
3,600.0	3,599.9	3,599.9	3,599.9	8.2	8.2	180.00	-32.4	0.0	44.6	28.2	16.40	2.718			
3,700.0	3,699.9	3,699.9	3,699.9	8.4	8.4	180.00	-32.4	0.0	45.4	28.6	16.83	2.699			
3,800.0	3,799.9	3,799.9	3,799.9	8.6	8.6	180.00	-32.4	0.0	46.3	29.0	17.27	2.681			
3,900.0	3,899.9	3,899.9	3,899.9	8.9	8.9	180.00	-32.4	0.0	47.2	29.5	17.71	2.664			
4,000.0	3,999.9	3,999.9	3,999.9	9.1	9.1	180.00	-32.4	0.0	48.1	29.9	18.15	2.648			
4,100.0	4,099.9	4,099.9	4,099.9	9.3	9.3	180.00	-32.4	0.0	48.9	30.3	18.59	2.633			
4,200.0	4,199.9	4,199.9	4,199.9	9.5	9.5	180.00	-32.4	0.0	49.8	30.8	19.02	2.618			
4,300.0	4,299.9	4,299.9	4,299.9	9.7	9.7	180.00	-32.4	0.0	50.7	31.2	19.46	2.603			
4,400.0	4,399.9	4,399.9	4,399.9	10.0	10.0	180.00	-32.4	0.0	51.5	31.6	19.90	2.590			
4,500.0	4,499.9	4,499.9	4,499.9	10.2	10.2	180.00	-32.4	0.0	52.4	32.1	20.35	2.576			
4,600.0	4,599.9	4,599.9	4,599.9	10.4	10.4	180.00	-32.4	0.0	53.3	32.5	20.79	2.564			
4,700.0	4,699.9	4,699.9	4,699.9	10.6	10.6	180.00	-32.4	0.0	54.2	32.9	21.23	2.552			
4,800.0	4,799.9	4,799.9	4,799.9	10.8	10.8	180.00	-32.4	0.0	55.0	33.4	21.67	2.540			
4,900.0	4,899.9	4,899.9	4,899.9	11.1	11.1	180.00	-32.4	0.0	55.9	33.8	22.11	2.529			
5,000.0	4,999.9	4,999.9	4,999.9	11.3	11.3	180.00	-32.4	0.0	56.8	34.2	22.55	2.518			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0ft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0ft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
5,100.0	5,099.9	5,099.9	5,099.9	11.5	11.5	180.00	-32.4	0.0	57.7	34.7	23.00	2.507			
5,200.0	5,199.9	5,199.9	5,199.9	11.7	11.7	180.00	-32.4	0.0	58.5	35.1	23.44	2.497			
5,300.0	5,299.9	5,299.9	5,299.9	11.9	11.9	180.00	-32.4	0.0	59.4	35.5	23.88	2.487			
5,400.0	5,399.9	5,399.9	5,399.9	12.2	12.2	180.00	-32.4	0.0	60.3	35.9	24.33	2.478			
5,500.0	5,499.9	5,499.9	5,499.9	12.4	12.4	180.00	-32.4	0.0	61.1	36.4	24.77	2.469			
5,600.0	5,599.9	5,599.9	5,599.9	12.6	12.6	180.00	-32.4	0.0	62.0	36.8	25.21	2.460			
5,700.0	5,699.9	5,699.9	5,699.9	12.8	12.8	180.00	-32.4	0.0	62.9	37.2	25.66	2.451			
5,800.0	5,799.9	5,799.9	5,799.9	13.1	13.0	180.00	-32.4	0.0	63.8	37.7	26.10	2.443			
5,900.0	5,899.9	5,899.9	5,899.9	13.3	13.3	180.00	-32.4	0.0	64.6	38.1	26.55	2.435			
6,000.0	5,999.9	5,999.9	5,999.9	13.5	13.5	180.00	-32.4	0.0	65.5	38.5	26.99	2.427			
6,100.0	6,099.9	6,099.9	6,099.9	13.7	13.7	180.00	-32.4	0.0	66.4	38.9	27.43	2.420			
6,200.0	6,199.8	6,199.8	6,199.8	13.9	13.9	180.00	-32.4	0.0	67.3	39.4	27.88	2.412			
6,300.0	6,299.8	6,299.8	6,299.8	14.2	14.2	180.00	-32.4	0.0	68.1	39.8	28.32	2.405			
6,400.0	6,399.8	6,399.8	6,399.8	14.4	14.4	180.00	-32.4	0.0	69.0	40.2	28.77	2.398			
6,500.0	6,499.8	6,499.8	6,499.8	14.6	14.6	180.00	-32.4	0.0	69.9	40.7	29.22	2.392			
6,600.0	6,599.8	6,599.8	6,599.8	14.8	14.8	180.00	-32.4	0.0	70.7	41.1	29.66	2.385			
6,700.0	6,699.8	6,699.8	6,699.8	15.1	15.1	180.00	-32.4	0.0	71.6	41.5	30.11	2.379			
6,800.0	6,799.8	6,799.8	6,799.8	15.3	15.3	180.00	-32.4	0.0	72.5	41.9	30.55	2.373			
6,900.0	6,899.8	6,899.8	6,899.8	15.5	15.5	180.00	-32.4	0.0	73.4	42.4	31.00	2.367			
7,000.0	6,999.8	6,999.8	6,999.8	15.7	15.7	180.00	-32.4	0.0	74.2	42.8	31.44	2.361			
7,100.0	7,099.8	7,099.8	7,099.8	15.9	15.9	180.00	-32.4	0.0	75.1	43.2	31.89	2.355			
7,200.0	7,199.8	7,199.8	7,199.8	16.2	16.2	180.00	-32.4	0.0	76.0	43.6	32.34	2.350			
7,300.0	7,299.8	7,299.8	7,299.8	16.4	16.4	180.00	-32.4	0.0	76.9	44.1	32.78	2.344			
7,400.0	7,399.8	7,399.8	7,399.8	16.6	16.6	180.00	-32.4	0.0	77.7	44.5	33.23	2.339			
7,500.0	7,499.8	7,499.8	7,499.8	16.8	16.8	180.00	-32.4	0.0	78.6	44.9	33.67	2.334			
7,600.0	7,599.8	7,599.8	7,599.8	17.1	17.1	180.00	-32.4	0.0	79.5	45.4	34.12	2.329			
7,700.0	7,699.8	7,699.8	7,699.8	17.3	17.3	180.00	-32.4	0.0	80.3	45.8	34.57	2.324			
7,800.0	7,799.8	7,799.8	7,799.8	17.5	17.5	180.00	-32.4	0.0	81.2	46.2	35.01	2.320			
7,900.0	7,899.8	7,899.8	7,899.8	17.7	17.7	180.00	-32.4	0.0	82.1	46.6	35.46	2.315			
7,926.7	7,926.4	7,926.4	7,926.4	17.8	17.8	180.00	-32.4	0.0	82.3	46.7	35.58	2.314			
7,943.3	7,943.1	7,943.1	7,943.1	17.8	17.8	180.00	-32.4	0.0	82.4	46.8	35.63	2.312			
8,000.0	7,999.8	7,999.8	7,999.8	17.9	18.0	180.00	-32.4	0.0	82.4	46.5	35.87	2.297			
8,100.0	8,099.8	8,099.8	8,099.8	18.2	18.2	180.00	-32.4	0.0	82.4	46.1	36.32	2.269			
8,200.0	8,199.8	8,199.8	8,199.8	18.4	18.4	180.00	-32.4	0.0	82.4	45.6	36.76	2.241			
8,300.0	8,299.8	8,299.8	8,299.8	18.6	18.6	180.00	-32.4	0.0	82.4	45.2	37.21	2.214			
8,400.0	8,399.8	8,399.8	8,399.8	18.8	18.8	180.00	-32.4	0.0	82.4	44.7	37.66	2.188			
8,500.0	8,499.8	8,499.8	8,499.8	19.1	19.1	180.00	-32.4	0.0	82.4	44.3	38.10	2.162			
8,600.0	8,599.8	8,599.8	8,599.8	19.3	19.3	180.00	-32.4	0.0	82.4	43.8	38.55	2.137			
8,700.0	8,699.8	8,699.8	8,699.8	19.5	19.5	180.00	-32.4	0.0	82.4	43.4	39.00	2.113			
8,800.0	8,799.8	8,799.8	8,799.8	19.7	19.7	180.00	-32.4	0.0	82.4	43.0	39.44	2.089			
8,900.0	8,899.8	8,899.8	8,899.8	19.9	20.0	180.00	-32.4	0.0	82.4	42.5	39.89	2.066			
9,000.0	8,999.8	8,999.8	8,999.8	20.2	20.2	180.00	-32.4	0.0	82.4	42.1	40.34	2.043			
9,100.0	9,099.8	9,099.8	9,099.8	20.4	20.4	180.00	-32.4	0.0	82.4	41.6	40.78	2.020			
9,200.0	9,199.8	9,199.8	9,199.8	20.6	20.6	180.00	-32.4	0.0	82.4	41.2	41.23	1.998			
9,300.0	9,299.8	9,299.8	9,299.8	20.8	20.9	180.00	-32.4	0.0	82.4	40.7	41.68	1.977			
9,400.0	9,399.8	9,399.8	9,399.8	21.1	21.1	180.00	-32.4	0.0	82.4	40.3	42.13	1.956			
9,500.0	9,499.8	9,499.8	9,499.8	21.3	21.3	180.00	-32.4	0.0	82.4	39.8	42.57	1.935			
9,600.0	9,599.8	9,599.8	9,599.8	21.5	21.5	180.00	-32.4	0.0	82.4	39.4	43.02	1.915			
9,700.0	9,699.8	9,699.8	9,699.8	21.7	21.8	180.00	-32.4	0.0	82.4	38.9	43.47	1.896			
9,800.0	9,799.8	9,799.8	9,799.8	22.0	22.0	180.00	-32.4	0.0	82.4	38.5	43.92	1.876			
9,900.0	9,899.8	9,899.8	9,899.8	22.2	22.2	180.00	-32.4	0.0	82.4	38.0	44.36	1.857			
10,000.0	9,999.8	9,999.8	9,999.8	22.4	22.4	180.00	-32.4	0.0	82.4	37.6	44.81	1.839			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1													Offset Site Error:	0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
10,100.0	10,099.8	10,099.8	10,099.8	22.6	22.6	180.00	-32.4	0.0	82.4	37.1	45.26	1.821			
10,200.0	10,199.8	10,199.8	10,199.8	22.9	22.9	180.00	-32.4	0.0	82.4	36.7	45.71	1.803			
10,287.8	10,287.6	10,287.6	10,287.6	23.1	23.1	180.00	-32.4	0.0	82.4	36.3	46.10	1.787			
10,300.0	10,299.8	10,299.8	10,299.8	23.1	23.1	70.61	-32.4	0.0	82.3	36.2	46.17	1.783			
10,325.0	10,324.7	10,324.7	10,324.7	23.1	23.2	71.51	-32.4	0.0	81.9	35.7	46.26	1.771			
10,350.0	10,349.6	10,348.5	10,348.5	23.2	23.2	73.12	-32.5	0.1	81.2	34.9	46.35	1.753			
10,375.0	10,374.3	10,371.4	10,371.3	23.2	23.2	74.89	-33.2	1.1	80.8	34.4	46.42	1.740			
10,395.1	10,394.0	10,389.8	10,389.7	23.3	23.3	76.40	-34.1	2.6	80.7	34.2	46.49	1.735			
10,400.0	10,398.8	10,394.4	10,394.2	23.3	23.3	76.78	-34.4	3.0	80.7	34.2	46.51	1.735			
10,425.0	10,422.9	10,417.5	10,417.1	23.3	23.3	78.75	-36.3	5.9	80.9	34.3	46.60	1.737			
10,450.0	10,446.7	10,440.7	10,439.8	23.4	23.4	80.79	-38.8	9.6	81.6	34.9	46.70	1.747			
10,475.0	10,470.0	10,464.0	10,462.4	23.4	23.4	82.87	-41.9	14.3	82.6	35.8	46.81	1.764			
10,500.0	10,492.9	10,487.4	10,484.8	23.5	23.5	84.94	-45.7	20.0	84.0	37.1	46.93	1.790			
10,525.0	10,515.1	10,510.8	10,506.9	23.6	23.5	86.98	-50.0	26.5	85.8	38.7	47.05	1.824			
10,550.0	10,536.8	10,534.4	10,528.7	23.6	23.6	88.96	-55.0	34.0	88.0	40.8	47.17	1.866			
10,575.0	10,557.8	10,558.1	10,550.1	23.7	23.6	90.85	-60.6	42.5	90.6	43.3	47.29	1.916			
10,600.0	10,578.0	10,581.9	10,571.1	23.8	23.7	92.63	-66.8	51.8	93.6	46.2	47.41	1.975			
10,625.0	10,597.4	10,605.8	10,591.6	23.8	23.7	94.29	-73.6	62.1	97.0	49.5	47.53	2.041			
10,650.0	10,616.0	10,629.8	10,611.5	23.9	23.8	95.82	-81.0	73.2	100.8	53.1	47.65	2.115			
10,675.0	10,633.7	10,653.9	10,630.8	24.0	23.9	97.20	-88.9	85.2	104.8	57.1	47.76	2.195			
10,700.0	10,650.5	10,678.1	10,649.5	24.2	24.0	98.44	-97.5	98.1	109.3	61.4	47.88	2.282			
10,725.0	10,666.2	10,702.5	10,667.4	24.3	24.0	99.54	-106.6	111.9	114.0	66.0	48.01	2.374			
10,750.0	10,680.9	10,726.9	10,684.5	24.4	24.1	100.50	-116.2	126.4	119.0	70.8	48.16	2.470			
10,775.0	10,694.5	10,751.5	10,700.8	24.6	24.3	101.32	-126.4	141.7	124.2	75.9	48.32	2.571			
10,800.0	10,707.0	10,776.3	10,716.3	24.7	24.4	102.02	-137.1	157.8	129.7	81.2	48.52	2.674			
10,825.0	10,718.4	10,801.1	10,730.8	24.9	24.5	102.60	-148.3	174.7	135.4	86.7	48.74	2.779			
10,850.0	10,728.6	10,826.1	10,744.2	25.1	24.7	103.06	-159.9	192.2	141.3	92.3	49.00	2.885			
10,875.0	10,737.6	10,851.3	10,756.7	25.4	24.8	103.42	-172.0	210.5	147.4	98.1	49.30	2.990			
10,900.0	10,745.3	10,876.6	10,768.0	25.6	25.0	103.68	-184.5	229.3	153.6	104.0	49.64	3.095			
10,925.0	10,751.8	10,902.1	10,778.2	25.8	25.2	103.86	-197.4	248.8	160.0	110.0	50.03	3.198			
10,950.0	10,757.0	10,927.8	10,787.2	26.1	25.4	103.95	-210.7	268.9	166.5	116.0	50.46	3.299			
10,975.0	10,760.9	10,953.6	10,794.9	26.4	25.6	103.96	-224.3	289.4	173.0	122.1	50.93	3.397			
11,000.0	10,763.6	10,979.7	10,801.3	26.7	25.9	103.91	-238.3	310.5	179.6	128.2	51.45	3.492			
11,025.0	10,764.9	11,005.9	10,806.3	27.0	26.2	103.80	-252.5	331.9	186.3	134.3	52.01	3.582			
11,035.3	10,765.0	11,016.8	10,808.0	27.1	26.3	103.74	-258.5	340.9	189.0	136.8	52.25	3.618			
11,100.0	10,765.4	11,085.8	10,813.0	28.0	27.1	103.91	-296.5	398.2	206.0	152.2	53.79	3.829			
11,200.0	10,765.9	11,190.0	10,813.3	29.6	28.5	102.31	-352.4	486.1	231.6	174.8	56.82	4.076			
11,300.0	10,766.4	11,295.4	10,813.7	31.3	30.2	101.04	-405.7	577.0	257.2	197.1	60.17	4.275			
11,400.0	10,767.0	11,401.8	10,814.1	33.3	32.1	100.00	-456.1	670.8	282.8	219.0	63.81	4.432			
11,500.0	10,767.5	11,509.4	10,814.5	35.3	34.2	99.15	-503.4	767.3	308.2	240.5	67.68	4.553			
11,600.0	10,768.0	11,618.2	10,814.9	37.5	36.4	98.43	-547.6	866.7	333.3	261.6	71.73	4.647			
11,700.0	10,768.6	11,728.1	10,815.3	39.8	38.8	97.81	-588.3	968.8	358.2	282.3	75.93	4.718			
11,800.0	10,769.1	11,839.2	10,815.7	42.1	41.4	97.29	-625.5	1,073.5	382.8	302.5	80.23	4.771			
11,900.0	10,769.6	11,951.6	10,816.1	44.5	44.0	96.83	-659.0	1,180.8	406.9	322.3	84.60	4.810			
12,000.0	10,770.1	12,065.2	10,816.5	46.9	46.7	96.43	-688.5	1,290.5	430.7	341.7	89.02	4.839			
12,010.3	10,770.2	12,077.0	10,816.5	47.1	47.0	96.39	-691.3	1,301.9	433.1	343.7	89.47	4.841			
12,100.0	10,770.7	12,180.4	10,816.9	49.4	49.6	96.05	-713.9	1,402.8	452.7	358.5	94.22	4.805			
12,200.0	10,771.2	12,297.5	10,817.3	51.9	52.5	95.75	-735.2	1,518.0	470.7	371.0	99.67	4.723			
12,300.0	10,771.7	12,416.3	10,817.8	54.4	55.5	95.53	-751.9	1,635.5	484.7	379.4	105.28	4.604			
12,400.0	10,772.2	12,536.2	10,818.2	57.0	58.5	95.37	-763.8	1,754.9	494.6	383.6	111.01	4.455			
12,500.0	10,772.8	12,656.9	10,818.6	59.7	61.6	95.27	-770.7	1,875.4	500.3	383.5	116.83	4.282			
12,600.0	10,773.3	12,775.1	10,819.0	62.3	64.6	95.23	-772.6	1,993.5	501.8	379.2	122.62	4.092			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2833.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft
Survey Program: O-MWD												Offset Well Error:	2.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,700.0	10,773.8	12,875.1	10,819.4	65.0	67.1	95.21	-772.6	2,093.5	501.8	373.8	127.99	3.921	
12,800.0	10,774.3	12,975.1	10,819.7	67.7	69.7	95.19	-772.6	2,193.5	501.8	368.4	133.40	3.762	
12,900.0	10,774.9	13,075.1	10,820.1	70.4	72.3	95.17	-772.6	2,293.5	501.8	362.9	138.85	3.614	
13,000.0	10,775.4	13,175.1	10,820.4	73.1	74.9	95.15	-772.6	2,393.5	501.8	357.4	144.32	3.477	
13,100.0	10,775.9	13,275.1	10,820.8	75.9	77.6	95.13	-772.6	2,493.5	501.8	351.9	149.83	3.349	
13,200.0	10,776.4	13,375.1	10,821.1	78.7	80.3	95.11	-772.6	2,593.5	501.7	346.4	155.36	3.230	
13,300.0	10,776.9	13,475.1	10,821.5	81.4	83.0	95.09	-772.6	2,693.5	501.7	340.8	160.91	3.118	
13,400.0	10,777.5	13,575.1	10,821.8	84.2	85.7	95.07	-772.6	2,793.5	501.7	335.2	166.48	3.014	
13,500.0	10,778.0	13,675.1	10,822.2	87.0	88.4	95.05	-772.6	2,893.5	501.7	329.6	172.08	2.916	
13,600.0	10,778.5	13,775.1	10,822.5	89.8	91.1	95.03	-772.6	2,993.5	501.7	324.0	177.68	2.823	
13,700.0	10,779.0	13,875.1	10,822.9	92.6	93.9	95.01	-772.6	3,093.5	501.7	318.4	183.31	2.737	
13,800.0	10,779.6	13,975.1	10,823.2	95.4	96.6	94.99	-772.6	3,193.5	501.7	312.7	188.94	2.655	
13,900.0	10,780.1	14,075.1	10,823.6	98.3	99.4	94.97	-772.6	3,293.5	501.6	307.0	194.59	2.578	
14,000.0	10,780.6	14,175.1	10,823.9	101.1	102.2	94.95	-772.6	3,393.5	501.6	301.4	200.26	2.505	
14,100.0	10,781.1	14,275.1	10,824.3	103.9	105.0	94.93	-772.6	3,493.5	501.6	295.7	205.93	2.436	
14,200.0	10,781.7	14,375.1	10,824.6	106.8	107.8	94.91	-772.6	3,593.5	501.6	290.0	211.61	2.370	
14,300.0	10,782.2	14,475.1	10,825.0	109.6	110.6	94.89	-772.6	3,693.5	501.6	284.3	217.30	2.308	
14,400.0	10,782.7	14,575.1	10,825.3	112.5	113.4	94.87	-772.6	3,793.5	501.6	278.6	223.00	2.249	
14,500.0	10,783.2	14,675.1	10,825.7	115.3	116.2	94.85	-772.6	3,893.5	501.5	272.8	228.71	2.193	
14,600.0	10,783.8	14,775.1	10,826.0	118.2	119.0	94.83	-772.6	3,993.5	501.5	267.1	234.43	2.139	
14,700.0	10,784.3	14,875.1	10,826.4	121.1	121.8	94.81	-772.6	4,093.5	501.5	261.4	240.15	2.088	
14,800.0	10,784.8	14,975.1	10,826.7	123.9	124.6	94.79	-772.6	4,193.5	501.5	255.6	245.88	2.040	
14,900.0	10,785.3	15,075.1	10,827.1	126.8	127.5	94.77	-772.6	4,293.5	501.5	249.9	251.61	1.993	
15,000.0	10,785.8	15,175.1	10,827.4	129.7	130.3	94.75	-772.6	4,393.5	501.5	244.1	257.35	1.949	
15,100.0	10,786.4	15,275.1	10,827.8	132.5	133.2	94.73	-772.6	4,493.5	501.5	238.4	263.10	1.906	
15,200.0	10,786.9	15,375.1	10,828.1	135.4	136.0	94.71	-772.6	4,593.5	501.4	232.6	268.84	1.865	
15,300.0	10,787.4	15,475.1	10,828.5	138.3	138.9	94.70	-772.6	4,693.5	501.4	226.8	274.60	1.826	
15,400.0	10,787.9	15,575.1	10,828.8	141.2	141.7	94.68	-772.6	4,793.5	501.4	221.1	280.36	1.788	
15,500.0	10,788.5	15,675.1	10,829.2	144.0	144.6	94.66	-772.6	4,893.5	501.4	215.3	286.12	1.752	
15,600.0	10,789.0	15,775.1	10,829.5	146.9	147.4	94.64	-772.6	4,993.5	501.4	209.5	291.89	1.718	
15,700.0	10,789.5	15,875.1	10,829.9	149.8	150.3	94.62	-772.6	5,093.5	501.4	203.7	297.66	1.684	
15,800.0	10,790.0	15,975.1	10,830.2	152.7	153.1	94.60	-772.6	5,193.5	501.4	197.9	303.43	1.652	
15,900.0	10,790.6	16,075.1	10,830.6	155.6	156.0	94.58	-772.6	5,293.5	501.3	192.1	309.21	1.621	
16,000.0	10,791.1	16,175.1	10,830.9	158.5	158.9	94.56	-772.6	5,393.5	501.3	186.3	314.99	1.592	
16,100.0	10,791.6	16,275.1	10,831.3	161.4	161.8	94.54	-772.6	5,493.5	501.3	180.5	320.77	1.563	
16,200.0	10,792.1	16,375.1	10,831.6	164.3	164.6	94.52	-772.6	5,593.5	501.3	174.7	326.56	1.535	
16,300.0	10,792.7	16,475.1	10,832.0	167.2	167.5	94.50	-772.6	5,693.5	501.3	168.9	332.35	1.508	
16,400.0	10,793.2	16,575.1	10,832.3	170.1	170.4	94.48	-772.6	5,793.5	501.3	163.1	338.14	1.482 Level 3	
16,500.0	10,793.7	16,675.1	10,832.7	173.0	173.3	94.46	-772.6	5,893.5	501.3	157.3	343.93	1.457 Level 3	
16,600.0	10,794.2	16,775.1	10,833.0	175.9	176.1	94.44	-772.6	5,993.5	501.2	151.5	349.73	1.433 Level 3	
16,700.0	10,794.8	16,875.1	10,833.4	178.8	179.0	94.42	-772.6	6,093.5	501.2	145.7	355.52	1.410 Level 3	
16,800.0	10,795.3	16,975.1	10,833.7	181.7	181.9	94.40	-772.6	6,193.5	501.2	139.9	361.32	1.387 Level 3	
16,900.0	10,795.8	17,075.1	10,834.0	184.6	184.8	94.38	-772.6	6,293.5	501.2	134.1	367.13	1.365 Level 3	
17,000.0	10,796.3	17,175.1	10,834.4	187.5	187.7	94.36	-772.6	6,393.5	501.2	128.3	372.93	1.344 Level 3	
17,100.0	10,796.8	17,275.1	10,834.7	190.4	190.6	94.34	-772.6	6,493.5	501.2	122.4	378.74	1.323 Level 3	
17,200.0	10,797.4	17,375.1	10,835.1	193.3	193.5	94.32	-772.6	6,593.5	501.2	116.6	384.54	1.303 Level 3	
17,300.0	10,797.9	17,475.1	10,835.4	196.2	196.4	94.30	-772.6	6,693.5	501.2	110.8	390.35	1.284 Level 3	
17,400.0	10,798.4	17,575.1	10,835.8	199.1	199.2	94.28	-772.6	6,793.5	501.1	105.0	396.16	1.265 Level 3	
17,500.0	10,798.9	17,675.1	10,836.1	202.0	202.1	94.26	-772.6	6,893.5	501.1	99.2	401.98	1.247 Level 2	
17,600.0	10,799.5	17,775.1	10,836.5	204.9	205.0	94.24	-772.6	6,993.5	501.1	93.3	407.79	1.229 Level 2	
17,700.0	10,800.0	17,875.1	10,836.8	207.8	207.9	94.22	-772.6	7,093.5	501.1	87.5	413.61	1.212 Level 2	
17,800.0	10,800.5	17,975.1	10,837.2	210.7	210.8	94.20	-772.6	7,193.5	501.1	81.7	419.42	1.195 Level 2	

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft
Survey Program: O-MWD												Offset Well Error:	2.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,900.0	10,801.0	18,075.1	10,837.5	213.6	213.7	94.18	-772.6	7,293.5	501.1	75.8	425.24	1.178	Level 2
18,000.0	10,801.6	18,175.1	10,837.9	216.5	216.6	94.16	-772.6	7,393.5	501.1	70.0	431.06	1.162	Level 2
18,100.0	10,802.1	18,275.1	10,838.2	219.5	219.5	94.14	-772.6	7,493.5	501.1	64.2	436.88	1.147	Level 2
18,200.0	10,802.6	18,375.1	10,838.6	222.4	222.4	94.12	-772.6	7,593.5	501.0	58.3	442.71	1.132	Level 2
18,300.0	10,803.1	18,475.1	10,838.9	225.3	225.3	94.10	-772.6	7,693.5	501.0	52.5	448.53	1.117	Level 2
18,400.0	10,803.7	18,575.1	10,839.3	228.2	228.2	94.08	-772.6	7,793.5	501.0	46.7	454.35	1.103	Level 2
18,500.0	10,804.2	18,675.1	10,839.6	231.1	231.1	94.06	-772.6	7,893.5	501.0	40.8	460.18	1.089	Level 2
18,600.0	10,804.7	18,775.1	10,840.0	234.0	234.0	94.04	-772.6	7,993.5	501.0	35.0	466.01	1.075	Level 2
18,700.0	10,805.2	18,875.1	10,840.3	236.9	236.9	94.02	-772.6	8,093.5	501.0	29.1	471.83	1.062	Level 2
18,800.0	10,805.7	18,975.1	10,840.7	239.8	239.8	94.00	-772.6	8,193.5	501.0	23.3	477.66	1.049	Level 2
18,900.0	10,806.3	19,075.1	10,841.0	242.8	242.7	93.98	-772.6	8,293.5	501.0	17.5	483.49	1.036	Level 2
19,000.0	10,806.8	19,175.1	10,841.4	245.7	245.6	93.96	-772.6	8,393.5	500.9	11.6	489.32	1.024	Level 2
19,100.0	10,807.3	19,275.1	10,841.7	248.6	248.5	93.94	-772.6	8,493.5	500.9	5.8	495.15	1.012	Level 2
19,200.0	10,807.8	19,375.1	10,842.1	251.5	251.5	93.92	-772.6	8,593.5	500.9	-0.1	500.99	1.000	Level 1
19,300.0	10,808.4	19,475.1	10,842.4	254.4	254.4	93.90	-772.6	8,693.5	500.9	-5.9	506.82	0.988	Level 1
19,400.0	10,808.9	19,575.1	10,842.8	257.3	257.3	93.88	-772.6	8,793.5	500.9	-11.8	512.65	0.977	Level 1
19,500.0	10,809.4	19,675.1	10,843.1	260.2	260.2	93.86	-772.6	8,893.5	500.9	-17.6	518.49	0.966	Level 1
19,600.0	10,809.9	19,775.1	10,843.5	263.2	263.1	93.84	-772.6	8,993.5	500.9	-23.5	524.33	0.955	Level 1
19,700.0	10,810.5	19,875.1	10,843.8	266.1	266.0	93.82	-772.6	9,093.5	500.9	-29.3	530.16	0.945	Level 1
19,800.0	10,811.0	19,975.1	10,844.2	269.0	268.9	93.80	-772.6	9,193.5	500.8	-35.2	536.00	0.934	Level 1
19,900.0	10,811.5	20,075.1	10,844.5	271.9	271.8	93.78	-772.6	9,293.5	500.8	-41.0	541.84	0.924	Level 1
20,000.0	10,812.0	20,175.1	10,844.9	274.8	274.7	93.76	-772.6	9,393.5	500.8	-46.9	547.68	0.914	Level 1
20,100.0	10,812.6	20,275.1	10,845.2	277.8	277.6	93.74	-772.6	9,493.5	500.8	-52.7	553.52	0.905	Level 1
20,200.0	10,813.1	20,375.1	10,845.6	280.7	280.6	93.72	-772.6	9,593.5	500.8	-58.6	559.36	0.895	Level 1
20,300.0	10,813.6	20,475.1	10,845.9	283.6	283.5	93.70	-772.6	9,693.5	500.8	-64.4	565.20	0.886	Level 1
20,400.0	10,814.1	20,575.1	10,846.3	286.5	286.4	93.68	-772.6	9,793.5	500.8	-70.3	571.04	0.877	Level 1
20,500.0	10,814.6	20,675.1	10,846.6	289.4	289.3	93.66	-772.6	9,893.5	500.8	-76.1	576.88	0.868	Level 1
20,600.0	10,815.2	20,775.1	10,847.0	292.4	292.2	93.64	-772.6	9,993.5	500.8	-82.0	582.72	0.859	Level 1
20,656.4	10,815.5	20,831.5	10,847.2	294.0	293.8	93.63	-772.6	10,049.9	500.8	-85.3	586.02	0.854	Level 1, ES, SF

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

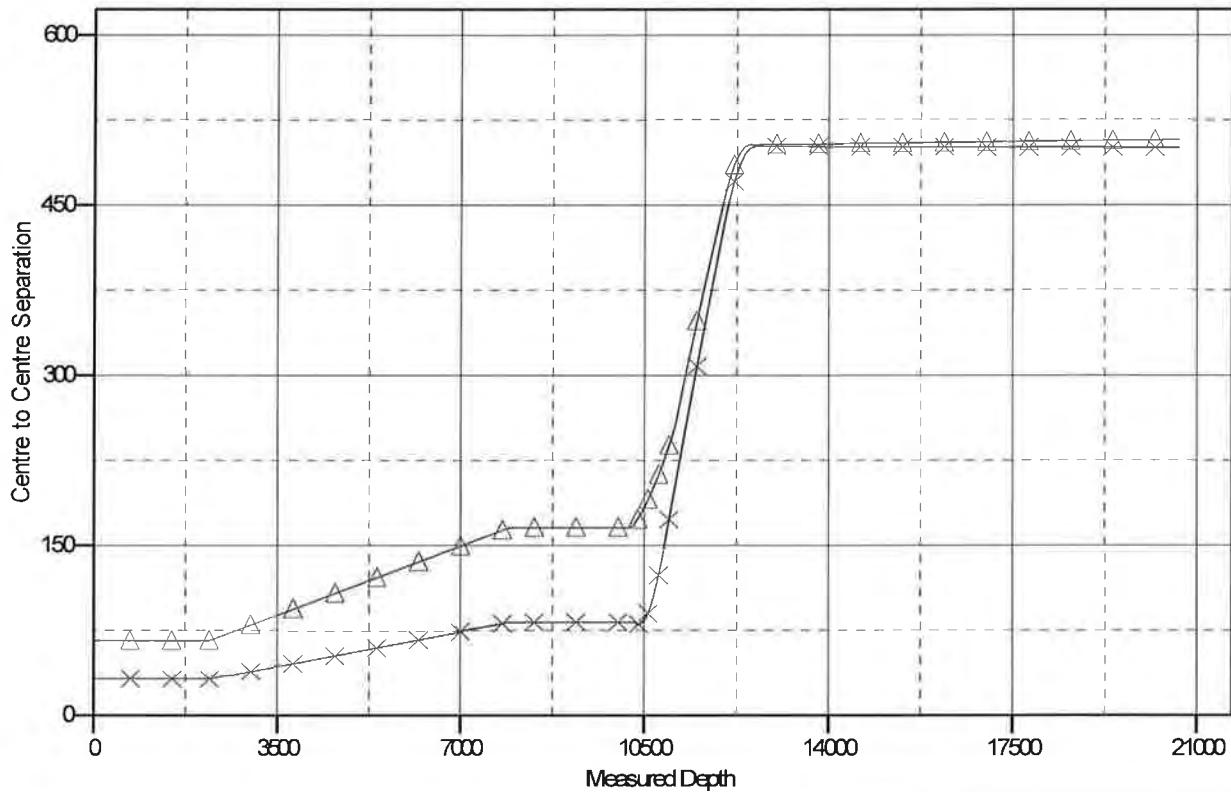
Reference Depths are relative to WELL @ 2033.0usft (Original Well EleCoordinates are relative to: Kline Federal 5300 31-18 8T

Offset Depths are relative to Offset Datum

Central Meridian is 100° 30' 0.000 W

Coordinate System is US State Plane 1983, North Dakota Northern Zone
Grid Convergence at Surface is: -2.31°

Ladder Plot



LEGEND

Federal 5300 31-18 6B, Design #1 V0 ✕ Kline Federal 5300 31-18 7T2, Kline Federal 5300 31-18 7T2, Design #1 V0

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 2033.0usft (Original Well Ele

Coordinates are relative to: Kline Federal 5300 31-18 8T

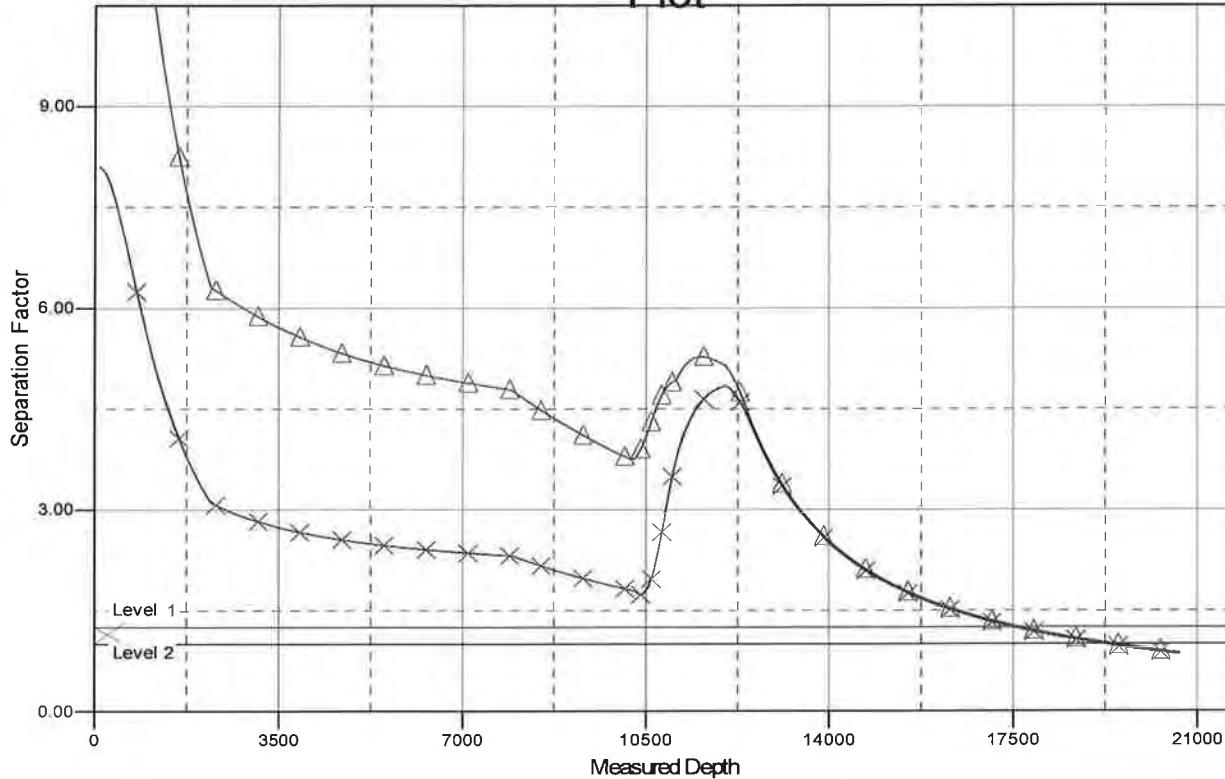
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, North Dakota Northern Zone

Central Meridian is 100° 30' 0.000 W

Grid Convergence at Surface is: -2.31°

Separation Factor Plot



LEGEND

Federal 5300 31-18 6B, Design #1 V0 Kline Federal 5300 31-18 7T2, Kline Federal 5300 31-18 7T2, Design #1 V0

Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8T

Kline Federal 5300 31-18 8T

Plan: Design #1

Standard Planning Report

18 July, 2014

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T							
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)							
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)							
Site:	153N-100W-17/18	North Reference:	True							
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature							
Wellbore:	Kline Federal 5300 31-18 8T									
Design:	Design #1									
Project	Indian Hills									
Map System:	US State Plane 1983	System Datum:	Mean Sea Level							
Geo Datum:	North American Datum 1983									
Map Zone:	North Dakota Northern Zone									
Site	153N-100W-17/18									
Site Position:		Northing:	408,962.44 usft							
From:	Lat/Long	Easting:	1,210,229.18 usft							
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "							
			Latitude: 48° 4' 45.380 N							
			Longitude: 103° 36' 10.380 W							
			Grid Convergence: -2.31 °							
Well	Kline Federal 5300 31-18 8T									
Well Position	+N/S +E/W	-1,744.9 usft -67.9 usft	Northing: 407,221.73 usft Easting: 1,210,091.03 usft							
Position Uncertainty	2.0 usft		Latitude: 48° 4' 28.160 N Longitude: 103° 36' 11.380 W							
			Ground Level: 2,008.0 usft							
Wellbore	Kline Federal 5300 31-18 8T									
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)					
	IGRF2010	5/28/2014	8.27	72.99	56,438					
Design	Design #1									
Audit Notes:										
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0					
Vertical Section:		Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)					
		0.0	0.0	0.0	90.00					
Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,216.7	0.50	0.00	2,216.7	0.1	0.0	3.00	3.00	0.00	0.00	0.00
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.00	0.00	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	3.00	-3.00	0.00	180.00	
10,287.8	0.00	0.00	10,287.6	50.0	0.0	0.00	0.00	0.00	0.00	0.00
11,035.3	89.70	109.50	10,765.0	-108.6	447.7	12.00	12.00	0.00	109.50	
12,010.3	89.70	90.00	10,770.2	-272.9	1,404.0	2.00	0.00	-2.00	-90.05	
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	0.00	0.00	0.00	0.00	Kline Federal 5300

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17/18	North Reference:	True						
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 ST								
Design:	Design #1								
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
1,923.0	0.00	0.00	1,923.0	0.0	0.0	0.0	0.00	0.00	0.00
Piers									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,023.0	0.00	0.00	2,023.0	0.0	0.0	0.0	0.00	0.00	0.00
13-30° Surface									
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
2,216.7	0.50	0.00	2,216.7	0.1	0.0	0.0	3.00	3.00	0.00
2,300.0	0.50	0.00	2,300.0	0.8	0.0	0.0	0.00	0.00	0.00
2,400.0	0.50	0.00	2,400.0	1.7	0.0	0.0	0.00	0.00	0.00
2,500.0	0.50	0.00	2,500.0	2.5	0.0	0.0	0.00	0.00	0.00
2,600.0	0.50	0.00	2,600.0	3.4	0.0	0.0	0.00	0.00	0.00
2,700.0	0.50	0.00	2,700.0	4.3	0.0	0.0	0.00	0.00	0.00
2,800.0	0.50	0.00	2,800.0	5.2	0.0	0.0	0.00	0.00	0.00
2,900.0	0.50	0.00	2,900.0	6.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.50	0.00	3,000.0	6.9	0.0	0.0	0.00	0.00	0.00
3,100.0	0.50	0.00	3,100.0	7.8	0.0	0.0	0.00	0.00	0.00
3,200.0	0.50	0.00	3,200.0	8.7	0.0	0.0	0.00	0.00	0.00
3,300.0	0.50	0.00	3,300.0	9.5	0.0	0.0	0.00	0.00	0.00
3,400.0	0.50	0.00	3,400.0	10.4	0.0	0.0	0.00	0.00	0.00
3,500.0	0.50	0.00	3,500.0	11.3	0.0	0.0	0.00	0.00	0.00
3,600.0	0.50	0.00	3,599.9	12.1	0.0	0.0	0.00	0.00	0.00
3,700.0	0.50	0.00	3,699.9	13.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.50	0.00	3,799.9	13.9	0.0	0.0	0.00	0.00	0.00
3,900.0	0.50	0.00	3,899.9	14.8	0.0	0.0	0.00	0.00	0.00
4,000.0	0.50	0.00	3,999.9	15.6	0.0	0.0	0.00	0.00	0.00
4,100.0	0.50	0.00	4,099.9	16.5	0.0	0.0	0.00	0.00	0.00
4,200.0	0.50	0.00	4,199.9	17.4	0.0	0.0	0.00	0.00	0.00
4,300.0	0.50	0.00	4,299.9	18.3	0.0	0.0	0.00	0.00	0.00
4,400.0	0.50	0.00	4,399.9	19.1	0.0	0.0	0.00	0.00	0.00
4,500.0	0.50	0.00	4,499.9	20.0	0.0	0.0	0.00	0.00	0.00
4,570.1	0.50	0.00	4,570.0	20.6	0.0	0.0	0.00	0.00	0.00
Guenther									

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17/18	North Reference:	True						
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 8T								
Design:	Design #1								
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)
4,600.0	0.50	0.00	4,599.9	20.9	0.0	0.0	0.00	0.00	0.00
4,700.0	0.50	0.00	4,699.9	21.7	0.0	0.0	0.00	0.00	0.00
4,800.0	0.50	0.00	4,799.9	22.6	0.0	0.0	0.00	0.00	0.00
4,900.0	0.50	0.00	4,899.9	23.5	0.0	0.0	0.00	0.00	0.00
4,976.1	0.50	0.00	4,976.0	24.2	0.0	0.0	0.00	0.00	0.00
Nowy									
5,000.0	0.50	0.00	4,999.9	24.4	0.0	0.0	0.00	0.00	0.00
5,100.0	0.50	0.00	5,099.9	25.2	0.0	0.0	0.00	0.00	0.00
5,200.0	0.50	0.00	5,199.9	26.1	0.0	0.0	0.00	0.00	0.00
5,300.0	0.50	0.00	5,299.9	27.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.50	0.00	5,399.9	27.9	0.0	0.0	0.00	0.00	0.00
5,403.1	0.50	0.00	5,403.0	27.9	0.0	0.0	0.00	0.00	0.00
Dakota									
5,500.0	0.50	0.00	5,499.9	28.7	0.0	0.0	0.00	0.00	0.00
5,600.0	0.50	0.00	5,599.9	29.6	0.0	0.0	0.00	0.00	0.00
5,700.0	0.50	0.00	5,699.9	30.5	0.0	0.0	0.00	0.00	0.00
5,800.0	0.50	0.00	5,799.9	31.3	0.0	0.0	0.00	0.00	0.00
5,900.0	0.50	0.00	5,899.9	32.2	0.0	0.0	0.00	0.00	0.00
6,000.0	0.50	0.00	5,999.9	33.1	0.0	0.0	0.00	0.00	0.00
6,100.0	0.50	0.00	6,099.9	34.0	0.0	0.0	0.00	0.00	0.00
6,101.1	0.50	0.00	6,101.0	34.0	0.0	0.0	0.00	0.00	0.00
9-5/8" Dakota String									
6,200.0	0.50	0.00	6,199.8	34.8	0.0	0.0	0.00	0.00	0.00
6,300.0	0.50	0.00	6,299.8	35.7	0.0	0.0	0.00	0.00	0.00
6,400.0	0.50	0.00	6,399.8	36.6	0.0	0.0	0.00	0.00	0.00
6,402.2	0.50	0.00	6,402.0	36.6	0.0	0.0	0.00	0.00	0.00
Riverton									
6,500.0	0.50	0.00	6,499.8	37.5	0.0	0.0	0.00	0.00	0.00
6,600.0	0.50	0.00	6,599.8	38.3	0.0	0.0	0.00	0.00	0.00
6,700.0	0.50	0.00	6,699.8	39.2	0.0	0.0	0.00	0.00	0.00
6,740.2	0.50	0.00	6,740.0	39.5	0.0	0.0	0.00	0.00	0.00
Durham Salt									
6,800.0	0.50	0.00	6,799.8	40.1	0.0	0.0	0.00	0.00	0.00
6,851.2	0.50	0.00	6,851.0	40.5	0.0	0.0	0.00	0.00	0.00
Durham Salt Base									
6,900.0	0.50	0.00	6,899.8	40.9	0.0	0.0	0.00	0.00	0.00
6,948.2	0.50	0.00	6,948.0	41.4	0.0	0.0	0.00	0.00	0.00
Spurfish									
7,000.0	0.50	0.00	6,999.8	41.8	0.0	0.0	0.00	0.00	0.00
7,100.0	0.50	0.00	7,099.8	42.7	0.0	0.0	0.00	0.00	0.00
7,200.0	0.50	0.00	7,199.8	43.6	0.0	0.0	0.00	0.00	0.00
7,203.2	0.50	0.00	7,203.0	43.6	0.0	0.0	0.00	0.00	0.00
Pine Salt									
7,251.2	0.50	0.00	7,251.0	44.0	0.0	0.0	0.00	0.00	0.00
Pine Salt Base									
7,296.2	0.50	0.00	7,296.0	44.4	0.0	0.0	0.00	0.00	0.00
Apache Salt									
7,300.0	0.50	0.00	7,299.8	44.4	0.0	0.0	0.00	0.00	0.00
7,326.2	0.50	0.00	7,326.0	44.7	0.0	0.0	0.00	0.00	0.00
Apache Salt Base									
7,400.0	0.50	0.00	7,399.8	45.3	0.0	0.0	0.00	0.00	0.00
7,500.0	0.50	0.00	7,499.8	46.2	0.0	0.0	0.00	0.00	0.00
7,528.2	0.50	0.00	7,528.0	46.4	0.0	0.0	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17718	North Reference:	True						
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 8T								
Design:	Design #1								
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)
Broom Creek (Top of Minnelusa Gp.)									
7,600.0	0.50	0.00	7,599.8	47.1	0.0	0.0	0.00	0.00	0.00
7,608.2	0.50	0.00	7,608.0	47.1	0.0	0.0	0.00	0.00	0.00
Ameson									
7,700.0	0.50	0.00	7,699.8	47.9	0.0	0.0	0.00	0.00	0.00
7,776.2	0.50	0.00	7,776.0	48.6	0.0	0.0	0.00	0.00	0.00
Tyler									
7,800.0	0.50	0.00	7,799.8	48.8	0.0	0.0	0.00	0.00	0.00
7,900.0	0.50	0.00	7,899.8	49.7	0.0	0.0	0.00	0.00	0.00
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.0	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	0.0	3.00	-3.00	0.00
7,967.2	0.00	0.00	7,967.0	50.0	0.0	0.0	0.00	0.00	0.00
Other (Base of Minnelusa Gp.)									
8,000.0	0.00	0.00	7,999.8	50.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,099.8	50.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,199.8	50.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,299.8	50.0	0.0	0.0	0.00	0.00	0.00
8,322.2	0.00	0.00	8,322.0	50.0	0.0	0.0	0.00	0.00	0.00
Kibbey Lime									
8,400.0	0.00	0.00	8,399.8	50.0	0.0	0.0	0.00	0.00	0.00
8,472.2	0.00	0.00	8,472.0	50.0	0.0	0.0	0.00	0.00	0.00
Charles Salt									
8,500.0	0.00	0.00	8,499.8	50.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,599.8	50.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,699.8	50.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,799.8	50.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,899.8	50.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	8,999.8	50.0	0.0	0.0	0.00	0.00	0.00
9,096.2	0.00	0.00	9,096.0	50.0	0.0	0.0	0.00	0.00	0.00
US									
9,100.0	0.00	0.00	9,099.8	50.0	0.0	0.0	0.00	0.00	0.00
9,171.2	0.00	0.00	9,171.0	50.0	0.0	0.0	0.00	0.00	0.00
Base Last Salt									
9,200.0	0.00	0.00	9,199.8	50.0	0.0	0.0	0.00	0.00	0.00
9,219.2	0.00	0.00	9,219.0	50.0	0.0	0.0	0.00	0.00	0.00
Ratcliffe									
9,300.0	0.00	0.00	9,299.8	50.0	0.0	0.0	0.00	0.00	0.00
9,395.2	0.00	0.00	9,395.0	50.0	0.0	0.0	0.00	0.00	0.00
Mission Canyon									
9,400.0	0.00	0.00	9,399.8	50.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,499.8	50.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,599.8	50.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,699.8	50.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,799.8	50.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,899.8	50.0	0.0	0.0	0.00	0.00	0.00
9,957.2	0.00	0.00	9,957.0	50.0	0.0	0.0	0.00	0.00	0.00
Ledgestone									
10,000.0	0.00	0.00	9,999.8	50.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,099.8	50.0	0.0	0.0	0.00	0.00	0.00
10,163.2	0.00	0.00	10,163.0	50.0	0.0	0.0	0.00	0.00	0.00
Ledgestone Fracture Zone									
10,200.0	0.00	0.00	10,199.8	50.0	0.0	0.0	0.00	0.00	0.00

Planning Report

Database: Company: Project: Site: Well: Wellbore: Design:	EDM_new Oasis Indian Hills 153N-100W-17/18 Kline Federal 5300 31-18 8T Kline Federal 5300 31-18 8T Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Kline Federal 5300 31-18 8T WELL @ 2033.0usft (Original Well Elev) WELL @ 2033.0usft (Original Well Elev) True Minimum Curvature						
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)
10,287.8	0.00	0.00	10,287.6	50.0	0.0	0.0	0.00	0.00	0.00
KOP Build 12°/100'									
10,300.0	1.46	109.50	10,299.8	49.9	0.1	0.1	12.00	12.00	0.00
10,400.0	13.46	109.50	10,398.8	45.6	12.4	12.4	12.00	12.00	0.00
10,500.0	25.46	109.50	10,492.9	34.5	43.7	43.7	12.00	12.00	0.00
10,600.0	37.46	109.50	10,578.0	17.1	92.8	92.8	12.00	12.00	0.00
10,700.0	49.46	109.50	10,650.5	-5.8	157.6	157.6	12.00	12.00	0.00
10,703.9	49.94	109.50	10,653.0	-6.8	160.4	160.4	12.00	12.00	0.00
False Bakken									
10,719.8	51.84	109.50	10,663.0	-10.9	172.0	172.0	12.00	12.00	0.00
Upper Bakken									
10,743.2	54.65	109.50	10,677.0	-17.2	189.7	189.7	12.00	12.00	0.00
Middle Bakken									
10,800.0	61.46	109.50	10,707.0	-33.3	235.1	235.1	12.00	12.00	0.00
10,833.5	65.48	109.50	10,722.0	-43.3	263.3	263.3	12.00	12.00	0.00
Lower Bakken									
10,870.4	69.91	109.50	10,736.0	-54.7	295.5	295.5	12.00	12.00	0.00
Pronghorn									
10,900.0	73.46	109.50	10,745.3	-64.0	322.0	322.0	12.00	12.00	0.00
10,909.8	74.64	109.50	10,748.0	-67.2	330.9	330.9	12.00	12.00	0.00
Three Forks									
10,968.3	81.66	109.50	10,760.0	-86.3	384.8	384.8	12.00	12.00	0.00
TF Target Top									
11,000.0	85.46	109.50	10,763.6	-96.8	414.5	414.5	12.00	12.00	0.00
11,035.3	89.70	109.50	10,765.0	-108.6	447.7	447.7	12.00	12.00	0.00
EOC									
11,036.0	89.70	109.49	10,765.0	-108.8	448.4	448.4	2.00	0.00	-2.00
7" Intermediate									
11,100.0	89.70	108.21	10,765.4	-129.5	508.9	508.9	2.00	0.00	-2.00
11,200.0	89.70	106.21	10,765.9	-159.1	604.5	604.5	2.00	0.00	-2.00
11,300.0	89.70	104.21	10,766.4	-185.3	701.0	701.0	2.00	0.00	-2.00
11,400.0	89.70	102.21	10,767.0	-208.1	798.3	798.3	2.00	0.00	-2.00
11,500.0	89.70	100.21	10,767.5	-227.6	896.4	896.4	2.00	0.00	-2.00
11,600.0	89.70	98.21	10,768.0	-243.6	995.1	995.1	2.00	0.00	-2.00
11,700.0	89.70	96.21	10,768.6	-256.1	1,094.3	1,094.3	2.00	0.00	-2.00
11,800.0	89.70	94.21	10,769.1	-265.2	1,193.9	1,193.9	2.00	0.00	-2.00
11,900.0	89.70	92.21	10,769.6	-270.8	1,293.7	1,293.7	2.00	0.00	-2.00
11,973.0	89.70	90.75	10,770.0	-272.6	1,366.7	1,366.7	2.00	0.00	-2.00
TF Target Base									
12,000.0	89.70	90.21	10,770.1	-272.9	1,393.7	1,393.7	2.00	0.00	-2.00
12,010.3	89.70	90.00	10,770.2	-272.9	1,404.0	1,404.0	2.00	0.00	-2.00
12,100.0	89.70	90.00	10,770.7	-272.9	1,493.7	1,493.7	0.00	0.00	0.00
12,164.0	89.70	90.00	10,771.0	-272.9	1,557.7	1,557.7	0.00	0.00	0.00
Chayotte									
12,200.0	89.70	90.00	10,771.2	-272.9	1,593.7	1,593.7	0.00	0.00	0.00
12,300.0	89.70	90.00	10,771.7	-272.9	1,693.7	1,693.7	0.00	0.00	0.00
12,400.0	89.70	90.00	10,772.2	-272.9	1,793.7	1,793.7	0.00	0.00	0.00
12,500.0	89.70	90.00	10,772.8	-272.9	1,893.7	1,893.7	0.00	0.00	0.00
12,600.0	89.70	90.00	10,773.3	-272.9	1,993.7	1,993.7	0.00	0.00	0.00
12,700.0	89.70	90.00	10,773.8	-272.9	2,093.7	2,093.7	0.00	0.00	0.00
12,800.0	89.70	90.00	10,774.3	-272.9	2,193.7	2,193.7	0.00	0.00	0.00
12,900.0	89.70	90.00	10,774.9	-272.9	2,293.7	2,293.7	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17M8	North Reference:	True
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 ST		
Design:	Design #1		

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)	
13,000.0	89.70	90.00	10,775.4	-272.9	2,393.7	2,393.7	0.00	0.00	0.00	0.00
13,100.0	89.70	90.00	10,775.9	-272.9	2,493.7	2,493.7	0.00	0.00	0.00	0.00
13,200.0	89.70	90.00	10,776.4	-272.9	2,593.7	2,593.7	0.00	0.00	0.00	0.00
13,300.0	89.70	90.00	10,776.9	-272.9	2,693.7	2,693.7	0.00	0.00	0.00	0.00
13,400.0	89.70	90.00	10,777.5	-272.9	2,793.7	2,793.7	0.00	0.00	0.00	0.00
13,500.0	89.70	90.00	10,778.0	-272.9	2,893.7	2,893.7	0.00	0.00	0.00	0.00
13,600.0	89.70	90.00	10,778.5	-272.9	2,993.7	2,993.7	0.00	0.00	0.00	0.00
13,700.0	89.70	90.00	10,779.0	-272.9	3,093.7	3,093.7	0.00	0.00	0.00	0.00
13,800.0	89.70	90.00	10,779.6	-272.9	3,193.7	3,193.7	0.00	0.00	0.00	0.00
13,900.0	89.70	90.00	10,780.1	-272.9	3,293.7	3,293.7	0.00	0.00	0.00	0.00
14,000.0	89.70	90.00	10,780.6	-272.9	3,393.7	3,393.7	0.00	0.00	0.00	0.00
14,100.0	89.70	90.00	10,781.1	-272.9	3,493.7	3,493.7	0.00	0.00	0.00	0.00
14,200.0	89.70	90.00	10,781.7	-272.9	3,593.7	3,593.7	0.00	0.00	0.00	0.00
14,300.0	89.70	90.00	10,782.2	-272.9	3,693.7	3,693.7	0.00	0.00	0.00	0.00
14,400.0	89.70	90.00	10,782.7	-272.9	3,793.7	3,793.7	0.00	0.00	0.00	0.00
14,500.0	89.70	90.00	10,783.2	-272.9	3,893.7	3,893.7	0.00	0.00	0.00	0.00
14,600.0	89.70	90.00	10,783.8	-272.9	3,993.7	3,993.7	0.00	0.00	0.00	0.00
14,700.0	89.70	90.00	10,784.3	-272.9	4,093.7	4,093.7	0.00	0.00	0.00	0.00
14,800.0	89.70	90.00	10,784.8	-272.9	4,193.7	4,193.7	0.00	0.00	0.00	0.00
14,900.0	89.70	90.00	10,785.3	-272.9	4,293.7	4,293.7	0.00	0.00	0.00	0.00
15,000.0	89.70	90.00	10,785.8	-272.9	4,393.7	4,393.7	0.00	0.00	0.00	0.00
15,100.0	89.70	90.00	10,786.4	-272.9	4,493.7	4,493.7	0.00	0.00	0.00	0.00
15,200.0	89.70	90.00	10,786.9	-272.9	4,593.7	4,593.7	0.00	0.00	0.00	0.00
15,300.0	89.70	90.00	10,787.4	-272.9	4,693.6	4,693.6	0.00	0.00	0.00	0.00
15,400.0	89.70	90.00	10,787.9	-272.9	4,793.6	4,793.6	0.00	0.00	0.00	0.00
15,500.0	89.70	90.00	10,788.5	-272.9	4,893.6	4,893.6	0.00	0.00	0.00	0.00
15,600.0	89.70	90.00	10,789.0	-272.9	4,993.6	4,993.6	0.00	0.00	0.00	0.00
15,700.0	89.70	90.00	10,789.5	-272.9	5,093.6	5,093.6	0.00	0.00	0.00	0.00
15,800.0	89.70	90.00	10,790.0	-272.9	5,193.6	5,193.6	0.00	0.00	0.00	0.00
15,900.0	89.70	90.00	10,790.6	-272.9	5,293.6	5,293.6	0.00	0.00	0.00	0.00
16,000.0	89.70	90.00	10,791.1	-272.9	5,393.6	5,393.6	0.00	0.00	0.00	0.00
16,100.0	89.70	90.00	10,791.6	-272.9	5,493.6	5,493.6	0.00	0.00	0.00	0.00
16,200.0	89.70	90.00	10,792.1	-272.9	5,593.6	5,593.6	0.00	0.00	0.00	0.00
16,300.0	89.70	90.00	10,792.7	-272.9	5,693.6	5,693.6	0.00	0.00	0.00	0.00
16,400.0	89.70	90.00	10,793.2	-272.9	5,793.6	5,793.6	0.00	0.00	0.00	0.00
16,500.0	89.70	90.00	10,793.7	-272.9	5,893.6	5,893.6	0.00	0.00	0.00	0.00
16,600.0	89.70	90.00	10,794.2	-272.9	5,993.6	5,993.6	0.00	0.00	0.00	0.00
16,700.0	89.70	90.00	10,794.8	-272.9	6,093.6	6,093.6	0.00	0.00	0.00	0.00
16,800.0	89.70	90.00	10,795.3	-272.9	6,193.6	6,193.6	0.00	0.00	0.00	0.00
16,900.0	89.70	90.00	10,795.8	-272.9	6,293.6	6,293.6	0.00	0.00	0.00	0.00
17,000.0	89.70	90.00	10,796.3	-272.9	6,393.6	6,393.6	0.00	0.00	0.00	0.00
17,100.0	89.70	90.00	10,796.8	-272.9	6,493.6	6,493.6	0.00	0.00	0.00	0.00
17,200.0	89.70	90.00	10,797.4	-272.9	6,593.6	6,593.6	0.00	0.00	0.00	0.00
17,300.0	89.70	90.00	10,797.9	-272.9	6,693.6	6,693.6	0.00	0.00	0.00	0.00
17,400.0	89.70	90.00	10,798.4	-272.9	6,793.6	6,793.6	0.00	0.00	0.00	0.00
17,500.0	89.70	90.00	10,798.9	-272.9	6,893.6	6,893.6	0.00	0.00	0.00	0.00
17,600.0	89.70	90.00	10,799.5	-272.9	6,993.6	6,993.6	0.00	0.00	0.00	0.00
17,700.0	89.70	90.00	10,800.0	-272.9	7,093.6	7,093.6	0.00	0.00	0.00	0.00
17,800.0	89.70	90.00	10,800.5	-272.9	7,193.6	7,193.6	0.00	0.00	0.00	0.00
17,900.0	89.70	90.00	10,801.0	-272.9	7,293.6	7,293.6	0.00	0.00	0.00	0.00
18,000.0	89.70	90.00	10,801.6	-272.9	7,393.6	7,393.6	0.00	0.00	0.00	0.00
18,100.0	89.70	90.00	10,802.1	-272.9	7,493.6	7,493.6	0.00	0.00	0.00	0.00
18,200.0	89.70	90.00	10,802.6	-272.9	7,593.6	7,593.6	0.00	0.00	0.00	0.00
18,300.0	89.70	90.00	10,803.1	-272.9	7,693.6	7,693.6	0.00	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	1533N-100W-171B	North Reference:	True
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 ST		
Design:	Design #1		

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)	
18,400.0	89.70	90.00	10,803.7	-272.9	7,793.6	7,793.6	0.00	0.00	0.00	
18,500.0	89.70	90.00	10,804.2	-272.9	7,893.6	7,893.6	0.00	0.00	0.00	
18,600.0	89.70	90.00	10,804.7	-272.9	7,993.6	7,993.6	0.00	0.00	0.00	
18,700.0	89.70	90.00	10,805.2	-272.9	8,093.6	8,093.6	0.00	0.00	0.00	
18,800.0	89.70	90.00	10,805.7	-272.9	8,193.6	8,193.6	0.00	0.00	0.00	
18,900.0	89.70	90.00	10,806.3	-272.9	8,293.6	8,293.6	0.00	0.00	0.00	
19,000.0	89.70	90.00	10,806.8	-272.9	8,393.6	8,393.6	0.00	0.00	0.00	
19,100.0	89.70	90.00	10,807.3	-272.9	8,493.6	8,493.6	0.00	0.00	0.00	
19,200.0	89.70	90.00	10,807.8	-272.9	8,593.6	8,593.6	0.00	0.00	0.00	
19,300.0	89.70	90.00	10,808.4	-272.9	8,693.6	8,693.6	0.00	0.00	0.00	
19,400.0	89.70	90.00	10,808.9	-272.9	8,793.6	8,793.6	0.00	0.00	0.00	
19,500.0	89.70	90.00	10,809.4	-272.9	8,893.6	8,893.6	0.00	0.00	0.00	
19,600.0	89.70	90.00	10,809.9	-272.9	8,993.6	8,993.6	0.00	0.00	0.00	
19,700.0	89.70	90.00	10,810.5	-272.9	9,093.6	9,093.6	0.00	0.00	0.00	
19,800.0	89.70	90.00	10,811.0	-272.9	9,193.6	9,193.6	0.00	0.00	0.00	
19,900.0	89.70	90.00	10,811.5	-272.9	9,293.6	9,293.6	0.00	0.00	0.00	
20,000.0	89.70	90.00	10,812.0	-272.9	9,393.6	9,393.6	0.00	0.00	0.00	
20,100.0	89.70	90.00	10,812.6	-272.9	9,493.6	9,493.6	0.00	0.00	0.00	
20,200.0	89.70	90.00	10,813.1	-272.9	9,593.6	9,593.6	0.00	0.00	0.00	
20,300.0	89.70	90.00	10,813.6	-272.9	9,693.6	9,693.6	0.00	0.00	0.00	
20,400.0	89.70	90.00	10,814.1	-272.9	9,793.6	9,793.6	0.00	0.00	0.00	
20,500.0	89.70	90.00	10,814.6	-272.9	9,893.6	9,893.6	0.00	0.00	0.00	
20,600.0	89.70	90.00	10,815.2	-272.9	9,993.6	9,993.6	0.00	0.00	0.00	
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	10,050.0	0.00	0.00	0.00	

Kline Federal 5300 31-18 ST PBNL

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Kline Federal 5300 31	0.00	0.00	10,815.5	-273.0	10,050.0	406,544.02	1,220,121.87	48° 4' 25.439 N	103° 33' 43.386 W	
- plan misses target center by 0.1usft at 20656.4usft MD (10815.5 TVD, -272.9 N, 10050.0 E)										
- Point										

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter ("")	Hole Diameter ("")					
2,023.0	2,023.0	13-3/8" Surface		13-3/8	17-1/2					
6,101.1	6,101.0	9-5/8" Dakota String		9-5/8	12-1/4					
11,036.0	10,765.0	7" Intermediate		7	8-3/4					

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100EW-17718	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,923.0	1,923.0	Pierre			
4,570.1	4,570.0	Greenhorn			
4,976.1	4,976.0	Mowry			
5,403.1	5,403.0	Dakota			
6,402.2	6,402.0	Rierdon			
6,740.2	6,740.0	Dunham Salt			
6,851.2	6,851.0	Dunham Salt Base			
6,948.2	6,948.0	Spearfish			
7,203.2	7,203.0	Pine Salt			
7,251.2	7,251.0	Pine Salt Base			
7,296.2	7,296.0	Opeche Salt			
7,326.2	7,326.0	Opeche Salt Base			
7,528.2	7,528.0	Broom Creek (Top of Minnelusa Gp.)			
7,608.2	7,608.0	Amsden			
7,776.2	7,776.0	Tyler			
7,967.2	7,967.0	Otter (Base of Minnelusa Gp.)			
8,322.2	8,322.0	Kibbey Lime			
8,472.2	8,472.0	Charles Salt			
9,096.2	9,096.0	UB			
9,171.2	9,171.0	Base Last Salt			
9,219.2	9,219.0	Ratcliffe			
9,395.2	9,395.0	Mission Canyon			
9,957.2	9,957.0	Lodgepole			
10,163.2	10,163.0	Lodgepole Fracture Zone			
10,703.9	10,653.0	False Bakken			
10,719.8	10,663.0	Upper Bakken			
10,743.2	10,677.0	Middle Bakken			
10,833.5	10,722.0	Lower Bakken			
10,870.4	10,736.0	Pronghorn			
10,909.8	10,748.0	Three Forks			
10,968.3	10,760.0	TF Target Top			
11,973.0	10,770.0	TF Target Base			
12,164.0	10,771.0	Claystone			

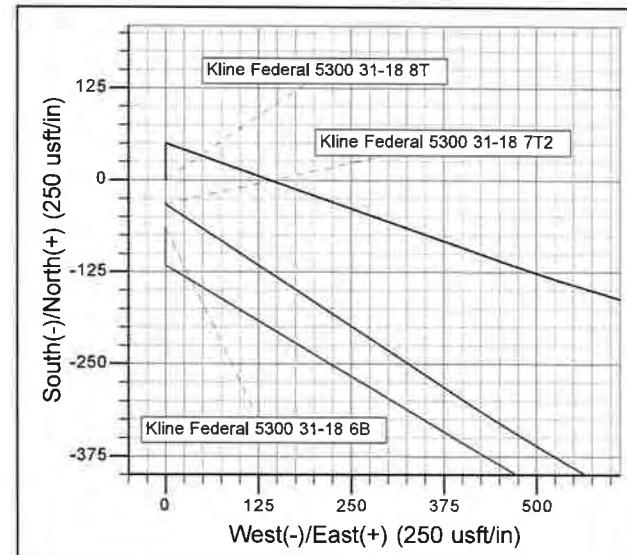
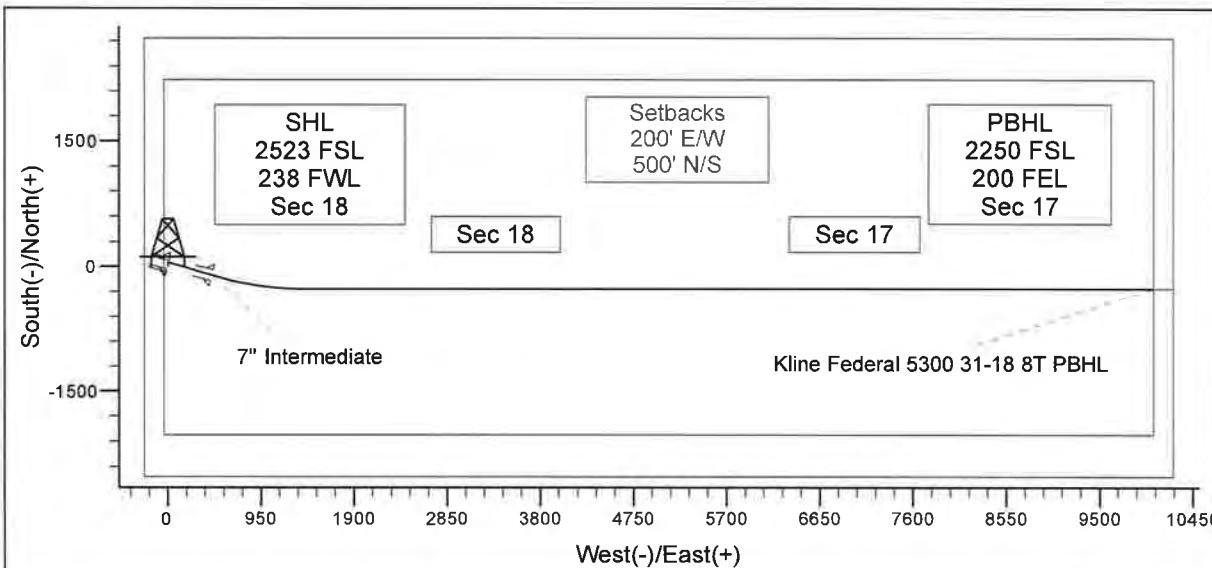
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/S (usft)	+E/W (usft)		
10,287.8	10,287.6	50.0	0.0	KOP Build 12°/100'	
11,035.3	10,765.0	-108.6	447.7	EOC	

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 31-18 8T
 Wellbore: Kline Federal 5300 31-18 8T
 Design: Design #1

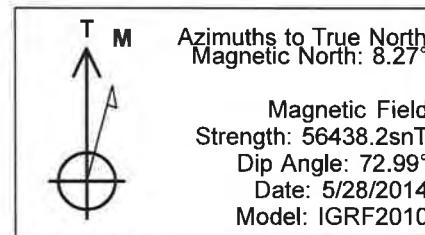


WELL DETAILS: Kline Federal 5300 31-18 8T

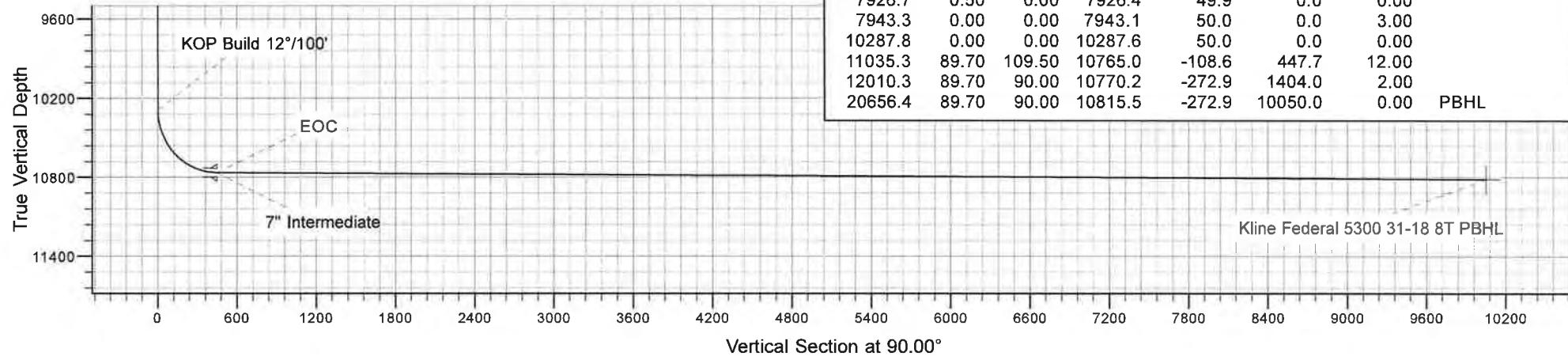
Ground Level: 2008.0
 Northing: 407221.73 Easting: 1210091.04 Latitude: 48° 4' 28.160 N Longitude: 103° 36' 11.380 W



CASING DETAILS			
TVD 2023.0 6101.0 10765.0	MD 2023.0 6101.1 11036.0	Name Surface Dakota String Intermediate	Size 13-3/8 9-5/8 7



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	0.00	2216.7	0.1	0.0	3.00		
7926.7	0.50	0.00	7926.4	49.9	0.0	0.00		
7943.3	0.00	0.00	7943.1	50.0	0.0	3.00		
10287.8	0.00	0.00	10287.6	50.0	0.0	0.00		
11035.3	89.70	109.50	10765.0	-108.6	447.7	12.00		
12010.3	89.70	90.00	10770.2	-272.9	1404.0	2.00		
20656.4	89.70	90.00	10815.5	-272.9	10050.0	0.00	PBHL	



DRILLING PLAN							
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND		
WELL NAME	Kline Federal 5300 31-18 BT			RIG	0		
WELL TYPE	Horizontal Upper Three Forks						
LOCATION	JNWSW 18-153N-R100W	Surface Location (survey plat)	2520' fsl	238' fwl			
EST. T.D.	20,558'				GROUND ELEV:	2008' Finished Pad Elev.	
TOTAL LATERAL	9,620'				KB ELEV:	2033'	
PROGNOSIS:	Based on 2,033' KB(est)			LOGS:	Type Interval		
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)		OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater), GR/Res to BSC; GR to surf, CND through the Dakota CBL/GR: Above top of cement/GR to base of casing MWD GR: KOP to lateral TD			
Pierre	NDIC MAP	1,923	110				
Greenhorn		4,570	(2,537)				
Mowry		4,976	(2,943)				
Dakota		5,403	(3,370)				
Rierdon		6,402	(4,369)				
Dunham Salt		6,740	(4,707)				
Dunham Salt Base		6,851	(4,818)				
Spearfish		6,948	(4,915)				
Pine Salt		7,203	(5,170)				
Pine Salt Base		7,251	(5,218)				
Opeche Salt		7,296	(5,263)				
Opeche Salt Base		7,326	(5,293)				
Broom Creek (Top of Minnelusa Gp)		7,528	(5,495)				
Arnsden		7,608	(5,575)				
Tyler		7,776	(5,743)				
Olter (Base of Minnelusa Gp)		7,967	(5,934)				
Kibbey Lime		8,322	(6,289)				
Charles Salt		8,472	(5,439)				
UB		9,096	(7,063)				
Base Last Salt		9,171	(7,138)				
Ratcliffe		9,219	(7,188)				
Mission Canyon		9,395	(7,362)				
Lodgepole		9,957	(7,924)				
Lodgepole Fracture Zone		10,163	(8,130)				
False Bakken		10,653	(8,620)				
Upper Bakken		10,663	(8,630)				
Middle Bakken		10,677	(8,644)				
Lower Bakken		10,722	(8,689)				
Pronghorn		10,736	(8,703)				
Three Forks		10,748	(8,715)				
TF Target Top		10,760	(8,727)				
TF Target Base		10,770	(8,737)				
Claystone		10,771	(8,738)				
Dip Rate:	0.3						
Max. Anticipated BHP:	4602			Surface Formation:	Glacial till		
MUD:	Interval	Type	WT	Vis	WL	Remarks	
Surface:	0' -	2,023' FWL/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,023' -	11,036' Invert	9.5-10.4	40-50	30+HHp	Circ Mud Tanks	
Lateral:	11,036' -	20,656' 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"	2,023'	To Surface	12	100' into Pierre
Dakota Contingency:	9-5/8"	40#	12-1/4"	6,101'	To Surface	12	Below Dakota
Intermediate:	7"	29/32#	8-3/4"	11,036'	3903	24	1500' above Dakota
Production Liner:	4-1/2"	13.5#	6"	20,656"	TOL @ 10,238"		50' above KOP
PROBABLE PLUGS, IF REQ'D:							
OTHER:	MD	TVD	FNLFSL	FEL/FWL	S-T-R	AZI	
Surface:	2,023	2,023	2523' FSL	238' FWL	SEC 18-T153N-R100W		
KOP:	10,288'	10,288'	2573' FSL	238' FWL	SEC 18-T153N-R100W		
EOC:	11,035'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	109 50	
Casing Point:	11,036'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	109 50	
Upper Threeforks Lateral TD:	20,656'	10,818'	2250' FSL	200' FEL	SEC 17-T153N-R100W	90 00	
Comments:							
Request a Sundry for an Open Hole Log Waiver							
Exception well: Oasis Petroleum's Kline 5300 11-18H							
Completion Notes: 35 packers, 35 sleeves, no frac string							
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.							
68334-30-5 (Primary Name: Fuels, diesel) 68476-34-6 (Primary Name: Fuels, diesel, No. 2) 68476-30-2 (Primary Name: Fuel oil No. 2)							
68476-31-3 (Primary Name: Fuel oil, No. 4) 8008-20-6 (Primary Name: Kerosene)							
 Geology: M. Steed (5/5/2014) Engineering: hibader rpm 7/19/14							

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' to 2,023'	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 2,023'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.19	2730 / 2.88	514 / 2.61

API Rating & Safety Factor

- a) Based on full casing evacuation with 9 ppg fluid on backside (2,023' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2,023' setting depth).
- c) Based on string weight in 9 ppg fluid at 2,023' TVD plus 100k# overpull. (Buoyed weight equals 95k 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% CaCl₂ and 0.25 lb/sk Lost Circulation Control Agent

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

CONTINGENCY INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' to 6,101'	40	HCL-80	LTC	8.835"	8.75"	5,450	7,270	9,090

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' to 6,101'	9-5/8", 40#, HCL-80, LTC, 8rd	4230 / 2.13	5750 / 3.72	837 / 2.78

API Rating & Safety Factor

- a) Collapse pressure based on 11.5 ppg fluid on the backside and 9 ppg fluid inside of casing.
- b) Burst pressure calculated from a gas kick coming from the production zone (Bakken Pool) at 9,000 psi and a subsequent breakdown at the 9-5/8" shoe, based on a 13.5#/ft fracture gradient. Backup of 9 ppg fluid.
- c) Yield based on string weight in 10 ppg fluid, (207k lbs buoyed weight) plus 100k lbs overpull.

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

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

Lead Slurry: **598 sks** (309 bbls) Conventional system with 75 lb/sk cement, 0.5 lb/sk lost circulation, 10% expanding agent, 2% extender, 2% CaCl₂, 0.2% anti-foam and 0.4% fluid loss agent.

Tail Slurry: **349 sks** (72 bbls) Conventional system with 94 lb/sk cement, 0.3% anti-settling agent, 0.3% fluid loss agent, 0.3 lb/sk lost circulation control agent, 0.2% anti-foam and 0.1% retarder.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' – 6,590'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	9,960
7"	6,590' – 10,288'	32	HCP-110	LTC	6.094"	6.000***	6,730	8,970	11,210
7"	10,288' – 11,036'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	9,960

***Special drift

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c
0' – 6,590'	6,590'	7", 29#, P-110, LTC, 8rd	8530 / 2.48*	11220 / 1.19	797 / 2.09
6,590' – 10,288'	3,698'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.20*	12460 / 1.29	
6,590' – 10,288'	3,698'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.08**	12460 / 1.29	
10,288' – 11,036'	748'	7", 29 lb, 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 10,765' TVD.
- c) Based on string weight in 10 ppg fluid, (281k lbs buoyed weight) plus 100k

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

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

Lead Slurry: **177 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, 0.5 lb/sk, D130 LCM.

Tail Slurry: **617 sks** (170 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 and 0.5 lb/sk LCM.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Estimated Torque
4-1/2"	10,238' – 20,656'	13.5	P-110	BTC	3.92"	3.795"	4,500

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10,238' – 20,656'	4-1/2", 13.5 lb, P-110, BTC, 8rd	10680 / 1.99	12410 / 1.28	443 / 2.01

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10,816' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10,816' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 120k lbs.) plus 100k lbs overpull.

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

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



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.
28653



PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

<input checked="" type="checkbox"/> Notice of Intent	Approximate Start Date July 28, 2014	<input type="checkbox"/> Drilling Prognosis	<input type="checkbox"/> Spill Report
<input type="checkbox"/> Report of Work Done	Date Work Completed	<input type="checkbox"/> Redrilling or Repair	<input type="checkbox"/> Shooting
<input type="checkbox"/> Notice of Intent to Begin a Workover Project that may Qualify for a Tax Exemption Pursuant to NDCC Section 57-51.1-03.		<input checked="" type="checkbox"/> Casing or Liner	<input type="checkbox"/> Acidizing
Approximate Start Date		<input type="checkbox"/> Plug Well	<input type="checkbox"/> Fracture Treatment
		<input type="checkbox"/> Supplemental History	<input type="checkbox"/> Change Production Method
		<input type="checkbox"/> Temporarily Abandon	<input type="checkbox"/> Reclamation
		<input type="checkbox"/> Other <u>Change casing</u>	

Well Name and Number

Kline Federal 5300 41-18 11T2

Footages	Qtr-Qtr	Section	Township	Range
467 F S L	237 F W L	SWSW	18	153 N 100 W
Field Baker	Pool Bakken		County McKenzie	

24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)

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

DETAILS OF WORK

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

Surface Casing: 13-3/8, 54.5#, 17-1/2" Hole, 2,072' MD

Dakota Contingency: 9-5/8, 40#, 12-1/4" Hole, 6,101' MD

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

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 28, 2014	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8-5-14	
By 	
Title Petroleum Resource Specialist	



Oasis Petroleum

Indian Hills
153N-100W-17/18
Kline Federal 5300 41-18 11T2

Kline Federal 5300 41-18 11T2

Plan: Design #1

Standard Planning Report

23 May, 2014

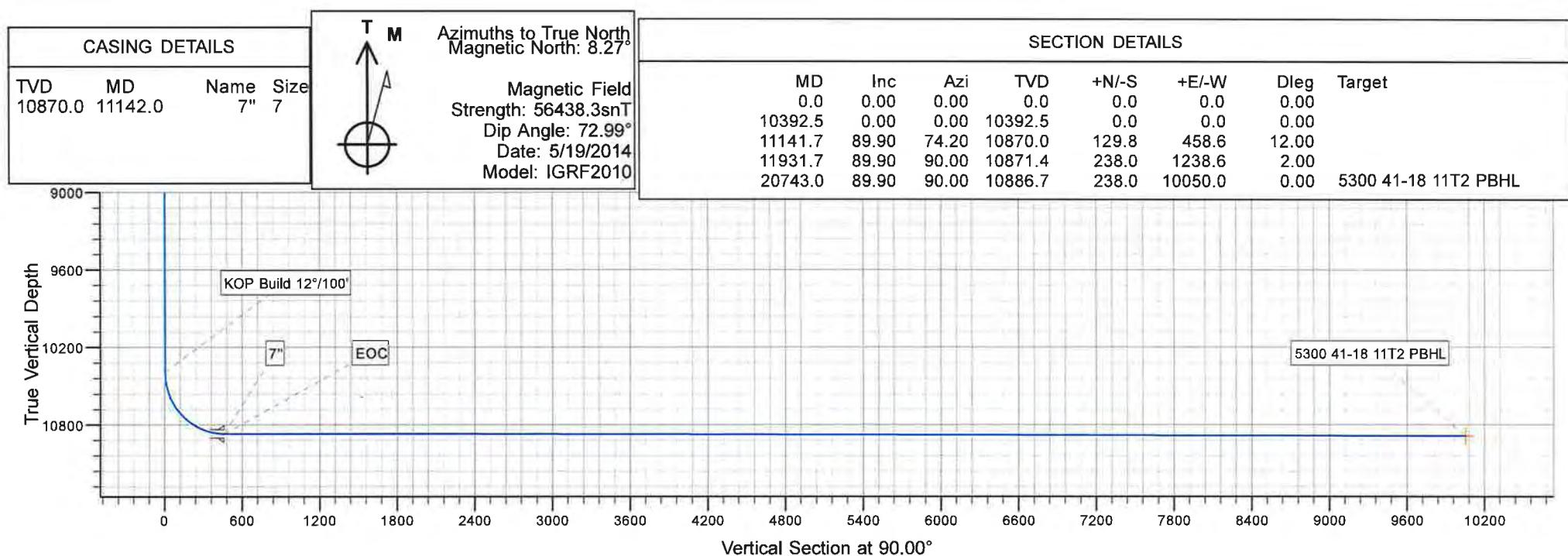
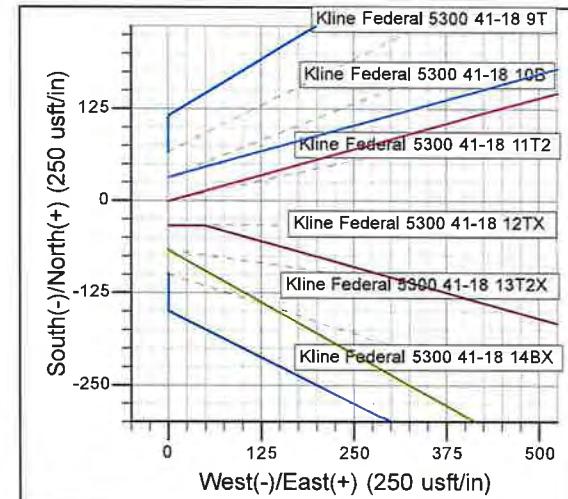
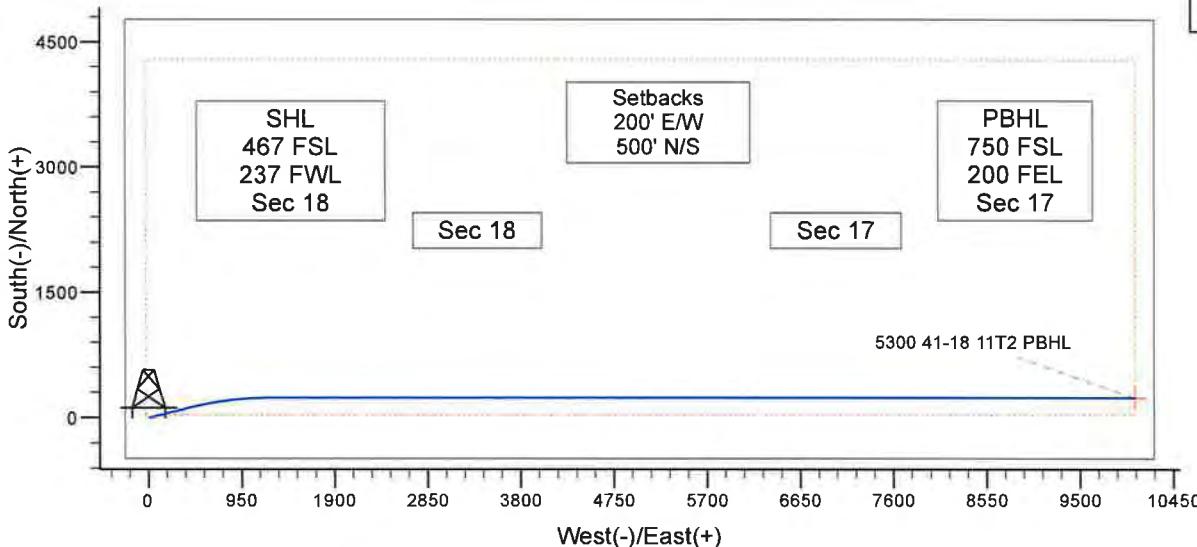


Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 41-18 11T2
 Wellbore: Kline Federal 5300 41-18 11T2
 Design: Design #1



WELL DETAILS: Kline Federal 5300 41-18 11T2

Northing 405170.05	Easting 1209969.56	Latitude 48° 4' 7.880 N	Longitude 103° 36' 11.950 W
Ground Level: 2057.0			





Ryan Directional Services

Planning Report



Database: EDM 5000.1 Single User Db
Company: Oasis Petroleum
Project: Indian Hills
Site: 153N-100W-17/18
Well: Kline Federal 5300 41-18 11T2
Wellbore: Kline Federal 5300 41-18 11T2
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Kline Federal 5300 41-18 11T2
 WELL @ 2082.0usft (Original Well Elev)
 WELL @ 2082.0usft (Original Well Elev)
 True
 Minimum Curvature

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:	408,962.44 usft	Latitude:
From:	Lat/Long	Easting:	1,210,229.18 usft	Longitude:
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:

Well	Kline Federal 5300 41-18 11T2			
Well Position	+N/S -3,799.8 usft	Northing:	405,170.05 usft	Latitude:
	+E/W -106.6 usft	Easting:	1,209,969.56 usft	Longitude:
Position Uncertainty	2.0 usft	Wellhead Elevation:		Ground Level:

Wellbore	Kline Federal 5300 41-18 11T2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/19/2014	8.27	72.99	56,438

Design	Design #1			
Audit Notes:				
Version:		Phase:	PROTOTYPE	Tie On Depth:
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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
10,392.5	0.00	0.00	10,392.5	0.0	0.0	0.00	0.00	0.00	0.00	0.00
11,141.7	89.90	74.20	10,870.0	129.8	458.6	12.00	12.00	0.00	74.20	
11,931.7	89.90	90.00	10,871.4	238.0	1,238.6	2.00	0.00	2.00	90.01	
20,743.0	89.90	90.00	10,886.7	238.0	10,050.0	0.00	0.00	0.00	0.00	5300 41-18 11T2 PBI



Ryan Directional Services

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 41-18 11T2
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2082.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2082.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 41-18 11T2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 41-18 11T2		
Design:	Design #1		

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)	
10,392.5	0.00	0.00	10,392.5	0.0	0.0	0.0	0.00	0.00	0.00	0.00
KOP Build 12°/100'										
10,400.0	0.90	74.20	10,400.0	0.0	0.1	0.1	12.00	12.00	12.00	0.00
10,425.0	3.90	74.20	10,425.0	0.3	1.1	1.1	12.00	12.00	12.00	0.00
10,450.0	6.90	74.20	10,449.9	0.9	3.3	3.3	12.00	12.00	12.00	0.00
10,475.0	9.90	74.20	10,474.6	1.9	6.8	6.8	12.00	12.00	12.00	0.00
10,500.0	12.90	74.20	10,499.1	3.3	11.6	11.6	12.00	12.00	12.00	0.00
10,525.0	15.90	74.20	10,523.3	5.0	17.6	17.6	12.00	12.00	12.00	0.00
10,550.0	18.90	74.20	10,547.2	7.0	24.8	24.8	12.00	12.00	12.00	0.00
10,575.0	21.90	74.20	10,570.6	9.4	33.2	33.2	12.00	12.00	12.00	0.00
10,600.0	24.90	74.20	10,593.5	12.1	42.7	42.7	12.00	12.00	12.00	0.00
10,625.0	27.90	74.20	10,615.9	15.1	53.4	53.4	12.00	12.00	12.00	0.00
10,650.0	30.90	74.20	10,637.7	18.5	65.2	65.2	12.00	12.00	12.00	0.00
10,675.0	33.90	74.20	10,658.8	22.1	78.1	78.1	12.00	12.00	12.00	0.00
10,700.0	36.90	74.20	10,679.2	26.0	92.0	92.0	12.00	12.00	12.00	0.00
10,725.0	39.90	74.20	10,698.8	30.3	107.0	107.0	12.00	12.00	12.00	0.00
10,750.0	42.90	74.20	10,717.5	34.8	122.9	122.9	12.00	12.00	12.00	0.00
10,761.7	44.31	74.20	10,726.0	37.0	130.6	130.6	12.00	12.00	12.00	0.00
False Bakken										
10,774.5	45.83	74.20	10,735.0	39.4	139.3	139.3	12.00	12.00	12.00	0.00
Upper Bakken										
10,775.0	45.90	74.20	10,735.4	39.5	139.7	139.7	12.00	12.00	12.00	0.00
10,798.0	48.66	74.20	10,751.0	44.1	156.0	156.0	12.00	12.00	12.00	0.00
Middle Bakken										
10,800.0	48.90	74.20	10,752.3	44.5	157.4	157.4	12.00	12.00	12.00	0.00
10,825.0	51.90	74.20	10,768.2	49.8	175.9	175.9	12.00	12.00	12.00	0.00
10,850.0	54.90	74.20	10,783.1	55.3	195.3	195.3	12.00	12.00	12.00	0.00
10,853.3	55.29	74.20	10,785.0	56.0	197.8	197.8	12.00	12.00	12.00	0.00
Lower Bakken										
10,864.0	56.58	74.20	10,791.0	58.4	206.4	206.4	12.00	12.00	12.00	0.00
Pronghorn										
10,875.0	57.90	74.20	10,797.0	60.9	215.3	215.3	12.00	12.00	12.00	0.00
10,900.0	60.90	74.20	10,809.7	66.8	236.0	236.0	12.00	12.00	12.00	0.00
10,906.9	61.73	74.20	10,813.0	68.4	241.8	241.8	12.00	12.00	12.00	0.00
Three Forks 1st Bench										
10,925.0	63.90	74.20	10,821.3	72.8	257.3	257.3	12.00	12.00	12.00	0.00
10,950.0	66.90	74.20	10,831.7	79.0	279.2	279.2	12.00	12.00	12.00	0.00
10,966.8	68.92	74.20	10,838.0	83.2	294.2	294.2	12.00	12.00	12.00	0.00
Three Forks 1st Bench Claystone										
10,975.0	69.90	74.20	10,840.9	85.3	301.5	301.5	12.00	12.00	12.00	0.00
11,000.0	72.90	74.20	10,848.9	91.8	324.3	324.3	12.00	12.00	12.00	0.00
11,007.5	73.80	74.20	10,851.0	93.7	331.2	331.2	12.00	12.00	12.00	0.00
Three Forks 2nd Bench										
11,025.0	75.90	74.20	10,855.6	98.3	347.5	347.5	12.00	12.00	12.00	0.00
11,050.0	78.90	74.20	10,861.0	105.0	371.0	371.0	12.00	12.00	12.00	0.00
11,075.0	81.90	74.20	10,865.2	111.7	394.7	394.7	12.00	12.00	12.00	0.00
11,100.0	84.90	74.20	10,868.1	118.4	418.6	418.6	12.00	12.00	12.00	0.00
11,125.0	87.90	74.20	10,869.6	125.2	442.6	442.6	12.00	12.00	12.00	0.00
11,141.7	89.90	74.20	10,870.0	129.8	458.7	458.7	11.98	11.98	11.98	0.00
EOC										
11,142.0	89.90	74.21	10,870.0	129.9	458.9	458.9	2.22	0.00	2.22	
7"										
11,200.0	89.90	75.37	10,870.1	145.1	514.9	514.9	2.00	0.00	2.00	



Ryan Directional Services

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 41-18 11T2
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2082.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2082.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 41-18 11T2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 41-18 11T2		
Design:	Design #1		

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)	
11,300.0	89.90	77.37	10,870.2	168.7	612.1	612.1	2.00	0.00	2.00	
11,400.0	89.90	79.37	10,870.4	188.8	710.0	710.0	2.00	0.00	2.00	
11,500.0	89.90	81.37	10,870.6	205.6	808.6	808.6	2.00	0.00	2.00	
11,600.0	89.90	83.37	10,870.8	218.8	907.7	907.7	2.00	0.00	2.00	
11,700.0	89.90	85.37	10,870.9	228.7	1,007.2	1,007.2	2.00	0.00	2.00	
11,800.0	89.90	87.37	10,871.1	235.0	1,107.0	1,107.0	2.00	0.00	2.00	
11,900.0	89.90	89.37	10,871.3	237.8	1,207.0	1,207.0	2.00	0.00	2.00	
11,931.7	89.90	90.00	10,871.4	238.0	1,238.6	1,238.6	2.00	0.00	2.00	
12,000.0	89.90	90.00	10,871.5	238.0	1,307.0	1,307.0	0.00	0.00	0.00	
12,100.0	89.90	90.00	10,871.6	238.0	1,407.0	1,407.0	0.00	0.00	0.00	
12,200.0	89.90	90.00	10,871.8	238.0	1,507.0	1,507.0	0.00	0.00	0.00	
12,300.0	89.90	90.00	10,872.0	238.0	1,607.0	1,607.0	0.00	0.00	0.00	
12,400.0	89.90	90.00	10,872.2	238.0	1,707.0	1,707.0	0.00	0.00	0.00	
12,500.0	89.90	90.00	10,872.3	238.0	1,807.0	1,807.0	0.00	0.00	0.00	
12,600.0	89.90	90.00	10,872.5	238.0	1,907.0	1,907.0	0.00	0.00	0.00	
12,700.0	89.90	90.00	10,872.7	238.0	2,007.0	2,007.0	0.00	0.00	0.00	
12,800.0	89.90	90.00	10,872.9	238.0	2,107.0	2,107.0	0.00	0.00	0.00	
12,900.0	89.90	90.00	10,873.0	238.0	2,207.0	2,207.0	0.00	0.00	0.00	
13,000.0	89.90	90.00	10,873.2	238.0	2,307.0	2,307.0	0.00	0.00	0.00	
13,100.0	89.90	90.00	10,873.4	238.0	2,407.0	2,407.0	0.00	0.00	0.00	
13,200.0	89.90	90.00	10,873.6	238.0	2,507.0	2,507.0	0.00	0.00	0.00	
13,300.0	89.90	90.00	10,873.7	238.0	2,607.0	2,607.0	0.00	0.00	0.00	
13,400.0	89.90	90.00	10,873.9	238.0	2,707.0	2,707.0	0.00	0.00	0.00	
13,500.0	89.90	90.00	10,874.1	238.0	2,807.0	2,807.0	0.00	0.00	0.00	
13,600.0	89.90	90.00	10,874.3	238.0	2,907.0	2,907.0	0.00	0.00	0.00	
13,700.0	89.90	90.00	10,874.4	238.0	3,007.0	3,007.0	0.00	0.00	0.00	
13,800.0	89.90	90.00	10,874.6	238.0	3,107.0	3,107.0	0.00	0.00	0.00	
13,900.0	89.90	90.00	10,874.8	238.0	3,207.0	3,207.0	0.00	0.00	0.00	
14,000.0	89.90	90.00	10,875.0	238.0	3,307.0	3,307.0	0.00	0.00	0.00	
14,100.0	89.90	90.00	10,875.1	238.0	3,407.0	3,407.0	0.00	0.00	0.00	
14,200.0	89.90	90.00	10,875.3	238.0	3,507.0	3,507.0	0.00	0.00	0.00	
14,300.0	89.90	90.00	10,875.5	238.0	3,607.0	3,607.0	0.00	0.00	0.00	
14,400.0	89.90	90.00	10,875.7	238.0	3,707.0	3,707.0	0.00	0.00	0.00	
14,500.0	89.90	90.00	10,875.8	238.0	3,807.0	3,807.0	0.00	0.00	0.00	
14,600.0	89.90	90.00	10,876.0	238.0	3,907.0	3,907.0	0.00	0.00	0.00	
14,700.0	89.90	90.00	10,876.2	238.0	4,007.0	4,007.0	0.00	0.00	0.00	
14,800.0	89.90	90.00	10,876.4	238.0	4,107.0	4,107.0	0.00	0.00	0.00	
14,900.0	89.90	90.00	10,876.5	238.0	4,207.0	4,207.0	0.00	0.00	0.00	
15,000.0	89.90	90.00	10,876.7	238.0	4,307.0	4,307.0	0.00	0.00	0.00	
15,100.0	89.90	90.00	10,876.9	238.0	4,407.0	4,407.0	0.00	0.00	0.00	
15,200.0	89.90	90.00	10,877.1	238.0	4,507.0	4,507.0	0.00	0.00	0.00	
15,300.0	89.90	90.00	10,877.2	238.0	4,607.0	4,607.0	0.00	0.00	0.00	
15,400.0	89.90	90.00	10,877.4	238.0	4,707.0	4,707.0	0.00	0.00	0.00	
15,500.0	89.90	90.00	10,877.6	238.0	4,807.0	4,807.0	0.00	0.00	0.00	
15,600.0	89.90	90.00	10,877.8	238.0	4,907.0	4,907.0	0.00	0.00	0.00	
15,700.0	89.90	90.00	10,877.9	238.0	5,007.0	5,007.0	0.00	0.00	0.00	
15,740.9	89.90	90.00	10,878.0	238.0	5,047.8	5,047.8	0.00	0.00	0.00	
Three Forks 2nd Bench Claystone										
15,800.0	89.90	90.00	10,878.1	238.0	5,107.0	5,107.0	0.00	0.00	0.00	
15,900.0	89.90	90.00	10,878.3	238.0	5,207.0	5,207.0	0.00	0.00	0.00	
16,000.0	89.90	90.00	10,878.5	238.0	5,307.0	5,307.0	0.00	0.00	0.00	
16,100.0	89.90	90.00	10,878.6	238.0	5,407.0	5,407.0	0.00	0.00	0.00	
16,200.0	89.90	90.00	10,878.8	238.0	5,507.0	5,507.0	0.00	0.00	0.00	



Ryan Directional Services

Planning Report



Database: EDM 5000.1 Single User Db
Company: Oasis Petroleum
Project: Indian Hills
Site: 153N-100W-17/18
Well: Kline Federal 5300 41-18 11T2
Wellbore: Kline Federal 5300 41-18 11T2
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Kline Federal 5300 41-18 11T2
 WELL @ 2082.0usft (Original Well Elev)
 WELL @ 2082.0usft (Original Well Elev)
 True
 Minimum Curvature

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)
16,300.0	89.90	90.00	10,879.0	238.0	5,607.0	5,607.0	0.00	0.00	0.00
16,400.0	89.90	90.00	10,879.2	238.0	5,707.0	5,707.0	0.00	0.00	0.00
16,500.0	89.90	90.00	10,879.3	238.0	5,807.0	5,807.0	0.00	0.00	0.00
16,600.0	89.90	90.00	10,879.5	238.0	5,907.0	5,907.0	0.00	0.00	0.00
16,700.0	89.90	90.00	10,879.7	238.0	6,007.0	6,007.0	0.00	0.00	0.00
16,800.0	89.90	90.00	10,879.8	238.0	6,107.0	6,107.0	0.00	0.00	0.00
16,900.0	89.90	90.00	10,880.0	238.0	6,207.0	6,207.0	0.00	0.00	0.00
17,000.0	89.90	90.00	10,880.2	238.0	6,307.0	6,307.0	0.00	0.00	0.00
17,100.0	89.90	90.00	10,880.4	238.0	6,407.0	6,407.0	0.00	0.00	0.00
17,200.0	89.90	90.00	10,880.5	238.0	6,507.0	6,507.0	0.00	0.00	0.00
17,300.0	89.90	90.00	10,880.7	238.0	6,607.0	6,607.0	0.00	0.00	0.00
17,400.0	89.90	90.00	10,880.9	238.0	6,707.0	6,707.0	0.00	0.00	0.00
17,500.0	89.90	90.00	10,881.1	238.0	6,807.0	6,807.0	0.00	0.00	0.00
17,600.0	89.90	90.00	10,881.2	238.0	6,907.0	6,907.0	0.00	0.00	0.00
17,700.0	89.90	90.00	10,881.4	238.0	7,007.0	7,007.0	0.00	0.00	0.00
17,800.0	89.90	90.00	10,881.6	238.0	7,107.0	7,107.0	0.00	0.00	0.00
17,900.0	89.90	90.00	10,881.8	238.0	7,207.0	7,207.0	0.00	0.00	0.00
18,000.0	89.90	90.00	10,881.9	238.0	7,307.0	7,307.0	0.00	0.00	0.00
18,100.0	89.90	90.00	10,882.1	238.0	7,407.0	7,407.0	0.00	0.00	0.00
18,200.0	89.90	90.00	10,882.3	238.0	7,507.0	7,507.0	0.00	0.00	0.00
18,300.0	89.90	90.00	10,882.5	238.0	7,607.0	7,607.0	0.00	0.00	0.00
18,400.0	89.90	90.00	10,882.6	238.0	7,707.0	7,707.0	0.00	0.00	0.00
18,500.0	89.90	90.00	10,882.8	238.0	7,807.0	7,807.0	0.00	0.00	0.00
18,600.0	89.90	90.00	10,883.0	238.0	7,907.0	7,907.0	0.00	0.00	0.00
18,700.0	89.90	90.00	10,883.2	238.0	8,007.0	8,007.0	0.00	0.00	0.00
18,800.0	89.90	90.00	10,883.3	238.0	8,107.0	8,107.0	0.00	0.00	0.00
18,900.0	89.90	90.00	10,883.5	238.0	8,207.0	8,207.0	0.00	0.00	0.00
19,000.0	89.90	90.00	10,883.7	238.0	8,307.0	8,307.0	0.00	0.00	0.00
19,100.0	89.90	90.00	10,883.9	238.0	8,407.0	8,407.0	0.00	0.00	0.00
19,200.0	89.90	90.00	10,884.0	238.0	8,507.0	8,507.0	0.00	0.00	0.00
19,300.0	89.90	90.00	10,884.2	238.0	8,607.0	8,607.0	0.00	0.00	0.00
19,400.0	89.90	90.00	10,884.4	238.0	8,707.0	8,707.0	0.00	0.00	0.00
19,500.0	89.90	90.00	10,884.6	238.0	8,807.0	8,807.0	0.00	0.00	0.00
19,600.0	89.90	90.00	10,884.7	238.0	8,907.0	8,907.0	0.00	0.00	0.00
19,700.0	89.90	90.00	10,884.9	238.0	9,007.0	9,007.0	0.00	0.00	0.00
19,800.0	89.90	90.00	10,885.1	238.0	9,107.0	9,107.0	0.00	0.00	0.00
19,900.0	89.90	90.00	10,885.3	238.0	9,207.0	9,207.0	0.00	0.00	0.00
20,000.0	89.90	90.00	10,885.4	238.0	9,307.0	9,307.0	0.00	0.00	0.00
20,100.0	89.90	90.00	10,885.6	238.0	9,407.0	9,407.0	0.00	0.00	0.00
20,200.0	89.90	90.00	10,885.8	238.0	9,507.0	9,507.0	0.00	0.00	0.00
20,300.0	89.90	90.00	10,886.0	238.0	9,607.0	9,607.0	0.00	0.00	0.00
20,400.0	89.90	90.00	10,886.1	238.0	9,707.0	9,707.0	0.00	0.00	0.00
20,500.0	89.90	90.00	10,886.3	238.0	9,807.0	9,807.0	0.00	0.00	0.00
20,600.0	89.90	90.00	10,886.5	238.0	9,907.0	9,907.0	0.00	0.00	0.00
20,700.0	89.90	90.00	10,886.7	238.0	10,007.0	10,007.0	0.00	0.00	0.00
20,743.0	89.90	90.00	10,886.7	238.0	10,050.0	10,050.0	0.00	0.00	0.00

5300 41-18 11T2 PBHL



Ryan Directional Services

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Kline Federal 5300 41-18 11T2
Company:	Oasis Petroleum	TVD Reference:	WELL @ 2082.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2082.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 41-18 11T2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline-Federal 5300 41-18 11T2		
Design:	Design #1		

Design Targets										
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
5300 41-18 11T2 PBHL	- plan hits target center	0.00	0.00	10,886.7	238.0	10,050.0	405,002.90	1,220,020.90	48° 4' 10.202 N	103° 33' 43.968 W
	- Point									

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
11,142.0	10,870.0	7"	7	8-3/4		



Ryan Directional Services

Planning Report



Database: EDM 5000.1 Single User Db
Company: Oasis Petroleum
Project: Indian Hills
Site: 153N-100W-17/18
Well: Kline Federal 5300 41-18 11T2
Wellbore: Kline Federal 5300 41-18 11T2
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Kline Federal 5300 41-18 11T2
 WELL @ 2082.0usft (Original Well Elev)
 WELL @ 2082.0usft (Original Well Elev)
 True
 Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,972.0	1,972.0	Pierre			
4,646.0	4,646.0	Greenhorn			
5,057.0	5,057.0	Mowry			
5,471.0	5,471.0	Dakota			
6,486.0	6,486.0	Rierdon			
6,814.0	6,814.0	Dunham Salt			
6,929.0	6,929.0	Dunham Salt Base			
7,024.0	7,024.0	Spearfish			
7,283.0	7,283.0	Pine Salt			
7,318.0	7,318.0	Pine Salt Base			
7,374.0	7,374.0	Opeche Salt			
7,403.0	7,403.0	Opeche Salt Base			
7,605.0	7,605.0	Broom Creek (Top of Minnelusa Gp.)			
7,684.0	7,684.0	Amsden			
7,853.0	7,853.0	Tyler			
8,047.0	8,047.0	Otter (Base of Minnelusa Gp.)			
8,390.0	8,390.0	Kibbey			
8,542.0	8,542.0	Charles Salt			
9,159.0	9,159.0	UB			
9,238.0	9,238.0	Base Last Salt			
9,301.0	9,301.0	Ratcliffe			
9,454.0	9,454.0	Mission Canyon			
10,022.0	10,022.0	Lodgepole			
10,209.0	10,209.0	Lodgepole Fracture Zone			
10,761.7	10,726.0	False Bakken			
10,774.5	10,735.0	Upper Bakken			
10,798.0	10,751.0	Middle Bakken			
10,853.3	10,785.0	Lower Bakken			
10,864.0	10,791.0	Pronghorn			
10,906.9	10,813.0	Three Forks 1st Bench			
10,966.8	10,838.0	Three Forks 1st Bench Claystone			
11,007.5	10,851.0	Three Forks 2nd Bench			
15,740.9	10,878.0	Three Forks 2nd Bench Claystone			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/S (usft)	+E/W (usft)		
10,392.5	10,392.5	0.0	0.0	KOP Build 12°/100'	
11,141.7	10,870.0	129.8	458.7	EOC	

**Oasis Petroleum
Well Summary**
Kline Federal 5300 41-18 11T2
Section 18 T153N R100W
McKenzie County, ND

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' to 2,072'	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 2,072'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.17	2730 / 2.82	514 / 2.61

API Rating & Safety Factor

- a) Based on full casing evacuation with 9 ppg fluid on backside (2,072' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2,072' setting depth).
- c) Based on string weight in 9 ppg fluid at 2,072' 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% CaCl₂ and 0.25 lb/sk Lost Circulation Control Agent

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 11T2
Section 18 T153N R100W
McKenzie County, ND

CONTINGENCY SURFACE CASING AND CEMENT DESIGN

Make-up Torque (ft-lbs)									
Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Minimum	Optimum	Max
9-5/8"	0' to 6,101'	40	HCL-80	LTC	8.835"	8.75"	5,450	7,270	9,090

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' to 6,101'	9-5/8", 40#, HCL-80, LTC, 8rd	4230 / 2.13	5750 / 3.72	837 / 2.78

API Rating & Safety Factor

- a) Collapse pressure based on 11.5 ppg fluid on the backside and 9 ppg fluid inside of casing.
- b) Burst pressure calculated from a gas kick coming from the production zone (Bakken Pool) at 9,000 psi and a subsequent breakdown at the 9-5/8" shoe, based on a 13.5#/ft fracture gradient. Backup of 9 ppg fluid.
- c) Yield based on string weight in 10 ppg fluid, (207k lbs buoyed weight) plus 100k lbs overpull.

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

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

Lead Slurry: **598 sks** (309 bbls) Conventional system with 75 lb/sk cement, 0.5 lb/sk lost circulation, 10% expanding agent, 2% extender, 2% CaCl₂, 0.2% anti-foam and 0.4% fluid loss agent.

Tail Slurry: **349 sks** (72 bbls) Conventional system with 94 lb/sk cement, 0.3% anti-settling agent, 0.3% fluid loss agent, 0.3 lb/sk lost circulation control agent, 0.2% anti-foam and 0.1% retarder.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 41-18 11T2
Section 18 T153N R100W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' – 6,664'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	8,770
7"	6,664' – 10,393'	32	HCP-110	LTC	6.094"	6.000***	6,730	8,970	9,870
7"	10,393' – 11,142'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	8,770

***Special drift

Interval	Length	Description	Collapse	Burst	Tension
			(psi) a	(psi) b	(1000 lbs) c
0' – 6,664'	6,664'	7", 29#, P-110, LTC, 8rd	8530 / 2.46*	11220 / 1.19	797 / 2.07
6,664' – 10,393'	3,729'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.18*	12460 / 1.29	
6,664' – 10,393'	3,729'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.07**	12460 / 1.29	
10,393' – 11,142'	749'	7", 29 lb, P-110, LTC, 8rd	8530 / 1.50*	11220 / 1.15	

API Rating & Safety Factor

- a) *Assume full casing evacuation with 10 ppg fluid on backside. **Assume full casing evacuation with 1.2 psi/ft equivalent fluid gradient across salt intervals.
- b) Burst pressure based on 9000 psig max press for stimulation plus 10.2 ppg fluid in casing and 9 ppg fluid on backside-to 10,870' TVD.
- c) Based on string weight in 10 ppg fluid, (283k lbs buoyed weight) plus 100k

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

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

Lead Slurry: **157 sks** (72 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, 0.5 lb/sk, D130 LCM.

Tail Slurry: **621 sks** (172 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 and 0.5 lb/sk LCM.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 41-18 11T2
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Estimated Torque
4-1/2"	10,343' – 20,743'	13.5	P-110	BTC	3.92"	3.795"	4,500

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10,343' – 20,743'	4-1/2", 13.5 lb, P-110, BTC, 8rd	10680 / 1.98	12410 / 1.28	443 / 2.01

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10,887' TVD.
 Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external
- b) fluid gradient @ 10,887' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 119k 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)

DRILLING PLAN							
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co ND		
WELL NAME	Kline Federal 5300 41-18 11T2			RIG	0		
WELL TYPE	Horizontal Three Forks			LOCATION	SW SW 1& T153N-100W		
EST. T.D.	20,743'			Surface Location (survey plan): 467' tll TOTAL LATERAL: 9,601' (est)			
PROGNOSIS:	Based on 2,082' KB(est)			LOGS:	Type Interval		
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)			OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater); GR/Res to BSC; GR to surf; CND through the Dakota CBL/GR: Above top of cement/GR to base of casing MWD GR: KOP to lateral TD		
Pierre	NDIC MAP	1,972	110'				
Greenhorn		4,646	-2,564'				
Mowry		5,057	-2,975'				
Dakota		5,471	-3,389'				
Rierdon		6,486	-4,404'				
Dunham Salt		6,814	-4,732'				
Dunham Salt Base		6,929	-4,847'				
Spearfish		7,024	-4,942'				
Pine Salt		7,283	-5,201'				
Pine Salt Base		7,318	-5,236'				
Opeche Salt		7,374	-5,292'				
Opeche Salt Base		7,403	-5,321'				
Broom Creek (Top of Minnelusa Gp)		7,605	-5,523'		None planned		
Amsden		7,684	-5,602'				
Tyler		7,853	-5,771'				
Otter (Base of Minnelusa Gp)		8,047	-5,965'				
Kibbey		8,390	6,308'				
Charles Salt		8,542	-6,460'				
UB		9,159	-7,077'				
Base Last Salt		9,238	-7,156'				
Ratcliffe		9,301	-7,219'				
Mission Canyon		9,454	-7,372'				
Lodgepole		10,022	-7,940'				
Lodgepole Fracture Zone		10,209	-8,127'				
False Bakken		10,726	-8,644'				
Upper Bakken		10,735	-8,653'				
Middle Bakken		10,751	-8,669'				
Lower Bakken		10,785	-8,703'				
Pronghorn		10,791	-8,709'				
Three Forks 1st Bench		10,813	-8,731'				
Three Forks 1st Bench Claystone		10,838	-8,756'				
Three Forks 2nd Bench		10,851	-8,769'				
Three Forks 2nd Bench Claystone		10,878	-8,796'				
Three Forks 3rd Bench		10,897	-8,815'				
Dip Rate:	-0.1						
Max. Anticipated BHP:	4714			Surface Formation: Glacial till			
MUD:	Interval	Type	WT	VIS	WL	Remarks	
Surface:	0' -	2,072' PW/Gel - Lime Sweeps	8 4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,072' -	11,142' Invert	9 5-10.4	40-50	30+HHP	Circ Mud Tanks	
Lateral:	11,142' -	20,743' 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"	2,072'	To Surface	12	100' into Pierre
Dakota Contingency:	9-5/8"	40#	12-1/4"	6,101'	To Surface	12	Below Dakota
Intermediate:	7"	29#	8.75"	11,142'	3,971'	24	1500' above Dakota
Production Liner:	4.5"	13.5#	6"	20,743'	TOL @ 10,343'		50' above KOP
PROBABLE PLUGS, IF REQ'D:							
OTHER:	MD	IVD	FNL/FSL	FEL/FWL	S-T-R	AZI	
Surface:	2,072	2,072	467' FSL	237' FWL	SEC 18-T153N-R100W		Survey Company:
KOP:	10,393'	10,393'	467' FSL	237' FWL	SEC 18-T153N-R100W		Build Rate: 12 deg /100'
EOC:	11,142'	10,870'	597' FSL	696' FWL	SEC 18-T153N-R100W	74 20	
Casing Point:	11,142'	10,870'	597' FSL	696' FWL	SEC 18-T153N-R100W	74 20	
Three Forks Lateral TD:	20,743'	10,887'	750' FSL	200' FEL	SEC 17-T153N-R100W	90 00	
Comments: Request a Sundry for an Open Hole Log Waiver							
Exception well: Oasis Petroleum's Kline Federal 5300 11-18H (153N 100W 18 NW NW) 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) 68008-20-6 (Primary Name: Kerosene)							
OASIS PETROLEUM							
Geology: M.Steed 4/23/14	Engineering: hbader rpm 7/18/14						



Oasis Petroleum

Indian Hills
153N-100W-17/18
Kline Federal 5300 41-18 10B

Kline Federal 5300 41-18 10B

Plan: Design #1

Standard Planning Report

23 May, 2014





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.

28754



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

 Notice of Intent

Approximate Start Date
July 28, 2014

 Report of Work Done

Date Work Completed

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

Approximate Start Date

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

Well Name and Number

Kline Federal 5300 31-18 8T

Footages 2523 F S L	238 F W L	Qtr-Qtr LOT3	Section 18	Township 153 N	Range 100 W
Field Baker	Pool Bakken	County McKenzie			

24-HOUR PRODUCTION RATE

Before	After
Oil	Bbls
Water	Bbls
Gas	MCF

Name of Contractor(s)

Address	City	State	Zip Code
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DETAILS OF WORK

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

Surface Casing: 13-3/8, 54.5#, 17-1/2" Hole, 2,023' MD

Dakota Contingency: 9-5/8, 40#, 12-1/4" Hole, 6,101' MD

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

Company Oasis Petroleum North America LLC	Telephone Number 281-404-9563	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Heather McCowan	
Title Regulatory Assistant	Date July 28, 2014	
Email Address hmccowan@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 8-5-14	
By 	
Title Petroleum Resource Specialist	

Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8T

Kline Federal 5300 31-18 8T

Design #1

Anticollision Report

18 July, 2014

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kine Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0 us
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program		Date	7/18/2014	Tool Name			Description	
From (usft)	To (usft)	Survey (Wellbore)						
0.0	20,656.4	Design #1 (Kline Federal 5300 31-18 8T)	MWD				MWD - Standard	

Summary		Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance			Separation Factor		Warning
Site Name	Offset Well - Wellbore - Design			Between Centres (usft)	Between Ellipses (usft)				
153N-100W-17/18									
Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18		2,200.0	2,200.0	65.9	55.5		6.328	CC	
Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18		20,656.4	20,694.5	507.7	-69.9		0.879	Level 1, ES, SF	
Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18		2,200.0	2,200.0	32.4	22.0		3.115	CC	
Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18		20,656.4	20,831.5	500.8	-85.3		0.854	Level 1, ES, SF	

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1										Offset Site Error:	0.0 usft		
Survey Program: 0-MWD										Offset Well Error:	2.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	+E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	2.0	2.0	180.00	-65.9	0.0	65.9				
100.0	100.0	100.0	100.0	2.0	2.0	180.00	-65.9	0.0	65.9	61.9	4.00	16.451	
200.0	200.0	200.0	200.0	2.0	2.0	180.00	-65.9	0.0	65.9	61.8	4.05	16.272	
300.0	300.0	300.0	300.0	2.1	2.1	180.00	-65.9	0.0	65.9	61.7	4.14	15.908	
400.0	400.0	400.0	400.0	2.1	2.1	180.00	-65.9	0.0	65.9	61.6	4.28	15.395	
500.0	500.0	500.0	500.0	2.2	2.2	180.00	-65.9	0.0	65.9	61.4	4.46	14.776	
600.0	600.0	600.0	600.0	2.3	2.3	180.00	-65.9	0.0	65.9	61.2	4.67	14.094	
700.0	700.0	700.0	700.0	2.5	2.5	180.00	-65.9	0.0	65.9	60.9	4.92	13.385	
800.0	800.0	800.0	800.0	2.6	2.6	180.00	-65.9	0.0	65.9	60.7	5.20	12.677	
900.0	900.0	900.0	900.0	2.7	2.7	180.00	-65.9	0.0	65.9	60.4	5.49	11.990	
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	180.00	-65.9	0.0	65.9	60.1	5.81	11.335	
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	180.00	-65.9	0.0	65.9	59.7	6.14	10.719	
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	180.00	-65.9	0.0	65.9	59.4	6.49	10.145	
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	180.00	-65.9	0.0	65.9	59.0	6.85	9.612	
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	180.00	-65.9	0.0	65.9	58.6	7.22	9.120	
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	180.00	-65.9	0.0	65.9	58.3	7.60	8.666	
1,600.0	1,600.0	1,600.0	1,600.0	4.0	4.0	180.00	-65.9	0.0	65.9	57.9	7.99	8.247	
1,700.0	1,700.0	1,700.0	1,700.0	4.2	4.2	180.00	-65.9	0.0	65.9	57.5	8.38	7.861	
1,800.0	1,800.0	1,800.0	1,800.0	4.4	4.4	180.00	-65.9	0.0	65.9	57.1	8.78	7.505	
1,900.0	1,900.0	1,900.0	1,900.0	4.6	4.6	180.00	-65.9	0.0	65.9	56.7	9.18	7.176	
2,000.0	2,000.0	2,000.0	2,000.0	4.8	4.8	180.00	-65.9	0.0	65.9	56.3	9.58	6.872	
2,100.0	2,100.0	2,100.0	2,100.0	5.0	5.0	180.00	-65.9	0.0	65.9	55.9	9.99	6.590	
2,200.0	2,200.0	2,200.0	2,200.0	5.2	5.2	180.00	-65.9	0.0	65.9	55.5	10.41	6.328 CC	

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
2,216.7	2,216.7	2,216.1	2,216.1	5.2	5.2	180.00	-65.9	0.0	66.0	55.5	10.47	6.303			
2,300.0	2,300.0	2,299.4	2,299.4	5.4	5.4	180.00	-66.7	0.0	67.5	56.7	10.77	6.261			
2,400.0	2,400.0	2,399.4	2,399.4	5.6	5.5	180.00	-67.5	0.0	69.2	58.1	11.14	6.210			
2,500.0	2,500.0	2,499.4	2,499.4	5.8	5.7	180.00	-68.4	0.0	70.9	59.4	11.52	6.159			
2,600.0	2,600.0	2,599.4	2,599.4	6.0	5.9	180.00	-69.3	0.0	72.7	60.8	11.90	6.109			
2,700.0	2,700.0	2,699.4	2,699.3	6.3	6.0	180.00	-70.1	0.0	74.4	62.2	12.28	6.060			
2,800.0	2,800.0	2,799.3	2,799.3	6.5	6.2	180.00	-71.0	0.0	76.2	63.5	12.67	6.012			
2,900.0	2,900.0	2,899.3	2,899.3	6.7	6.4	180.00	-71.9	0.0	77.9	64.9	13.06	5.965			
3,000.0	3,000.0	2,999.3	2,999.3	6.9	6.6	180.00	-72.8	0.0	79.7	66.2	13.46	5.919			
3,100.0	3,100.0	3,099.3	3,099.3	7.1	6.7	180.00	-73.6	0.0	81.4	67.6	13.86	5.875			
3,200.0	3,200.0	3,199.3	3,199.2	7.3	6.9	180.00	-74.5	0.0	83.2	68.9	14.26	5.831			
3,300.0	3,300.0	3,299.3	3,299.2	7.5	7.1	180.00	-75.4	0.0	84.9	70.2	14.67	5.789			
3,400.0	3,400.0	3,399.2	3,399.2	7.8	7.3	180.00	-76.3	0.0	86.7	71.6	15.07	5.749			
3,500.0	3,500.0	3,499.2	3,499.2	8.0	7.5	180.00	-77.1	0.0	88.4	72.9	15.48	5.709			
3,600.0	3,599.9	3,599.2	3,599.2	8.2	7.7	180.00	-78.0	0.0	90.1	74.3	15.90	5.671			
3,700.0	3,699.9	3,699.2	3,699.1	8.4	7.9	180.00	-78.9	0.0	91.9	75.6	16.31	5.634			
3,800.0	3,799.9	3,799.2	3,799.1	8.6	8.1	180.00	-79.7	0.0	93.6	76.9	16.73	5.598			
3,900.0	3,899.9	3,899.2	3,899.1	8.9	8.3	180.00	-80.6	0.0	95.4	78.2	17.14	5.564			
4,000.0	3,999.9	3,999.2	3,999.1	9.1	8.5	180.00	-81.5	0.0	97.1	79.6	17.56	5.530			
4,100.0	4,099.9	4,099.1	4,099.1	9.3	8.7	180.00	-82.4	0.0	98.9	80.9	17.98	5.498			
4,200.0	4,199.9	4,199.1	4,199.0	9.5	8.9	180.00	-83.2	0.0	100.6	82.2	18.41	5.467			
4,300.0	4,299.9	4,299.1	4,299.0	9.7	9.1	180.00	-84.1	0.0	102.4	83.5	18.83	5.437			
4,400.0	4,399.9	4,399.1	4,399.0	10.0	9.3	180.00	-85.0	0.0	104.1	84.9	19.25	5.407			
4,500.0	4,499.9	4,499.1	4,499.0	10.2	9.5	180.00	-85.9	0.0	105.9	86.2	19.68	5.379			
4,600.0	4,599.9	4,599.1	4,599.0	10.4	9.7	180.00	-86.7	0.0	107.6	87.5	20.11	5.352			
4,700.0	4,699.9	4,699.0	4,699.0	10.6	9.9	180.00	-87.6	0.0	109.3	88.8	20.53	5.325			
4,800.0	4,799.9	4,799.0	4,798.9	10.8	10.1	180.00	-88.5	0.0	111.1	90.1	20.96	5.300			
4,900.0	4,899.9	4,899.0	4,898.9	11.1	10.3	180.00	-89.3	0.0	112.8	91.4	21.39	5.275			
5,000.0	4,999.9	4,999.0	4,998.9	11.3	10.6	180.00	-90.2	0.0	114.6	92.8	21.82	5.251			
5,100.0	5,099.9	5,099.0	5,098.9	11.5	10.8	180.00	-91.1	0.0	116.3	94.1	22.25	5.227			
5,200.0	5,199.9	5,199.0	5,198.9	11.7	11.0	180.00	-92.0	0.0	118.1	95.4	22.68	5.205			
5,300.0	5,299.9	5,299.0	5,298.8	11.9	11.2	180.00	-92.8	0.0	119.8	96.7	23.12	5.183			
5,400.0	5,399.9	5,398.9	5,398.8	12.2	11.4	180.00	-93.7	0.0	121.6	98.0	23.55	5.162			
5,500.0	5,499.9	5,498.9	5,498.8	12.4	11.6	180.00	-94.6	0.0	123.3	99.3	23.98	5.141			
5,600.0	5,599.9	5,598.9	5,598.8	12.6	11.8	180.00	-95.4	0.0	125.1	100.6	24.42	5.121			
5,700.0	5,699.9	5,698.9	5,698.8	12.8	12.0	180.00	-96.3	0.0	126.8	101.9	24.85	5.102			
5,800.0	5,799.9	5,798.9	5,798.7	13.1	12.3	180.00	-97.2	0.0	128.5	103.3	25.29	5.083			
5,900.0	5,899.9	5,898.9	5,898.7	13.3	12.5	180.00	-98.1	0.0	130.3	104.6	25.72	5.065			
6,000.0	5,999.9	5,998.8	5,998.7	13.5	12.7	180.00	-98.9	0.0	132.0	105.9	26.16	5.047			
6,100.0	6,099.9	6,098.8	6,098.7	13.7	12.9	180.00	-99.8	0.0	133.8	107.2	26.60	5.030			
6,200.0	6,199.8	6,198.8	6,198.7	13.9	13.1	180.00	-100.7	0.0	135.5	108.5	27.04	5.013			
6,300.0	6,299.8	6,298.8	6,298.6	14.2	13.3	180.00	-101.6	0.0	137.3	109.8	27.47	4.996			
6,400.0	6,399.8	6,398.8	6,398.6	14.4	13.6	180.00	-102.4	0.0	139.0	111.1	27.91	4.981			
6,500.0	6,499.8	6,498.8	6,498.6	14.6	13.8	180.00	-103.3	0.0	140.8	112.4	28.35	4.965			
6,600.0	6,599.8	6,598.8	6,598.6	14.8	14.0	180.00	-104.2	0.0	142.5	113.7	28.79	4.950			
6,700.0	6,699.8	6,698.7	6,698.6	15.1	14.2	180.00	-105.0	0.0	144.2	115.0	29.23	4.935			
6,800.0	6,799.8	6,798.7	6,798.6	15.3	14.4	180.00	-105.9	0.0	146.0	116.3	29.67	4.921			
6,900.0	6,899.8	6,898.7	6,898.5	15.5	14.6	180.00	-106.8	0.0	147.7	117.6	30.11	4.907			
7,000.0	6,999.8	6,998.7	6,998.5	15.7	14.9	180.00	-107.7	0.0	149.5	118.9	30.55	4.894			
7,100.0	7,099.8	7,098.7	7,098.5	15.9	15.1	180.00	-108.5	0.0	151.2	120.2	30.99	4.880			
7,200.0	7,199.8	7,198.7	7,198.5	16.2	15.3	180.00	-109.4	0.0	153.0	121.5	31.43	4.868			
7,300.0	7,299.8	7,298.6	7,298.5	16.4	15.5	180.00	-110.3	0.0	154.7	122.9	31.87	4.855			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0ft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0ft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
7,400.0	7,399.8	7,398.6	7,398.4	16.6	15.7	180.00	-111.2	0.0	156.5	124.2	32.31	4.843			
7,500.0	7,499.8	7,498.6	7,498.4	16.8	16.0	180.00	-112.0	0.0	158.2	125.5	32.75	4.831			
7,600.0	7,599.8	7,598.6	7,598.4	17.1	16.2	180.00	-112.9	0.0	160.0	126.8	33.19	4.819			
7,700.0	7,699.8	7,698.6	7,698.4	17.3	16.4	180.00	-113.8	0.0	161.7	128.1	33.63	4.808			
7,800.0	7,799.8	7,798.6	7,798.4	17.5	16.6	180.00	-114.6	0.0	163.4	129.4	34.08	4.796			
7,900.0	7,899.8	7,898.6	7,898.3	17.7	16.8	180.00	-115.5	0.0	165.2	130.7	34.52	4.786			
7,926.7	7,926.4	7,925.2	7,925.0	17.8	16.9	180.00	-115.7	0.0	165.7	131.0	34.64	4.783			
7,943.3	7,943.1	7,943.3	7,943.1	17.8	16.9	180.00	-115.8	0.0	165.8	131.1	34.74	4.773			
8,000.0	7,999.8	8,000.0	7,999.8	17.9	17.1	180.00	-115.8	0.0	165.8	130.8	34.96	4.742			
8,100.0	8,099.8	8,100.0	8,099.8	18.2	17.2	180.00	-115.8	0.0	165.8	130.4	35.38	4.687			
8,200.0	8,199.8	8,200.0	8,199.8	18.4	17.4	180.00	-115.8	0.0	165.8	130.0	35.79	4.633			
8,300.0	8,299.8	8,300.0	8,299.8	18.6	17.6	180.00	-115.8	0.0	165.8	129.6	36.21	4.580			
8,400.0	8,399.8	8,400.0	8,399.8	18.8	17.8	180.00	-115.8	0.0	165.8	129.2	36.62	4.528			
8,500.0	8,499.8	8,500.0	8,499.8	19.1	18.0	180.00	-115.8	0.0	165.8	128.8	37.04	4.477			
8,600.0	8,599.8	8,600.0	8,599.8	19.3	18.2	180.00	-115.8	0.0	165.8	128.4	37.45	4.427			
8,700.0	8,699.8	8,700.0	8,699.8	19.5	18.4	180.00	-115.8	0.0	165.8	127.9	37.87	4.378			
8,800.0	8,799.8	8,800.0	8,799.8	19.7	18.6	180.00	-115.8	0.0	165.8	127.5	38.29	4.330			
8,900.0	8,899.8	8,900.0	8,899.8	19.9	18.8	180.00	-115.8	0.0	165.8	127.1	38.71	4.283			
9,000.0	8,999.8	9,000.0	8,999.8	20.2	19.0	180.00	-115.8	0.0	165.8	126.7	39.13	4.237			
9,100.0	9,099.8	9,100.0	9,099.8	20.4	19.2	180.00	-115.8	0.0	165.8	126.3	39.55	4.192			
9,200.0	9,199.8	9,200.0	9,199.8	20.6	19.4	180.00	-115.8	0.0	165.8	125.8	39.97	4.148			
9,300.0	9,299.8	9,300.0	9,299.8	20.8	19.6	180.00	-115.8	0.0	165.8	125.4	40.39	4.105			
9,400.0	9,399.8	9,400.0	9,399.8	21.1	19.8	180.00	-115.8	0.0	165.8	125.0	40.82	4.062			
9,500.0	9,499.8	9,500.0	9,499.8	21.3	20.0	180.00	-115.8	0.0	165.8	124.6	41.24	4.021			
9,600.0	9,599.8	9,600.0	9,599.8	21.5	20.2	180.00	-115.8	0.0	165.8	124.1	41.66	3.980			
9,700.0	9,699.8	9,700.0	9,699.8	21.7	20.4	180.00	-115.8	0.0	165.8	123.7	42.09	3.940			
9,800.0	9,799.8	9,800.0	9,799.8	22.0	20.6	180.00	-115.8	0.0	165.8	123.3	42.51	3.900			
9,900.0	9,899.8	9,900.0	9,899.8	22.2	20.8	180.00	-115.8	0.0	165.8	122.9	42.94	3.862			
10,000.0	9,999.8	10,000.0	9,999.8	22.4	21.0	180.00	-115.8	0.0	165.8	122.4	43.36	3.824			
10,100.0	10,099.8	10,100.0	10,099.8	22.6	21.2	180.00	-115.8	0.0	165.8	122.0	43.79	3.786			
10,200.0	10,199.8	10,200.0	10,199.8	22.9	21.4	180.00	-115.8	0.0	165.8	121.6	44.22	3.750			
10,200.4	10,200.2	10,200.4	10,200.2	22.9	21.4	180.00	-115.8	0.0	165.8	121.6	44.22	3.750			
10,287.8	10,287.6	10,278.7	10,278.3	23.1	21.6	179.24	-117.2	2.2	167.4	122.8	44.58	3.756			
10,300.0	10,299.8	10,288.9	10,288.5	23.1	21.6	69.36	-117.8	3.2	168.1	123.5	44.62	3.768			
10,325.0	10,324.7	10,309.8	10,309.2	23.1	21.6	68.65	-119.4	5.9	169.6	124.9	44.70	3.795			
10,350.0	10,349.6	10,330.6	10,329.6	23.2	21.7	68.02	-121.4	9.3	171.3	126.5	44.76	3.827			
10,375.0	10,374.3	10,350.0	10,348.5	23.2	21.7	67.49	-123.7	13.1	173.1	128.3	44.81	3.862			
10,400.0	10,398.8	10,372.0	10,369.7	23.3	21.8	67.00	-126.8	18.3	175.0	130.1	44.85	3.901			
10,425.0	10,422.9	10,392.7	10,389.2	23.3	21.8	66.61	-130.2	23.9	176.9	132.1	44.88	3.943			
10,450.0	10,446.7	10,413.2	10,408.5	23.4	21.9	66.30	-134.0	30.1	179.0	134.1	44.89	3.988			
10,475.0	10,470.0	10,433.8	10,427.3	23.4	21.9	66.07	-138.2	37.1	181.2	136.3	44.90	4.036			
10,500.0	10,492.9	10,454.2	10,445.7	23.5	22.0	65.91	-142.8	44.7	183.4	138.5	44.89	4.086			
10,525.0	10,515.1	10,475.0	10,464.0	23.6	22.0	65.82	-147.9	53.2	185.7	140.9	44.88	4.139			
10,550.0	10,536.8	10,495.1	10,481.2	23.6	22.1	65.79	-153.1	62.0	188.1	143.3	44.87	4.193			
10,575.0	10,557.8	10,515.4	10,498.3	23.7	22.1	65.83	-158.9	71.5	190.6	145.7	44.86	4.248			
10,600.0	10,578.0	10,535.8	10,514.8	23.8	22.2	65.94	-165.0	81.7	193.1	148.2	44.86	4.303			
10,625.0	10,597.4	10,556.1	10,530.8	23.8	22.3	66.10	-171.5	92.4	195.6	150.8	44.88	4.359			
10,650.0	10,616.0	10,575.0	10,545.2	23.9	22.3	66.27	-177.8	102.9	198.3	153.4	44.91	4.415			
10,675.0	10,633.7	10,596.7	10,561.1	24.0	22.4	66.58	-185.4	115.5	200.9	156.0	44.97	4.468			
10,700.0	10,650.5	10,617.0	10,575.4	24.2	22.5	66.89	-192.8	127.9	203.7	158.6	45.06	4.521			
10,725.0	10,666.2	10,637.3	10,589.0	24.3	22.6	67.25	-200.6	140.8	206.5	161.3	45.18	4.571			
10,750.0	10,680.9	10,657.6	10,602.0	24.4	22.7	67.65	-208.6	154.2	209.4	164.0	45.33	4.618			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design#1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toeface (°)	Offset Wellbore Centre +N/S (usft)	+E/W (usft)	Distance Between Centres (usft)	Between Ellipse (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
10,775.0	10,694.5	10,677.9	10,614.3	24.6	22.8	68.08	-217.0	168.0	212.3	166.8	45.53	4.663			
10,800.0	10,707.0	10,700.0	10,626.9	24.7	23.0	68.63	-226.3	183.5	215.3	169.5	45.79	4.702			
10,825.0	10,718.4	10,718.7	10,636.9	24.9	23.1	69.06	-234.5	197.0	218.3	172.3	46.05	4.741			
10,850.0	10,728.6	10,739.1	10,647.1	25.1	23.2	69.59	-243.6	212.2	221.5	175.1	46.39	4.774			
10,875.0	10,737.6	10,759.6	10,656.6	25.4	23.4	70.15	-253.0	227.8	224.6	177.9	46.77	4.803			
10,900.0	10,745.3	10,780.1	10,665.3	25.6	23.6	70.73	-262.6	243.7	227.9	180.7	47.19	4.829			
10,925.0	10,751.8	10,800.0	10,673.0	25.8	23.8	71.30	-272.0	259.4	231.2	183.6	47.65	4.852			
10,950.0	10,757.0	10,821.5	10,680.4	26.1	24.0	71.95	-282.4	276.7	234.6	186.4	48.18	4.869			
10,975.0	10,760.9	10,842.2	10,686.7	26.4	24.2	72.59	-292.6	293.7	238.1	189.3	48.74	4.884			
11,000.0	10,763.6	10,863.1	10,692.1	26.7	24.4	73.24	-303.0	310.9	241.6	192.2	49.33	4.897			
11,025.0	10,764.9	10,884.1	10,696.7	27.0	24.6	73.90	-313.6	328.5	245.2	195.2	49.97	4.907			
11,035.3	10,765.0	10,892.8	10,698.3	27.1	24.7	74.18	-318.0	335.8	246.7	196.4	50.24	4.910			
11,100.0	10,765.4	10,948.2	10,705.1	28.0	25.4	76.25	-346.4	382.9	258.0	205.9	52.05	4.957			
11,200.0	10,765.9	11,048.3	10,706.2	29.6	26.8	77.43	-397.2	469.1	280.4	225.4	55.00	5.099			
11,300.0	10,766.4	11,156.4	10,706.4	31.3	28.6	78.33	-448.9	564.0	303.1	244.7	58.35	5.194			
11,400.0	10,767.0	11,265.5	10,706.6	33.3	30.5	79.10	-497.4	661.7	325.5	263.5	62.04	5.247			
11,500.0	10,767.5	11,375.7	10,706.8	35.3	32.7	79.75	-542.5	762.2	347.7	281.7	65.98	5.270			
11,600.0	10,768.0	11,486.9	10,707.0	37.5	35.1	80.32	-584.2	865.3	369.6	299.4	70.14	5.269			
11,700.0	10,768.6	11,599.3	10,707.2	39.8	37.6	80.82	-622.1	971.1	391.1	316.6	74.45	5.253			
11,800.0	10,769.1	11,712.7	10,707.4	42.1	40.2	81.26	-656.2	1,079.2	412.2	333.3	78.89	5.224			
11,900.0	10,769.6	11,827.2	10,707.6	44.5	43.0	81.64	-686.3	1,189.7	432.8	349.4	83.42	5.188			
12,000.0	10,770.1	11,942.8	10,707.8	46.9	45.8	81.98	-712.1	1,302.4	452.9	364.9	87.98	5.148			
12,010.3	10,770.2	11,954.8	10,707.8	47.1	46.1	82.02	-714.5	1,314.1	455.0	366.5	88.45	5.144			
12,100.0	10,770.7	12,059.8	10,708.0	49.4	48.7	82.30	-733.6	1,417.4	471.1	377.8	93.31	5.049			
12,200.0	10,771.2	12,178.4	10,708.2	51.9	51.7	82.52	-750.5	1,534.8	485.4	386.5	98.88	4.909			
12,300.0	10,771.7	12,298.3	10,708.4	54.4	54.8	82.66	-762.7	1,654.0	495.5	390.9	104.57	4.739			
12,400.0	10,772.2	12,418.9	10,708.6	57.0	57.9	82.72	-770.0	1,774.4	501.5	391.2	110.36	4.544			
12,500.0	10,772.8	12,538.3	10,708.8	59.7	60.9	82.70	-772.1	1,893.8	503.3	387.2	116.15	4.333			
12,600.0	10,773.3	12,638.3	10,709.0	62.3	63.5	82.66	-772.1	1,993.8	503.4	381.9	121.48	4.144			
12,700.0	10,773.8	12,738.3	10,709.2	65.0	66.1	82.63	-772.1	2,093.8	503.4	376.6	126.85	3.969			
12,800.0	10,774.3	12,838.3	10,709.4	67.7	68.7	82.59	-772.1	2,193.8	503.5	371.2	132.26	3.807			
12,900.0	10,774.9	12,938.3	10,709.5	70.4	71.4	82.55	-772.1	2,293.8	503.5	365.8	137.69	3.657			
13,000.0	10,775.4	13,038.3	10,709.7	73.1	74.0	82.51	-772.1	2,393.8	503.6	360.4	143.16	3.518			
13,100.0	10,775.9	13,138.3	10,709.9	75.9	76.7	82.47	-772.1	2,493.8	503.6	355.0	148.65	3.388			
13,200.0	10,776.4	13,238.3	10,710.1	78.7	79.4	82.43	-772.1	2,593.8	503.7	349.5	154.16	3.267			
13,300.0	10,776.9	13,338.3	10,710.2	81.4	82.2	82.39	-772.1	2,693.8	503.7	344.0	159.69	3.154			
13,400.0	10,777.5	13,438.3	10,710.4	84.2	84.9	82.35	-772.1	2,793.8	503.7	338.5	165.23	3.049			
13,500.0	10,778.0	13,538.3	10,710.6	87.0	87.7	82.31	-772.1	2,893.8	503.8	333.0	170.80	2.950			
13,600.0	10,778.5	13,638.3	10,710.8	89.8	90.4	82.27	-772.1	2,993.8	503.8	327.5	176.37	2.857			
13,700.0	10,779.0	13,738.3	10,710.9	92.6	93.2	82.23	-772.1	3,093.8	503.9	321.9	181.96	2.769			
13,800.0	10,779.6	13,838.3	10,711.1	95.4	96.0	82.19	-772.1	3,193.8	503.9	316.4	187.57	2.687			
13,900.0	10,780.1	13,938.3	10,711.3	98.3	98.8	82.15	-772.1	3,293.8	504.0	310.8	193.18	2.609			
14,000.0	10,780.6	14,038.3	10,711.5	101.1	101.6	82.11	-772.1	3,393.8	504.0	305.2	198.80	2.535			
14,100.0	10,781.1	14,138.3	10,711.6	103.9	104.4	82.07	-772.1	3,493.8	504.1	299.6	204.43	2.466			
14,200.0	10,781.7	14,238.3	10,711.8	106.8	107.2	82.04	-772.1	3,593.8	504.1	294.1	210.06	2.400			
14,300.0	10,782.2	14,338.3	10,712.0	109.6	110.0	82.00	-772.1	3,693.8	504.2	288.5	215.71	2.337			
14,400.0	10,782.7	14,438.3	10,712.2	112.5	112.8	81.96	-772.1	3,793.8	504.2	282.9	221.36	2.278			
14,500.0	10,783.2	14,538.3	10,712.3	115.3	115.7	81.92	-772.1	3,893.8	504.3	277.3	227.01	2.221			
14,600.0	10,783.8	14,638.3	10,712.5	118.2	118.5	81.88	-772.1	3,993.8	504.3	271.6	232.68	2.167			
14,700.0	10,784.3	14,738.3	10,712.7	121.1	121.3	81.84	-772.1	4,093.8	504.4	266.0	238.34	2.116			
14,800.0	10,784.8	14,838.3	10,712.9	123.9	124.2	81.80	-772.1	4,193.8	504.4	260.4	244.01	2.067			
14,900.0	10,785.3	14,938.3	10,713.0	126.8	127.0	81.76	-772.1	4,293.8	504.5	254.8	249.69	2.020			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 6T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 6T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 6T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1												Offset Site Error:	0.0 usft.		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Distance		Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
				Reference	Offset (usft)				Between Centres (usft)	Between Ellipses (usft)					
15,000.0	10,785.8	15,038.3	10,713.2	129.7	129.9	81.72	-772.1	4,393.8	504.5	249.2	255.36	1.976			
15,100.0	10,786.4	15,138.3	10,713.4	132.5	132.7	81.68	-772.1	4,493.8	504.6	243.5	261.05	1.933			
15,200.0	10,786.9	15,238.3	10,713.6	135.4	135.6	81.64	-772.1	4,593.8	504.6	237.9	266.73	1.892			
15,300.0	10,787.4	15,338.3	10,713.7	138.3	138.5	81.60	-772.1	4,693.8	504.7	232.3	272.42	1.853			
15,400.0	10,787.9	15,438.3	10,713.9	141.2	141.3	81.56	-772.1	4,793.8	504.7	226.6	278.11	1.815			
15,500.0	10,788.5	15,538.3	10,714.1	144.0	144.2	81.52	-772.1	4,893.8	504.8	221.0	283.80	1.779			
15,600.0	10,789.0	15,638.3	10,714.2	146.9	147.1	81.49	-772.1	4,993.8	504.8	215.3	289.49	1.744			
15,700.0	10,789.5	15,738.3	10,714.4	149.8	149.9	81.45	-772.1	5,093.8	504.9	209.7	295.19	1.710			
15,800.0	10,790.0	15,838.3	10,714.6	152.7	152.8	81.41	-772.1	5,193.8	504.9	204.0	300.89	1.678			
15,900.0	10,790.6	15,938.3	10,714.8	155.6	155.7	81.37	-772.1	5,293.8	505.0	198.4	306.58	1.647			
16,000.0	10,791.1	16,038.3	10,714.9	158.5	158.6	81.33	-772.1	5,393.8	505.0	192.7	312.28	1.617			
16,100.0	10,791.6	16,138.3	10,715.1	161.4	161.4	81.29	-772.1	5,493.8	505.1	187.1	317.99	1.588			
16,200.0	10,792.1	16,238.3	10,715.3	164.3	164.3	81.25	-772.1	5,593.8	505.1	181.4	323.69	1.561			
16,300.0	10,792.7	16,338.3	10,715.5	167.2	167.2	81.21	-772.1	5,693.8	505.2	175.8	329.39	1.534			
16,400.0	10,793.2	16,438.3	10,715.6	170.1	170.1	81.17	-772.1	5,793.8	505.2	170.1	335.10	1.508			
16,500.0	10,793.7	16,538.3	10,715.8	173.0	173.0	81.13	-772.1	5,893.8	505.3	164.5	340.80	1.483 Level 3Level 3			
16,600.0	10,794.2	16,638.3	10,716.0	175.9	175.9	81.09	-772.1	5,993.8	505.4	158.8	346.51	1.458 Level 3Level 3			
16,700.0	10,794.8	16,738.3	10,716.2	178.8	178.8	81.06	-772.1	6,093.8	505.4	153.2	352.21	1.435 Level 3Level 3			
16,800.0	10,795.3	16,838.3	10,716.3	181.7	181.6	81.02	-772.1	6,193.8	505.5	147.5	357.92	1.412 Level 3Level 3			
16,900.0	10,795.8	16,938.3	10,716.5	184.6	184.5	80.98	-772.1	6,293.8	505.5	141.9	363.62	1.390 Level 3Level 3			
17,000.0	10,796.3	17,038.3	10,716.7	187.5	187.4	80.94	-772.1	6,393.8	505.6	136.2	369.33	1.369 Level 3Level 3			
17,100.0	10,796.8	17,138.3	10,716.9	190.4	190.3	80.90	-772.1	6,493.8	505.6	130.6	375.04	1.348 Level 3Level 3			
17,200.0	10,797.4	17,238.3	10,717.0	193.3	193.2	80.86	-772.1	6,593.8	505.7	124.9	380.74	1.328 Level 3Level 3			
17,300.0	10,797.9	17,338.3	10,717.2	196.2	196.1	80.82	-772.1	6,693.8	505.7	119.3	386.45	1.309 Level 3Level 3			
17,400.0	10,798.4	17,438.3	10,717.4	199.1	199.0	80.78	-772.1	6,793.8	505.8	113.6	392.16	1.290 Level 3Level 3			
17,500.0	10,798.9	17,538.3	10,717.6	202.0	201.9	80.74	-772.1	6,893.8	505.8	108.0	397.86	1.271 Level 3Level 3			
17,600.0	10,799.5	17,638.3	10,717.7	204.9	204.8	80.70	-772.1	6,993.8	505.9	102.3	403.57	1.254 Level 3Level 3			
17,700.0	10,800.0	17,738.3	10,717.9	207.8	207.7	80.66	-772.1	7,093.8	506.0	96.7	409.28	1.236 Level 2			
17,800.0	10,800.5	17,838.3	10,718.1	210.7	210.6	80.63	-772.1	7,193.8	506.0	91.0	414.98	1.219 Level 2			
17,900.0	10,801.0	17,938.3	10,718.3	213.6	213.5	80.59	-772.1	7,293.8	506.1	85.4	420.69	1.203 Level 2			
18,000.0	10,801.6	18,038.3	10,718.4	216.5	216.4	80.55	-772.1	7,393.8	506.1	79.7	426.39	1.187 Level 2			
18,100.0	10,802.1	18,138.3	10,718.6	219.5	219.3	80.51	-772.1	7,493.8	506.2	74.1	432.10	1.171 Level 2			
18,200.0	10,802.6	18,238.3	10,718.8	222.4	222.2	80.47	-772.1	7,593.8	506.2	68.4	437.80	1.156 Level 2			
18,300.0	10,803.1	18,338.3	10,719.0	225.3	225.1	80.43	-772.1	7,693.8	506.3	62.8	443.50	1.142 Level 2			
18,400.0	10,803.7	18,438.3	10,719.1	228.2	228.0	80.39	-772.1	7,793.8	506.4	57.2	449.21	1.127 Level 2			
18,500.0	10,804.2	18,538.3	10,719.3	231.1	231.0	80.35	-772.1	7,893.8	506.4	51.5	454.91	1.113 Level 2			
18,600.0	10,804.7	18,638.3	10,719.5	234.0	233.9	80.31	-772.1	7,993.8	506.5	45.9	460.61	1.100 Level 2			
18,700.0	10,805.2	18,738.3	10,719.7	236.9	236.8	80.28	-772.1	8,093.8	506.5	40.2	466.31	1.086 Level 2			
18,800.0	10,805.7	18,838.3	10,719.8	239.8	239.7	80.24	-772.1	8,193.8	506.6	34.6	472.01	1.073 Level 2			
18,900.0	10,806.3	18,938.3	10,720.0	242.8	242.6	80.20	-772.1	8,293.8	506.7	28.9	477.71	1.061 Level 2			
19,000.0	10,806.8	19,038.3	10,720.2	245.7	245.5	80.16	-772.1	8,393.7	506.7	23.3	483.41	1.048 Level 2			
19,100.0	10,807.3	19,138.3	10,720.4	248.6	248.4	80.12	-772.1	8,493.7	506.8	17.7	489.11	1.036 Level 2			
19,200.0	10,807.8	19,238.3	10,720.5	251.5	251.3	80.08	-772.1	8,593.7	506.8	12.0	494.81	1.024 Level 2			
19,300.0	10,808.4	19,338.3	10,720.7	254.4	254.2	80.04	-772.1	8,693.7	506.9	6.4	500.50	1.013 Level 2			
19,400.0	10,808.9	19,438.3	10,720.9	257.3	257.1	80.00	-772.1	8,793.7	507.0	0.8	506.20	1.002 Level 2			
19,500.0	10,809.4	19,538.3	10,721.1	260.2	260.1	79.96	-772.1	8,893.7	507.0	-4.9	511.89	0.990 Level 1			
19,600.0	10,809.9	19,638.3	10,721.2	263.2	263.0	79.93	-772.1	8,993.7	507.1	-10.5	517.58	0.980 Level 1			
19,700.0	10,810.5	19,738.3	10,721.4	266.1	265.9	79.89	-772.1	9,093.7	507.1	-16.1	523.28	0.969 Level 1			
19,800.0	10,811.0	19,838.3	10,721.6	269.0	268.8	79.85	-772.1	9,193.7	507.2	-21.8	528.97	0.959 Level 1			
19,900.0	10,811.5	19,938.3	10,721.8	271.9	271.7	79.81	-772.1	9,293.7	507.3	-27.4	534.66	0.949 Level 1			
20,000.0	10,812.0	20,038.3	10,721.9	274.8	274.6	79.77	-772.1	9,393.7	507.3	-33.0	540.35	0.939 Level 1			
20,100.0	10,812.6	20,138.3	10,722.1	277.8	277.5	79.73	-772.1	9,493.7	507.4	-38.6	546.03	0.929 Level 1			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 6B - Kline Federal 5300 31-18 6B - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	2.0 usft
Measured Depth (usft)	Reference Vertical Depth (usft)	Offset		Semi Major Axis		Hypsides Toolface (°)	Offset Wellbore Centre	Distance			Minimum Separation (usft)	Separation Factor	Warning	
		Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset			+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,200.0	10,813.1	20,238.3	10,722.3	280.7	280.4	79.69	-772.1	9,593.7	507.4	-44.3	551.72	0.920	Level 1	
20,300.0	10,813.6	20,338.3	10,722.5	283.6	283.4	79.65	-772.1	9,693.7	507.5	-49.9	557.41	0.910	Level 1	
20,400.0	10,814.1	20,438.3	10,722.6	286.5	286.3	79.61	-772.1	9,793.7	507.6	-55.5	563.09	0.901	Level 1	
20,500.0	10,814.6	20,538.3	10,722.8	289.4	289.2	79.58	-772.1	9,893.7	507.6	-61.1	568.78	0.893	Level 1	
20,600.0	10,815.2	20,638.3	10,723.0	292.4	292.1	79.54	-772.1	9,993.7	507.7	-66.8	574.46	0.884	Level 1	
20,656.4	10,815.6	20,694.5	10,723.1	294.0	293.8	79.52	-772.1	10,050.0	507.7	-69.9	577.66	0.879	Level 1, ES, SF	

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 ST	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toeface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
0.0	0.0	0.0	0.0	2.0	2.0	180.00	-32.4	0.0	32.4						
100.0	100.0	100.0	100.0	2.0	2.0	180.00	-32.4	0.0	32.4	28.4	4.00	8.098			
200.0	200.0	200.0	200.0	2.0	2.0	180.00	-32.4	0.0	32.4	28.4	4.05	8.010			
300.0	300.0	300.0	300.0	2.1	2.1	180.00	-32.4	0.0	32.4	28.3	4.14	7.831			
400.0	400.0	400.0	400.0	2.1	2.1	180.00	-32.4	0.0	32.4	28.1	4.28	7.578			
500.0	500.0	500.0	500.0	2.2	2.2	180.00	-32.4	0.0	32.4	28.0	4.46	7.274			
600.0	600.0	600.0	600.0	2.3	2.3	180.00	-32.4	0.0	32.4	27.7	4.67	6.938			
700.0	700.0	700.0	700.0	2.5	2.5	180.00	-32.4	0.0	32.4	27.5	4.92	6.589			
800.0	800.0	800.0	800.0	2.6	2.6	180.00	-32.4	0.0	32.4	27.2	5.20	6.240			
900.0	900.0	900.0	900.0	2.7	2.7	180.00	-32.4	0.0	32.4	26.9	5.49	5.902			
1,000.0	1,000.0	1,000.0	1,000.0	2.9	2.9	180.00	-32.4	0.0	32.4	26.6	5.81	5.580			
1,100.0	1,100.0	1,100.0	1,100.0	3.1	3.1	180.00	-32.4	0.0	32.4	26.3	6.14	5.277			
1,200.0	1,200.0	1,200.0	1,200.0	3.2	3.2	180.00	-32.4	0.0	32.4	25.9	6.49	4.994			
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	180.00	-32.4	0.0	32.4	25.6	6.85	4.732			
1,400.0	1,400.0	1,400.0	1,400.0	3.6	3.6	180.00	-32.4	0.0	32.4	25.2	7.22	4.490			
1,500.0	1,500.0	1,500.0	1,500.0	3.8	3.8	180.00	-32.4	0.0	32.4	24.8	7.60	4.266			
1,600.0	1,600.0	1,600.0	1,600.0	4.0	4.0	180.00	-32.4	0.0	32.4	24.4	7.99	4.060			
1,700.0	1,700.0	1,700.0	1,700.0	4.2	4.2	180.00	-32.4	0.0	32.4	24.0	8.38	3.870			
1,800.0	1,800.0	1,800.0	1,800.0	4.4	4.4	180.00	-32.4	0.0	32.4	23.6	8.78	3.695			
1,900.0	1,900.0	1,900.0	1,900.0	4.6	4.6	180.00	-32.4	0.0	32.4	23.2	9.18	3.533			
2,000.0	2,000.0	2,000.0	2,000.0	4.8	4.8	180.00	-32.4	0.0	32.4	22.8	9.58	3.383			
2,100.0	2,100.0	2,100.0	2,100.0	5.0	5.0	180.00	-32.4	0.0	32.4	22.4	9.99	3.244			
2,200.0	2,200.0	2,200.0	2,200.0	5.2	5.2	180.00	-32.4	0.0	32.4	22.0	10.41	3.115 CC			
2,216.7	2,216.7	2,216.7	2,216.7	5.2	5.2	180.00	-32.4	0.0	32.5	22.0	10.48	3.101			
2,300.0	2,300.0	2,300.0	2,300.0	5.4	5.4	180.00	-32.4	0.0	33.2	22.4	10.82	3.069			
2,400.0	2,400.0	2,400.0	2,400.0	5.6	5.6	180.00	-32.4	0.0	34.1	22.9	11.24	3.032			
2,500.0	2,500.0	2,500.0	2,500.0	5.8	5.8	180.00	-32.4	0.0	35.0	23.3	11.66	2.998			
2,600.0	2,600.0	2,600.0	2,600.0	6.0	6.0	180.00	-32.4	0.0	35.8	23.8	12.09	2.985			
2,700.0	2,700.0	2,700.0	2,700.0	6.3	6.3	180.00	-32.4	0.0	36.7	24.2	12.51	2.934			
2,800.0	2,800.0	2,800.0	2,800.0	6.5	6.5	180.00	-32.4	0.0	37.6	24.6	12.94	2.905			
2,900.0	2,900.0	2,900.0	2,900.0	6.7	6.7	180.00	-32.4	0.0	38.5	25.1	13.37	2.877			
3,000.0	3,000.0	3,000.0	3,000.0	6.9	6.9	180.00	-32.4	0.0	39.3	25.5	13.80	2.851			
3,100.0	3,100.0	3,100.0	3,100.0	7.1	7.1	180.00	-32.4	0.0	40.2	26.0	14.23	2.826			
3,200.0	3,200.0	3,200.0	3,200.0	7.3	7.3	180.00	-32.4	0.0	41.1	26.4	14.66	2.802			
3,300.0	3,300.0	3,300.0	3,300.0	7.5	7.5	180.00	-32.4	0.0	41.9	26.9	15.09	2.779			
3,400.0	3,400.0	3,400.0	3,400.0	7.8	7.8	180.00	-32.4	0.0	42.8	27.3	15.53	2.758			
3,500.0	3,500.0	3,500.0	3,500.0	8.0	8.0	180.00	-32.4	0.0	43.7	27.7	15.96	2.737			
3,600.0	3,599.9	3,599.9	3,599.9	8.2	8.2	180.00	-32.4	0.0	44.6	28.2	16.40	2.718			
3,700.0	3,699.9	3,699.9	3,699.9	8.4	8.4	180.00	-32.4	0.0	45.4	28.6	16.83	2.699			
3,800.0	3,799.9	3,799.9	3,799.9	8.6	8.6	180.00	-32.4	0.0	46.3	29.0	17.27	2.681			
3,900.0	3,899.9	3,899.9	3,899.9	8.9	8.9	180.00	-32.4	0.0	47.2	29.5	17.71	2.664			
4,000.0	3,999.9	3,999.9	3,999.9	9.1	9.1	180.00	-32.4	0.0	48.1	29.9	18.15	2.648			
4,100.0	4,099.9	4,099.9	4,099.9	9.3	9.3	180.00	-32.4	0.0	48.9	30.3	18.59	2.633			
4,200.0	4,199.9	4,199.9	4,199.9	9.5	9.5	180.00	-32.4	0.0	49.8	30.8	19.02	2.618			
4,300.0	4,299.9	4,299.9	4,299.9	9.7	9.7	180.00	-32.4	0.0	50.7	31.2	19.46	2.603			
4,400.0	4,399.9	4,399.9	4,399.9	10.0	10.0	180.00	-32.4	0.0	51.5	31.6	19.90	2.590			
4,500.0	4,499.9	4,499.9	4,499.9	10.2	10.2	180.00	-32.4	0.0	52.4	32.1	20.35	2.576			
4,600.0	4,599.9	4,599.9	4,599.9	10.4	10.4	180.00	-32.4	0.0	53.3	32.5	20.79	2.564			
4,700.0	4,699.9	4,699.9	4,699.9	10.6	10.6	180.00	-32.4	0.0	54.2	32.9	21.23	2.552			
4,800.0	4,799.9	4,799.9	4,799.9	10.8	10.8	180.00	-32.4	0.0	55.0	33.4	21.67	2.540			
4,900.0	4,899.9	4,899.9	4,899.9	11.1	11.1	180.00	-32.4	0.0	55.9	33.8	22.11	2.529			
5,000.0	4,999.9	4,999.9	4,999.9	11.3	11.3	180.00	-32.4	0.0	56.8	34.2	22.55	2.518			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0ft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0ft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
5,100.0	5,099.9	5,099.9	5,099.9	11.5	11.5	180.00	-32.4	0.0	57.7	34.7	23.00	2.507			
5,200.0	5,199.9	5,199.9	5,199.9	11.7	11.7	180.00	-32.4	0.0	58.5	35.1	23.44	2.497			
5,300.0	5,299.9	5,299.9	5,299.9	11.9	11.9	180.00	-32.4	0.0	59.4	35.5	23.88	2.487			
5,400.0	5,399.9	5,399.9	5,399.9	12.2	12.2	180.00	-32.4	0.0	60.3	35.9	24.33	2.478			
5,500.0	5,499.9	5,499.9	5,499.9	12.4	12.4	180.00	-32.4	0.0	61.1	36.4	24.77	2.469			
5,600.0	5,599.9	5,599.9	5,599.9	12.6	12.6	180.00	-32.4	0.0	62.0	36.8	25.21	2.460			
5,700.0	5,699.9	5,699.9	5,699.9	12.8	12.8	180.00	-32.4	0.0	62.9	37.2	25.66	2.451			
5,800.0	5,799.9	5,799.9	5,799.9	13.1	13.0	180.00	-32.4	0.0	63.8	37.7	26.10	2.443			
5,900.0	5,899.9	5,899.9	5,899.9	13.3	13.3	180.00	-32.4	0.0	64.6	38.1	26.55	2.435			
6,000.0	5,999.9	5,999.9	5,999.9	13.5	13.5	180.00	-32.4	0.0	65.5	38.5	26.99	2.427			
6,100.0	6,099.9	6,099.9	6,099.9	13.7	13.7	180.00	-32.4	0.0	66.4	38.9	27.43	2.420			
6,200.0	6,199.8	6,199.8	6,199.8	13.9	13.9	180.00	-32.4	0.0	67.3	39.4	27.88	2.412			
6,300.0	6,299.8	6,299.8	6,299.8	14.2	14.2	180.00	-32.4	0.0	68.1	39.8	28.32	2.405			
6,400.0	6,399.8	6,399.8	6,399.8	14.4	14.4	180.00	-32.4	0.0	69.0	40.2	28.77	2.398			
6,500.0	6,499.8	6,499.8	6,499.8	14.6	14.6	180.00	-32.4	0.0	69.9	40.7	29.22	2.392			
6,600.0	6,599.8	6,599.8	6,599.8	14.8	14.8	180.00	-32.4	0.0	70.7	41.1	29.66	2.385			
6,700.0	6,699.8	6,699.8	6,699.8	15.1	15.1	180.00	-32.4	0.0	71.6	41.5	30.11	2.379			
6,800.0	6,799.8	6,799.8	6,799.8	15.3	15.3	180.00	-32.4	0.0	72.5	41.9	30.55	2.373			
6,900.0	6,899.8	6,899.8	6,899.8	15.5	15.5	180.00	-32.4	0.0	73.4	42.4	31.00	2.367			
7,000.0	6,999.8	6,999.8	6,999.8	15.7	15.7	180.00	-32.4	0.0	74.2	42.8	31.44	2.361			
7,100.0	7,099.8	7,099.8	7,099.8	15.9	15.9	180.00	-32.4	0.0	75.1	43.2	31.89	2.355			
7,200.0	7,199.8	7,199.8	7,199.8	16.2	16.2	180.00	-32.4	0.0	76.0	43.6	32.34	2.350			
7,300.0	7,299.8	7,299.8	7,299.8	16.4	16.4	180.00	-32.4	0.0	76.9	44.1	32.78	2.344			
7,400.0	7,399.8	7,399.8	7,399.8	16.6	16.6	180.00	-32.4	0.0	77.7	44.5	33.23	2.339			
7,500.0	7,499.8	7,499.8	7,499.8	16.8	16.8	180.00	-32.4	0.0	78.6	44.9	33.67	2.334			
7,600.0	7,599.8	7,599.8	7,599.8	17.1	17.1	180.00	-32.4	0.0	79.5	45.4	34.12	2.329			
7,700.0	7,699.8	7,699.8	7,699.8	17.3	17.3	180.00	-32.4	0.0	80.3	45.8	34.57	2.324			
7,800.0	7,799.8	7,799.8	7,799.8	17.5	17.5	180.00	-32.4	0.0	81.2	46.2	35.01	2.320			
7,900.0	7,899.8	7,899.8	7,899.8	17.7	17.7	180.00	-32.4	0.0	82.1	46.6	35.46	2.315			
7,926.7	7,926.4	7,926.4	7,926.4	17.8	17.8	180.00	-32.4	0.0	82.3	46.7	35.58	2.314			
7,943.3	7,943.1	7,943.1	7,943.1	17.8	17.8	180.00	-32.4	0.0	82.4	46.8	35.63	2.312			
8,000.0	7,999.8	7,999.8	7,999.8	17.9	18.0	180.00	-32.4	0.0	82.4	46.5	35.87	2.297			
8,100.0	8,099.8	8,099.8	8,099.8	18.2	18.2	180.00	-32.4	0.0	82.4	46.1	36.32	2.269			
8,200.0	8,199.8	8,199.8	8,199.8	18.4	18.4	180.00	-32.4	0.0	82.4	45.6	36.76	2.241			
8,300.0	8,299.8	8,299.8	8,299.8	18.6	18.6	180.00	-32.4	0.0	82.4	45.2	37.21	2.214			
8,400.0	8,399.8	8,399.8	8,399.8	18.8	18.8	180.00	-32.4	0.0	82.4	44.7	37.66	2.188			
8,500.0	8,499.8	8,499.8	8,499.8	19.1	19.1	180.00	-32.4	0.0	82.4	44.3	38.10	2.162			
8,600.0	8,599.8	8,599.8	8,599.8	19.3	19.3	180.00	-32.4	0.0	82.4	43.8	38.55	2.137			
8,700.0	8,699.8	8,699.8	8,699.8	19.5	19.5	180.00	-32.4	0.0	82.4	43.4	39.00	2.113			
8,800.0	8,799.8	8,799.8	8,799.8	19.7	19.7	180.00	-32.4	0.0	82.4	43.0	39.44	2.089			
8,900.0	8,899.8	8,899.8	8,899.8	19.9	20.0	180.00	-32.4	0.0	82.4	42.5	39.89	2.066			
9,000.0	8,999.8	8,999.8	8,999.8	20.2	20.2	180.00	-32.4	0.0	82.4	42.1	40.34	2.043			
9,100.0	9,099.8	9,099.8	9,099.8	20.4	20.4	180.00	-32.4	0.0	82.4	41.6	40.78	2.020			
9,200.0	9,199.8	9,199.8	9,199.8	20.6	20.6	180.00	-32.4	0.0	82.4	41.2	41.23	1.998			
9,300.0	9,299.8	9,299.8	9,299.8	20.8	20.9	180.00	-32.4	0.0	82.4	40.7	41.68	1.977			
9,400.0	9,399.8	9,399.8	9,399.8	21.1	21.1	180.00	-32.4	0.0	82.4	40.3	42.13	1.956			
9,500.0	9,499.8	9,499.8	9,499.8	21.3	21.3	180.00	-32.4	0.0	82.4	39.8	42.57	1.935			
9,600.0	9,599.8	9,599.8	9,599.8	21.5	21.5	180.00	-32.4	0.0	82.4	39.4	43.02	1.915			
9,700.0	9,699.8	9,699.8	9,699.8	21.7	21.8	180.00	-32.4	0.0	82.4	38.9	43.47	1.896			
9,800.0	9,799.8	9,799.8	9,799.8	22.0	22.0	180.00	-32.4	0.0	82.4	38.5	43.92	1.876			
9,900.0	9,899.8	9,899.8	9,899.8	22.2	22.2	180.00	-32.4	0.0	82.4	38.0	44.36	1.857			
10,000.0	9,999.8	9,999.8	9,999.8	22.4	22.4	180.00	-32.4	0.0	82.4	37.6	44.81	1.839			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1													Offset Site Error:	0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/S (usft)	Offset Wellbore Centre +E/W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	2.0 usft
10,100.0	10,099.8	10,099.8	10,099.8	22.6	22.6	180.00	-32.4	0.0	82.4	37.1	45.26	1.821			
10,200.0	10,199.8	10,199.8	10,199.8	22.9	22.9	180.00	-32.4	0.0	82.4	36.7	45.71	1.803			
10,287.8	10,287.6	10,287.6	10,287.6	23.1	23.1	180.00	-32.4	0.0	82.4	36.3	46.10	1.787			
10,300.0	10,299.8	10,299.8	10,299.8	23.1	23.1	70.61	-32.4	0.0	82.3	36.2	46.17	1.783			
10,325.0	10,324.7	10,324.7	10,324.7	23.1	23.2	71.51	-32.4	0.0	81.9	35.7	46.26	1.771			
10,350.0	10,349.6	10,348.5	10,348.5	23.2	23.2	73.12	-32.5	0.1	81.2	34.9	46.35	1.753			
10,375.0	10,374.3	10,371.4	10,371.3	23.2	23.2	74.89	-33.2	1.1	80.8	34.4	46.42	1.740			
10,395.1	10,394.0	10,389.8	10,389.7	23.3	23.3	76.40	-34.1	2.6	80.7	34.2	46.49	1.735			
10,400.0	10,398.8	10,394.4	10,394.2	23.3	23.3	76.78	-34.4	3.0	80.7	34.2	46.51	1.735			
10,425.0	10,422.9	10,417.5	10,417.1	23.3	23.3	78.75	-36.3	5.9	80.9	34.3	46.60	1.737			
10,450.0	10,446.7	10,440.7	10,439.8	23.4	23.4	80.79	-38.8	9.6	81.6	34.9	46.70	1.747			
10,475.0	10,470.0	10,464.0	10,462.4	23.4	23.4	82.87	-41.9	14.3	82.6	35.8	46.81	1.764			
10,500.0	10,492.9	10,487.4	10,484.8	23.5	23.5	84.94	-45.7	20.0	84.0	37.1	46.93	1.790			
10,525.0	10,515.1	10,510.8	10,506.9	23.6	23.5	86.98	-50.0	26.5	85.8	38.7	47.05	1.824			
10,550.0	10,536.8	10,534.4	10,528.7	23.6	23.6	88.96	-55.0	34.0	88.0	40.8	47.17	1.866			
10,575.0	10,557.8	10,558.1	10,550.1	23.7	23.6	90.85	-60.6	42.5	90.6	43.3	47.29	1.916			
10,600.0	10,578.0	10,581.9	10,571.1	23.8	23.7	92.63	-66.8	51.8	93.6	46.2	47.41	1.975			
10,625.0	10,597.4	10,605.8	10,591.6	23.8	23.7	94.29	-73.6	62.1	97.0	49.5	47.53	2.041			
10,650.0	10,616.0	10,629.8	10,611.5	23.9	23.8	95.82	-81.0	73.2	100.8	53.1	47.65	2.115			
10,675.0	10,633.7	10,653.9	10,630.8	24.0	23.9	97.20	-88.9	85.2	104.8	57.1	47.76	2.195			
10,700.0	10,650.5	10,678.1	10,649.5	24.2	24.0	98.44	-97.5	98.1	109.3	61.4	47.88	2.282			
10,725.0	10,666.2	10,702.5	10,667.4	24.3	24.0	99.54	-106.6	111.9	114.0	66.0	48.01	2.374			
10,750.0	10,680.9	10,726.9	10,684.5	24.4	24.1	100.50	-116.2	126.4	119.0	70.8	48.16	2.470			
10,775.0	10,694.5	10,751.5	10,700.8	24.6	24.3	101.32	-126.4	141.7	124.2	75.9	48.32	2.571			
10,800.0	10,707.0	10,776.3	10,716.3	24.7	24.4	102.02	-137.1	157.8	129.7	81.2	48.52	2.674			
10,825.0	10,718.4	10,801.1	10,730.8	24.9	24.5	102.60	-148.3	174.7	135.4	86.7	48.74	2.779			
10,850.0	10,728.6	10,826.1	10,744.2	25.1	24.7	103.06	-159.9	192.2	141.3	92.3	49.00	2.885			
10,875.0	10,737.6	10,851.3	10,756.7	25.4	24.8	103.42	-172.0	210.5	147.4	98.1	49.30	2.990			
10,900.0	10,745.3	10,876.6	10,768.0	25.6	25.0	103.68	-184.5	229.3	153.6	104.0	49.64	3.095			
10,925.0	10,751.8	10,902.1	10,778.2	25.8	25.2	103.86	-197.4	248.8	160.0	110.0	50.03	3.198			
10,950.0	10,757.0	10,927.8	10,787.2	26.1	25.4	103.95	-210.7	268.9	166.5	116.0	50.46	3.299			
10,975.0	10,760.9	10,953.6	10,794.9	26.4	25.6	103.96	-224.3	289.4	173.0	122.1	50.93	3.397			
11,000.0	10,763.6	10,979.7	10,801.3	26.7	25.9	103.91	-238.3	310.5	179.6	128.2	51.45	3.492			
11,025.0	10,764.9	11,005.9	10,806.3	27.0	26.2	103.80	-252.5	331.9	186.3	134.3	52.01	3.582			
11,035.3	10,765.0	11,016.8	10,808.0	27.1	26.3	103.74	-258.5	340.9	189.0	136.8	52.25	3.618			
11,100.0	10,765.4	11,085.8	10,813.0	28.0	27.1	103.91	-296.5	398.2	206.0	152.2	53.79	3.829			
11,200.0	10,765.9	11,190.0	10,813.3	29.6	28.5	102.31	-352.4	486.1	231.6	174.8	56.82	4.076			
11,300.0	10,766.4	11,295.4	10,813.7	31.3	30.2	101.04	-405.7	577.0	257.2	197.1	60.17	4.275			
11,400.0	10,767.0	11,401.8	10,814.1	33.3	32.1	100.00	-456.1	670.8	282.8	219.0	63.81	4.432			
11,500.0	10,767.5	11,509.4	10,814.5	35.3	34.2	99.15	-503.4	767.3	308.2	240.5	67.68	4.553			
11,600.0	10,768.0	11,618.2	10,814.9	37.5	36.4	98.43	-547.6	866.7	333.3	261.6	71.73	4.647			
11,700.0	10,768.6	11,728.1	10,815.3	39.8	38.8	97.81	-588.3	968.8	358.2	282.3	75.93	4.718			
11,800.0	10,769.1	11,839.2	10,815.7	42.1	41.4	97.29	-625.5	1,073.5	382.8	302.5	80.23	4.771			
11,900.0	10,769.6	11,951.6	10,816.1	44.5	44.0	96.83	-659.0	1,180.8	406.9	322.3	84.60	4.810			
12,000.0	10,770.1	12,065.2	10,816.5	46.9	46.7	96.43	-688.5	1,290.5	430.7	341.7	89.02	4.839			
12,010.3	10,770.2	12,077.0	10,816.5	47.1	47.0	96.39	-691.3	1,301.9	433.1	343.7	89.47	4.841			
12,100.0	10,770.7	12,180.4	10,816.9	49.4	49.6	96.05	-713.9	1,402.8	452.7	358.5	94.22	4.805			
12,200.0	10,771.2	12,297.5	10,817.3	51.9	52.5	95.75	-735.2	1,518.0	470.7	371.0	99.67	4.723			
12,300.0	10,771.7	12,416.3	10,817.8	54.4	55.5	95.53	-751.9	1,635.5	484.7	379.4	105.28	4.604			
12,400.0	10,772.2	12,536.2	10,818.2	57.0	58.5	95.37	-763.8	1,754.9	494.6	383.6	111.01	4.455			
12,500.0	10,772.8	12,656.9	10,818.6	59.7	61.6	95.27	-770.7	1,875.4	500.3	383.5	116.83	4.282			
12,600.0	10,773.3	12,775.1	10,819.0	62.3	64.6	95.23	-772.6	1,993.5	501.8	379.2	122.62	4.092			

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2833.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft
Survey Program: O-MWD												Offset Well Error:	2.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,700.0	10,773.8	12,875.1	10,819.4	65.0	67.1	95.21	-772.6	2,093.5	501.8	373.8	127.99	3.921	
12,800.0	10,774.3	12,975.1	10,819.7	67.7	69.7	95.19	-772.6	2,193.5	501.8	368.4	133.40	3.762	
12,900.0	10,774.9	13,075.1	10,820.1	70.4	72.3	95.17	-772.6	2,293.5	501.8	362.9	138.85	3.614	
13,000.0	10,775.4	13,175.1	10,820.4	73.1	74.9	95.15	-772.6	2,393.5	501.8	357.4	144.32	3.477	
13,100.0	10,775.9	13,275.1	10,820.8	75.9	77.6	95.13	-772.6	2,493.5	501.8	351.9	149.83	3.349	
13,200.0	10,776.4	13,375.1	10,821.1	78.7	80.3	95.11	-772.6	2,593.5	501.7	346.4	155.36	3.230	
13,300.0	10,776.9	13,475.1	10,821.5	81.4	83.0	95.09	-772.6	2,693.5	501.7	340.8	160.91	3.118	
13,400.0	10,777.5	13,575.1	10,821.8	84.2	85.7	95.07	-772.6	2,793.5	501.7	335.2	166.48	3.014	
13,500.0	10,778.0	13,675.1	10,822.2	87.0	88.4	95.05	-772.6	2,893.5	501.7	329.6	172.08	2.916	
13,600.0	10,778.5	13,775.1	10,822.5	89.8	91.1	95.03	-772.6	2,993.5	501.7	324.0	177.68	2.823	
13,700.0	10,779.0	13,875.1	10,822.9	92.6	93.9	95.01	-772.6	3,093.5	501.7	318.4	183.31	2.737	
13,800.0	10,779.6	13,975.1	10,823.2	95.4	96.6	94.99	-772.6	3,193.5	501.7	312.7	188.94	2.655	
13,900.0	10,780.1	14,075.1	10,823.6	98.3	99.4	94.97	-772.6	3,293.5	501.6	307.0	194.59	2.578	
14,000.0	10,780.6	14,175.1	10,823.9	101.1	102.2	94.95	-772.6	3,393.5	501.6	301.4	200.26	2.505	
14,100.0	10,781.1	14,275.1	10,824.3	103.9	105.0	94.93	-772.6	3,493.5	501.6	295.7	205.93	2.436	
14,200.0	10,781.7	14,375.1	10,824.6	106.8	107.8	94.91	-772.6	3,593.5	501.6	290.0	211.61	2.370	
14,300.0	10,782.2	14,475.1	10,825.0	109.6	110.6	94.89	-772.6	3,693.5	501.6	284.3	217.30	2.308	
14,400.0	10,782.7	14,575.1	10,825.3	112.5	113.4	94.87	-772.6	3,793.5	501.6	278.6	223.00	2.249	
14,500.0	10,783.2	14,675.1	10,825.7	115.3	116.2	94.85	-772.6	3,893.5	501.5	272.8	228.71	2.193	
14,600.0	10,783.8	14,775.1	10,826.0	118.2	119.0	94.83	-772.6	3,993.5	501.5	267.1	234.43	2.139	
14,700.0	10,784.3	14,875.1	10,826.4	121.1	121.8	94.81	-772.6	4,093.5	501.5	261.4	240.15	2.088	
14,800.0	10,784.8	14,975.1	10,826.7	123.9	124.6	94.79	-772.6	4,193.5	501.5	255.6	245.88	2.040	
14,900.0	10,785.3	15,075.1	10,827.1	126.8	127.5	94.77	-772.6	4,293.5	501.5	249.9	251.61	1.993	
15,000.0	10,785.8	15,175.1	10,827.4	129.7	130.3	94.75	-772.6	4,393.5	501.5	244.1	257.35	1.949	
15,100.0	10,786.4	15,275.1	10,827.8	132.5	133.2	94.73	-772.6	4,493.5	501.5	238.4	263.10	1.906	
15,200.0	10,786.9	15,375.1	10,828.1	135.4	136.0	94.71	-772.6	4,593.5	501.4	232.6	268.84	1.865	
15,300.0	10,787.4	15,475.1	10,828.5	138.3	138.9	94.70	-772.6	4,693.5	501.4	226.8	274.60	1.826	
15,400.0	10,787.9	15,575.1	10,828.8	141.2	141.7	94.68	-772.6	4,793.5	501.4	221.1	280.36	1.788	
15,500.0	10,788.5	15,675.1	10,829.2	144.0	144.6	94.66	-772.6	4,893.5	501.4	215.3	286.12	1.752	
15,600.0	10,789.0	15,775.1	10,829.5	146.9	147.4	94.64	-772.6	4,993.5	501.4	209.5	291.89	1.718	
15,700.0	10,789.5	15,875.1	10,829.9	149.8	150.3	94.62	-772.6	5,093.5	501.4	203.7	297.66	1.684	
15,800.0	10,790.0	15,975.1	10,830.2	152.7	153.1	94.60	-772.6	5,193.5	501.4	197.9	303.43	1.652	
15,900.0	10,790.6	16,075.1	10,830.6	155.6	156.0	94.58	-772.6	5,293.5	501.3	192.1	309.21	1.621	
16,000.0	10,791.1	16,175.1	10,830.9	158.5	158.9	94.56	-772.6	5,393.5	501.3	186.3	314.99	1.592	
16,100.0	10,791.6	16,275.1	10,831.3	161.4	161.8	94.54	-772.6	5,493.5	501.3	180.5	320.77	1.563	
16,200.0	10,792.1	16,375.1	10,831.6	164.3	164.6	94.52	-772.6	5,593.5	501.3	174.7	326.56	1.535	
16,300.0	10,792.7	16,475.1	10,832.0	167.2	167.5	94.50	-772.6	5,693.5	501.3	168.9	332.35	1.508	
16,400.0	10,793.2	16,575.1	10,832.3	170.1	170.4	94.48	-772.6	5,793.5	501.3	163.1	338.14	1.482 Level 3	Level 3
16,500.0	10,793.7	16,675.1	10,832.7	173.0	173.3	94.46	-772.6	5,893.5	501.3	157.3	343.93	1.457 Level 3	Level 3
16,600.0	10,794.2	16,775.1	10,833.0	175.9	176.1	94.44	-772.6	5,993.5	501.2	151.5	349.73	1.433 Level 3	Level 3
16,700.0	10,794.8	16,875.1	10,833.4	178.8	179.0	94.42	-772.6	6,093.5	501.2	145.7	355.52	1.410 Level 3	Level 3
16,800.0	10,795.3	16,975.1	10,833.7	181.7	181.9	94.40	-772.6	6,193.5	501.2	139.9	361.32	1.387 Level 3	Level 3
16,900.0	10,795.8	17,075.1	10,834.0	184.6	184.8	94.38	-772.6	6,293.5	501.2	134.1	367.13	1.365 Level 3	Level 3
17,000.0	10,796.3	17,175.1	10,834.4	187.5	187.7	94.36	-772.6	6,393.5	501.2	128.3	372.93	1.344 Level 3	Level 3
17,100.0	10,796.8	17,275.1	10,834.7	190.4	190.6	94.34	-772.6	6,493.5	501.2	122.4	378.74	1.323 Level 3	Level 3
17,200.0	10,797.4	17,375.1	10,835.1	193.3	193.5	94.32	-772.6	6,593.5	501.2	116.6	384.54	1.303 Level 3	Level 3
17,300.0	10,797.9	17,475.1	10,835.4	196.2	196.4	94.30	-772.6	6,693.5	501.2	110.8	390.35	1.284 Level 3	Level 3
17,400.0	10,798.4	17,575.1	10,835.8	199.1	199.2	94.28	-772.6	6,793.5	501.1	105.0	396.16	1.265 Level 3	Level 3
17,500.0	10,798.9	17,675.1	10,836.1	202.0	202.1	94.26	-772.6	6,893.5	501.1	99.2	401.98	1.247 Level 2	
17,600.0	10,799.5	17,775.1	10,836.5	204.9	205.0	94.24	-772.6	6,993.5	501.1	93.3	407.79	1.229 Level 2	
17,700.0	10,800.0	17,875.1	10,836.8	207.8	207.9	94.22	-772.6	7,093.5	501.1	87.5	413.61	1.212 Level 2	
17,800.0	10,800.5	17,975.1	10,837.2	210.7	210.8	94.20	-772.6	7,193.5	501.1	81.7	419.42	1.195 Level 2	

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

Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design 153N-100W-17/18 - Kline Federal 5300 31-18 7T2 - Kline Federal 5300 31-18 7T2 - Design #1												Offset Site Error:	0.0 usft
Survey Program: O-MWD												Offset Well Error:	2.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (usft)	Offset Wellbore Centre +E/W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,900.0	10,801.0	18,075.1	10,837.5	213.6	213.7	94.18	-772.6	7,293.5	501.1	75.8	425.24	1.178	Level 2
18,000.0	10,801.6	18,175.1	10,837.9	216.5	216.6	94.16	-772.6	7,393.5	501.1	70.0	431.06	1.162	Level 2
18,100.0	10,802.1	18,275.1	10,838.2	219.5	219.5	94.14	-772.6	7,493.5	501.1	64.2	436.88	1.147	Level 2
18,200.0	10,802.6	18,375.1	10,838.6	222.4	222.4	94.12	-772.6	7,593.5	501.0	58.3	442.71	1.132	Level 2
18,300.0	10,803.1	18,475.1	10,838.9	225.3	225.3	94.10	-772.6	7,693.5	501.0	52.5	448.53	1.117	Level 2
18,400.0	10,803.7	18,575.1	10,839.3	228.2	228.2	94.08	-772.6	7,793.5	501.0	46.7	454.35	1.103	Level 2
18,500.0	10,804.2	18,675.1	10,839.6	231.1	231.1	94.06	-772.6	7,893.5	501.0	40.8	460.18	1.089	Level 2
18,600.0	10,804.7	18,775.1	10,840.0	234.0	234.0	94.04	-772.6	7,993.5	501.0	35.0	466.01	1.075	Level 2
18,700.0	10,805.2	18,875.1	10,840.3	236.9	236.9	94.02	-772.6	8,093.5	501.0	29.1	471.83	1.062	Level 2
18,800.0	10,805.7	18,975.1	10,840.7	239.8	239.8	94.00	-772.6	8,193.5	501.0	23.3	477.66	1.049	Level 2
18,900.0	10,806.3	19,075.1	10,841.0	242.8	242.7	93.98	-772.6	8,293.5	501.0	17.5	483.49	1.036	Level 2
19,000.0	10,806.8	19,175.1	10,841.4	245.7	245.6	93.96	-772.6	8,393.5	500.9	11.6	489.32	1.024	Level 2
19,100.0	10,807.3	19,275.1	10,841.7	248.6	248.5	93.94	-772.6	8,493.5	500.9	5.8	495.15	1.012	Level 2
19,200.0	10,807.8	19,375.1	10,842.1	251.5	251.5	93.92	-772.6	8,593.5	500.9	-0.1	500.99	1.000	Level 1
19,300.0	10,808.4	19,475.1	10,842.4	254.4	254.4	93.90	-772.6	8,693.5	500.9	-5.9	506.82	0.988	Level 1
19,400.0	10,808.9	19,575.1	10,842.8	257.3	257.3	93.88	-772.6	8,793.5	500.9	-11.8	512.65	0.977	Level 1
19,500.0	10,809.4	19,675.1	10,843.1	260.2	260.2	93.86	-772.6	8,893.5	500.9	-17.6	518.49	0.966	Level 1
19,600.0	10,809.9	19,775.1	10,843.5	263.2	263.1	93.84	-772.6	8,993.5	500.9	-23.5	524.33	0.955	Level 1
19,700.0	10,810.5	19,875.1	10,843.8	266.1	266.0	93.82	-772.6	9,093.5	500.9	-29.3	530.16	0.945	Level 1
19,800.0	10,811.0	19,975.1	10,844.2	269.0	268.9	93.80	-772.6	9,193.5	500.8	-35.2	536.00	0.934	Level 1
19,900.0	10,811.5	20,075.1	10,844.5	271.9	271.8	93.78	-772.6	9,293.5	500.8	-41.0	541.84	0.924	Level 1
20,000.0	10,812.0	20,175.1	10,844.9	274.8	274.7	93.76	-772.6	9,393.5	500.8	-46.9	547.68	0.914	Level 1
20,100.0	10,812.6	20,275.1	10,845.2	277.8	277.6	93.74	-772.6	9,493.5	500.8	-52.7	553.52	0.905	Level 1
20,200.0	10,813.1	20,375.1	10,845.6	280.7	280.6	93.72	-772.6	9,593.5	500.8	-58.6	559.36	0.895	Level 1
20,300.0	10,813.6	20,475.1	10,845.9	283.6	283.5	93.70	-772.6	9,693.5	500.8	-64.4	565.20	0.886	Level 1
20,400.0	10,814.1	20,575.1	10,846.3	286.5	286.4	93.68	-772.6	9,793.5	500.8	-70.3	571.04	0.877	Level 1
20,500.0	10,814.6	20,675.1	10,846.6	289.4	289.3	93.66	-772.6	9,893.5	500.8	-76.1	576.88	0.868	Level 1
20,600.0	10,815.2	20,775.1	10,847.0	292.4	292.2	93.64	-772.6	9,993.5	500.8	-82.0	582.72	0.859	Level 1
20,656.4	10,815.5	20,831.5	10,847.2	294.0	293.8	93.63	-772.6	10,049.9	500.8	-85.3	586.02	0.854	Level 1, ES, SF

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

Anticollision Report

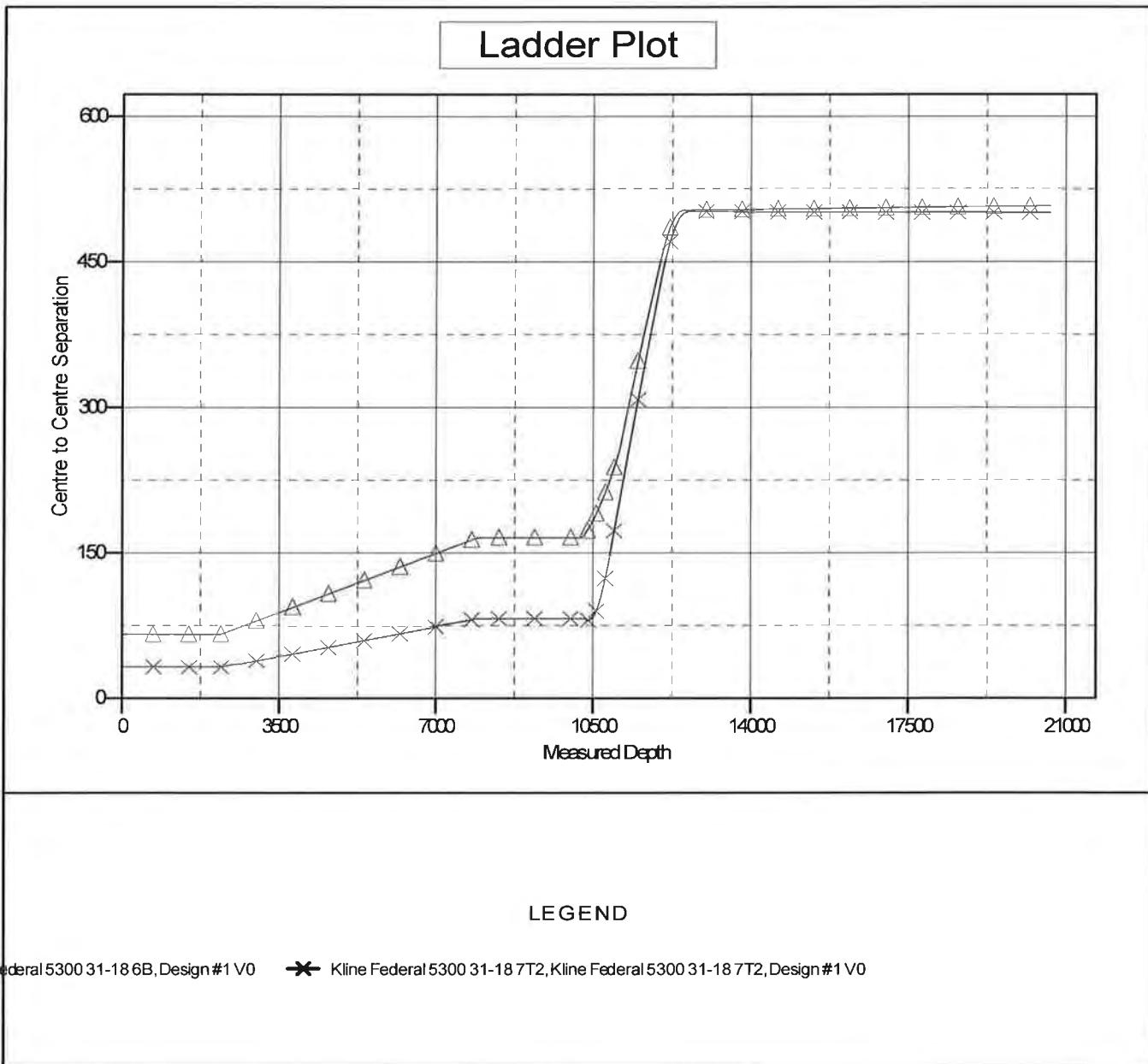
Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 2033.0usft (Original Well EleCoordinates are relative to: Kline Federal 5300 31-18 8T

Offset Depths are relative to Offset Datum

Central Meridian is 100° 30' 0.000 W

Coordinate System is US State Plane 1983, North Dakota Northern Zone
Grid Convergence at Surface is: -2.31°



Anticollision Report

Company:	Oasis	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Project:	Indian Hills	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Reference Site:	153N-100W-17/18	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Well Error:	2.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Kline Federal 5300 31-18 8T	Database:	EDM_new
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 2033.0usft (Original Well Ele

Coordinates are relative to: Kline Federal 5300 31-18 8T

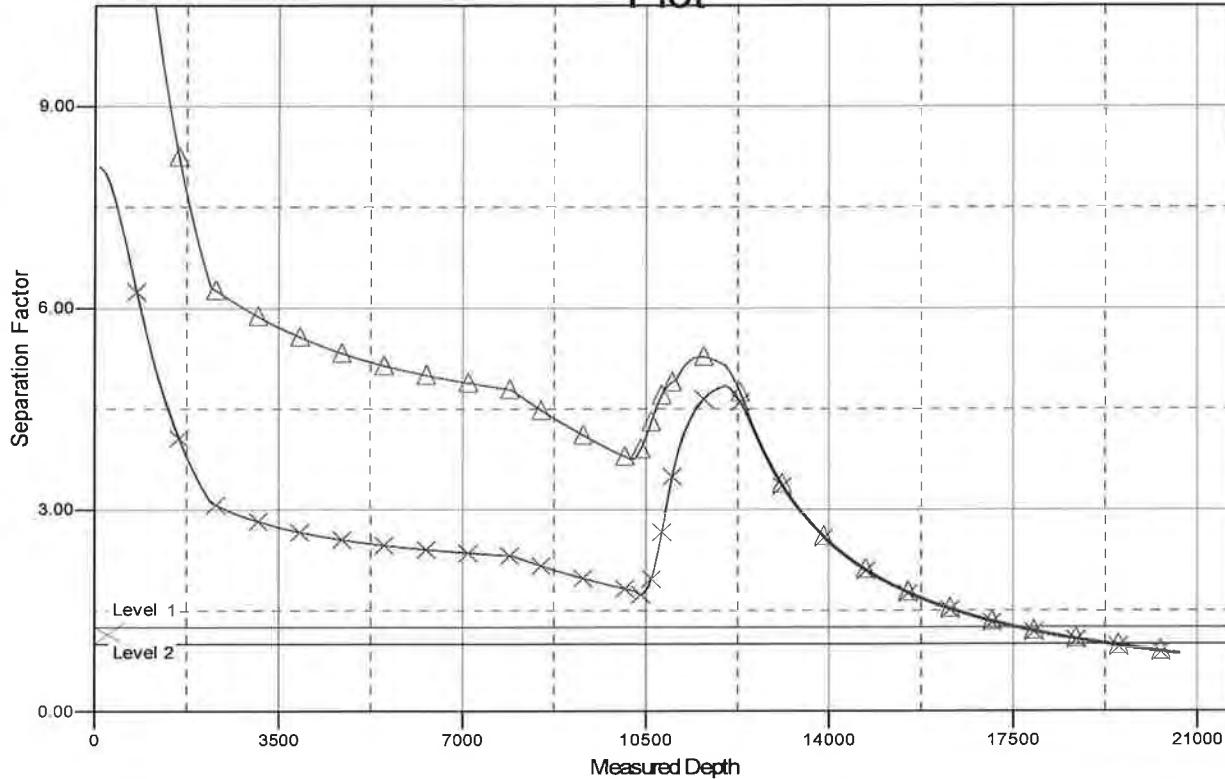
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, North Dakota Northern Zone

Central Meridian is 100° 30' 0.000 W

Grid Convergence at Surface is: -2.31°

Separation Factor Plot



LEGEND

Federal 5300 31-18 6B, Design #1 V0 Kline Federal 5300 31-18 7T2, Kline Federal 5300 31-18 7T2, Design #1 V0

Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8T

Kline Federal 5300 31-18 8T

Plan: Design #1

Standard Planning Report

18 July, 2014

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T							
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)							
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)							
Site:	153N-100W-17/18	North Reference:	True							
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature							
Wellbore:	Kline Federal 5300 31-18 8T									
Design:	Design #1									
Project	Indian Hills									
Map System:	US State Plane 1983	System Datum:	Mean Sea Level							
Geo Datum:	North American Datum 1983									
Map Zone:	North Dakota Northern Zone									
Site	153N-100W-17/18									
Site Position:		Northing:	408,962.44 usft							
From:	Lat/Long	Easting:	1,210,229.18 usft							
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "							
			Latitude: 48° 4' 45.380 N							
			Longitude: 103° 36' 10.380 W							
			Grid Convergence: -2.31 °							
Well	Kline Federal 5300 31-18 8T									
Well Position	+N/S +E/W	-1,744.9 usft -67.9 usft	Northing: 407,221.73 usft Easting: 1,210,091.03 usft							
Position Uncertainty	2.0 usft		Latitude: 48° 4' 28.160 N Longitude: 103° 36' 11.380 W							
			Ground Level: 2,008.0 usft							
Wellbore	Kline Federal 5300 31-18 8T									
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)					
	IGRF2010	5/28/2014	8.27	72.99	56,438					
Design	Design #1									
Audit Notes:										
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0					
Vertical Section:		Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)					
		0.0	0.0	0.0	90.00					
Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,216.7	0.50	0.00	2,216.7	0.1	0.0	3.00	3.00	0.00	0.00	0.00
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.00	0.00	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	3.00	-3.00	0.00	180.00	
10,287.8	0.00	0.00	10,287.6	50.0	0.0	0.00	0.00	0.00	0.00	0.00
11,035.3	89.70	109.50	10,765.0	-108.6	447.7	12.00	12.00	0.00	109.50	
12,010.3	89.70	90.00	10,770.2	-272.9	1,404.0	2.00	0.00	-2.00	-90.05	
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	0.00	0.00	0.00	0.00	Kline Federal 5300

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17/18	North Reference:	True						
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 ST								
Design:	Design #1								
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
1,923.0	0.00	0.00	1,923.0	0.0	0.0	0.0	0.00	0.00	0.00
Piers									
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,023.0	0.00	0.00	2,023.0	0.0	0.0	0.0	0.00	0.00	0.00
13-30° Surface									
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
2,216.7	0.50	0.00	2,216.7	0.1	0.0	0.0	3.00	3.00	0.00
2,300.0	0.50	0.00	2,300.0	0.8	0.0	0.0	0.00	0.00	0.00
2,400.0	0.50	0.00	2,400.0	1.7	0.0	0.0	0.00	0.00	0.00
2,500.0	0.50	0.00	2,500.0	2.5	0.0	0.0	0.00	0.00	0.00
2,600.0	0.50	0.00	2,600.0	3.4	0.0	0.0	0.00	0.00	0.00
2,700.0	0.50	0.00	2,700.0	4.3	0.0	0.0	0.00	0.00	0.00
2,800.0	0.50	0.00	2,800.0	5.2	0.0	0.0	0.00	0.00	0.00
2,900.0	0.50	0.00	2,900.0	6.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.50	0.00	3,000.0	6.9	0.0	0.0	0.00	0.00	0.00
3,100.0	0.50	0.00	3,100.0	7.8	0.0	0.0	0.00	0.00	0.00
3,200.0	0.50	0.00	3,200.0	8.7	0.0	0.0	0.00	0.00	0.00
3,300.0	0.50	0.00	3,300.0	9.5	0.0	0.0	0.00	0.00	0.00
3,400.0	0.50	0.00	3,400.0	10.4	0.0	0.0	0.00	0.00	0.00
3,500.0	0.50	0.00	3,500.0	11.3	0.0	0.0	0.00	0.00	0.00
3,600.0	0.50	0.00	3,599.9	12.1	0.0	0.0	0.00	0.00	0.00
3,700.0	0.50	0.00	3,699.9	13.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.50	0.00	3,799.9	13.9	0.0	0.0	0.00	0.00	0.00
3,900.0	0.50	0.00	3,899.9	14.8	0.0	0.0	0.00	0.00	0.00
4,000.0	0.50	0.00	3,999.9	15.6	0.0	0.0	0.00	0.00	0.00
4,100.0	0.50	0.00	4,099.9	16.5	0.0	0.0	0.00	0.00	0.00
4,200.0	0.50	0.00	4,199.9	17.4	0.0	0.0	0.00	0.00	0.00
4,300.0	0.50	0.00	4,299.9	18.3	0.0	0.0	0.00	0.00	0.00
4,400.0	0.50	0.00	4,399.9	19.1	0.0	0.0	0.00	0.00	0.00
4,500.0	0.50	0.00	4,499.9	20.0	0.0	0.0	0.00	0.00	0.00
4,570.1	0.50	0.00	4,570.0	20.6	0.0	0.0	0.00	0.00	0.00
Guenther									

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17/18	North Reference:	True						
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 8T								
Design:	Design #1								
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)
4,600.0	0.50	0.00	4,599.9	20.9	0.0	0.0	0.00	0.00	0.00
4,700.0	0.50	0.00	4,699.9	21.7	0.0	0.0	0.00	0.00	0.00
4,800.0	0.50	0.00	4,799.9	22.6	0.0	0.0	0.00	0.00	0.00
4,900.0	0.50	0.00	4,899.9	23.5	0.0	0.0	0.00	0.00	0.00
4,976.1	0.50	0.00	4,976.0	24.2	0.0	0.0	0.00	0.00	0.00
Nowy									
5,000.0	0.50	0.00	4,999.9	24.4	0.0	0.0	0.00	0.00	0.00
5,100.0	0.50	0.00	5,099.9	25.2	0.0	0.0	0.00	0.00	0.00
5,200.0	0.50	0.00	5,199.9	26.1	0.0	0.0	0.00	0.00	0.00
5,300.0	0.50	0.00	5,299.9	27.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.50	0.00	5,399.9	27.9	0.0	0.0	0.00	0.00	0.00
5,403.1	0.50	0.00	5,403.0	27.9	0.0	0.0	0.00	0.00	0.00
Dakota									
5,500.0	0.50	0.00	5,499.9	28.7	0.0	0.0	0.00	0.00	0.00
5,600.0	0.50	0.00	5,599.9	29.6	0.0	0.0	0.00	0.00	0.00
5,700.0	0.50	0.00	5,699.9	30.5	0.0	0.0	0.00	0.00	0.00
5,800.0	0.50	0.00	5,799.9	31.3	0.0	0.0	0.00	0.00	0.00
5,900.0	0.50	0.00	5,899.9	32.2	0.0	0.0	0.00	0.00	0.00
6,000.0	0.50	0.00	5,999.9	33.1	0.0	0.0	0.00	0.00	0.00
6,100.0	0.50	0.00	6,099.9	34.0	0.0	0.0	0.00	0.00	0.00
6,101.1	0.50	0.00	6,101.0	34.0	0.0	0.0	0.00	0.00	0.00
9-5/8" Dakota String									
6,200.0	0.50	0.00	6,199.8	34.8	0.0	0.0	0.00	0.00	0.00
6,300.0	0.50	0.00	6,299.8	35.7	0.0	0.0	0.00	0.00	0.00
6,400.0	0.50	0.00	6,399.8	36.6	0.0	0.0	0.00	0.00	0.00
6,402.2	0.50	0.00	6,402.0	36.6	0.0	0.0	0.00	0.00	0.00
Riverton									
6,500.0	0.50	0.00	6,499.8	37.5	0.0	0.0	0.00	0.00	0.00
6,600.0	0.50	0.00	6,599.8	38.3	0.0	0.0	0.00	0.00	0.00
6,700.0	0.50	0.00	6,699.8	39.2	0.0	0.0	0.00	0.00	0.00
6,740.2	0.50	0.00	6,740.0	39.5	0.0	0.0	0.00	0.00	0.00
Durham Salt									
6,800.0	0.50	0.00	6,799.8	40.1	0.0	0.0	0.00	0.00	0.00
6,851.2	0.50	0.00	6,851.0	40.5	0.0	0.0	0.00	0.00	0.00
Durham Salt Base									
6,900.0	0.50	0.00	6,899.8	40.9	0.0	0.0	0.00	0.00	0.00
6,948.2	0.50	0.00	6,948.0	41.4	0.0	0.0	0.00	0.00	0.00
Spurfish									
7,000.0	0.50	0.00	6,999.8	41.8	0.0	0.0	0.00	0.00	0.00
7,100.0	0.50	0.00	7,099.8	42.7	0.0	0.0	0.00	0.00	0.00
7,200.0	0.50	0.00	7,199.8	43.6	0.0	0.0	0.00	0.00	0.00
7,203.2	0.50	0.00	7,203.0	43.6	0.0	0.0	0.00	0.00	0.00
Pine Salt									
7,251.2	0.50	0.00	7,251.0	44.0	0.0	0.0	0.00	0.00	0.00
Pine Salt Base									
7,296.2	0.50	0.00	7,296.0	44.4	0.0	0.0	0.00	0.00	0.00
Apache Salt									
7,300.0	0.50	0.00	7,299.8	44.4	0.0	0.0	0.00	0.00	0.00
7,326.2	0.50	0.00	7,326.0	44.7	0.0	0.0	0.00	0.00	0.00
Apache Salt Base									
7,400.0	0.50	0.00	7,399.8	45.3	0.0	0.0	0.00	0.00	0.00
7,500.0	0.50	0.00	7,499.8	46.2	0.0	0.0	0.00	0.00	0.00
7,528.2	0.50	0.00	7,528.0	46.4	0.0	0.0	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T						
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)						
Site:	153N-100W-17718	North Reference:	True						
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature						
Wellbore:	Kline Federal 5300 31-18 8T								
Design:	Design #1								
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)
Broom Creek (Top of Minnelusa Gp.)									
7,600.0	0.50	0.00	7,599.8	47.1	0.0	0.0	0.00	0.00	0.00
7,608.2	0.50	0.00	7,608.0	47.1	0.0	0.0	0.00	0.00	0.00
Ameson									
7,700.0	0.50	0.00	7,699.8	47.9	0.0	0.0	0.00	0.00	0.00
7,776.2	0.50	0.00	7,776.0	48.6	0.0	0.0	0.00	0.00	0.00
Tyler									
7,800.0	0.50	0.00	7,799.8	48.8	0.0	0.0	0.00	0.00	0.00
7,900.0	0.50	0.00	7,899.8	49.7	0.0	0.0	0.00	0.00	0.00
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.0	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	0.0	3.00	-3.00	0.00
7,967.2	0.00	0.00	7,967.0	50.0	0.0	0.0	0.00	0.00	0.00
Other (Base of Minnelusa Gp.)									
8,000.0	0.00	0.00	7,999.8	50.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,099.8	50.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,199.8	50.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,299.8	50.0	0.0	0.0	0.00	0.00	0.00
8,322.2	0.00	0.00	8,322.0	50.0	0.0	0.0	0.00	0.00	0.00
Kibbey Lime									
8,400.0	0.00	0.00	8,399.8	50.0	0.0	0.0	0.00	0.00	0.00
8,472.2	0.00	0.00	8,472.0	50.0	0.0	0.0	0.00	0.00	0.00
Charles Salt									
8,500.0	0.00	0.00	8,499.8	50.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,599.8	50.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,699.8	50.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,799.8	50.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,899.8	50.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	8,999.8	50.0	0.0	0.0	0.00	0.00	0.00
9,096.2	0.00	0.00	9,096.0	50.0	0.0	0.0	0.00	0.00	0.00
US									
9,100.0	0.00	0.00	9,099.8	50.0	0.0	0.0	0.00	0.00	0.00
9,171.2	0.00	0.00	9,171.0	50.0	0.0	0.0	0.00	0.00	0.00
Base Last Salt									
9,200.0	0.00	0.00	9,199.8	50.0	0.0	0.0	0.00	0.00	0.00
9,219.2	0.00	0.00	9,219.0	50.0	0.0	0.0	0.00	0.00	0.00
Ratcliffe									
9,300.0	0.00	0.00	9,299.8	50.0	0.0	0.0	0.00	0.00	0.00
9,395.2	0.00	0.00	9,395.0	50.0	0.0	0.0	0.00	0.00	0.00
Mission Canyon									
9,400.0	0.00	0.00	9,399.8	50.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,499.8	50.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,599.8	50.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,699.8	50.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,799.8	50.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,899.8	50.0	0.0	0.0	0.00	0.00	0.00
9,957.2	0.00	0.00	9,957.0	50.0	0.0	0.0	0.00	0.00	0.00
Ledgepole									
10,000.0	0.00	0.00	9,999.8	50.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,099.8	50.0	0.0	0.0	0.00	0.00	0.00
10,163.2	0.00	0.00	10,163.0	50.0	0.0	0.0	0.00	0.00	0.00
Ledgepole Fracture Zone									
10,200.0	0.00	0.00	10,199.8	50.0	0.0	0.0	0.00	0.00	0.00

Planning Report

Database: Company: Project: Site: Well: Wellbore: Design:	EDM_new Oasis Indian Hills 153N-100W-17/18 Kline Federal 5300 31-18 8T Kline Federal 5300 31-18 8T Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Kline Federal 5300 31-18 8T WELL @ 2033.0usft (Original Well Elev) WELL @ 2033.0usft (Original Well Elev) True Minimum Curvature						
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)
10,287.8	0.00	0.00	10,287.6	50.0	0.0	0.0	0.00	0.00	0.00
KOP Build 12°/100'									
10,300.0	1.46	109.50	10,299.8	49.9	0.1	0.1	12.00	12.00	0.00
10,400.0	13.46	109.50	10,398.8	45.6	12.4	12.4	12.00	12.00	0.00
10,500.0	25.46	109.50	10,492.9	34.5	43.7	43.7	12.00	12.00	0.00
10,600.0	37.46	109.50	10,578.0	17.1	92.8	92.8	12.00	12.00	0.00
10,700.0	49.46	109.50	10,650.5	-5.8	157.6	157.6	12.00	12.00	0.00
10,703.9	49.94	109.50	10,653.0	-6.8	160.4	160.4	12.00	12.00	0.00
False Bakken									
10,719.8	51.84	109.50	10,663.0	-10.9	172.0	172.0	12.00	12.00	0.00
Upper Bakken									
10,743.2	54.65	109.50	10,677.0	-17.2	189.7	189.7	12.00	12.00	0.00
Middle Bakken									
10,800.0	61.46	109.50	10,707.0	-33.3	235.1	235.1	12.00	12.00	0.00
10,833.5	65.48	109.50	10,722.0	-43.3	263.3	263.3	12.00	12.00	0.00
Lower Bakken									
10,870.4	69.91	109.50	10,736.0	-54.7	295.5	295.5	12.00	12.00	0.00
Pronghorn									
10,900.0	73.46	109.50	10,745.3	-64.0	322.0	322.0	12.00	12.00	0.00
10,909.8	74.64	109.50	10,748.0	-67.2	330.9	330.9	12.00	12.00	0.00
Three Forks									
10,968.3	81.66	109.50	10,760.0	-86.3	384.8	384.8	12.00	12.00	0.00
TF Target Top									
11,000.0	85.46	109.50	10,763.6	-96.8	414.5	414.5	12.00	12.00	0.00
11,035.3	89.70	109.50	10,765.0	-108.6	447.7	447.7	12.00	12.00	0.00
EOC									
11,036.0	89.70	109.49	10,765.0	-108.8	448.4	448.4	2.00	0.00	-2.00
7" Intermediate									
11,100.0	89.70	108.21	10,765.4	-129.5	508.9	508.9	2.00	0.00	-2.00
11,200.0	89.70	106.21	10,765.9	-159.1	604.5	604.5	2.00	0.00	-2.00
11,300.0	89.70	104.21	10,766.4	-185.3	701.0	701.0	2.00	0.00	-2.00
11,400.0	89.70	102.21	10,767.0	-208.1	798.3	798.3	2.00	0.00	-2.00
11,500.0	89.70	100.21	10,767.5	-227.6	896.4	896.4	2.00	0.00	-2.00
11,600.0	89.70	98.21	10,768.0	-243.6	995.1	995.1	2.00	0.00	-2.00
11,700.0	89.70	96.21	10,768.6	-256.1	1,094.3	1,094.3	2.00	0.00	-2.00
11,800.0	89.70	94.21	10,769.1	-265.2	1,193.9	1,193.9	2.00	0.00	-2.00
11,900.0	89.70	92.21	10,769.6	-270.8	1,293.7	1,293.7	2.00	0.00	-2.00
11,973.0	89.70	90.75	10,770.0	-272.6	1,366.7	1,366.7	2.00	0.00	-2.00
TF Target Base									
12,000.0	89.70	90.21	10,770.1	-272.9	1,393.7	1,393.7	2.00	0.00	-2.00
12,010.3	89.70	90.00	10,770.2	-272.9	1,404.0	1,404.0	2.00	0.00	-2.00
12,100.0	89.70	90.00	10,770.7	-272.9	1,493.7	1,493.7	0.00	0.00	0.00
12,164.0	89.70	90.00	10,771.0	-272.9	1,557.7	1,557.7	0.00	0.00	0.00
Chayotte									
12,200.0	89.70	90.00	10,771.2	-272.9	1,593.7	1,593.7	0.00	0.00	0.00
12,300.0	89.70	90.00	10,771.7	-272.9	1,693.7	1,693.7	0.00	0.00	0.00
12,400.0	89.70	90.00	10,772.2	-272.9	1,793.7	1,793.7	0.00	0.00	0.00
12,500.0	89.70	90.00	10,772.8	-272.9	1,893.7	1,893.7	0.00	0.00	0.00
12,600.0	89.70	90.00	10,773.3	-272.9	1,993.7	1,993.7	0.00	0.00	0.00
12,700.0	89.70	90.00	10,773.8	-272.9	2,093.7	2,093.7	0.00	0.00	0.00
12,800.0	89.70	90.00	10,774.3	-272.9	2,193.7	2,193.7	0.00	0.00	0.00
12,900.0	89.70	90.00	10,774.9	-272.9	2,293.7	2,293.7	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17M8	North Reference:	True
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 ST		
Design:	Design #1		

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)	
13,000.0	89.70	90.00	10,775.4	-272.9	2,393.7	2,393.7	0.00	0.00	0.00	0.00
13,100.0	89.70	90.00	10,775.9	-272.9	2,493.7	2,493.7	0.00	0.00	0.00	0.00
13,200.0	89.70	90.00	10,776.4	-272.9	2,593.7	2,593.7	0.00	0.00	0.00	0.00
13,300.0	89.70	90.00	10,776.9	-272.9	2,693.7	2,693.7	0.00	0.00	0.00	0.00
13,400.0	89.70	90.00	10,777.5	-272.9	2,793.7	2,793.7	0.00	0.00	0.00	0.00
13,500.0	89.70	90.00	10,778.0	-272.9	2,893.7	2,893.7	0.00	0.00	0.00	0.00
13,600.0	89.70	90.00	10,778.5	-272.9	2,993.7	2,993.7	0.00	0.00	0.00	0.00
13,700.0	89.70	90.00	10,779.0	-272.9	3,093.7	3,093.7	0.00	0.00	0.00	0.00
13,800.0	89.70	90.00	10,779.6	-272.9	3,193.7	3,193.7	0.00	0.00	0.00	0.00
13,900.0	89.70	90.00	10,780.1	-272.9	3,293.7	3,293.7	0.00	0.00	0.00	0.00
14,000.0	89.70	90.00	10,780.6	-272.9	3,393.7	3,393.7	0.00	0.00	0.00	0.00
14,100.0	89.70	90.00	10,781.1	-272.9	3,493.7	3,493.7	0.00	0.00	0.00	0.00
14,200.0	89.70	90.00	10,781.7	-272.9	3,593.7	3,593.7	0.00	0.00	0.00	0.00
14,300.0	89.70	90.00	10,782.2	-272.9	3,693.7	3,693.7	0.00	0.00	0.00	0.00
14,400.0	89.70	90.00	10,782.7	-272.9	3,793.7	3,793.7	0.00	0.00	0.00	0.00
14,500.0	89.70	90.00	10,783.2	-272.9	3,893.7	3,893.7	0.00	0.00	0.00	0.00
14,600.0	89.70	90.00	10,783.8	-272.9	3,993.7	3,993.7	0.00	0.00	0.00	0.00
14,700.0	89.70	90.00	10,784.3	-272.9	4,093.7	4,093.7	0.00	0.00	0.00	0.00
14,800.0	89.70	90.00	10,784.8	-272.9	4,193.7	4,193.7	0.00	0.00	0.00	0.00
14,900.0	89.70	90.00	10,785.3	-272.9	4,293.7	4,293.7	0.00	0.00	0.00	0.00
15,000.0	89.70	90.00	10,785.8	-272.9	4,393.7	4,393.7	0.00	0.00	0.00	0.00
15,100.0	89.70	90.00	10,786.4	-272.9	4,493.7	4,493.7	0.00	0.00	0.00	0.00
15,200.0	89.70	90.00	10,786.9	-272.9	4,593.7	4,593.7	0.00	0.00	0.00	0.00
15,300.0	89.70	90.00	10,787.4	-272.9	4,693.6	4,693.6	0.00	0.00	0.00	0.00
15,400.0	89.70	90.00	10,787.9	-272.9	4,793.6	4,793.6	0.00	0.00	0.00	0.00
15,500.0	89.70	90.00	10,788.5	-272.9	4,893.6	4,893.6	0.00	0.00	0.00	0.00
15,600.0	89.70	90.00	10,789.0	-272.9	4,993.6	4,993.6	0.00	0.00	0.00	0.00
15,700.0	89.70	90.00	10,789.5	-272.9	5,093.6	5,093.6	0.00	0.00	0.00	0.00
15,800.0	89.70	90.00	10,790.0	-272.9	5,193.6	5,193.6	0.00	0.00	0.00	0.00
15,900.0	89.70	90.00	10,790.6	-272.9	5,293.6	5,293.6	0.00	0.00	0.00	0.00
16,000.0	89.70	90.00	10,791.1	-272.9	5,393.6	5,393.6	0.00	0.00	0.00	0.00
16,100.0	89.70	90.00	10,791.6	-272.9	5,493.6	5,493.6	0.00	0.00	0.00	0.00
16,200.0	89.70	90.00	10,792.1	-272.9	5,593.6	5,593.6	0.00	0.00	0.00	0.00
16,300.0	89.70	90.00	10,792.7	-272.9	5,693.6	5,693.6	0.00	0.00	0.00	0.00
16,400.0	89.70	90.00	10,793.2	-272.9	5,793.6	5,793.6	0.00	0.00	0.00	0.00
16,500.0	89.70	90.00	10,793.7	-272.9	5,893.6	5,893.6	0.00	0.00	0.00	0.00
16,600.0	89.70	90.00	10,794.2	-272.9	5,993.6	5,993.6	0.00	0.00	0.00	0.00
16,700.0	89.70	90.00	10,794.8	-272.9	6,093.6	6,093.6	0.00	0.00	0.00	0.00
16,800.0	89.70	90.00	10,795.3	-272.9	6,193.6	6,193.6	0.00	0.00	0.00	0.00
16,900.0	89.70	90.00	10,795.8	-272.9	6,293.6	6,293.6	0.00	0.00	0.00	0.00
17,000.0	89.70	90.00	10,796.3	-272.9	6,393.6	6,393.6	0.00	0.00	0.00	0.00
17,100.0	89.70	90.00	10,796.8	-272.9	6,493.6	6,493.6	0.00	0.00	0.00	0.00
17,200.0	89.70	90.00	10,797.4	-272.9	6,593.6	6,593.6	0.00	0.00	0.00	0.00
17,300.0	89.70	90.00	10,797.9	-272.9	6,693.6	6,693.6	0.00	0.00	0.00	0.00
17,400.0	89.70	90.00	10,798.4	-272.9	6,793.6	6,793.6	0.00	0.00	0.00	0.00
17,500.0	89.70	90.00	10,798.9	-272.9	6,893.6	6,893.6	0.00	0.00	0.00	0.00
17,600.0	89.70	90.00	10,799.5	-272.9	6,993.6	6,993.6	0.00	0.00	0.00	0.00
17,700.0	89.70	90.00	10,800.0	-272.9	7,093.6	7,093.6	0.00	0.00	0.00	0.00
17,800.0	89.70	90.00	10,800.5	-272.9	7,193.6	7,193.6	0.00	0.00	0.00	0.00
17,900.0	89.70	90.00	10,801.0	-272.9	7,293.6	7,293.6	0.00	0.00	0.00	0.00
18,000.0	89.70	90.00	10,801.6	-272.9	7,393.6	7,393.6	0.00	0.00	0.00	0.00
18,100.0	89.70	90.00	10,802.1	-272.9	7,493.6	7,493.6	0.00	0.00	0.00	0.00
18,200.0	89.70	90.00	10,802.6	-272.9	7,593.6	7,593.6	0.00	0.00	0.00	0.00
18,300.0	89.70	90.00	10,803.1	-272.9	7,693.6	7,693.6	0.00	0.00	0.00	0.00

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 ST
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	1533N-100W-171B	North Reference:	True
Well:	Kline Federal 5300 31-18 ST	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 ST		
Design:	Design #1		

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)	
18,400.0	89.70	90.00	10,803.7	-272.9	7,793.6	7,793.6	0.00	0.00	0.00	
18,500.0	89.70	90.00	10,804.2	-272.9	7,893.6	7,893.6	0.00	0.00	0.00	
18,600.0	89.70	90.00	10,804.7	-272.9	7,993.6	7,993.6	0.00	0.00	0.00	
18,700.0	89.70	90.00	10,805.2	-272.9	8,093.6	8,093.6	0.00	0.00	0.00	
18,800.0	89.70	90.00	10,805.7	-272.9	8,193.6	8,193.6	0.00	0.00	0.00	
18,900.0	89.70	90.00	10,806.3	-272.9	8,293.6	8,293.6	0.00	0.00	0.00	
19,000.0	89.70	90.00	10,806.8	-272.9	8,393.6	8,393.6	0.00	0.00	0.00	
19,100.0	89.70	90.00	10,807.3	-272.9	8,493.6	8,493.6	0.00	0.00	0.00	
19,200.0	89.70	90.00	10,807.8	-272.9	8,593.6	8,593.6	0.00	0.00	0.00	
19,300.0	89.70	90.00	10,808.4	-272.9	8,693.6	8,693.6	0.00	0.00	0.00	
19,400.0	89.70	90.00	10,808.9	-272.9	8,793.6	8,793.6	0.00	0.00	0.00	
19,500.0	89.70	90.00	10,809.4	-272.9	8,893.6	8,893.6	0.00	0.00	0.00	
19,600.0	89.70	90.00	10,809.9	-272.9	8,993.6	8,993.6	0.00	0.00	0.00	
19,700.0	89.70	90.00	10,810.5	-272.9	9,093.6	9,093.6	0.00	0.00	0.00	
19,800.0	89.70	90.00	10,811.0	-272.9	9,193.6	9,193.6	0.00	0.00	0.00	
19,900.0	89.70	90.00	10,811.5	-272.9	9,293.6	9,293.6	0.00	0.00	0.00	
20,000.0	89.70	90.00	10,812.0	-272.9	9,393.6	9,393.6	0.00	0.00	0.00	
20,100.0	89.70	90.00	10,812.6	-272.9	9,493.6	9,493.6	0.00	0.00	0.00	
20,200.0	89.70	90.00	10,813.1	-272.9	9,593.6	9,593.6	0.00	0.00	0.00	
20,300.0	89.70	90.00	10,813.6	-272.9	9,693.6	9,693.6	0.00	0.00	0.00	
20,400.0	89.70	90.00	10,814.1	-272.9	9,793.6	9,793.6	0.00	0.00	0.00	
20,500.0	89.70	90.00	10,814.6	-272.9	9,893.6	9,893.6	0.00	0.00	0.00	
20,600.0	89.70	90.00	10,815.2	-272.9	9,993.6	9,993.6	0.00	0.00	0.00	
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	10,050.0	0.00	0.00	0.00	

Kline Federal 5300 31-18 ST PBNL

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Kline Federal 5300 31	0.00	0.00	10,815.5	-273.0	10,050.0	406,544.02	1,220,121.87	48° 4' 25.439 N	103° 33' 43.386 W	
- plan misses target center by 0.1usft at 20656.4usft MD (10815.5 TVD, -272.9 N, 10050.0 E)										
- Point										

Casing Points										
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter ("")	Hole Diameter ("")					
2,023.0	2,023.0	13-3/8" Surface		13-3/8	17-1/2					
6,101.1	6,101.0	9-5/8" Dakota String		9-5/8	12-1/4					
11,036.0	10,765.0	7" Intermediate		7	8-3/4					

Planning Report

Database:	EDM_new	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100EW-17718	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,923.0	1,923.0	Pierre			
4,570.1	4,570.0	Greenhorn			
4,976.1	4,976.0	Mowry			
5,403.1	5,403.0	Dakota			
6,402.2	6,402.0	Rierdon			
6,740.2	6,740.0	Dunham Salt			
6,851.2	6,851.0	Dunham Salt Base			
6,948.2	6,948.0	Spearfish			
7,203.2	7,203.0	Pine Salt			
7,251.2	7,251.0	Pine Salt Base			
7,296.2	7,296.0	Opeche Salt			
7,326.2	7,326.0	Opeche Salt Base			
7,528.2	7,528.0	Broom Creek (Top of Minnelusa Gp.)			
7,608.2	7,608.0	Amsden			
7,776.2	7,776.0	Tyler			
7,967.2	7,967.0	Otter (Base of Minnelusa Gp.)			
8,322.2	8,322.0	Kibbey Lime			
8,472.2	8,472.0	Charles Salt			
9,096.2	9,096.0	UB			
9,171.2	9,171.0	Base Last Salt			
9,219.2	9,219.0	Ratcliffe			
9,395.2	9,395.0	Mission Canyon			
9,957.2	9,957.0	Lodgepole			
10,163.2	10,163.0	Lodgepole Fracture Zone			
10,703.9	10,653.0	False Bakken			
10,719.8	10,663.0	Upper Bakken			
10,743.2	10,677.0	Middle Bakken			
10,833.5	10,722.0	Lower Bakken			
10,870.4	10,736.0	Pronghorn			
10,909.8	10,748.0	Three Forks			
10,968.3	10,760.0	TF Target Top			
11,973.0	10,770.0	TF Target Base			
12,164.0	10,771.0	Claystone			

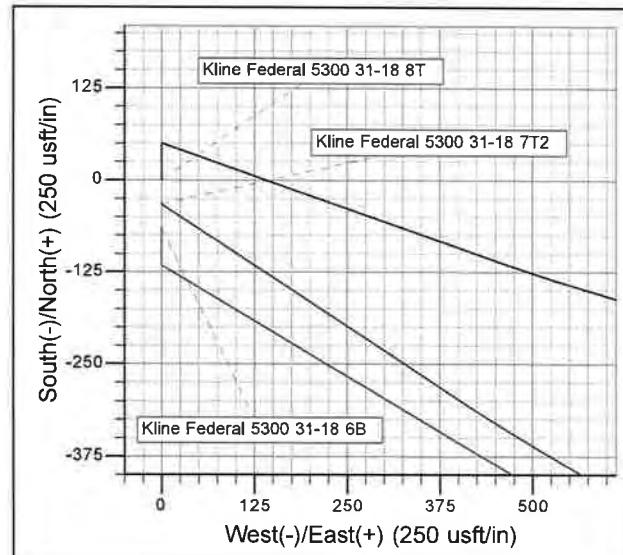
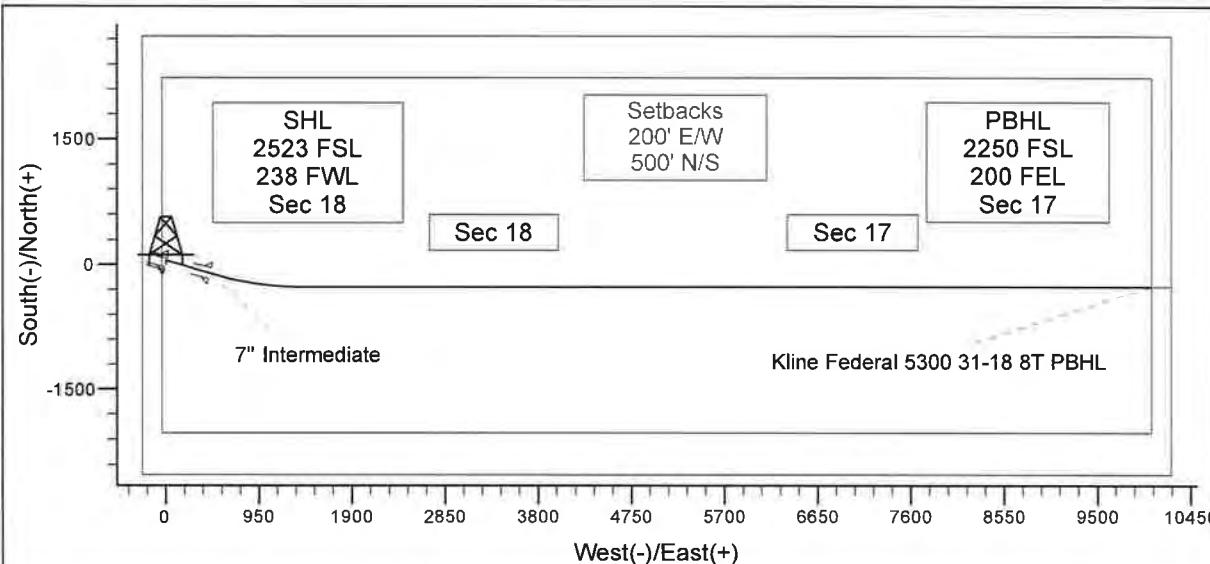
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/S (usft)	+E/W (usft)		
10,287.8	10,287.6	50.0	0.0	KOP Build 12°/100'	
11,035.3	10,765.0	-108.6	447.7	EOC	

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 31-18 8T
 Wellbore: Kline Federal 5300 31-18 8T
 Design: Design #1

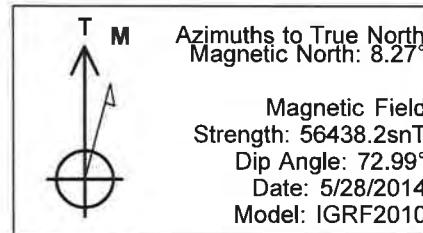


WELL DETAILS: Kline Federal 5300 31-18 8T

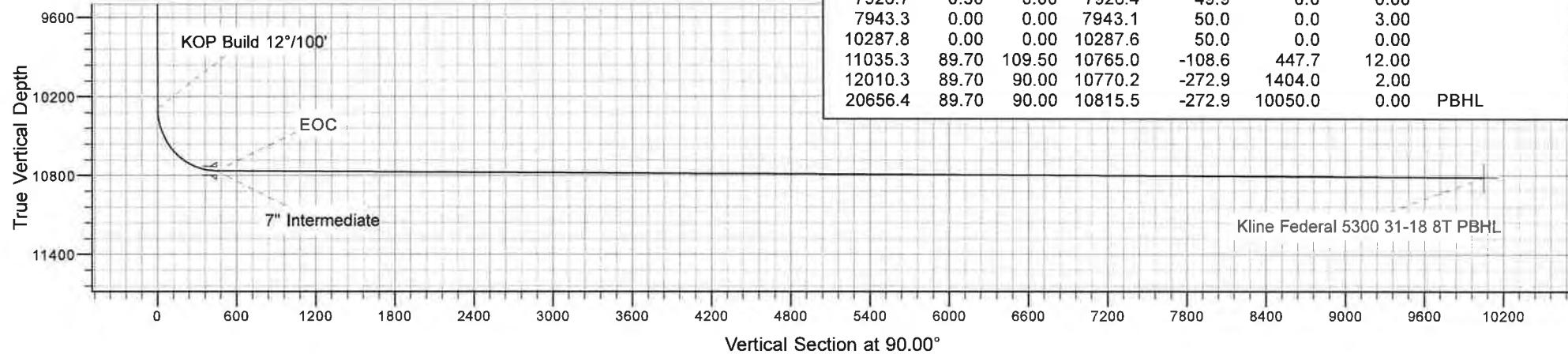
Ground Level: 2008.0
 Northing: 407221.73 Easting: 1210091.04 Latitude: 48° 4' 28.160 N Longitude: 103° 36' 11.380 W



CASING DETAILS			
TVD 2023.0	MD 2023.0	Name Surface	Size 13-3/8
6101.0	6101.1	Dakota String	9-5/8
10765.0	11036.0	Intermediate	7



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	0.00	2216.7	0.1	0.0	3.00	
7926.7	0.50	0.00	7926.4	49.9	0.0	0.00	
7943.3	0.00	0.00	7943.1	50.0	0.0	3.00	
10287.8	0.00	0.00	10287.6	50.0	0.0	0.00	
11035.3	89.70	109.50	10765.0	-108.6	447.7	12.00	
12010.3	89.70	90.00	10770.2	-272.9	1404.0	2.00	
20656.4	89.70	90.00	10815.5	-272.9	10050.0	0.00	PBHL



DRILLING PLAN							
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND		
WELL NAME	Kline Federal 5300 31-18 BT			RIG	0		
WELL TYPE	Horizontal Upper Three Forks						
LOCATION	JNWSW 18-153N-R100W	Surface Location (survey plat)	2520' fsl	238' fwl			
EST. T.D.	20,558'				GROUND ELEV:	2008' Finished Pad Elev.	
TOTAL LATERAL	9,620'				KB ELEV:	2033'	
PROGNOSIS:	Based on 2,033' KB(est)			LOGS:	Type Interval		
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)		OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater), GR/Res to BSC; GR to surf, CND through the Dakota CBL/GR: Above top of cement/GR to base of casing MWD GR: KOP to lateral TD			
Pierre	NDIC MAP	1,923	110				
Greenhorn		4,570	(2,537)				
Mowry		4,976	(2,943)				
Dakota		5,403	(3,370)				
Rierdon		6,402	(4,369)				
Dunham Salt		6,740	(4,707)				
Dunham Salt Base		6,851	(4,818)				
Spearfish		6,948	(4,915)				
Pine Salt		7,203	(5,170)				
Pine Salt Base		7,251	(5,218)				
Opeche Salt		7,296	(5,263)				
Opeche Salt Base		7,326	(5,293)				
Broom Creek (Top of Minnelusa Gp)		7,528	(5,495)				
Arnsden		7,608	(5,575)				
Tyler		7,776	(5,743)				
Olter (Base of Minnelusa Gp)		7,967	(5,934)				
Kibbey Lime		8,322	(6,289)				
Charles Salt		8,472	(5,439)				
UB		9,096	(7,063)				
Base Last Salt		9,171	(7,138)				
Ratcliffe		9,219	(7,188)				
Mission Canyon		9,395	(7,362)				
Lodgepole		9,957	(7,924)				
Lodgepole Fracture Zone		10,163	(8,130)				
False Bakken		10,653	(8,620)				
Upper Bakken		10,663	(8,630)				
Middle Bakken		10,677	(8,644)				
Lower Bakken		10,722	(8,689)				
Pronghorn		10,736	(8,703)				
Three Forks		10,748	(8,715)				
TF Target Top		10,760	(8,727)				
TF Target Base		10,770	(8,737)				
Claystone		10,771	(8,738)				
Dip Rate:	0.3						
Max. Anticipated BHP:	4602			Surface Formation:	Glacial till		
MUD:	Interval	Type	WT	Vis	WL	Remarks	
Surface:	0' -	2,023' FWL/Gel - Lime Sweeps	8.4-9.0	28-32	NC	Circ Mud Tanks	
Intermediate:	2,023' -	11,036' Invert	9.5-10.4	40-50	30+HHp	Circ Mud Tanks	
Lateral:	11,036' -	20,656' 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"	2,023'	To Surface	12	100' into Pierre
Dakota Contingency:	9-5/8"	40#	12-1/4"	6,101'	To Surface	12	Below Dakota
Intermediate:	7"	29/32#	8-3/4"	11,036'	3903	24	1500' above Dakota
Production Liner:	4-1/2"	13.5#	6"	20,656"	TOL @ 10,238"		50' above KOP
PROBABLE PLUGS, IF REQ'D:							
OTHER:	MD	TVD	FNLFSL	FEL/FWL	S-T-R	AZI	
Surface:	2,023	2,023	2523' FSL	238' FWL	SEC 18-T153N-R100W		
KOP:	10,288'	10,288'	2573' FSL	238' FWL	SEC 18-T153N-R100W		
EOC:	11,035'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	109 50	
Casing Point:	11,036'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	109 50	
Upper Threeforks Lateral TD:	20,656'	10,818'	2250' FSL	200' FEL	SEC 17-T153N-R100W	90 00	
Comments:							
Request a Sundry for an Open Hole Log Waiver							
Exception well: Oasis Petroleum's Kline 5300 11-18H							
Completion Notes: 35 packers, 35 sleeves, no frac string							
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.							
68334-30-5 (Primary Name: Fuels, diesel) 68476-34-6 (Primary Name: Fuels, diesel, No. 2) 68476-30-2 (Primary Name: Fuel oil No. 2)							
68476-31-3 (Primary Name: Fuel oil, No. 4) 8008-20-6 (Primary Name: Kerosene)							
 Geology: M. Steed (5/5/2014) Engineering: hibader rpm 7/19/14							

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
13-3/8"	0' to 2,023'	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 2,023'	13-3/8", 54.5#, J-55, STC, 8rd	1130 / 1.19	2730 / 2.88	514 / 2.61

API Rating & Safety Factor

- a) Based on full casing evacuation with 9 ppg fluid on backside (2,023' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2,023' setting depth).
- c) Based on string weight in 9 ppg fluid at 2,023' TVD plus 100k# overpull. (Buoyed weight equals 95k 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% CaCl₂ and 0.25 lb/sk Lost Circulation Control Agent

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

CONTINGENCY INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' to 6,101'	40	HCL-80	LTC	8.835"	8.75"	5,450	7,270	9,090

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
0' to 6,101'	9-5/8", 40#, HCL-80, LTC, 8rd	4230 / 2.13	5750 / 3.72	837 / 2.78

API Rating & Safety Factor

- a) Collapse pressure based on 11.5 ppg fluid on the backside and 9 ppg fluid inside of casing.
- b) Burst pressure calculated from a gas kick coming from the production zone (Bakken Pool) at 9,000 psi and a subsequent breakdown at the 9-5/8" shoe, based on a 13.5#/ft fracture gradient. Backup of 9 ppg fluid.
- c) Yield based on string weight in 10 ppg fluid, (207k lbs buoyed weight) plus 100k lbs overpull.

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

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

Lead Slurry: **598 sks** (309 bbls) Conventional system with 75 lb/sk cement, 0.5 lb/sk lost circulation, 10% expanding agent, 2% extender, 2% CaCl₂, 0.2% anti-foam and 0.4% fluid loss agent.

Tail Slurry: **349 sks** (72 bbls) Conventional system with 94 lb/sk cement, 0.3% anti-settling agent, 0.3% fluid loss agent, 0.3 lb/sk lost circulation control agent, 0.2% anti-foam and 0.1% retarder.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' – 6,590'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	9,960
7"	6,590' – 10,288'	32	HCP-110	LTC	6.094"	6.000***	6,730	8,970	11,210
7"	10,288' – 11,036'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	9,960

***Special drift

Interval	Length	Description	Collapse (psi) a	Burst (psi) b	Tension (1000 lbs) c
0' – 6,590'	6,590'	7", 29#, P-110, LTC, 8rd	8530 / 2.48*	11220 / 1.19	797 / 2.09
6,590' – 10,288'	3,698'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.20*	12460 / 1.29	
6,590' – 10,288'	3,698'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.08**	12460 / 1.29	
10,288' – 11,036'	748'	7", 29 lb, 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 10,765' TVD.
- c) Based on string weight in 10 ppg fluid, (281k lbs buoyed weight) plus 100k

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

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

Lead Slurry: **177 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, 0.5 lb/sk, D130 LCM.

Tail Slurry: **617 sks** (170 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 and 0.5 lb/sk LCM.

**Oasis Petroleum
Well Summary**
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Estimated Torque
4-1/2"	10,238' – 20,656'	13.5	P-110	BTC	3.92"	3.795"	4,500

Interval	Description	Collapse	Burst	Tension
		(psi) a	(psi) b	(1000 lbs) c
10,238' – 20,656'	4-1/2", 13.5 lb, P-110, BTC, 8rd	10680 / 1.99	12410 / 1.28	443 / 2.01

API Rating & Safety Factor

- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10,816' TVD.
- b) Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external fluid gradient @ 10,816' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 120k lbs.) plus 100k lbs overpull.

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

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



SUNDRY NOTICES AND REPORTS ON WELLS - FORM 4

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



Well File No.
28754

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

Notice of Intent

Approximate Start Date
June 15, 2014

Report of Work Done

Date Work Completed

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

Approximate Start Date

Drilling Prognosis

Spill Report

Redrilling or Repair

Shooting

Casing or Liner

Acidizing

Plug Well

Fracture Treatment

Supplemental History

Change Production Method

Temporarily Abandon

Reclamation

Other

Variance to Rule 43-02-03-31

Well Name and Number

Kline Federal 5300 31-18 8T

Footages	2523 F S L	238 F W L	Qtr-Qtr Lot 3	Section 18	Township 153 N	Range 100 W
Field	Baker	Pool	1st Bench Three Forks		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
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DETAILS OF WORK

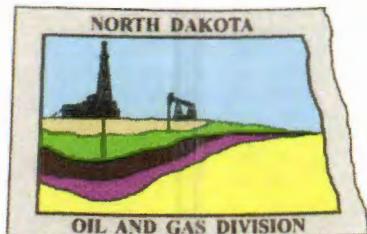
Oasis Petroleum North America, LLC requests a variance to rule 43-02-03-31 requiring electrical, radioactive or other similar logs to be run to determine formation tops and zones of porosity. The surface location of this well will be very near our Kline Federal 5300 11-18H (API #33-053-03426 NDIC # 20275) in Lot 1, Section 18, T153N, R100W and the logs run on this well should be sufficient to determine formation tops in the vertical section of the well bore. As outlined in our application for permit to drill, Oasis Petroleum North America, LLC will run gamma ray logs from KOP to the total depth and cement bond log from the production casing total depth to surface. Two digital copies of all mud logs (one tif and one las) will be submitted to the NDIC.

Approved per #20275

Company Oasis Petroleum North America, LLC	Telephone Number (281) 404-9562	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature <i>Lauri M. Stanfield</i>	Printed Name Lauri M. Stanfield	
Title Regulatory Specialist	Date May 30, 2014	
Email Address Istanfield@oasispetroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 6-30-2014	
By <i>Stephen Fried</i>	
Title Stephen Fried	
Geologist	



Oil and Gas Division

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.dmr.nd.gov/oilgas

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

Date: 7/7/2014

RE: CORES AND SAMPLES

Well Name: **KLINE FEDERAL 5300 31-18 8T** Well File No.: **28754**
Location: **LOT3 18-153-100** County: **MCKENZIE**
Permit Type: **Development - HORIZONTAL**
Field: **BAKER** Target Horizon: **THREE FORKS B1**

Dear BRANDI TERRY:

North Dakota Century Code Section 38-08-04 provides for the preservation of cores and samples and their shipment to the State Geologist when requested. The following is required on the above referenced well:

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

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

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

North Dakota Century Code Section 38-08-16 allows for a civil penalty for any violation of Chapter 38 08 not to exceed \$12,500 for each offense, and each day's violation is a separate offense.

Sincerely

Stephen Fried
Geologist



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.
28754

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

Notice of Intent

Approximate Start Date
June 15, 2014

Report of Work Done

Date Work Completed

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

Approximate Start Date

Drilling Prognosis

Spill Report

Redrilling or Repair

Shooting

Casing or Liner

Acidizing

Plug Well

Fracture Treatment

Supplemental History

Change Production Method

Temporarily Abandon

Reclamation

Other

NDAC 43-02-03-55 Waiver

Well Name and Number
Kline Federal 5300 31-18 8T

Footages	Qtr-Qtr	Section	Township	Range
2523 F S L	238 F W L	Lot 3	18	153 N 100 W
Field	Pool	County		
Baker	1st Bench Three Forks	McKenzie		

24-HOUR PRODUCTION RATE

	Before	After
Oil	Bbls	Oil
Water	Bbls	Water
Gas	MCF	Gas

Name of Contractor(s)
Advanced Energy Services

Address	City	State	Zip Code
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DETAILS OF WORK

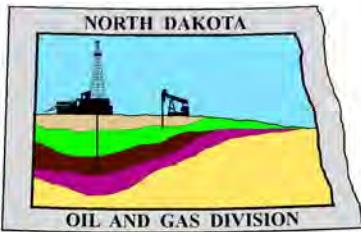
Oasis requests permission for suspension of drilling for up to 90 days for the referenced well under NDAC 43-02-03-55. Oasis intends to drill the surface hole with freshwater based drilling mud and set surface casing with a small drilling rig and move off within 3 to 5 days. The casing will be set at 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 understands NDAC 43-02-03-31 requirements regarding confidentiality pertaining to this permit. The lined reserve pit will be fenced immediately after construction if the well pad is located in a pasture (NDAC 43-02-03-19 & 19.1). Oasis will plug and abandon the well and reclaim the well site if the well is not drilled by the larger rotary rig within 90 days after spudding the well with the smaller drilling rig.

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

Company Oasis Petroleum North America, LLC	Telephone Number (281) 404-9562	
Address 1001 Fannin, Suite 1500		
City Houston	State TX	Zip Code 77002
Signature 	Printed Name Lauri M. Stanfield	
Title Regulatory Specialist	Date May 30, 2014	
Email Address Istanfield@oasp petroleum.com		

FOR STATE USE ONLY

<input type="checkbox"/> Received	<input checked="" type="checkbox"/> Approved
Date 6/30/14	
By Nathaniel Erbele	
Title Petroleum Resource Specialist	



Oil and Gas Division

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.oilgas.nd.gov

June 30, 2014

Lauri M. Stanfield
Regulatory Specialist
OASIS PETROLEUM NORTH AMERICA LLC
1001 Fannin Street Suite 1500
Houston, TX 77002

**RE: HORIZONTAL WELL
KLINE FEDERAL 5300 31-18 8T
LOT3 Section 18-153N-100W
McKenzie County
Well File # 28754**

Dear Lauri:

Pursuant to Commission Order No. 23752, approval to drill the above captioned well is hereby given. The approval is granted on the condition that all portions of the well bore not isolated by cement, be no closer than the **500' setback** from the north & south boundaries and **200' setback** from the east & west boundaries within the 1280 acre spacing unit consisting of Sections 17 & 18 T153N R100W.

PERMIT STIPULATIONS: Effective June 1, 2014, a covered leak-proof container (with placard) for filter sock disposal must be maintained on the well site beginning when the well is spud, and must remain on-site during clean-out, completion, and flow-back whenever filtration operations are conducted. Due to the proximity of Lake Sakakawea to the well site, a dike is required surrounding the entire location. OASIS PETRO NO AMER must contact NDIC Field Inspector Richard Dunn at 701-770-3554 prior to location construction.

Drilling pit

NDAC 43-02-03-19.4 states that "a pit may be utilized to bury drill cuttings and solids generated during well drilling and completion operations, providing the pit can be constructed, used and reclaimed in a manner that will prevent pollution of the land surface and freshwaters. Reserve and circulation of mud system through earthen pits are prohibited. All pits shall be inspected by an authorized representative of the director prior to lining and use. Drill cuttings and solids must be stabilized in a manner approved by the director prior to placement in a cuttings pit."

Form 1 Changes & Hard Lines

Any changes, shortening of casing point or lengthening at Total Depth must have prior approval by the NDIC. The proposed directional plan is at a legal location. Based on the azimuth of the proposed lateral the maximum legal coordinate from the well head is: 10051' east.

Location Construction Commencement (Three Day Waiting Period)

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

Permit Fee & Notification

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

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

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

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

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

Surface casing cement

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

Logs

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

Thank you for your cooperation.

Sincerely,

Nathaniel Erbele
Petroleum Resource Specialist



APPLICATION FOR PERMIT TO DRILL HORIZONTAL WELL - FORM 1H

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

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.

PLEASE SUBMIT THE ORIGINAL AND ONE COPY.

Type of Work New Location	Type of Well Oil & Gas	Approximate Date Work Will Start 06 / 15 / 2014	Confidential Status No
Operator OASIS PETROLEUM NORTH AMERICA LLC		Telephone Number 281-404-9562	
Address 1001 Fannin Street Suite 1500		City Houston	State TX Zip Code 77002

Notice has been provided to the owner of any permanently occupied dwelling within 1,320 feet. This well is not located within five hundred feet of an occupied dwelling.

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

Well Name KLINE FEDERAL			Well Number 5300 31-18 8T				
Surface Footages 2523 F S L		Qtr-Qtr LOT3	Section 18	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Footages 2414 F S L		Qtr-Qtr LOT3	Section 18	Township 153 N	Range 100 W	County McKenzie	
Longstring Casing Point Coordinates From Well Head 109 S From WH 448 E From WH		Azimuth 109 °	Longstring Total Depth 11036 Feet MD 10765 Feet TVD				
Bottom Hole Footages From Nearest Section Line 2250 F S L		Qtr-Qtr NESE	Section 17	Township 153 N	Range 100 W	County McKenzie	
Bottom Hole Coordinates From Well Head 273 S From WH 10050 E From WH		KOP Lateral 1 10288 Feet MD		Azimuth Lateral 1 90 °		Estimated Total Depth Lateral 1 20656 Feet MD 10816 Feet TVD	
Latitude of Well Head 48 ° 04 ' 28.16 "	Longitude of Well Head -103 ° 36 ' 11.38 "	NAD Reference NAD83		Description of Spacing Unit: Sections 17 & 18 T153N R100W (Subject to NDIC Approval)			
Ground Elevation 2026 Feet Above S.L.	Acres in Spacing/Drilling Unit 1280	Spacing/Drilling Unit Setback Requirement 500 Feet N/S 200 Feet E/W			Industrial Commission Order 23752		
North Line of Spacing/Drilling Unit 10544 Feet	South Line of Spacing/Drilling Unit 10489 Feet	East Line of Spacing/Drilling Unit 5244 Feet			West Line of Spacing/Drilling Unit 5256 Feet		
Objective Horizons Three Forks B1						Pierre Shale Top 1923	
Proposed Surface Casing	Size 9 - 5/8 "	Weight 36 Lb./Ft.	Depth 2023 Feet	Cement Volume 736 Sacks	NOTE: Surface hole must be drilled with fresh water and surface casing must be cemented back to surface.		
Proposed Longstring Casing	Size 7 - "	Weight(s) 29/32 Lb./Ft.	Longstring Total Depth 11036 Feet MD 10765 Feet TVD		Cement Volume 761 Sacks	Cement Top 3903 Feet	Top Dakota Sand 5403 Feet
Base Last Charles Salt (If Applicable) 9171 Feet		NOTE: Intermediate or longstring casing string must be cemented above the top Dakota Group Sand.					
Proposed Logs Triple Combo: KOP to Kibbey GR/RES to BSC GR to Surf CND through the Dakota							
Drilling Mud Type (Vertical Hole - Below Surface Casing) Invert				Drilling Mud Type (Lateral) Salt Water Gel			
Survey Type in Vertical Portion of Well MWD Every 100 Feet		Survey Frequency: Build Section 30 Feet		Survey Frequency: Lateral 90 Feet		Survey Contractor Ryan	

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

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

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

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

See Page 2 for Comments section and signature block.

COMMENTS, ADDITIONAL INFORMATION, AND/OR LIST OF ATTACHMENTS

Lateral 2

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

Lateral 3

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

Lateral 4

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

Lateral 5

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

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

Date

05 / 30 / 2014

ePermit

Printed Name
Lauri M. Stanfield

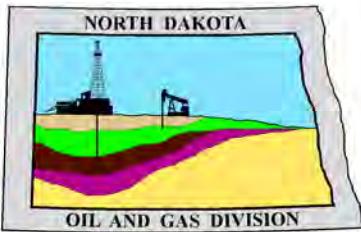
Title

Regulatory Specialist**FOR STATE USE ONLY**

Permit and File Number 28754	API Number 33 - 053 - 06055
Field BAKER	
Pool BAKKEN	Permit Type DEVELOPMENT

FOR STATE USE ONLY

Date Approved 6 / 30 / 2014
By Nathaniel Erbele
Title Petroleum Resource Specialist



Oil and Gas Division

Lynn D. Helms - Director

Bruce E. Hicks - Assistant Director

Department of Mineral Resources

Lynn D. Helms - Director

North Dakota Industrial Commission

www.oilgas.nd.gov

April 9, 2014

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

Dear Operator,

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

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

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

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

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

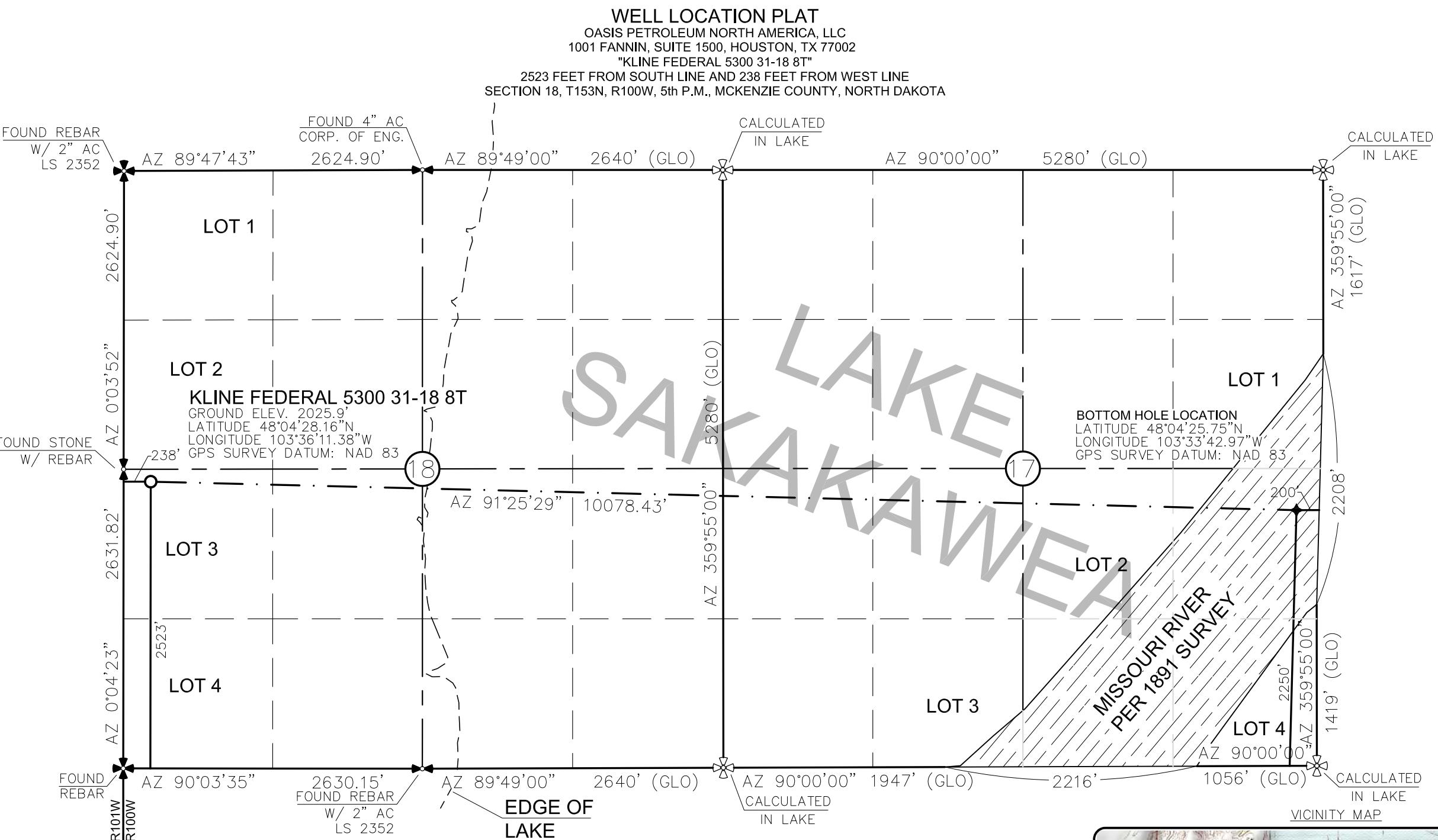
As previously stated in our March 13, 2014 letter, North Dakota Administrative Code Section 33-20-02.1-01 states in part that every person who transports solid waste (which includes oil and gas exploration and production wastes) is required to have a valid permit issued by the North Dakota Department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

Thank you for your cooperation.

Sincerely,

Bruce E. Hicks

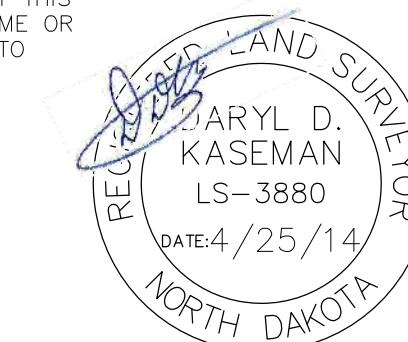
Assistant Director



THIS DOCUMENT WAS ORIGINALLY ISSUED AND SEALED BY DARYL D. KASEMAN, PLS, REGISTRATION NUMBER 3880 ON 4/25/14 AND THE ORIGINAL DOCUMENTS ARE STORED AT THE OFFICES OF INTERSTATE ENGINEERING, INC.

- MONUMENT - RECOVERED
- MONUMENT - NOT RECOVERED

DARYL D. KASEMAN LS-3880



DRILLING PLAN						
OPERATOR	Oasis Petroleum			COUNTY/STATE	McKenzie Co., ND	
WELL NAME	Kline Federal 5300 31-18 8T			RIG	0	
WELL TYPE	Horizontal Upper Three Forks			LOCATION	NW 1/4 18-153N-100W	
EST. T.D.	20,656'		Surface Location (survey plat): 2523' fsl		238' fwl	Ground Elev: 2008 Finished Pad Elev. Sub Height: 25
TOTAL LATERA	9,620'				KB ELEV:	2033
PROGNOSIS:	Based on 2,033' KB(est)			LOGS:	Type	Interval
MARKER	DEPTH (Surf Loc)	DATUM (Surf Loc)			OH Logs: Triple Combo KOP to Kirby (or min run of 1800' whichever is greater); GR/Res to BSC; GR to surf; CND through the Dakota	
Pierre	NDIC MAP	1,923	110		CBL/GR: Above top of cement/GR to base of casing	
Greenhorn		4,570	(2,537)		MWD GR: KOP to lateral TD	
Mowry		4,976	(2,943)	DEVIATION:		
Dakota		5,403	(3,370)		Surf: 3 deg. max., 1 deg / 100'; svry every 500'	
Rierdon		6,402	(4,369)		Prod: 5 deg. max., 1 deg / 100'; svry every 100'	
Dunham Salt		6,740	(4,707)			
Dunham Salt Base		6,851	(4,818)			
Spearfish		6,948	(4,915)			
Pine Salt		7,203	(5,170)	DST'S:		
Pine Salt Base		7,251	(5,218)		None planned	
Opeche Salt		7,296	(5,263)			
Opeche Salt Base		7,326	(5,293)	CORES:		
Broom Creek (Top of Minnelusa Gp.)		7,528	(5,495)		None planned	
Amsden		7,608	(5,575)			
Tyler		7,776	(5,743)	MUDLOGGING:		
Otter (Base of Minnelusa Gp.)		7,967	(5,934)		Two-Man: 8,272'	
Kibbey Lime		8,322	(6,289)		~200' above the Charles (Kibbey) to	
Charles Salt		8,472	(6,439)		Casing point; Casing point to TD	
UB		9,096	(7,063)			
Base Last Salt		9,171	(7,138)		30' samples at direction of wellsite geologist; 10' through target @	
Ratcliffe		9,219	(7,186)		curve land	
Mission Canyon		9,395	(7,362)	BOP:		
Lodgepole		9,957	(7,924)		11" 5000 psi blind, pipe & annular	
Lodgepole Fracture Zone		10,163	(8,130)			
False Bakken		10,653	(8,620)			
Upper Bakken		10,663	(8,630)			
Middle Bakken		10,677	(8,644)			
Lower Bakken		10,722	(8,689)			
Pronghorn		10,736	(8,703)			
Three Forks		10,748	(8,715)			
TF Target Top		10,760	(8,727)			
TF Target Base		10,770	(8,737)			
Claystone		10,771	(8,738)			
Dip Rate:	-0.3					
Max. Anticipated BHP:	4662			Surface Formation:	Glacial till	
MUD:	Interval	Type	WT	Vis	WL	Remarks
Surface:	0' -	2,023'	FW/Gel - Lime Sweeps	8.4-9.0	28-32	NC Circ Mud Tanks
Intermediate:	2,023' -	11,036'	Invert	9.5-10.4	40-50	30+HHP Circ Mud Tanks
Lateral:	11,036' -	20,656'	Salt Water	9.8-10.2	28-32	NC Circ Mud Tanks
CASING:	Size	Wt pfp	Hole	Depth	Cement	WOC Remarks
Surface:	9-5/8"	36#	13-1/2"	2,023'	To Surface	12 100' into Pierre
Intermediate:	7"	29/32#	8-3/4"	11,036'	3903	24 1500' above Dakota
Production Liner:	4.5"	11.6#	6"	20,656'	TOL @ 10,238'	50' above KOP
PROBABLE PLUGS, IF REQ'D:						
OTHER:	MD	TVD	FNL/FSL	FEL/FWL	S-T-R	AZI
Surface:	2,023	2,023	2523' FSL	238' FWL	SEC 18-T153N-R100W	Survey Company:
KOP:	10,288'	10,288'	2573' FSL	238' FWL	SEC 18-T153N-R100W	Build Rate: 12 deg /100'
EOC:	11,035'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	
Casing Point:	11,036'	10,765'	2414' FSL	686' FWL	SEC 18-T153N-R100W	109.49
Upper Threeforks Lateral TD:	20,656'	10,816'	2250' FSL	200' FEL	SEC 17-T153N-R100W	90.00
Comments:						
Request a Sundry for an Open Hole Log Waiver						
Exception well: Oasis Petroleum's Kline 5300 11-18H						
Completion Notes: 35 packers, 35 sleeves, no frac string						
Oasis Petroleum does not use Diesel Fuel, as defined by the US EPA in the list below, in our hydraulic fracture operations.						
68334-30-5 (Primary Name: Fuels, diesel) 68476-34-6 (Primary Name: Fuels, diesel, No. 2) 68476-30-2 (Primary Name: Fuel oil No. 2)						
68476-31-3 (Primary Name: Fuel oil, No. 4) 8008-20-6 (Primary Name: Kerosene)						
						
Geology: M. Steed (5/5/2014)			Engineering: hlbadner rpm 5/29/14			

Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

SURFACE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
9-5/8"	0' to 2,023'	36	J-55	LTC	8.921"	8.765"	3400	4530	5660

Interval	Description	Collapse	Burst	Tension	Cost per ft
		(psi) a	(psi) b	(1000 lbs) c	
0' to 2,023'	9-5/8", 36#, J-55, LTC, 8rd	2020 / 2.14	3520 / 3.72	453 / 2.78	

API Rating & Safety Factor

- a) Based on full casing evacuation with 9 ppg fluid on backside (2,023' setting depth).
- b) Burst pressure based on 9 ppg fluid with no fluid on backside (2,023' setting depth).
- c) Based on string weight in 9 ppg fluid at 2,023' TVD plus 100k# overpull. (Buoyed weight equals 63k lbs.)

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

Pre-flush (Spacer): 20 bbls fresh water

Lead Slurry: **436 sks** (225 bbls) Conventional system with 94 lb/sk cement, 4% extender, 2% expanding agent, 2% CaCl₂ and 0.25 lb/sk lost circulation control agent

Tail Slurry: **300 sks** (62 bbls) Conventional system with 94 lb/sk cement, 3% NaCl, and 0.25 lb/sk lost circulation control agent

Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

INTERMEDIATE CASING AND CEMENT DESIGN

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
7"	0' – 6,540'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	8,770
7"	6,540' – 10,288'	32	HCP-110	LTC	6.094"	6.000***	6,730	8,970	9,870
7"	10,288' – 11,036'	29	P-110	LTC	6.184"	6.059"	5,980	7,970	8,770

***Special drift

Interval	Length	Description	Collapse	Burst	Tension
			(psi) a	(psi) b	(1000 lbs) c
0' – 6,540'	6,540'	7", 29#, P-110, LTC, 8rd	8530 / 2.51*	11220 / 1.19	797 / 2.09
6,540' – 10,288'	3,748'	7", 32#, HCP-110, LTC, 8rd	11820 / 2.20*	12460 / 1.29	
6,540' – 10,288'	3,748'	7", 32#, HCP-110, LTC, 8rd	11820 / 1.07**	12460 / 1.29	
10,288' – 11,036'	748'	7", 29 lb, 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. (Bottom of last salt 9,171' TVD)
- 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 10,765' TVD.
- c) Based on string weight in 10 ppg fluid, (280k lbs buoyed weight) plus 100k

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

Pre-flush (Spacer): **170 bbls** Saltwater
20 bbls CW8 System
10 bbls Fresh Water

Lead Slurry: **177 sks** (82 bbls) Conventional system with 47 lb/sk cement, 10% NaCl, 34 lb/sk extender, 10% D020 extender, 1% D079 extender, 1% anti-settling agent, 1% fluid loss agent, 0.2% anti-foam agent, 0.7% retarder, 0.125 lb/sk lost circulation control agent, and 0.3% dispersant

Tail Slurry: **584 sks** (170 bbls) Conventional system with 94 lb/sk cement, 10% NaCl, 35% Silica, 0.2% fluid loss agent, 0.8% dispersant, 0.125 lb/sk lost circulation control agent and 0.3% retarder

Oasis Petroleum
Well Summary
Kline Federal 5300 31-18 8T
Section 18 T153N R100W
McKenzie County, ND

PRODUCTION LINER

Size	Interval	Weight	Grade	Coupling	I.D.	Drift	Make-up Torque (ft-lbs)		
							Minimum	Optimum	Max
4-1/2"	10,238' – 20,656'	11.6	P-110	BTC	4.000"	3.875"			

Interval	Description	Collapse	Burst	Tension	Cost per ft
		(psi) a	(psi) b	(1000 lbs) c	
10,238' – 20,656'	4-1/2", 11.6 lb, P-110, BTC, 8rd	7560 / 1.49	10690 / 1.11	385 / 1.90	

API Rating & Safety Factor

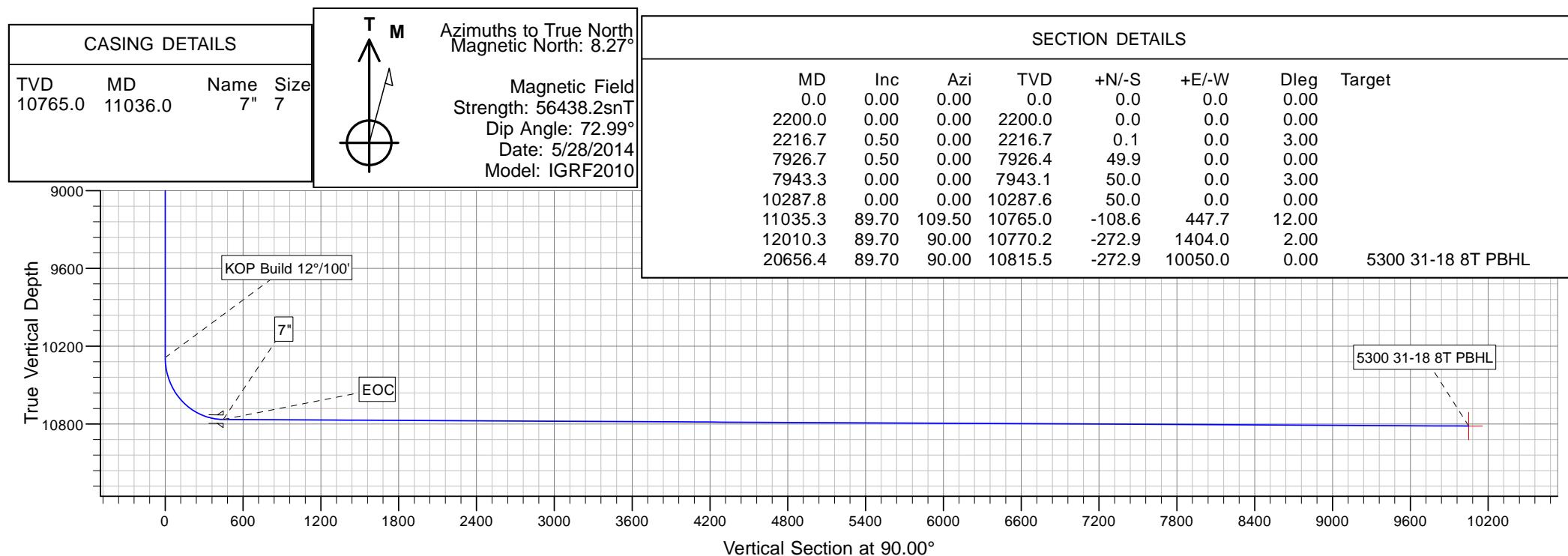
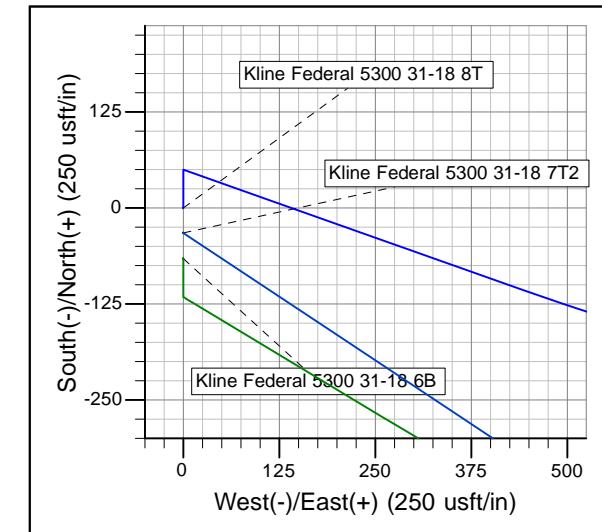
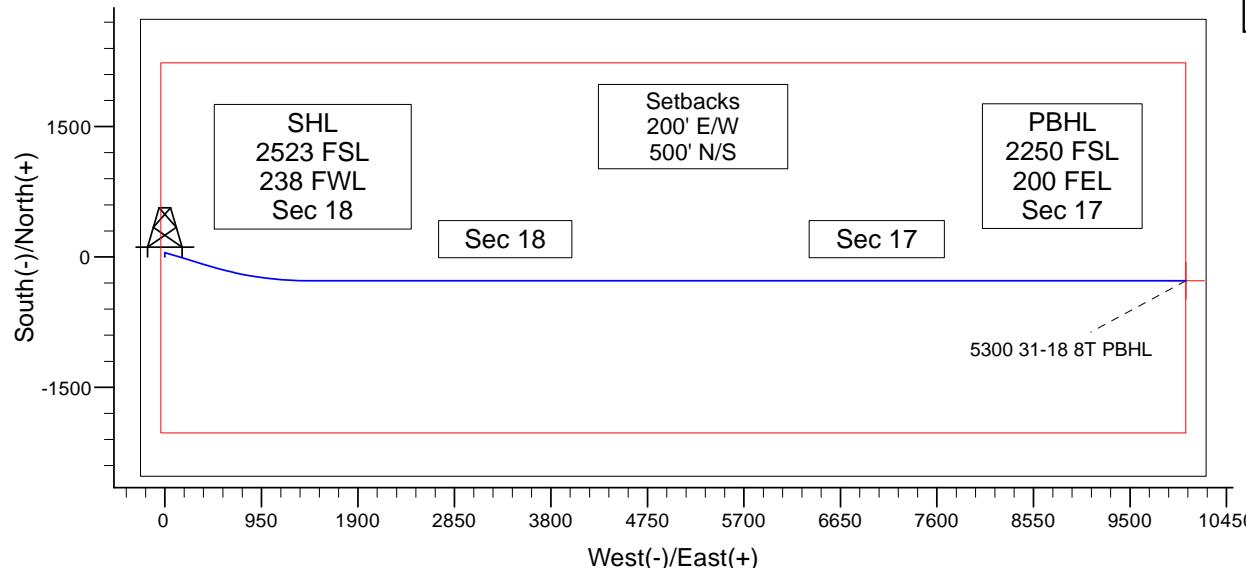
- a) Based on full casing evacuation with 9.5 ppg fluid on backside @ 10,765' TVD.
 Burst pressure based on 9000 psi treating pressure with 10.2 ppg internal fluid gradient and 9 ppg external
- b) fluid gradient @ 10,765' TVD.
- c) Based on string weight in 9.5 ppg fluid (Buoyed weight: 103k lbs.) plus 100k lbs overpull.

Project: Indian Hills
 Site: 153N-100W-17/18
 Well: Kline Federal 5300 31-18 8T
 Wellbore: Kline Federal 5300 31-18 8T
 Design: Design #1



WELL DETAILS: Kline Federal 5300 31-18 8T

Northing 407221.73	Ground Level: 2008.0
Easting 1210091.04	Latitude 48° 4' 28.160 N
	Longitude 103° 36' 11.380 W



Oasis

Indian Hills

153N-100W-17/18

Kline Federal 5300 31-18 8T

Kline Federal 5300 31-18 8T

Plan: Design #1

Standard Planning Report

30 May, 2014

Planning Report

Database: edm	Local Co-ordinate Reference: Well Kline Federal 5300 31-18 8T
Company: Oasis	TVD Reference: WELL @ 2033.0usft (Original Well Elev)
Project: Indian Hills	MD Reference: WELL @ 2033.0usft (Original Well Elev)
Site: 153N-100W-17/18	North Reference: True
Well: Kline Federal 5300 31-18 8T	Survey Calculation Method: Minimum Curvature
Wellbore: Kline Federal 5300 31-18 8T	
Design: Design #1	

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

Site	153N-100W-17/18			
Site Position:		Northing:	408,962.44 usft	Latitude:
From:	Lat/Long	Easting:	1,210,229.18 usft	48° 4' 45.380 N
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	103° 36' 10.380 W
				-2.31 °

Well	Kline Federal 5300 31-18 8T				
Well Position	+N-S +E-W	-1,744.9 usft -67.9 usft	Northing: Easting:	407,221.73 usft 1,210,091.03 usft	Latitude: Longitude:
Position Uncertainty		2.0 usft	Wellhead Elevation:		Grid Convergence:
					48° 4' 28.160 N 103° 36' 11.380 W 2,008.0 usft

Wellbore	Kline Federal 5300 31-18 8T				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/28/2014	8.27	72.99	56,438

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

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00
2,216.7	0.50	0.00	2,216.7	0.1	0.0	3.00	3.00	0.00	0.00	0.00
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.00	0.00	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	3.00	-3.00	0.00	0.00	180.00
10,287.8	0.00	0.00	10,287.6	50.0	0.0	0.00	0.00	0.00	0.00	0.00
11,035.3	89.70	109.50	10,765.0	-108.6	447.7	12.00	12.00	0.00	0.00	109.50
12,010.3	89.70	90.00	10,770.2	-272.9	1,404.0	2.00	0.00	-2.00	-2.00	-90.05
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	0.00	0.00	0.00	0.00	5300 31-18 8T PBF

Planning Report

Database:	edm	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

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
500.0	0.00	0.00	500.0	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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,923.0	0.00	0.00	1,923.0	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
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,216.7	0.50	0.00	2,216.7	0.1	0.0	0.0	3.00	3.00	0.00
2,500.0	0.50	0.00	2,500.0	2.5	0.0	0.0	0.00	0.00	0.00
3,000.0	0.50	0.00	3,000.0	6.9	0.0	0.0	0.00	0.00	0.00
3,500.0	0.50	0.00	3,500.0	11.3	0.0	0.0	0.00	0.00	0.00
4,000.0	0.50	0.00	3,999.9	15.6	0.0	0.0	0.00	0.00	0.00
4,500.0	0.50	0.00	4,499.9	20.0	0.0	0.0	0.00	0.00	0.00
4,570.1	0.50	0.00	4,570.0	20.6	0.0	0.0	0.00	0.00	0.00
Greenhorn									
4,976.1	0.50	0.00	4,976.0	24.2	0.0	0.0	0.00	0.00	0.00
Mowry									
5,000.0	0.50	0.00	4,999.9	24.4	0.0	0.0	0.00	0.00	0.00
5,403.1	0.50	0.00	5,403.0	27.9	0.0	0.0	0.00	0.00	0.00
Dakota									
5,500.0	0.50	0.00	5,499.9	28.7	0.0	0.0	0.00	0.00	0.00
6,000.0	0.50	0.00	5,999.9	33.1	0.0	0.0	0.00	0.00	0.00
6,402.2	0.50	0.00	6,402.0	36.6	0.0	0.0	0.00	0.00	0.00
Rierdon									
6,500.0	0.50	0.00	6,499.8	37.5	0.0	0.0	0.00	0.00	0.00
6,740.2	0.50	0.00	6,740.0	39.5	0.0	0.0	0.00	0.00	0.00
Dunham Salt									
6,851.2	0.50	0.00	6,851.0	40.5	0.0	0.0	0.00	0.00	0.00
Dunham Salt Base									
6,948.2	0.50	0.00	6,948.0	41.4	0.0	0.0	0.00	0.00	0.00
Spearfish									
7,000.0	0.50	0.00	6,999.8	41.8	0.0	0.0	0.00	0.00	0.00
7,203.2	0.50	0.00	7,203.0	43.6	0.0	0.0	0.00	0.00	0.00
Pine Salt									
7,251.2	0.50	0.00	7,251.0	44.0	0.0	0.0	0.00	0.00	0.00
Pine Salt Base									
7,296.2	0.50	0.00	7,296.0	44.4	0.0	0.0	0.00	0.00	0.00
Opecche Salt									
7,326.2	0.50	0.00	7,326.0	44.7	0.0	0.0	0.00	0.00	0.00
Opecche Salt Base									
7,500.0	0.50	0.00	7,499.8	46.2	0.0	0.0	0.00	0.00	0.00
7,528.2	0.50	0.00	7,528.0	46.4	0.0	0.0	0.00	0.00	0.00
Broom Creek (Top of Minnelusa Gp.)									
7,608.2	0.50	0.00	7,608.0	47.1	0.0	0.0	0.00	0.00	0.00
Amsden									
7,776.2	0.50	0.00	7,776.0	48.6	0.0	0.0	0.00	0.00	0.00
Tyler									
7,926.7	0.50	0.00	7,926.4	49.9	0.0	0.0	0.00	0.00	0.00
7,943.3	0.00	0.00	7,943.1	50.0	0.0	0.0	3.00	-3.00	0.00
7,967.2	0.00	0.00	7,967.0	50.0	0.0	0.0	0.00	0.00	0.00
Otter (Base of Minnelusa Gp.)									

Planning Report

Database:	edm	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

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)	
8,000.0	0.00	0.00	7,999.8	50.0	0.0	0.0	0.00	0.00	0.00	
8,322.2	0.00	0.00	8,322.0	50.0	0.0	0.0	0.00	0.00	0.00	
Kibbey Lime		8,472.2	0.00	8,472.0	50.0	0.0	0.0	0.00	0.00	0.00
Charles Salt		8,500.0	0.00	8,499.8	50.0	0.0	0.0	0.00	0.00	0.00
9,000.0		9,096.2	0.00	8,999.8	50.0	0.0	0.0	0.00	0.00	0.00
9,096.2		9,096.0	0.00	9,096.0	50.0	0.0	0.0	0.00	0.00	0.00
UB		9,171.2	0.00	9,171.0	50.0	0.0	0.0	0.00	0.00	0.00
Base Last Salt		9,219.2	0.00	9,219.0	50.0	0.0	0.0	0.00	0.00	0.00
Ratcliffe		9,395.2	0.00	9,395.0	50.0	0.0	0.0	0.00	0.00	0.00
Mission Canyon		9,500.0	0.00	9,499.8	50.0	0.0	0.0	0.00	0.00	0.00
9,957.2		9,957.0	0.00	9,957.0	50.0	0.0	0.0	0.00	0.00	0.00
Lodgepole		10,000.0	0.00	9,999.8	50.0	0.0	0.0	0.00	0.00	0.00
10,163.2		10,163.0	0.00	10,163.0	50.0	0.0	0.0	0.00	0.00	0.00
Lodgepole Fracture Zone		10,287.8	0.00	10,287.6	50.0	0.0	0.0	0.00	0.00	0.00
KOP Build 12°/100'		10,500.0	25.46	109.50	10,492.9	34.5	43.7	43.7	12.00	12.00
10,703.9		49.94	109.50	10,653.0	-6.8	160.4	160.4	160.4	12.00	12.00
False Bakken		10,719.8	51.84	109.50	10,663.0	-10.9	172.0	172.0	12.00	12.00
Upper Bakken		10,743.2	54.65	109.50	10,677.0	-17.2	189.7	189.7	12.00	12.00
Middle Bakken		10,833.5	65.48	109.50	10,722.0	-43.3	263.3	263.3	12.00	12.00
Lower Bakken		10,870.4	69.91	109.50	10,736.0	-54.7	295.5	295.5	12.00	12.00
Pronghorn		10,909.8	74.64	109.50	10,748.0	-67.2	330.9	330.9	12.00	12.00
Three Forks		10,968.3	81.66	109.50	10,760.0	-86.3	384.8	384.8	12.00	12.00
TF Target Top		11,000.0	85.46	109.50	10,763.6	-96.8	414.5	414.5	12.00	12.00
11,035.3		89.70	109.50	10,765.0	-108.6	447.7	447.7	447.7	12.00	12.00
EOC		11,036.0	89.70	109.49	10,765.0	-108.8	448.4	448.4	2.00	0.00
7"		11,500.0	89.70	100.21	10,767.5	-227.6	896.4	896.4	2.00	0.00
11,973.0		89.70	90.75	10,770.0	-272.6	1,366.7	1,366.7	1,366.7	2.00	0.00
TF Target Base		12,000.0	89.70	90.21	10,770.1	-272.9	1,393.7	1,393.7	2.00	0.00
12,010.3		89.70	90.00	10,770.2	-272.9	1,404.0	1,404.0	1,404.0	2.00	0.00
12,164.0		89.70	90.00	10,771.0	-272.9	1,557.7	1,557.7	1,557.7	0.00	0.00
Claystone		12,500.0	89.70	90.00	10,772.8	-272.9	1,893.7	1,893.7	0.00	0.00
13,000.0		89.70	90.00	10,775.4	-272.9	2,393.7	2,393.7	2,393.7	0.00	0.00

Planning Report

Database:	edm	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

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)
13,500.0	89.70	90.00	10,778.0	-272.9	2,893.7	2,893.7	0.00	0.00	0.00
14,000.0	89.70	90.00	10,780.6	-272.9	3,393.7	3,393.7	0.00	0.00	0.00
14,500.0	89.70	90.00	10,783.2	-272.9	3,893.7	3,893.7	0.00	0.00	0.00
15,000.0	89.70	90.00	10,785.8	-272.9	4,393.7	4,393.7	0.00	0.00	0.00
15,500.0	89.70	90.00	10,788.5	-272.9	4,893.6	4,893.6	0.00	0.00	0.00
16,000.0	89.70	90.00	10,791.1	-272.9	5,393.6	5,393.6	0.00	0.00	0.00
16,500.0	89.70	90.00	10,793.7	-272.9	5,893.6	5,893.6	0.00	0.00	0.00
17,000.0	89.70	90.00	10,796.3	-272.9	6,393.6	6,393.6	0.00	0.00	0.00
17,500.0	89.70	90.00	10,798.9	-272.9	6,893.6	6,893.6	0.00	0.00	0.00
18,000.0	89.70	90.00	10,801.6	-272.9	7,393.6	7,393.6	0.00	0.00	0.00
18,500.0	89.70	90.00	10,804.2	-272.9	7,893.6	7,893.6	0.00	0.00	0.00
19,000.0	89.70	90.00	10,806.8	-272.9	8,393.6	8,393.6	0.00	0.00	0.00
19,500.0	89.70	90.00	10,809.4	-272.9	8,893.6	8,893.6	0.00	0.00	0.00
20,000.0	89.70	90.00	10,812.0	-272.9	9,393.6	9,393.6	0.00	0.00	0.00
20,656.4	89.70	90.00	10,815.5	-272.9	10,050.0	10,050.0	0.00	0.00	0.00

5300 31-18 8T PBHL

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
5300 31-18 8T PBHL	0.00	0.00	10,815.5	-273.0	10,050.0	406,544.02	1,220,121.87	48° 4' 25.439 N	103° 33' 43.386 W
- plan misses target center by 0.1usft at 20656.4usft MD (10815.5 TVD, -272.9 N, 10050.0 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter ("")	Hole Diameter ("")
11,036.0	10,765.0	7"	7	8-3/4

Planning Report

Database:	edm	Local Co-ordinate Reference:	Well Kline Federal 5300 31-18 8T
Company:	Oasis	TVD Reference:	WELL @ 2033.0usft (Original Well Elev)
Project:	Indian Hills	MD Reference:	WELL @ 2033.0usft (Original Well Elev)
Site:	153N-100W-17/18	North Reference:	True
Well:	Kline Federal 5300 31-18 8T	Survey Calculation Method:	Minimum Curvature
Wellbore:	Kline Federal 5300 31-18 8T		
Design:	Design #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,923.0	1,923.0	Pierre			
4,570.1	4,570.0	Greenhorn			
4,976.1	4,976.0	Mowry			
5,403.1	5,403.0	Dakota			
6,402.2	6,402.0	Rierdon			
6,740.2	6,740.0	Dunham Salt			
6,851.2	6,851.0	Dunham Salt Base			
6,948.2	6,948.0	Spearfish			
7,203.2	7,203.0	Pine Salt			
7,251.2	7,251.0	Pine Salt Base			
7,296.2	7,296.0	Opeche Salt			
7,326.2	7,326.0	Opeche Salt Base			
7,528.2	7,528.0	Broom Creek (Top of Minnelusa Gp.)			
7,608.2	7,608.0	Amsden			
7,776.2	7,776.0	Tyler			
7,967.2	7,967.0	Otter (Base of Minnelusa Gp.)			
8,322.2	8,322.0	Kibbey Lime			
8,472.2	8,472.0	Charles Salt			
9,096.2	9,096.0	UB			
9,171.2	9,171.0	Base Last Salt			
9,219.2	9,219.0	Ratcliffe			
9,395.2	9,395.0	Mission Canyon			
9,957.2	9,957.0	Lodgepole			
10,163.2	10,163.0	Lodgepole Fracture Zone			
10,703.9	10,653.0	False Bakken			
10,719.8	10,663.0	Upper Bakken			
10,743.2	10,677.0	Middle Bakken			
10,833.5	10,722.0	Lower Bakken			
10,870.4	10,736.0	Pronghorn			
10,909.8	10,748.0	Three Forks			
10,968.3	10,760.0	TF Target Top			
11,973.0	10,770.0	TF Target Base			
12,164.0	10,771.0	Claystone			

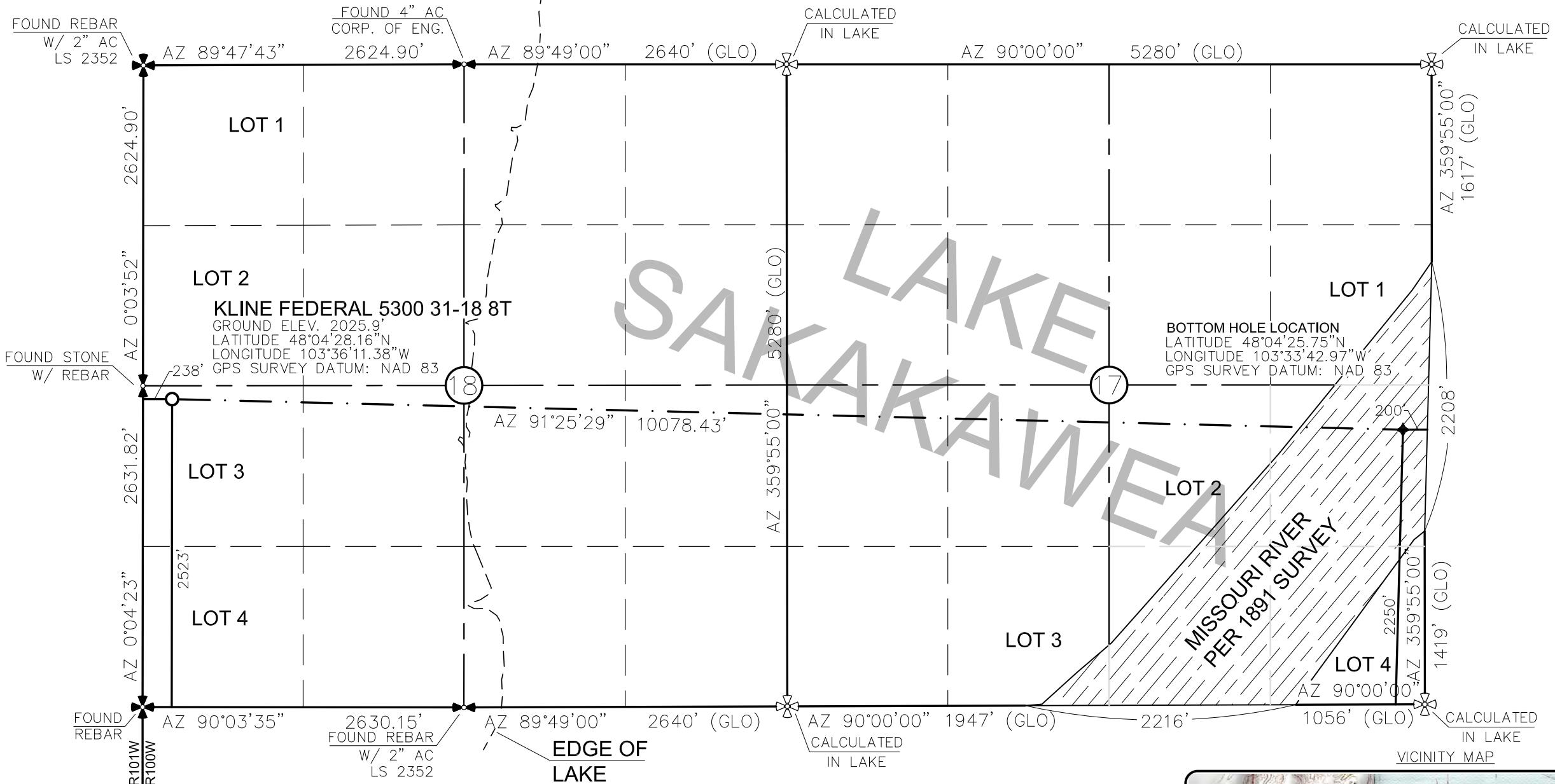
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
10,287.8	10,287.6	50.0	0.0	KOP Build 12°/100'
11,035.3	10,765.0	-108.6	447.7	EOC

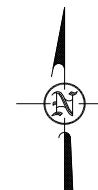
WELL LOCATION PLAT

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5200-21-18 ST"

KLINE FEDERAL 3500 31-1861
2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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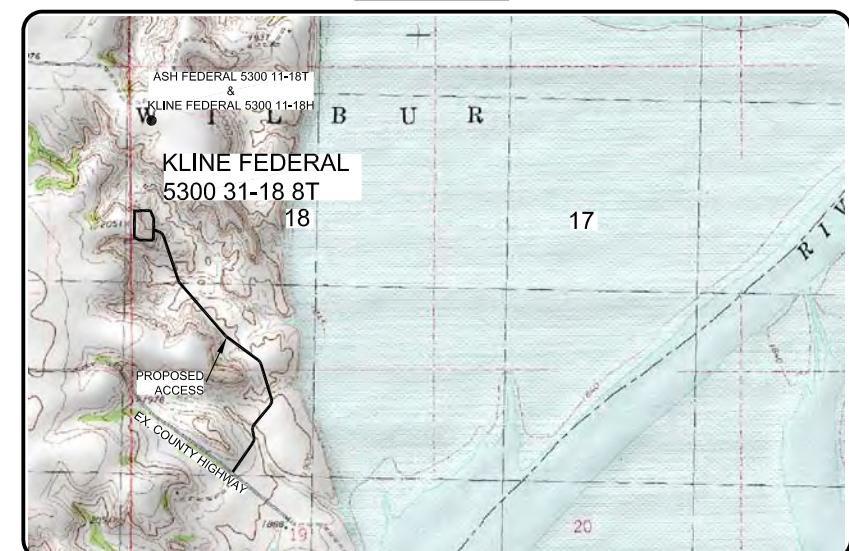
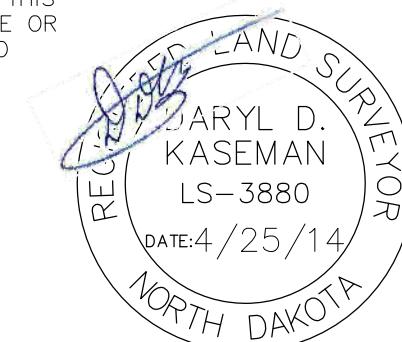


0 1000

1" = 1000'

-  — MONUMENT — RECOVERED
 — MONUMENT — NOT RECOVERED

DARYL D. KASEMAN LS-3880



OASIS RETROLEUM
International Corporation Inc.

P.O. Box 648 425 East Main Street Sidney, Montana 59270 Ph (406) 433-6117 Fax (406) 433-5618 www.interstateeng.com		WELL LOCATION PLAT SECTION 18, T153N, R100W MCKENZIE COUNTY, NORTH DAKOTA	
Drawn By:	B.H.H.	Project No.:	S14-08-109.02
Checked By:	D.D.K.	Date:	APR 2014
Other offices in Minnesota, North Dakota and South Dakota 			



1/8
SHEET NO

SECTION BREAKDOWN

OASIS PETROLEUM NORTH AMERICA, LLC

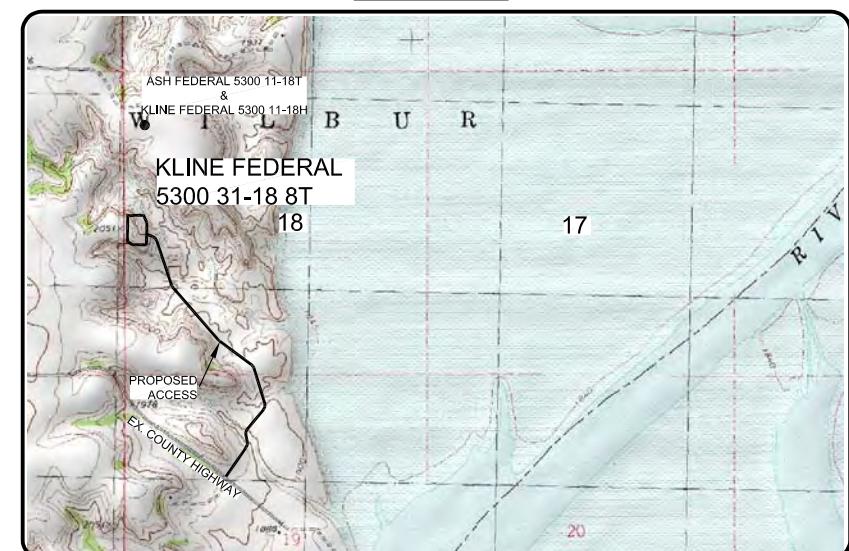
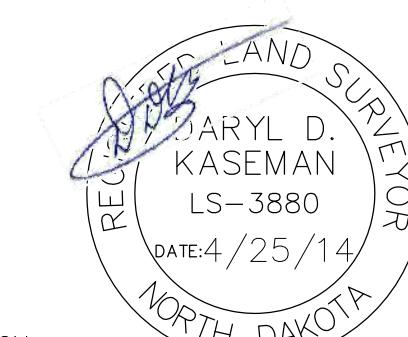
FANNIN, SUITE 1500, HOUSTON, TX 77002

"KLINE FEDERAL 5300 31-18 8T"

2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTIONS 17 & 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

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KASEMAN, PLS, REGISTRATION NUMBER
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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'.

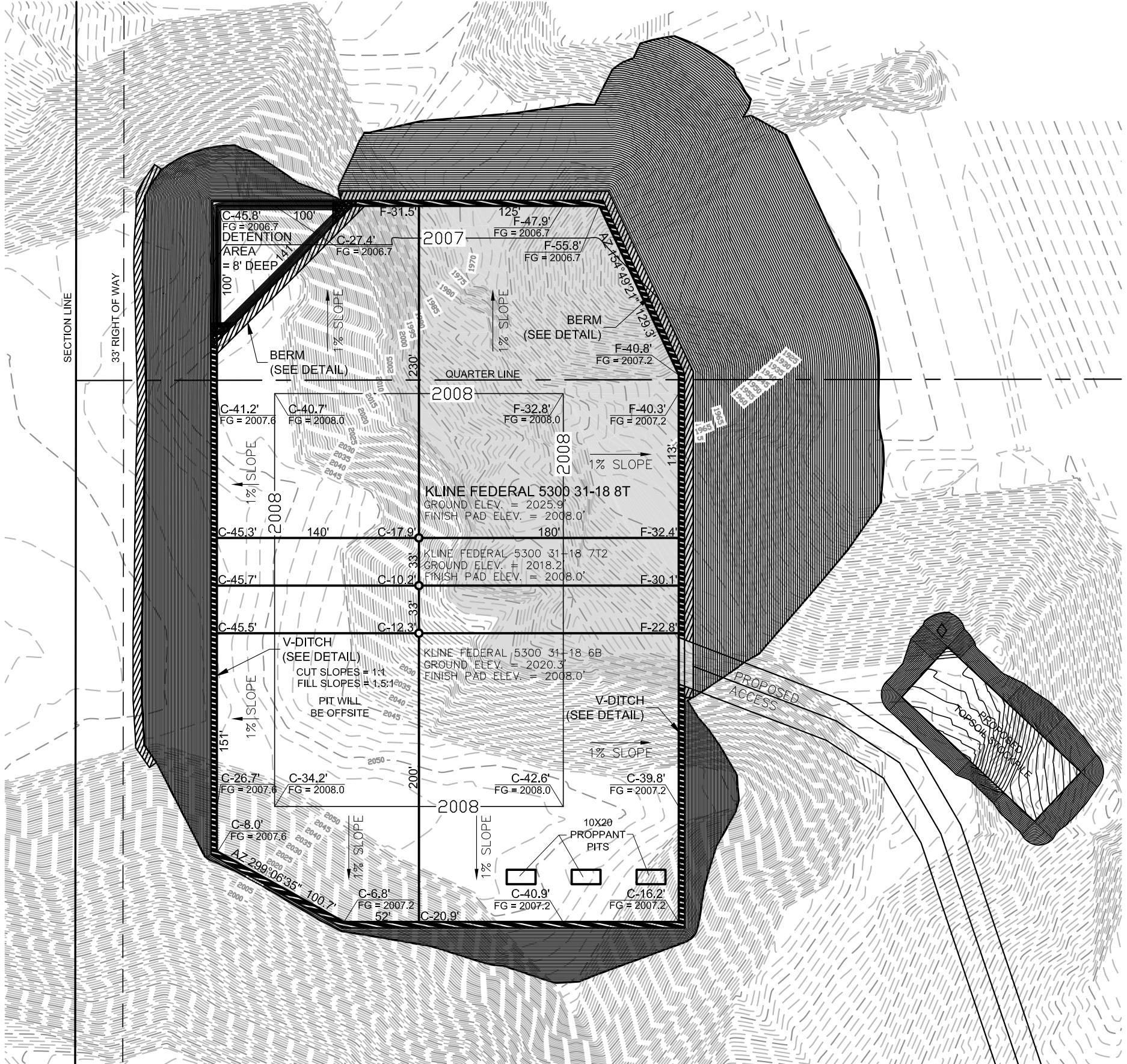


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INTERSTATE ENGINEERING, INC.		OASIS PETROLEUM NORTH AMERICA, LLC	
P.O. Box 648	425 East Main Street	SECTION BREAKDOWN	
Sidney, Montana 59270	Ph (406) 433-5617	SECTIONS 17 & 18, T153N, R100W	
Fax (406) 433-5618		MKENZIE COUNTY, NORTH DAKOTA	
		Drawn By: B.H.H.	Project No.: SI14-08-109-02
		Checked By: D.D.K.	Date: APRIL 2014
www.interstateeng.com Other offices in Minnesota, North Dakota and South Dakota			
© 2014 Interstate Engineering, Inc. All rights reserved. OASIS PETROLEUM - Nine Federal 3000-31-18 8101 on Triple Five 2014 SSI Value Federal 300-18 8101 - 4/25/2014 11:13 AM			



PAD LAYOUT
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 31-18 8T"
 2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5TH P.M., MCKENZIE COUNTY, NORTH DAKOTA

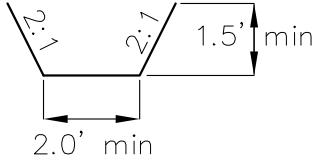


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NOTE: Pad dimensions shown are to
 usable area, the v-ditch and berm
 areas shall be built to the outside of
 the pad dimensions.

V-DITCH DETAIL



Proposed Contours ——————
 Original Contours - - - - -

BERM
DITCH

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

0
1" = 80'

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SHEET NO.

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

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

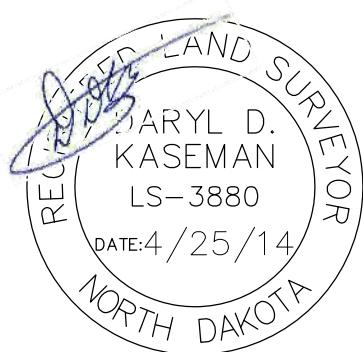
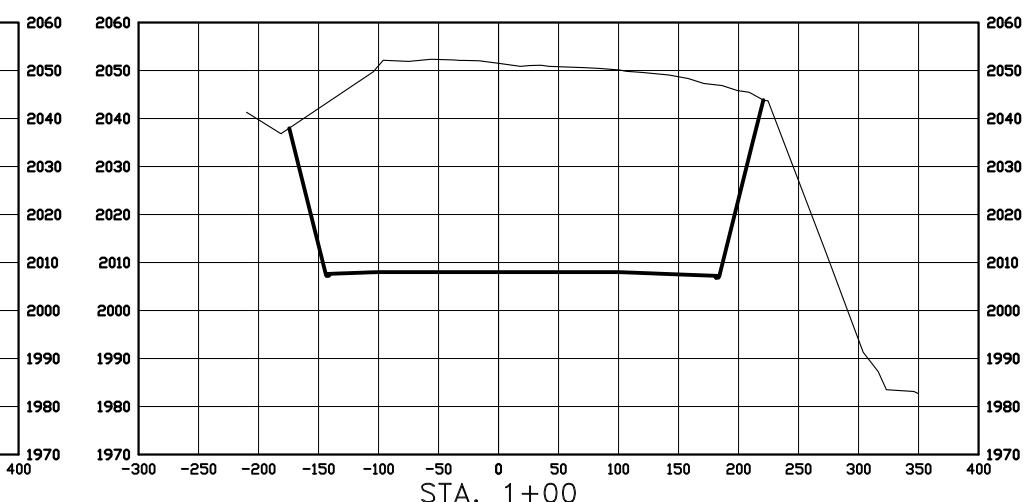
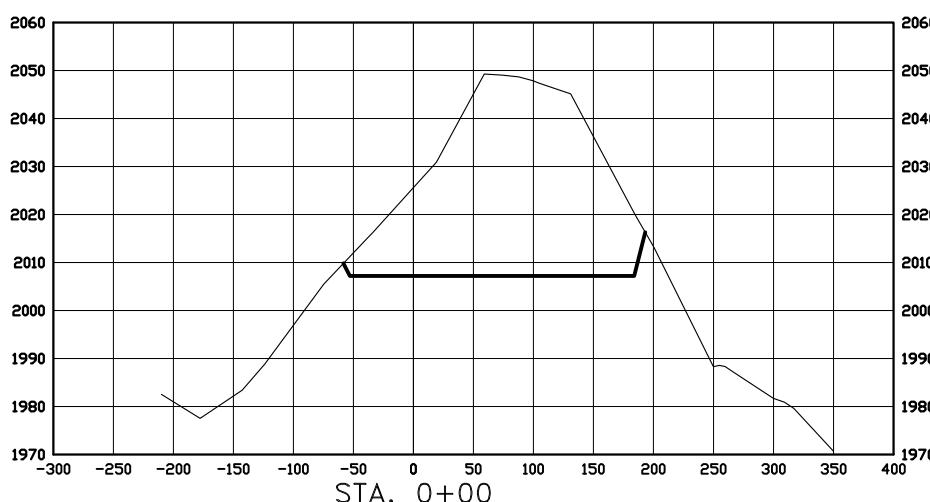
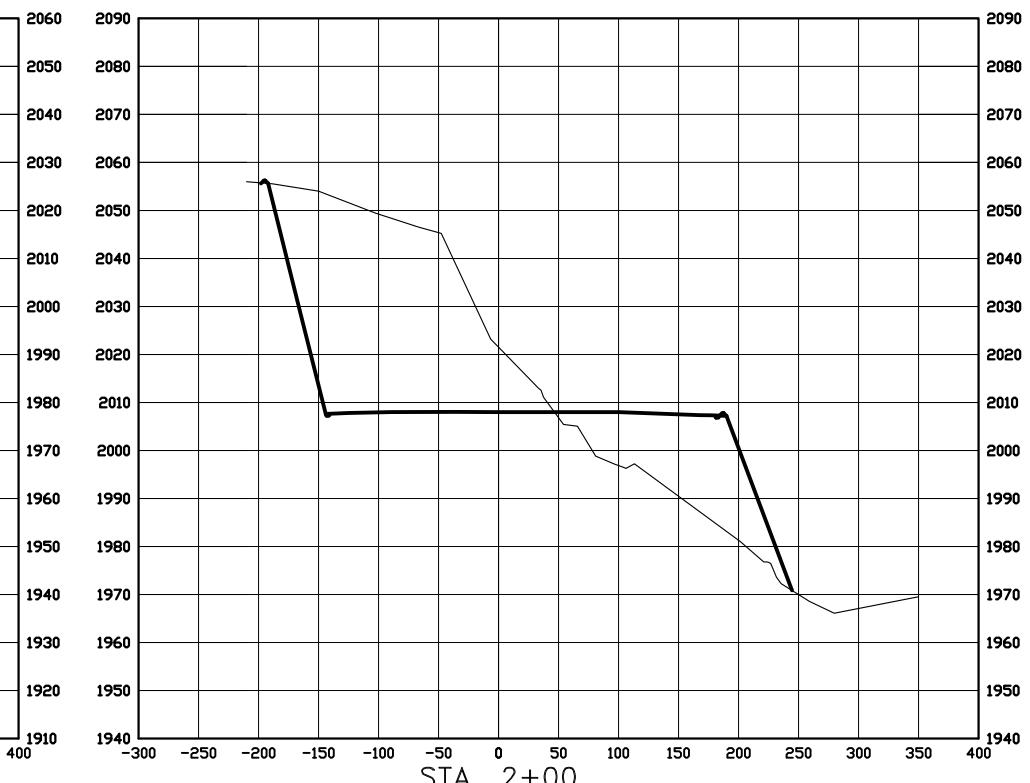
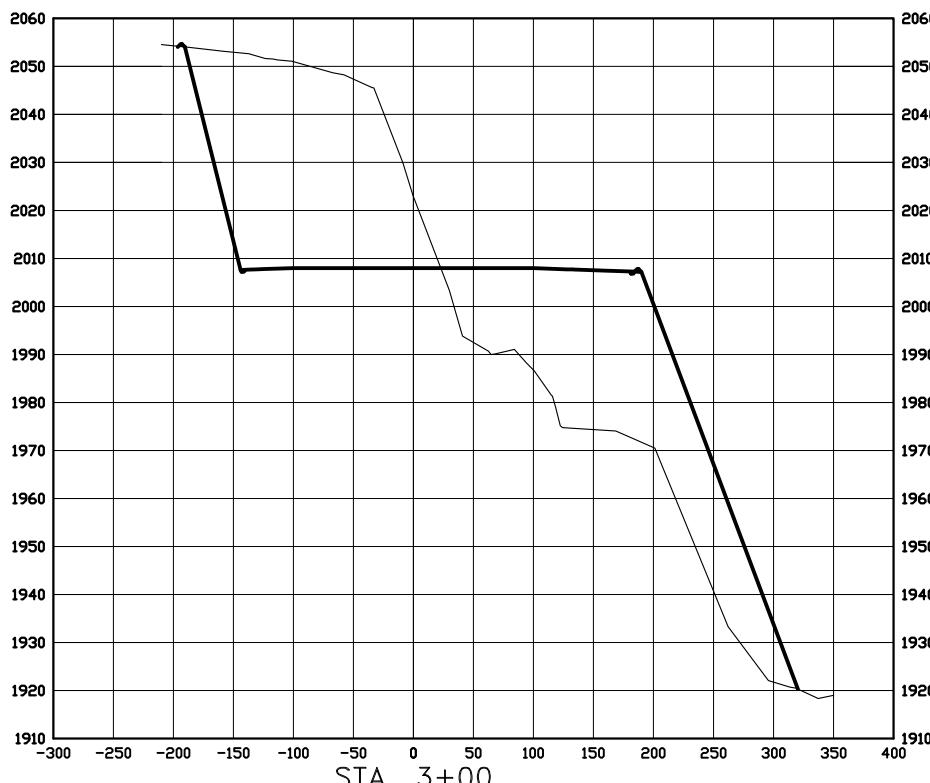
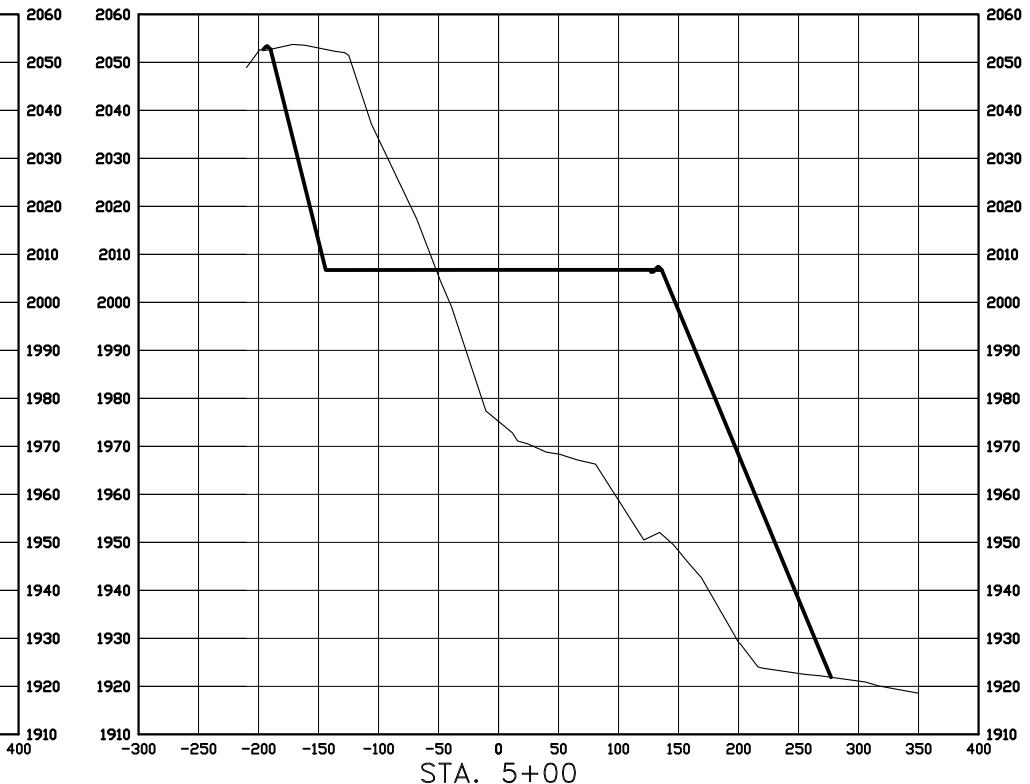
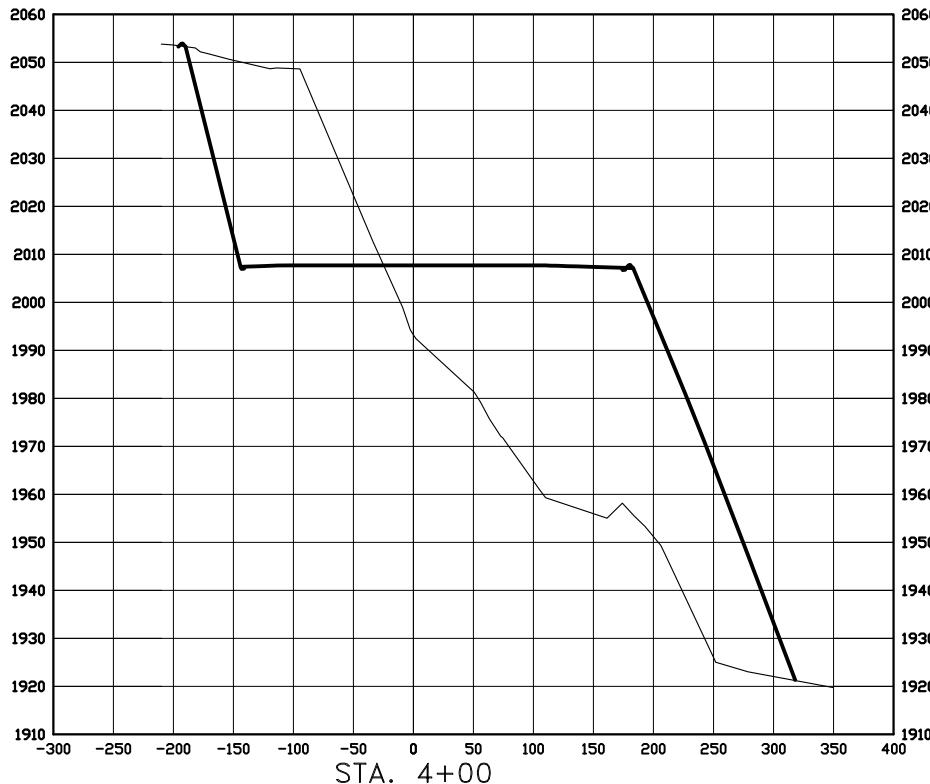
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By: B.H.H. Project No.: S14-09-109.02
 Checked By: D.D.K. Date: APRIL 2014

Revision No.	Date	By	Description

02/2014/S14-09-109.02 Oasis Petroleum - Kline Federal 5300 31-18 8T on Triple
 Foot/CAD/Vline Federal 5300 31-18 8T.dwg - 4/25/2014 11:14 AM josh.schaeffer

CROSS SECTIONS
 OASIS PETROLEUM NORTH AMERICA, LLC
 1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
 "KLINE FEDERAL 5300 31-18 8T"
 2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
 SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



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

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

MKENZIE COUNTY, NORTH DAKOTA

Drawn By: <u>B.H.H.</u>	Project No.: <u>S14-09-109.02</u>
Checked By: <u>D.D.K.</u>	Date: <u>APRIL 2014</u>

Revision No.	Date	By	Description

SHEET NO.

C:\2014\514-09-\109.02 Oasis Petroleum - Kline Federal 5300 31-18 8T on Triple
 Post CAD\Kline Federal 5300 31-18 8T.dwg - 4/25/2014 11:15 AM John Schinnerer

WELL LOCATION SITE QUANTITIES

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 8T"

KLINE FEDERAL 3300 31-18-01
2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA

WELL SITE ELEVATION	2025.9
WELL PAD ELEVATION	2008.0
EXCAVATION	146,179
PLUS PIT	0
	<u>146,179</u>
EMBANKMENT	113,287
PLUS SHRINKAGE (25%)	28,322
	<u>141,609</u>
STOCKPILE PIT	0
STOCKPILE TOP SOIL (6")	4,701
BERMS	1,076 LF = 349 CY
DITCHES	1,350 LF = 207 CY
DETENTION AREA	1,238 CY
STOCKPILE MATERIAL	965
DISTURBED AREA FROM PAD	5.83 ACRES

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

CUT END SLOPES AT 1:1

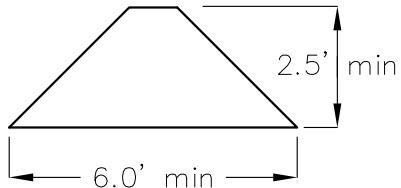
FILL END SLOPES AT 1:5:1

WELL SITE LOCATION

2523' FSL

238' FWL

BERM DETAIL



DITCH DETAIL



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SHEET NO.

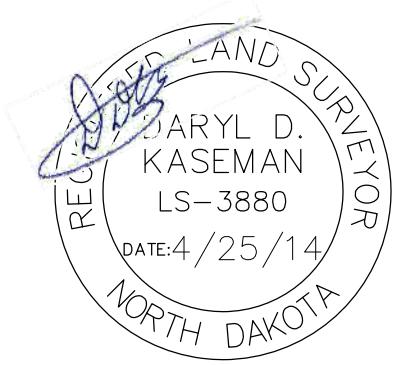
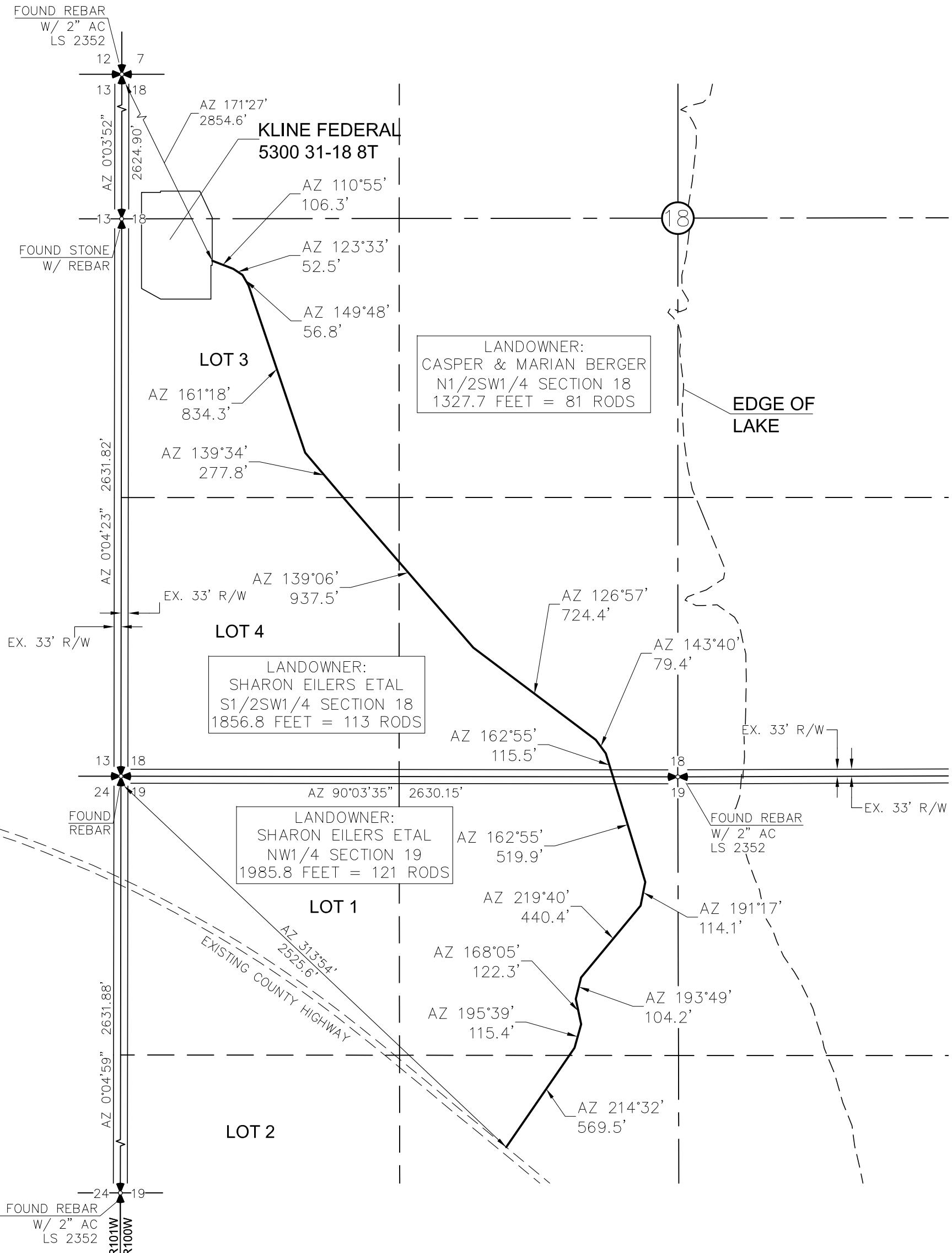
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<p>Interstate Engineering, Inc. P.O. Box 648 425 East Main Street Sidney, Montana 59270 Ph (406) 433-5617 Fax (406) 433-5618 www.Interstateeng.com</p> <p>Other offices in Minnesota, North Dakota and South Dakota</p>	<p>OASIS PETROLEUM NORTH AMERICA, LLC QUANTITIES SECTION 18, T153N, R100W</p> <p>MCKENZIE COUNTY, NORTH DAKOTA</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Drawn By:</td> <td style="width: 33%;">B.H.H.</td> <td style="width: 33%;">Project No.:</td> </tr> <tr> <td>Checked By:</td> <td>D.D.K.</td> <td>Date:</td> </tr> </table> <p>S14-09-109.02</p> <p>APRIL 2014</p>	Drawn By:	B.H.H.	Project No.:	Checked By:	D.D.K.	Date:
Drawn By:	B.H.H.	Project No.:					
Checked By:	D.D.K.	Date:					

ACCESS APPROACH

OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 8T"
2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
SECTION 18, T153N, R100W, 5th P.M., MCKENZIE COUNTY, NORTH DAKOTA



THIS DOCUMENT WAS ORIGINALLY
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KASEMAN, PLS, REGISTRATION NUMBER
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NOTE: All utilities shown are preliminary only, a complete utilities location is recommended before construction.

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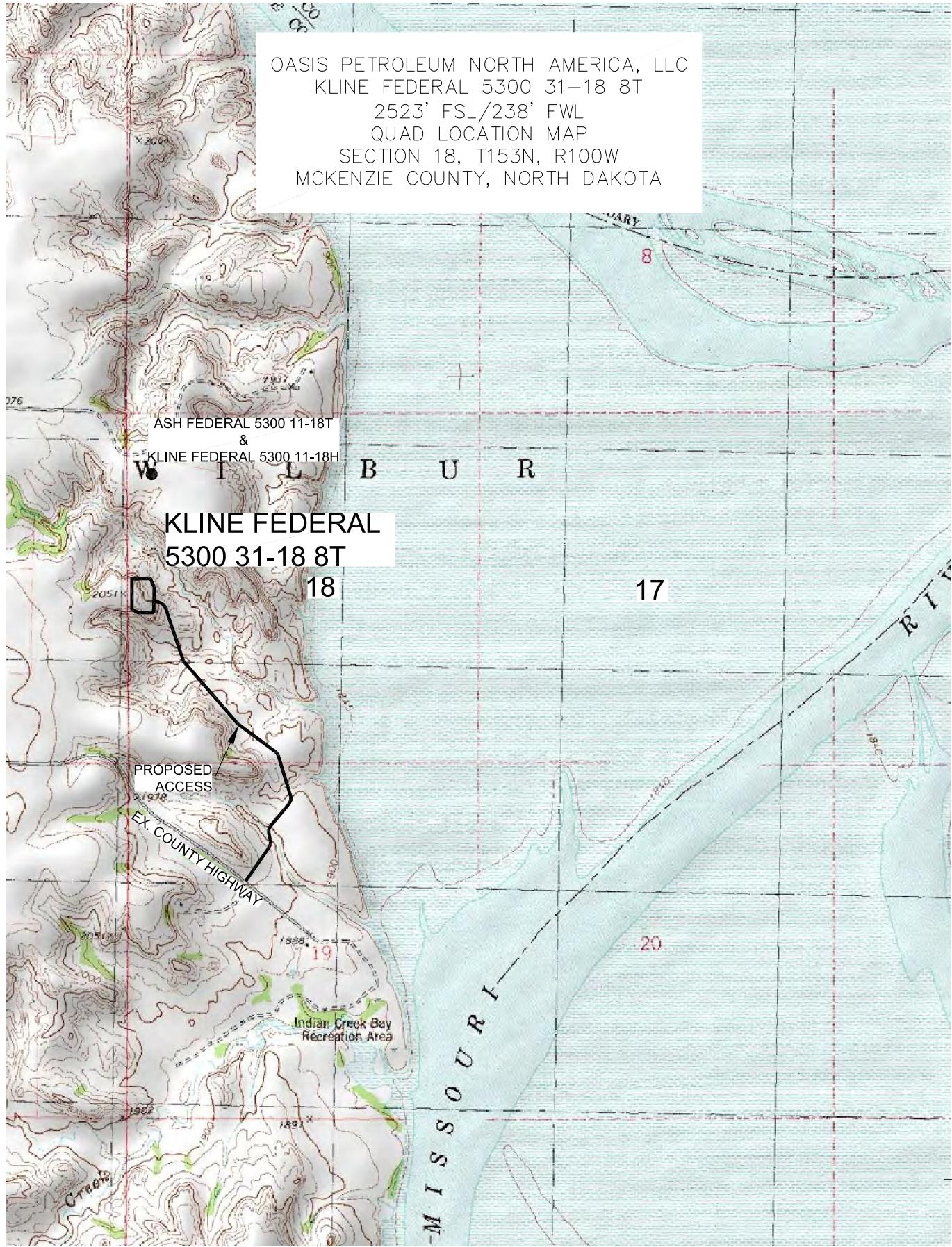


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OASIS PETROLEUM NORTH AMERICA, LLC
 QUAD LOCATION MAP
 SECTION 18, T153N, R100W

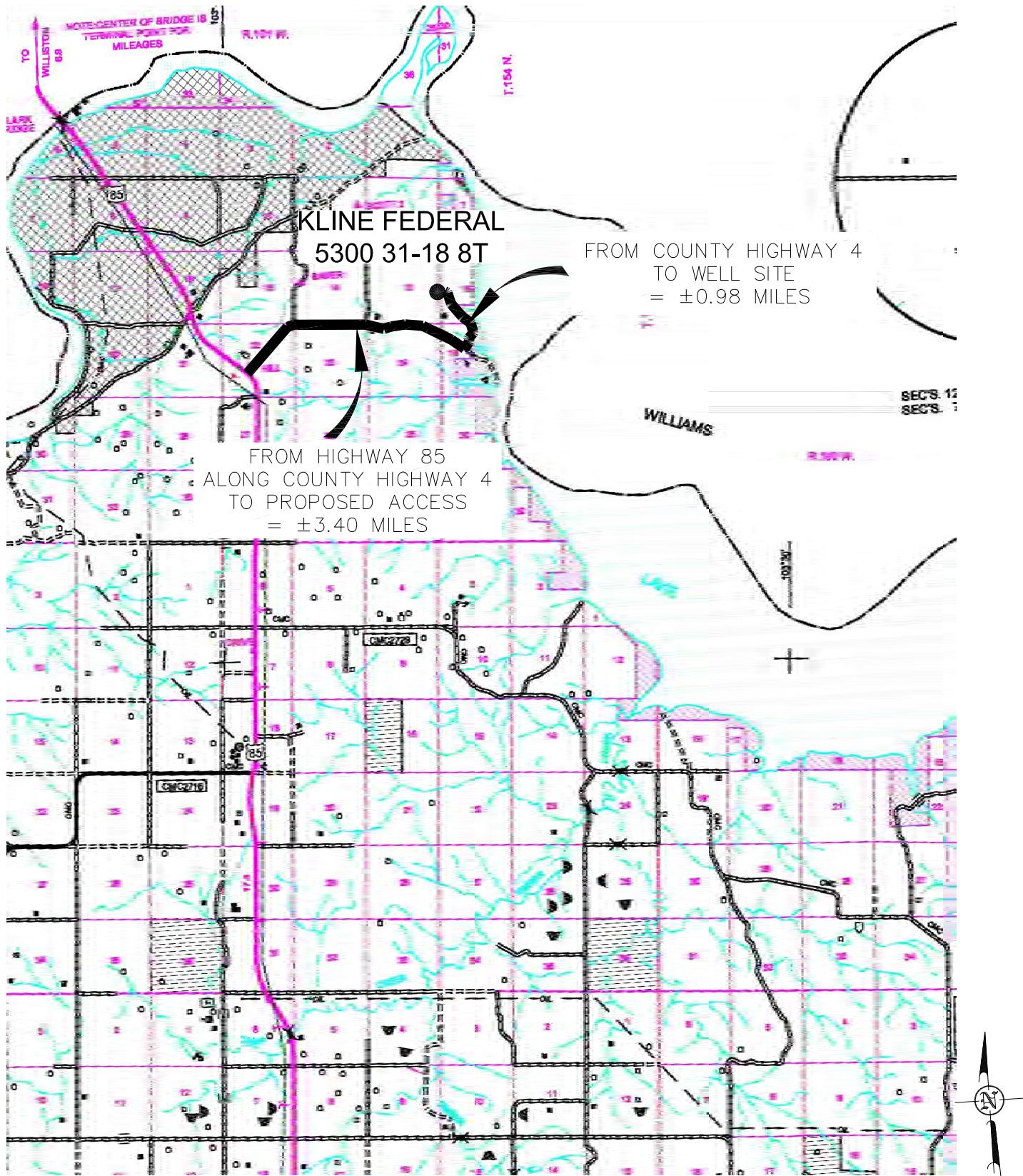
MCKENZIE COUNTY, NORTH DAKOTA

Drawn By:	B.H.H.	Project No.:	S14-09-109.02
Checked By:	D.D.K.	Date:	APRIL 2014

Revision No.	Date	By	Description



COUNTY ROAD MAP
OASIS PETROLEUM NORTH AMERICA, LLC
1001 FANNIN, SUITE 1500, HOUSTON, TX 77002
"KLINE FEDERAL 5300 31-18 8T"
2523 FEET FROM SOUTH LINE AND 238 FEET FROM WEST LINE
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SCALE: 1" = 2 MILE

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

MCKENZIE COUNTY, NORTH DAKOTA

Other offices in Minnesota, North Dakota and South Dakota



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 31-18 6B – 153-100W-17/18 – 05/30/2014

Kline Federal 5300 31-18 7T2 – 153-100W-17/18 – 05/30/2014

Kline Federal 5300 31-18 8T – 153-100W-17/18 – 05/30/2014

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

Lauri M. Stanfield

Regulatory Specialist

Oasis Petroleum North America, LLC