



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1251744
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1251744

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

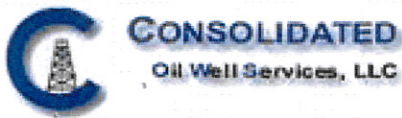
Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	---	---



REMIT TO
 Consolidated Oil Well Services, LLC
 Dept:970
 P.O.Box 4346
 Houston, TX 77210-4346

MAIN OFFICE

P.O.Box884
 Chanute,KS 66720
 620/431-9210,1-800/467-8676
 Fax 620/431-0012

Invoice

Invoice# 803495

Invoice Date: 02/27/15

Terms: Net 30

Page 1

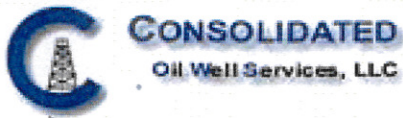
NOR-WEST KANSAS OIL, LLC

20014 283 HIGHWAY
 WAKEENEY KS 67672-2722
 USA
 7857432769

HAYES #1

PAID MAR - 2 2015
 #5052

Part No	Description	Quantity	Unit Price	Discount(%)	Total
5401C	Single Pump	1.000	3,175.0000	15.000	2,698.75
5406	Mileage Charge	40.000	5.2500	15.000	178.50
5407A	Ton Mileage Delivery Charge	1.000	1,599.1500	15.000	1,359.28
1142A	KCL Sub 1/1000	2.000	41.1000	15.000	69.87
1126	Oil Well Cement	175.000	23.7000	15.000	3,525.38
1110A	Kol Seal (50# BAG)	875.000	0.5600	15.000	416.50
1131	60/40 Poz Mix	340.000	15.8600	15.000	4,583.54
1118B	Premium Gel / Bentonite	2,339.000	0.2700	15.000	536.80
1107	Flo-Seal	85.000	2.9700	15.000	214.58
4159	Float Shoe AFU 5 1/2	1.000	433.7500	15.000	368.69
4104	Cement Basket 5 1/2	3.000	290.0000	15.000	739.50
4130	Centralizer 5 1/2	12.000	61.0000	15.000	622.20
4454	5 1/2 Latch Down Plug	1.000	318.2500	15.000	270.51
4314	Reciprocating Scratchers	40.000	82.0000	15.000	2,788.00
1144G-0130	Mud Flush - Oakley	1,000.000	1.0000	15.000	850.00



REMIT TO
 Consolidated Oil Well Services, LLC
 Dept:970
 P.O.Box 4346
 Houston, TX 77210-4346

MAIN OFFICE
 P.O.Box884
 Chanute,KS 66720
 620/431-9210,1-800/467-8676
 Fax 620/431-0012

Invoice Invoice# 803495

Invoice Date: 02/27/15 Terms: Net 30 Page 2

NOR-WEST KANSAS OIL, LLC
 20014 283 HIGHWAY
 WAKEENEY KS 67672-2722
 USA
 7857432769

HAYES #1

Part No	Description	Quantity	Unit Price	Discount(%)	Total
4283	DV Tool w/Latch Down	1.000	4,042.5000	15.000	3,436.13
Subtotal					26,656.73
Discounted Amount					3,998.51
SubTotal After Discount					22,658.22
Amount Due 28,423.05 If paid after 03/29/15					

Tax: 1,501.36
 Total: 24,159.59



CONSOLIDATED
Oil Well Services, LLC

2234
2172

Invoice #803495

TICKET NUMBER 47936

LOCATION Oakley, KS

FOREMAN Kelly Gabe

Miles Shaw

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT

CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
2-23-15	5666	Hays #1	18	17	32W	Scott	
CUSTOMER Northwest Kansas Oil		Mailing Address Oakley 5104 E 835 CT 15 EINTO		TRUCK #	DRIVER	TRUCK #	DRIVER
CITY		STATE	ZIP CODE	731	Jeremy		
				4160	Colin		
				5304727	Cody		
					Keith		

JOB TYPE Prod-DV HOLE SIZE 7 7/8 HOLE DEPTH 4723 CASING SIZE & WEIGHT 5 1/2
 CASING DEPTH 4719 DRILL PIPE TUBING OTHER DV @ 2316
 SLURRY WEIGHT 142-125 SLURRY VOL WATER gal/sk CEMENT LEFT in CASING 20.97 (shoe)
 DISPLACEMENT 111.8, 55 DISPLACEMENT PSI MIX PSI RATE

REMARKS: Safety meeting, rigged up on w + w #2, ran float equip on JTS
 Cent 3, 4, 5, 7, 9, 11, 13, 15, 17, 20, 24, 57 baskets b, 25, 58 DV TOP #58
 ran pipe to bottom 111 JTS total, circulated 1 hr, mixed mud flush,
 pumped 10 bbl KCL, mixed 175 SKS OWC 5 # Kol-seal, washed pumps, displaced
 with 50 bbl water 6 bbl mud, lift pressure 1000 # plug landed @ 1500 #, dropped
 DV bomb, opened tool & circulated for 3 hrs, pumped mud flush, 10 bbl KCL
 mixed 30 SKS BH, 310 sacks 60/40 Poz 870 gel 1/4 # flo-seal down center, washed
 out pumps & displaced with 55 bbl water, lift pressure 700 # Plug landed @ 1500 #
 Cement did circulate

Thank you
Kelly, Miles & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	3175.00	3175.00
5400	40	MILEAGE	5.35	210.00
5407A	22.84	Ton mileage delivery	1.75	1599.15
1142A	2 gal	KCL	41.10	82.10
1126	175 SKS	OWC	23.70	4147.50
1110A	875	Kol-seal	.56	490.00
1131	340	60/40 Poz	15.86	5392.40
1118B	2339 #	gel	.27	631.53
1107	85	flo-seal	2.97	252.45
4159	1	5 1/2 AFU Float shoe (w)	433.75	433.75
41104	3	5 1/2 basket (w)	290.00	870.00
4130	12	centralizer (w)	61.00	732.00
41454	1	5 1/2 latchdown Bass 9/w Plug	318.25	318.25
431	40	Reciprocation scrapers 5 1/2 (w)	82.00	3280.00
11446	1000 gal	mud flush	1.00	1000.00
4283	1	DV TOOL	4042.50	4042.50
			5.40	26,656.18
			504.41	22,658.23
			SALES TAX	1501.36
			ESTIMATED TOTAL	24151.59

RAVIN 3737 22658.23 DATE 2-23-15

AUTHORIZATION [Signature] TITLE DATE 2-23-15

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's... and conditions of service on the back of this form are in effect for services identified on this form



REMIT TO
 Consolidated Oil Well Services, LLC
 Dept. 970
 P.O. Box 4346
 Houston, TX 77210-4346

MAIN OFFICE
 P.O. Box 884
 Chanute, KS 66720
 620/431-9210, 1-800/467-8676
 Fax 620/431-0012

Currency: \$

NOR-WEST KANSAS OIL, LLC
 20014 283 HIGHWAY
 WAKEENEY KS 67672-2722

Account No.
 5666

Statement
 Date
 3/4/2015

Terms
 Net 30

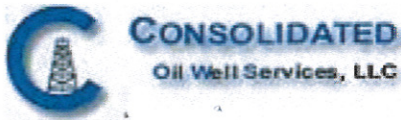
Prior Period Balance

Document	BP Ref. No.	Post. Date	Due Date	Details	Amount	Balance
IN 803495	HAYES #1	02/27/15	03/29/15	A/R Invoices - 5666	24,159.59	24,159.59
Total					<i>#5052</i>	\$ 24,159.59

	Balance Due	Future Remit	0 - 30	31 - 60	61 - 90	91 - 120	121+
Total	24,159.59		24,159.59				

Aging (%)	100.000 %		100.000 %				
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Copy



REMIT TO
 Consolidated Oil Well Services, LLC
 Dept:970
 P.O.Box 4346
 Houston, TX 77210-4346

MAIN OFFICE

P.O.Box884
 Chanute, KS 66720
 620/431-9210, 1-800/467-8676
 Fax 620/431-0012

Invoice

Invoice# 803406

Invoice Date: 02/16/15

Terms: Net 30

Page 1

NOR-WEST KANSAS OIL, LLC
 20014 283 HIGHWAY
 WAKEENEY KS 67672-2722
 USA
 7857432769

HAYES #1 PAID FEB 20 2015

#5038

Part No	Description	Quantity	Unit Price	Discount(%)	Total
5401S	Cement Pump Truck - Surface	1.000	1,150.0000	15.000	977.50
5406	Mileage Charge	40.000	5.2500	15.000	178.50
5407A	Ton Mileage Delivery Charge	1.000	658.0000	15.000	559.30
1104S	Class A Cement	200.000	18.5500	15.000	3,153.50
1102	Calcium Chloride (50#)	564.000	0.9400	15.000	450.64
1118B	Premium Gel / Bentonite	376.000	0.2700	15.000	86.29
1111	Sodium Chloride (Granulated Salt)	100.000	0.0000	0.000	0.00

Subtotal 6,359.68

Discounted Amount 953.95

SubTotal After Discount 5,405.73

Amount Due 6,713.53 If paid after 03/18/15

Tax: 300.77

Total: 5,706.50

6+



CONSOLIDATED
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

2158
2093
INVOICE # 803406

TICKET NUMBER 47804 10:30P
LOCATION Chklay, KS
FOREMAN Jerry Y

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
2-13-15	5666	Hayes #1	B	17	32W	Scott	
CUSTOMER		MAILING ADDRESS		TRUCK #	DRIVER	TRUCK #	DRIVER
Nor-West Kansas Oil		4083 jct 1 South 1/2 East Sinto		731	Jeremy R		
CITY		STATE	ZIP CODE	693	Larry H		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 305 CASING SIZE & WEIGHT 8 5/8 24#
 CASING DEPTH 304 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL 1.24 WATER gal/sk _____ CEMENT LEFT in CASING 20'
 DISPLACEMENT 18 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safely meeting string upon W/L2 break circulation with rig tree mix
200 sks com class A cement with 3% CC & 1% gel washup & displace with 18 bbl
fresh water & shut in circulated approx 4 bbl deposit

*Cement did
circulate*

*Thank you
Jerry & crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54015	1	PUMP CHARGE	1150.00	1150.00
5406	40	MILEAGE	5.25	210.00
5407	9.4	ton mileage delivery	1.75	658.00
11045	200 sks	com class A cement	18.55	3710.00
1107	564 #	CC	99	55836.00
1118b	376 #	gel	27	10152.00
1111	100 #	salt	NC	NC
			sub total	63596.80
			- 15% disc	9539.50
			sub total	54057.30
			SALES TAX	300.77
			ESTIMATED TOTAL	57068.07

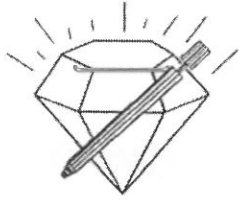
Revin 3737

AUTHORIZATION [Signature]

TITLE Driller

DATE 2-13-15

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



DIAMOND TESTING, LLC
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (620) 653-7550 • (800) 542-7313
 HAYES1DST1

Company Nor-West Kansas Oil, LLC Lease & Well No. Hayes No. 1
 Elevation 2983 KB Formation Lansing/Kansas City "B" Effective Pay _____ Ft. Ticket No. A146
 Date 2-18-15 Sec. 18 Twp. 17S Range 32W County Scott State Kansas
 Test Approved By Sean P. Deenihan Diamond Representative Andy Carreira

Formation Test No. 1 Interval Tested from 3,978 ft. to 4,006 ft. Total Depth 4,006 ft.
 Packer Depth 3,973 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
 Packer Depth 3,978 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
 Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,961 ft. Recorder Number 5585 Cap. 5,000 psi.
 Bottom Recorder Depth (Outside) 3,980 ft. Recorder Number 8471 Cap. 10,000 psi.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

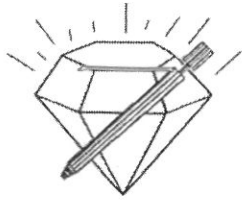
Drilling Contractor WW Drilling, LLC - Rig 2 Drill Collar Length 123 ft I.D. 2 1/4 in.
 Mud Type Chemical Viscosity 58 Weight Pipe Length _____ ft I.D. _____ in.
 Weight 8.8 Water Loss 7.2 cc. Drill Pipe Length 3,823 ft I.D. 3 1/2 in.
 Chlorides 2,100 P.P.M. Test Tool Length 32 ft Tool Size 3 1/2-IF in.
 Jars: Make Sterling Serial Number 9 Anchor Length 28 ft. Size 4 1/2-FH in.
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Weak, surface blow. No blow back during shut-in.
 2nd Open: No blow. No blow back during shut-in.

Recovered 65 ft. of oil specked muddy water = .319800 bbls. (Grind out: <1%-oil; 70%-water; 30%-mud)
 Recovered _____ ft. of Chlorides: 11,000 Ppm PH: 6.0 RW: .70 @ 50°
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

Remarks Tool Sample Grind Out: <1%-oil; 40%-water; 60%-mud

Time Set Packer(s) 2:40 A.M. Time Started off Bottom 4:40 A.M. Maximum Temperature 109°
 Initial Hydrostatic Pressure _____ (A) 1895 P.S.I.
 Initial Flow Period _____ Minutes 30 (B) _____ P.S.I. to (C) _____ P.S.I.
 Initial Closed In Period _____ Minutes 30 (D) _____ P.S.I.
 Final Flow Period _____ Minutes 30 (E) _____ P.S.I. to (F) _____ P.S.I.
 Final Closed In Period _____ Minutes 30 (G) _____ P.S.I.
 Final Hydrostatic Pressure _____ (H) _____ P.S.I.



DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
HAYES1DST2

Company Nor-West Kansas Oil, LLC Lease & Well No. Hayes No. 1
Elevation 2983 KB Formation Lansing/Kansas City "C-F" Effective Pay _____ Ft. Ticket No. A147
Date 2-18-15 Sec. 18 Twp. 17S Range 32W County Scott State Kansas
Test Approved By Sean P. Deenihan Diamond Representative Andy Carreira

Formation Test No. 2 Interval Tested from 4,006 ft. to 4,086 ft. Total Depth 4,086 ft.
Packer Depth 4,001 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 4,006 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,989 ft. Recorder Number 5585 Cap. 5,000 psi.
Bottom Recorder Depth (Outside) 4,008 ft. Recorder Number 8471 Cap. 10,000 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

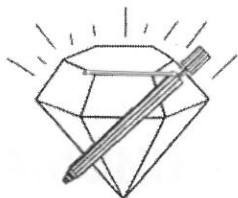
Drilling Contractor WW Drilling, LLC - Rig 2 Drill Collar Length 123 ft. I.D. 2 1/4 in.
Mud Type Chemical Viscosity 50 Weight Pipe Length _____ ft. I.D. _____ in.
Weight 9.0 Water Loss 8.0 cc. Drill Pipe Length 3,851 ft. I.D. 3 1/2 in.
Chlorides 3,000 P.P.M. Test Tool Length 32 ft. Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 9 Anchor Length 80 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Strong blow increasing. Off bottom of bucket in 16 mins. No blow back during shut-in.
2nd Open: Strong blow increasing. Off bottom of bucket in 20 mins. No blow back during shut-in.

Recovered 3 ft. of oil = .042690 bbls. (Grind out: 100%-oil)
Recovered 430 ft. of muddy water = 4.973770 bbls. (Grind out: 75%-water; 25%-mud) Chlorides: 25,000 Ppm PH: 6.0 RW: .31 @ 60°
Recovered 433 ft. of TOTAL FLUID = 5.016460 bbls.
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Remarks Tool Sample Grind Out: 30%-oil; 65%-water; 5%-mud

Time Set Packer(s) 4:21 P.M. Time Started off Bottom 7:21 P.M. Maximum Temperature 117°
Initial Hydrostatic Pressure.....(A) 1915 P.S.I.
Initial Flow Period.....Minutes 30 (B) 11 P.S.I. to (C) 127 P.S.I.
Initial Closed In Period.....Minutes 60 (D) 1009 P.S.I.
Final Flow Period.....Minutes 30 (E) 130 P.S.I. to (F) 201 P.S.I.
Final Closed In Period.....Minutes 60 (G) 1006 P.S.I.
Final Hydrostatic Pressure.....(H) 1904 P.S.I.



DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
HAYES1DST3

Company Nor-West Kansas Oil, LLC Lease & Well No. Hayes No. 1
Elevation 2983 KB Formation Lansing/Kansas City "K" Effective Pay _____ Ft. Ticket No. A148
Date 2-19-15 Sec. 18 Twp. 17S Range 32W County Scott State Kansas
Test Approved By Sean P. Deenihan Diamond Representative Andy Carreira

Formation Test No. 3 Interval Tested from 4,226 ft. to 4,280 ft. Total Depth 4,280 ft.
Packer Depth 4,221 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 4,226 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 4,209 ft. Recorder Number 5585 Cap. 5,000 psi.
Bottom Recorder Depth (Outside) 4,228 ft. Recorder Number 8471 Cap. 10,000 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor WW Drilling, LLC - Rig 2 Drill Collar Length 123 ft. I.D. 2 1/4 in.
Mud Type Chemical Viscosity 54 Weight Pipe Length _____ ft. I.D. _____ in.
Weight 9.0 Water Loss 7.2 cc. Drill Pipe Length 4,071 ft. I.D. 3 1/2 in.
Chlorides 3,700 P.P.M. Test Tool Length 32 ft. Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 9 Anchor Length 54 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Strong blow increasing. Off bottom of bucket in 2 mins. No blow back during shut-in.
2nd Open: Strong blow increasing. Off bottom of bucket in 3 mins. No blow back during shut-in.

Recovered 252 ft. of heavy oil cut, watery mud = 3.585960 bbls. (Grind out: 35%-oil; 25%-water; 40%-mud)
Recovered 756 ft. of gas & oil cut watery mud = 10.757880 bbls. (Grind out: 10%-gas; 20%-oil; 30%-water; 40%-mud)
Recovered 252 ft. of oil cut muddy water = 3.585960 bbls. (Grind out: 10%-oil; 75%-water; 15%-mud)
Recovered 504 ft. of water = 6.026790 bbls. (Grind out: 100%-water) Chlorides: 32,000 Ppm PH: 7.0 RW: .19 @ 60°
Recovered 1,764 ft. of TOTAL FLUID = 23.956590 bbls.
Recovered _____ ft. of _____

Remarks Tool Sample Grind Out: 20%-oil; 80%-water

Time Set Packer(s) 4:11 P.M. Time Started off Bottom 6:41 P.M. Maximum Temperature 126°
Initial Hydrostatic Pressure.....(A) 2044 P.S.I.
Initial Flow Period.....Minutes 30 (B) 117 P.S.I. to (C) 526 P.S.I.
Initial Closed In Period.....Minutes 60 (D) 1115 P.S.I.
Final Flow Period.....Minutes 30 (E) 551 P.S.I. to (F) 783 P.S.I.
Final Closed In Period.....Minutes 30 (G) 1107 P.S.I.



DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
HAYES1DST4

Company Nor-West Kansas Oil, LLC Lease & Well No. Hayes No. 1
Elevation 2983 KB Formation Marmaton Effective Pay _____ Ft. Ticket No. A149
Date 2-20-15 Sec. 18 Twp. 17S Range 32W County Scott State Kansas
Test Approved By Sean P. Deenihan Diamond Representative Andy Carreira

Formation Test No. 4 Interval Tested from 4,320 ft. to 4,416 ft. Total Depth 4,416 ft.
Packer Depth 4,315 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 4,320 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 4,303 ft. Recorder Number 5585 Cap. 5,000 psi.
Bottom Recorder Depth (Outside) 4,322 ft. Recorder Number 8471 Cap. 10,000 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor WW Drilling, LLC - Rig 2 Drill Collar Length 123 ft I.D. 2 1/4 in.
Mud Type Chemical Viscosity 52 Weight Pipe Length _____ ft I.D. _____ in.
Weight 9.2 Water Loss 7.2 cc. Drill Pipe Length 4,165 ft I.D. 3 1/2 in.
Chlorides 3,700 P.P.M. Test Tool Length 32 ft Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 9 Anchor Length 96 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: 11 in. blow in 30 mins. No blow back during shut-in.
2nd Open: 11 in. blow increasing to 12 ins. in 43 mins. Off bottom of bucket in 47 mins. No blow back during shut-in.

Recovered 350 ft. of muddy water = 3.835370 bbls.
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Remarks Tool Sample Grind Out: 100%-water (Chlorides: 26,000 Ppm PH: 7.0 RW: .32 @ 60°)

Time Set Packer(s) 2:30 P.M. Time Started off Bottom 5:45 P.M. Maximum Temperature 122°
Initial Hydrostatic Pressure.....(A) 2085 P.S.I.
Initial Flow Period.....Minutes 30 (B) 10 P.S.I. to (C) 85 P.S.I.
Initial Closed In Period.....Minutes 45 (D) 1133 P.S.I.
Final Flow Period.....Minutes 60 (E) 91 P.S.I. to (F) 164 P.S.I.
Final Closed In Period.....Minutes 60 (G) 1072 P.S.I.



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 (620) 653-7550 • (800) 542-7313
 HAYES1DST5

Company Nor-West Kansas Oil, LLC Lease & Well No. Hayes No. 1
 Elevation 2983 KB Formation Marmaton Effective Pay Ft. Ticket No. A150
 Date 2-21-15 Sec. 18 Twp. 17S Range 32W County Scott State Kansas
 Test Approved By Sean P. Deenihan Diamond Representative Andy Carreira

Formation Test No. 5 Interval Tested from 4,515 ft. to 4,654 ft. Total Depth 4,654 ft
 Packer Depth 4,510 ft. Size 6 3/4 in. Packer Depth ft. Size in.
 Packer Depth 4,515 ft. Size 6 3/4 in. Packer Depth ft. Size in.
 Depth of Selective Zone Set ft.

Top Recorder Depth (Inside) 4,498 ft. Recorder Number 5585 Cap. 5,000 psi.
 Bottom Recorder Depth (Outside) 4,517 ft. Recorder Number 8471 Cap. 10,000 psi.
 Below Straddle Recorder Depth ft. Recorder Number Cap. psi.

Drilling Contractor WW Drilling, LLC - Rig 2 Drill Collar Length 123 ft I.D. 2 1/4 in.
 Mud Type Chemical Viscosity 59 Weight Pipe Length ft I.D. in.
 Weight 9.2 Water Loss 8.8 cc. Drill Pipe Length 4,360 ft I.D. 3 1/2 in.
 Chlorides 5,600 P.P.M. Test Tool Length 32 ft Tool Size 3 1/2-IF in.
 Jars: Make Sterling Serial Number 9 Anchor Length 139 ft. Size 4 1/2-FH in.
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Strong blow increasing. Off bottom of bucket in 26 mins. No blow back during shut-in.
2nd Open: Off bottom of bucket immediately. No blow back during shut-in.

Recovered 567 ft. of gas in pipe
 Recovered 45 ft. of oil specked, gas cut mud = .640350 bbls. (Grind out: 10%-gas; 2%-oil; 88%-mud)
 Recovered 63 ft. of muddy, oily gas = .896490 bbls. (Grind out: 40%-gas; 35%-oil; 25%-mud)
 Recovered 126 ft. of mud cut gassy oil = .647850 bbls. (Grind out: 35%-gas; 50%-oil; 15%-mud)
 Recovered 234 ft. of TOTAL FLUID = 2.184690 bbls.
 Recovered ft. of
 Remarks Tool Sample Grind Out: 90%-oil; 10%-mud

Time Set Packer(s) 11:34 P.M. Time Started off Bottom 2:04 A.M. Maximum Temperature 119°
 Initial Hydrostatic Pressure.....(A) 2174 P.S.I.
 Initial Flow Period.....Minutes 30 (B) 12 P.S.I. to (C) 55 P.S.I.
 Initial Closed In Period.....Minutes 30 (D) 748 P.S.I.
 Final Flow Period.....Minutes 30 (E) 40 P.S.I. to (F) 73 P.S.I.
 Final Closed In Period.....Minutes 60 (G) 1055 P.S.I.