



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1070174
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: _____

1070174

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

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: _____ _____
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Form	ACO1 - Well Completion
Operator	Chieftain Oil Co., Inc.
Well Name	Lake SWD 1
Doc ID	1070174

All Electric Logs Run

Sector Bond/Gamma Ray CCL Log
Dual Compensated Porosity Log
Dual Induction Log
Geological

Form	ACO1 - Well Completion
Operator	Chieftain Oil Co., Inc.
Well Name	Lake SWD 1
Doc ID	1070174

Tops

Name	Top	Datum
Heebner	3587	-2185
Lansing	3772	-2370
Base Kansas City	4290	-2888
Cherokee	4446	-3044
Mississippian	4478	-3076
Kinderhook	4647	-3245
Viola	4768	-3368
Simpson	4857	-3455
Arbuckle	5016	-3614
Total Depth	5755	-3853



PAGE	CHCT NO	INVOICE DATE
1 of 1	1000719	10/11/2011
INVOICE NUMBER		
1718 - 90723028		

Pratt (620) 672-1201
 B CHIEFTAIN OIL COMPANY
 I PO Box: 124
 L KIOWA
 L KS US 67070
 T
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Lake SWD 1
 O LOCATION
 B COUNTY Barber
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 T
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE		
40381237	19842		Net - 30 days	11/10/2011		
			QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<p><i>For Service Dates: 10/08/2011 to 10/08/2011</i></p> <p>912186</p> <p>OCT 18 2011</p> <p>0040381237</p> <p>171804866A Cement-New Well Casing/Pi 10/08/2011 13 3/8" Conductor</p>						
60/40 POZ			325.00	EA	9.48	3,080.99 T
Cello-flake(POLEFLAKE-C)			82.00	EA	2.92	239.69 T
Calcium Chloride			840.00	EA	0.83	696.78 T
Sugar			50.00	EA	1.58	79.00 T
Heavy Equipment Mileage			90.00	MI	5.53	497.70
Proppant and Bulk Delivery Charge			630.00	MI	1.26	796.32
Blending & Mixing Service			325.00	MI	1.11	359.45
Unit Mileage Charge-Pickups, Vans & Cars			45.00	HR	3.36	151.09
Depth Charge; 0-500'			1.00	HR	790.00	790.00
Service Supervisor			1.00	HR	138.25	138.25



PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	6,829.27
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	299.04
PO BOX 841903	PO BOX 10460	INVOICE TOTAL	7,128.31
DALLAS, TX 75284-1903	MIDLAND, TX 79702		



BASIC
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 04866 A

DATE _____ TICKET NO. _____

DATE OF JOB 10-8-2011 DISTRICT PRATT, Ks.		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:	
CUSTOMER CHIEFTAIN OIL CO., INC.		LEASE LAKE SWD		WELL NO. 1			
ADDRESS		COUNTY BARBER		STATE Ks.			
CITY		STATE		SERVICE CREW LESLEY, LAWRENCE, HUNTER			
AUTHORIZED BY Ron Molz		JOB TYPE: CNW-13 3/8" C.P.					
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE AM PM TIME
37586	1					10-8-11	6:30
19889-19842	1					ARRIVED AT JOB	8:15
19826-19810	1					START OPERATION	9:00
						FINISH OPERATION	10:10
						RELEASED	11:00
						MILES FROM STATION TO WELL 45	

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: *[Signature]*
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP 103	100/40 P22	SK	325		3,900.00
CC 102	CELL-FLAKE	lb	82		303.40
CC 109	CALCIUM CHLORIDE	lb	840		882.00
CC 131	SUGAR	lb	50		100.00
E 100	PICKUP MILEAGE	MI	45		191.25
E 101	HEAVY EQUIPMENT MILEAGE	MI	90		630.00
E 113	BOX DELIVERY CHARGE	TM	630		1,008.00
CE 200	DEPTH CHARGE; 0-500'	HR	1-4		1,000.00
CE 240	BLENDING SERVICE CHARGE	SK	325		455.00
S 003	SERVICE SUPERVISOR	EA	1		175.00

SUB TOTAL \$ 6,829.27

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE <i>[Signature]</i>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <i>[Signature]</i>
FIELD SERVICE ORDER NO.	(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Customer CHIEFTAIN OIL CO.	Lease No.	Date 10-8-2011
Lease LAKE SWD	Well # 1	
Field Order # 04866	Station PRATT, Ks.	County BARBER State Ks.
Type Job CNW - 13 3/8" C.P.	Formation	Legal Description 21-33-11

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 13 3/8"	Tubing Size	Shots/Ft	CMTT -	Acid 325SK 60/40 P02	RATE	PRESS	ISIP	
Depth 315'	Depth	From	To	Pre Pad @ 1.21 CUFT³	Max		5 Min.	
Volume 49.45 BBL	Volume	From	To	Pad	Min		10 Min.	
Max Press 300	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection S.V.	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth 295'	Packer Depth	From	To	Flush 46.31 BBL	Gas Volume		Total Load	

Customer Representative RON MOLZ	Station Manager D. SCOTT	Treater K. LESLEY
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Service Units	37586	19889	19842	19826	19860				
Driver Names	LESLEY	LAWRENCE	HUNTER						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
3:15 AM					ON LOCATION - SAFETY MEETING
3:15 AM					RUN 7 STS 13 3/8" X 4 1/2" CSG.
9:00 AM					CSG. ON BOTTOM
9:10 AM					HOOK UP TO CSG. / BREAK CIRC. W/RIG
9:43 AM	100		5	6	H2O AHEAD
9:46 AM	75		70	6	MIX 325SK 60/40 P02 @ 14.8 PPG
9:58 AM	0		0	4	START DISPLACEMENT
10:08 AM	100		40	3	SLOW RATE
10:10 AM	150		46.31	3	STOP PUMPING - CLOSE VALVE ON WEL
					CIRC. THRU JOB
					CIRC. 5 BBL TO PIT
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY



PAGE 1 of 1	CHIT NO 1000719	INVOICE DATE 10/11/2011
INVOICE NUMBER 1718 - 90723029		

Pratt
 B CHIEFTAIN OIL COMPANY
 I PO Box: 124
 L KIOWA
 L KS US 67070
 T
 O ATTN: ACCOUNTS PAYABLE

ENTERED
 672-1201
 OCT 18 2011
 912186

J LEASE NAME Lake SWD 1
 O LOCATION
 B COUNTY Barber
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 T JOB CONTACT
 E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40381239	27463		Net - 30 days	11/10/2011

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 10/09/2011 to 10/09/2011</i>				
0040381239				
171804466A Cement-New Well Casing/Pi 10/09/2011 8 5/8" Surface				
A-Con Blend Common	200.00	EA	14.22	2,844.00 T
Common	200.00	EA	12.64	2,528.00 T
Cello-flake	110.00	EA	2.92	321.53 T
Cement Gel	376.00	EA	0.20	74.26 T
Sugar	50.00	EA	1.58	79.00 T
Calcium Chloride	1,128.00	EA	0.83	935.68 T
Top Rubber Cement Plug 8 5/8"	1.00	EA	177.75	177.75
8 5/8" Basket(Blue)	1.00	EA	248.85	248.85
Heavy Equipment Mileage	90.00	MI	5.53	497.70
Proppant and Bulk Delivery Charge	846.00	MI	1.26	1,069.34
Blending & Mixing Service Charge	400.00	MI	1.11	442.40
Unit Mileage Charge-Pickup, Vans & Cars	45.00	HR	3.36	151.09
Depth Charge; 501-1000'	1.00	HR	948.00	948.00
Service Supervisor	1.00	HR	138.25	138.25



PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	10,455.85
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	495.12
PO BOX 841903	PO BOX 10460	INVOICE TOTAL	10,950.97
DALLAS, TX 75284-1903	MIDLAND, TX 79702		



BASIC
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 04466 A

DATE _____ TICKET NO. _____

DATE OF JOB <u>10-9-11</u> DISTRICT <u>KANSAS</u>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <u>Chieftain Oil Co INC</u>		LEASE <u>LAKE SWD #1</u> WELL NO.							
ADDRESS		COUNTY <u>Barber</u> STATE <u>KANSAS</u>							
CITY STATE		SERVICE CREW <u>Allen TJ McGrath</u>							
AUTHORIZED BY		JOB TYPE: <u>8 5/8 Surface</u> <u>CALW</u>							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM/PM	TIME
<u>28443 P.U.</u>	<u>1 1/2</u>						<u>10-9-11</u>		<u>1030</u>
<u>27463 P.U.</u>	<u>1 1/2</u>					ARRIVED AT JOB	<u>10-9-11</u>	AM/PM	<u>230</u>
<u>19826-19860</u>	<u>1 1/2</u>					START OPERATION	<u>10-9-11</u>	AM/PM	<u>600</u>
						FINISH OPERATION	<u>10-9-11</u>	AM/PM	<u>730</u>
						RELEASED	<u>10-9-11</u>	AM/PM	<u>830</u>
						MILES FROM STATION TO WELL <u>4.5 miles</u>			

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Scott Colburn
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP101	A-conc Blend	SK	200		\$ 3600.00
CP100	Common	SK	200		\$ 3200.00
CC102	cell Flake	lb	110		\$ 407.00
CC109	calcium chloride	lb	1228		\$ 1184.40
CC200	cement Gel	lb	376		\$ 94.00
CF105	Top Rubber amt Plug	EA	1		\$ 2.25.00
CF103	8 5/8" Basket Blue	EA	1		\$ 315.00
CC131	sugar	lb	50	\$ 100	\$ 50.00
E100	unit mileage charge Pickp.	m.	45		\$ 191.25
E101	Heavy Equip. mileage	m.	90		\$ 630.00
E113	Bulk Delivery charge	Tm	846		\$ 1353.60
CE201	Depth charge 501-7000	y-hr	1		\$ 1200.00
CE240	Blending & mixing Service chg	SK	400		\$ 560.00
5003	Service Supervisor first 8 hrs	EA	1		\$ 175.00

SUB TOTAL DL5 \$10,455.85

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$
TOTAL	

SERVICE REPRESENTATIVE Allen f Ward THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Scott Colburn
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO. _____

Customer Chieftain Oil Co.		Lease No.		Date	
Lease LAKE SWP		Well # # 1		10-9-11	
Field Order # 04466A	Station Pratt KS	Casing 8 5/8"	Depth 861	County Barber	State KANSAS
Type Job 8 5/8" surface	Formation Cmw	TD 871	Legal Description 31-33-11		

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
8 5/8"			200	SKS A-con	12 1/4		5 Min. 1/4" C.F. @ 15	
Depth 871 TD	Depth	From	To 200	Pre Pad SKS common	Max 20/2 gal	3%	10 Min.	
Volume 545	Volume	From	To	Pad	Min		15 Min.	
Max Press 500#	Max Press	From	To	Frac	Avg		Annulus Pressure	
Well Connection PC	Annulus Vol.	From	To		HHP Used		Total Load	
Plug Depth 861	Packer Depth	From	To	Flush DISP N 20	Gas Volume			

Customer Representative Scott TP.	Station Manager Scotty	Treater Allen
--------------------------------------	---------------------------	------------------

Service Units	Driver Names	Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
28443 27463 19826 19860	Allen TJ Mike McGraw						HAROT #1
		230 pm					on hoc. Discuss Safety, Setup Plan Job
		240					Drilling @ 261' TD 271'
		330					Hole cut CIR w/ Rig
		415					start out of Hole w/ Bit
		430					out of Hole, Rig up to Run 8 5/8"
		615					Surface Pipe 24#
		630	200#		88	5	start 8 5/8" csg. ("Francis csg.")
							Basket @ 520'
							Pipe @ 271' CIR w/ Rig
							Mix 200 SKS A-con @ 12 1/4 gal
							Mix 200 SKS common w/
					48		20/2 gal, 3% CC, 1/4" C.F. @ 15#
							FINISH MIX
							Drop Top Rubber Plug. 8 5/8"
		700	450#			4	start Disp.
					54 1/2	3	Plug down
			0#				Shut IN @ well
							Release PSI Back To Truck
							washup Equip. & Rack up.
		830					Job complete.
							CMT CIR To Pit!



PAGE	CHST NO	INVOICE DATE
1 of 1	1000719	10/25/2011
INVOICE NUMBER		
1718 - 90734747		

Pratt (620) 672-1201
 B CHIEFTAIN OIL COMPANY
 I PO Box: 124
 L KIOWA
 L KS US 67070
 T
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Lake SWD 1
 O LOCATION
 B COUNTY Barber
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 T
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40387018	27463		Net - 30 days	11/24/2011
<i>For Service Dates: 10/21/2011 to 10/21/2011</i>				
0040387018				
171805037A Cement-New Well Casing/Pi 10/21/2011				
5 1/2" Longstring				
AA2 Cement		255.00	EA	13.43
De-foamer (Powder)		48.00	EA	3.16
Salt (Fine)		1,264.00	EA	0.40
Gas-Blok		240.00	EA	4.07
FLA-322		192.00	EA	5.93
Gilsonite		1,275.00	EA	0.53
CS-1L KCL Substitute		5.00	EA	27.65
Mud Flush		500.00	EA	0.68
Super Flush II		500.00	EA	1.21
Latch Down Plug & Baffle 5 1/2" (Blue)		1.00	EA	316.00
Cementing Shoe Packer Type, 5 1/2" (Red)		1.00	EA	2,923.00
Turbolizer 5 1/2" (Blue)		7.00	EA	86.90
5 1/2" Basket (Blue)		1.00	EA	229.10
Unit Mileage Charge-Pickups, Vans & Cars		45.00	HR	3.36
Heavy Equipment Mileage		90.00	MI	5.53
Proppant and Bulk Delivery Charges		540.00	MI	1.26
Depth Charge; 5001-6000'		1.00	HR	2,275.20
Blending & Mixing Service Charge		255.00	MI	1.11
Plug Container Utilization Charge		1.00	EA	197.50
Supervisor		1.00	HR	138.25

ENTERED
 OCT 27 2011
 9121 BC



PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	16,247.54
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	580.12
PO BOX 841903	PO BOX 10460	INVOICE TOTAL	16,827.66
DALLAS, TX 75284-1903	MIDLAND, TX 79702		



BASIC
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET

1718 05037 A

DATE _____ TICKET NO. _____

DATE OF JOB 10-21-11 DISTRICT Pratt				NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:			
CUSTOMER Chieftain O.I.				LEASE Lake SWD WELL NO. 1			
ADDRESS				COUNTY Barber STATE KS			
CITY STATE				SERVICE CREW Orlando, Mitchell, McLiskey			
AUTHORIZED BY				JOB TYPE: Cnw - 5 1/2 L.S.			
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE 10-20-11 AM 10:20 PM 10:20
27283	1					ARRIVED AT JOB	10-21-11 AM 12:00
27463	1					START OPERATION	(AM) 5:00
19832-21010	1					FINISH OPERATION	(AM) 6:00
						RELEASED	(AM) 7:00
						MILES FROM STATION TO WELL	41.5

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

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SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP105	AA2 Cement	SK	255		4335.00
CC105	Dr. Foamer	Lb	48		192.00
CC111	Salt	Lb	1264		632.00
CC115	Gas Blok	Lb	240		1236.00
CC129	FLA-322	Lb	192		1440.00
CC201	Gilsonite	Lb	1075		854.25
CS607	Latch Down Plug & Bag (Type 5 1/2 Blue)	ea	1		400.00
CS1001	Cementing Sludge Packer Type 5 1/2 K.D	ea	1		3700.00
CS1651	Turboliner 5 1/2 (Blue)	ea	7		770.00
CS1901	Baguel 5 1/2 (Blue)	ea	1		290.00
C704	KCL	Gal	5		175.00
CC151	Mud Blast	Gal	500		430.00
CC155	Super Flush II	Gal	500		765.00
E100	Pickup Mileage	mi	45		191.25
E101	Heavy Equipment Mileage	mi	90		630.00
E113	Bulk Delivery	Ton	540		864.00
CE206	Depth Charge 5000-6000'	ea	1		2880.00
CE240	Cement Service Charge	SK	255		357.00
CE504	Plug Container	ea	1		250.00
S003	Service Supervisor	ea	1		175.00
SUB TOTAL					16247.54

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE Steve Orland

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:

[Signature]

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

Customer C. ...	Lease No.	Date 10-21-11
Lease L. ...	Well # 1	
Field Order # 5037	Station Pratt	Casing 2 7/8"
	Depth 3046	County Barnes
Type Job C. ...	Formation	Legal Description 21-35-1

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid		RATE	PRESS	ISIP
3046			2700	AA2000				5 Min.
Depth	Depth	From	To	Pre Pad		Max		
3046			3046	AA2000				10 Min.
Volume	Volume	From	To	Pad		Min		
100								15 Min.
Max Press	Max Press	From	To	Frac		Avg		
Well Connection	Annulus Vol.	From	To			HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	119	Gas Volume		Total Load

Customer Representative Roe Moltz	Station Manager D. ...	Treater G. ...
--------------------------------------	---------------------------	-------------------

Service Units	2700	2740	1185	2100					
Driver Names									

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
1:30 AM					On location - Sealing ...
					Run 31' ... 120 ...
					Complete 4-6-8-10-14-16-18
					Stop 31 44. 444 mark JV
					Complete Bottom ... w/R
					Stop Pack - Stop
	300		12	5	Mud flush
	300		5	5	H2O spacer
	300		12	5	Super flush
	300		5	5	H2O spacer
	300		57	5	Mud 225 gal AA2000 15' / ...
					Clear pump ...
					Return plug
	0		0	6	Stop 1 220 KCL H2O ...
	300		85	5	Line pressure
	1600		100	4	Stop ...
	1600		111	4	plug down - 11-0
					plug ... 60/11-0 ...
					Job Comp ...
					Thank you

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Ward Loyd, Commissioner
Thomas E. Wright, Commissioner

Sam Brownback, Governor

December 13, 2011

Ron Molz
Chieftain Oil Co., Inc.
605 S. 6th; PO Box 124
KIOWA, KS 67070-1912

Re: ACO1
API 15-007-23781-00-00
Lake SWD 1
SW/4 Sec.21-33S-11W
Barber County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Ron Molz

Arden Ratzlaff

PETROLEUM GEOLOGIST

Phone: 262-8938

107 N. Market - 808 Bittng Bldg. Wichita, KS 67202

COMPANY CHIEFTAIN OIL CO. INC.

LEASE LAKE DISPOSAL WELL NO. 1

FIELD RHODES

LOCATION SW SE NE SW

SECTION 21 TOWNSHIP 33S RANGE 11W

COUNTY BARBER STATE KANSAS

CONTRACTOR HARDT DRILLING RIG NO. 1

COMMENCED DRILLING 10-7-11

COMPLETED DRILLING 10-20-11

RTD 5750 FEET LTD 5755 FEET

MUD UP AT 3900 FEET MUD TYPE CHEMICAL

FORMATION TOPS

SAMPLE

MEMBER
LANSTING
BASE KANSAS CITY
CHEROKEE
MISSISSIPPIAN
KINDERHOOK
VIOLA
SIMPSON
ARBUCKLE
TOTAL DEPTH

3901 (-2189)
3778 (-2271)
4207 (-2288)
4404 (-3002)
4452 (-3050)
4644 (-3202)
4762 (-3345)
4860 (-3495)
5011 (-3614)
5750 (-4548)

ELECTRIC LOG

3907 (-2189)
3772 (-2270)
4200 (-2288)
4406 (-3004)
4478 (-3076)
4667 (-3205)
4868 (-3368)
4957 (-3495)
5016 (-3614)
5755 (-4585)

DRILLING TIME

AND

SAMPLE LOG

ELEVATIONS

KB 1402

IF 1490

GL 1392

Measurements Are All
From K.R.

CASING

1 3/8" @ 3 1/4" W. 525 SY.

2 5/8" @ 874 W. 490 SY.

5 1/2" @ 5046 W. 225 SY.

ELECTRICAL SURVEYS

LOG-TECH (GAMMA RAY, DUAL
INDUCTION, COMPENSATED NEUTRON
& DENSITY, S.P. & CALIPER

REMARKS AFTER ANALYZING THE INFORMATION REGARDING A DISPOSAL WELL, IT WAS THE DECISION THE PIPE BE SET IN EXPECTANCE OF AN EXCELLENT DISPOSAL IN THE ARBUCKLE DOLOMITE FORMATION.

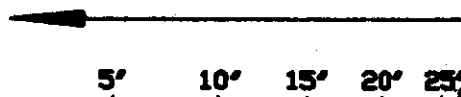
Arden Ratzlaff, Petroleum Geologist

NOTE: NATIVE AMERICAN FURNISHED THE MUD - - - SAMPLES DEPOSITED BY THE K.G.S. SURVEY.

LEGEND



DRILLING TIME IN MINUTES
PER FOOT
Rate of Penetration Increases



LITHOLOGY

DEPTH

SAMPLE DESCRIPTIONS

REMARKS

3400

20

40

60

80

3500

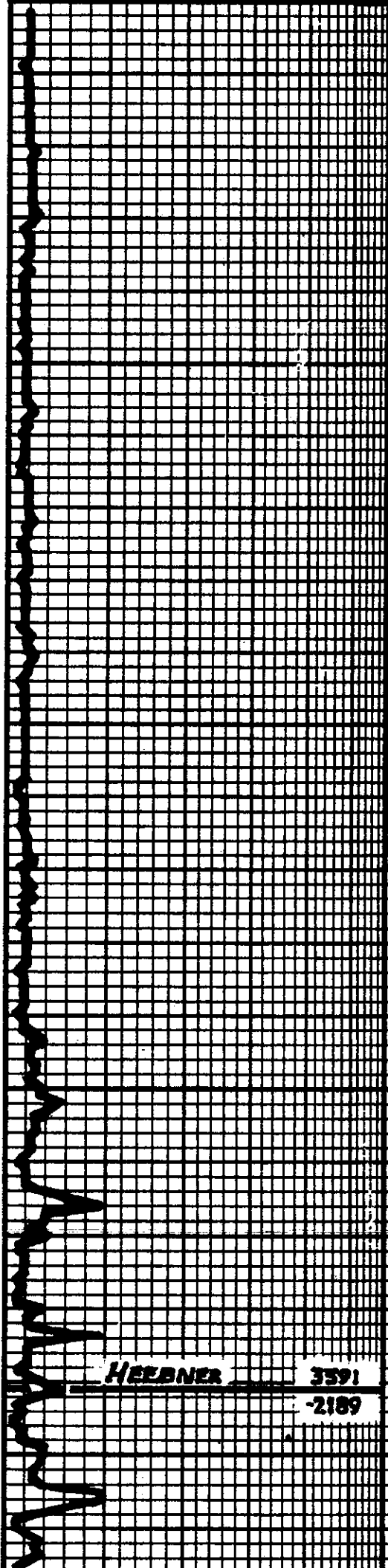
20

40

60

80

3600



SH-LT & MED GRAY TO GRAY-GRN. IL SILTY

SH-LT & MED GRAY, SCRY GRAY-GRN SILTY &
SILTY MICA IN PART

SH AS ABOVE

SH AS ABOVE IN TR. DY GRAY & BLK BLUE
BLUE GRAY TAN & BRN EN X IN SUR-CHRY
TO TR. LITE, HARD LN

SH-LT & MED GRAY U. SILTY IN SCRY
BLK & DY GRAY CARB IN PART FULL MED
GRAY TO BRN. TR. FOS. MED HARD LN

HEEBNER 3591
-2189

SH-BLK CARB. M. LT & MED GRAY U. SILTY
SILTY BLUE GRAY TAN & TR. BRN EN X IN
SUR-CHRY TO DENSE HARD LN

20

100. CRN. BLUE GRV. E TO TAN. EN YLN.
SUB-CHLVY W. BLK. CORR. E. SW GRV. IN
AS ABOVE

40

SH. MED. GRV. GRV. GRN. E TO GRN. SIL
SUB-CHLVY W. BLK. CORR. E. SW GRV. IN
AS ABOVE

60

SW AS ABOVE W. BLUE GRV. E TO TAN. EN YLN.
PROP. DENSE. HARD. I. M.

80

SH. GRV. GRN. MED. GRV. SCRT. BLK. BY
GRV. TO CORR.

3700

SH. AS ABOVE. V. SIL. SILTY.

20

SH. MED. GRV. GRV. GRN. W. SCRT. BLUE
EN YLN. SUB-CHLVY W. BLK. CORR. E. SW GRV. IN
PROP. DENSE. HARD. I. M.

40

SAME AS ABOVE

60

SAME AS ABOVE

LANSING 3718

2571

80

100. WH. BLUE. TAN. E TO BRN. EN YLN. SUB-
CHLVY W. BLK. CORR. E. SW GRV. IN
E. TAN. E TO CRN. MED. ACOR. COOL. IN W.
GOOD. BOR. - A. S.

3600

100. CRN. TO WH. BLUE. GRV. E TO BRN. EN
YLN. V. SCRT. MED. YLN. ACOR. IN BODY.
V. SCRT. MED. TO CRSE. COOL. IN W. SW
GOOD. BOR. - A. S. - TO BRN. EN YLN.

20

100. CRN. BLUE. GRV. TAN. E TO BRN. EN
YLN. SUB-CHLVY W. BLK. CORR. E. SW GRV. IN

40

60

80

1900

20

40

60

80

4000

20

40

SHALE AS ABOVE

1 IN. AS ABOVE W. SCOT. MED. GRAY & TR.
BLK. SH.

1 IN. CR. BLK. GRAY & TR. EN. Y. IN. SUB-
CH. TO DENSE & HARD

SAME W. TR. EN. Y. IN. MED. CRSE
CO. IN. W. FAIR TO GOOD EXP. N. Y.

1 IN. CR. BLK. GRAY TR. & TR. EN. Y. IN.
SUB-CH. TO DENSE & HARD. SCOT. GRAY.
GR. MED. GRAY & BLK. SH.

1 IN. LT. GRAY BLK. TR. & TR. EN. Y. IN. SUB-
CH. TO DENSE & HARD

1 IN. AS ABOVE W. MED. TR. GRAY & TR. EN.
Y. IN. DENSE. HARD. IN. & CONC. MED. TR.
TR. GRAY. BLK. & TR. GRAY-GR. SH.

1 IN. CR. BLK. & TR. GRAY. EN. Y. IN. SUB-CH.
W. TR. GRAY & TR. EN. Y. IN. DENSE. HARD.
1 IN. BLK. CONC. SH. AS ABOVE

1 IN. & CU AS ABOVE - BALLS. APPROXIMATE

1 IN. & CU AS ABOVE

SU AS ABOVE W. 1 IN. & SCOT. ARGILL. 1 IN.
AS ABOVE

60

80

4100

20

40

60

80

4200

20

40

60

SH MED TO PRED BY GRY IN DV GRY / DV
ORN EN YIN BCGILL 20KZ 1400 1M

1M-1M1 CRM IT GRY BLUE & SM TAN EN
VIA SUR-CHUKY & TR CHUKY TO SR Y
DENSE HARD IN STCP SU AS ABOVE

1M AS ABOVE IN CONS MED TO BY GRY
& BLK SH

1M-CRM BLUE GRY & SM TAN TR MIN
CHUKY IN PLUS MED TO GRY GRY-GRN
& BLK SH

1M-MILE CRM EN YIN CHUKY & SUR-
CHUKY & SCRT IT GRY ERSU SUR-
TRMSI CURT PULL 1M & 2M ABOVE
WATERS COM TO IT GRY

1M-IT GRY BLUE & TAN EN YIN SUR-
CHUKY TO DENSE HARD IN TR CHUKY
1M AS ABOVE

SAME AS ABOVE

1M-CRM BLUE GRY TAN & TR BRL EN YIN
SUR-CHUKY & TR CHUKY TO DENSE & HARD
IN TR GRY & TAN FRESH SUR-TRMSI SHRP
CURT

STARK

40 UNITS

4224

-2822

SH TR GRY & BLK COOR IN CRM BLUE GRY
& TAN EN YIN SUR-CHUKY TO DENSE & HARD
IN TR GRY & TAN FRESH SUR-TRMSI SHRP
CURT

1M-MILE CRM BLUE GRY TAN & BRL EN YIN
SUR-CHUKY & TR CHUKY TO DENSE & HARD

HUSHPICKNEY 4254

42 UNITS

-2852

SAME AS ABOVE IN BLK COOR SH

80

BASE K.C.

4287

1/2" CRN. BLK. GR. TR. ABOVE. EN. YIN. IN.
MED. TO TH. GR. & BLK. SH.

-2885

4300

SH. MED. TH. GR. SCAT. BLK. (PART CARB.)
W. SCAT. & MASS. GRAINE

20

SH. AS ABOVE IN LIM. AS ABOVE PLUS
SCAT. BLK. & GR. EN. XIAI. DENSE.
HARD IN.

40

1/2" IN. CRN. BLK. GR. TR. & GRN. EN.
EN. YIN. SH. CHLKY. & TR. CH. & DENSE
& HARD. IN. SCAT. BLK. & GR. (CARB. GAS
BUBBLES) & SILT. GRAINE

60

ALTAMONT

4267

SAME AS ABOVE

-2965

80

1/2" CRN. BLK. GR. TR. & GRN. EN.
YIN. IN. MED. TO TH. GR. & BLK. (CARB. IN
PART) SH.

4400

RAINIER

4300

LIM. AS ABOVE W. MED. TO TH. GR. & BLK.
CARB. SH.

-2978

20

1/2" CRN. BLK. GR. TR. & GRN. EN.
YIN. SH. CHLKY. TO DENSE & HARD.
SCAT. SH. AS ABOVE PLUS V. SCAT. GRN.
& GR. - GRN. SH.

40

CHEROKEE

4448

SH. TH. GR. & BLK. (CARB.) IN LIM. AS ABOVE

-3042

MISSISSIPPIAN

4452

(CARB.) 1/2" CRN. BLK. GR. TR. EN. YIN. DENSE
SH. CHLKY. TO SCAT. DENSE & HARD IN
MED. TO TH. GR. BLK. & SCAT. GR. SH.

-2050

CF5

60

02 UNITS

ASSD. ENRT. - IN. CRN. LT. GR. TO YELLOW TINTS.
CR. EN. SH. GR. SH. - HARD TO HARD TO HARD
IN TR. EN. IN FENCE. SCAT. GR. IN TR. IN
INCUSIONS (NOT HARD) - SCAT. GR. & TR.
BLK. & BLK. OIL. PROBLETS (SH. SEMI-LIVE
& LIST. EXISTING TO LARGE OIL PROBLETS
GOOD OIL)

CF5

80

4500

20

40

60

80

4600

20

40

60

80

CHRY. AS ABOVE. FRESH TO RED MESH
IN. DOOR. DOOR. TRAIL. BIL. 4 TR. BIL. STAL
CAC. BUBBLES & TR. ABOVE. CLEAR. OIL. DROP.
LET'S. PULL. BIL. TRAIL. BIL. EN. VIL. BIL. TR.
TR. DOOR. L.M. EN. BIL. DOOR

DOLO. SIL. PURTY. 4 TR. EN. VIL. BIL.
IN. TR. VIL. BIL. SCOTTY. TR. EN. VIL. BIL.
CAC. BUBBLES & TR. ABOVE. CLEAR. OIL.
DOOR. LET'S. EN. BIL. DOOR. 4 TR. BIL. STAL
L.M. 4 TR. BIL. STAL. BIL. SH

1 M. MIN. FINE. BIL. STAL. 4 TR. BIL. STAL
SUB. CHILLY. TR. EN. VIL. BIL. STAL. 4 TR. BIL. STAL
V. SCOT. CHRY. (DOLO. AS ABOVE. (L.M. 4 TR. BIL. STAL)
WEAK. ODOOR. CHRY. TR. EN. VIL. BIL. STAL

SOME AS ABOVE. FINE. TR. EN. VIL. BIL. STAL

DOLO. PURTY. MIN. FINE. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
GRY. DOLO. IN. SCOT. CHRY. IN. BIL. STAL. 4 TR. BIL. STAL
LIVE. TR. EN. VIL. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOOR. NOTE. 1. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
NOT. TRILL
L.M. MIN. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BIL. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BUBBLES. OIL. TR. EN. VIL. BIL. STAL

BIT TRIP @ 4550' - PDC OUT &
BUTTON IN

1 M. FINE. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOLO. PURTY. MIN. FINE. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOOR. NOTE. 1. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
NOT. TRILL
L.M. MIN. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BIL. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BUBBLES. OIL. TR. EN. VIL. BIL. STAL

1 M. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
TR. EN. VIL. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOOR. NOTE. 1. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
NOT. TRILL
L.M. MIN. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BIL. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BUBBLES. OIL. TR. EN. VIL. BIL. STAL

SAMPLE STILL GROUND. V. EN. - FINE
L.M. AS ABOVE

KINDERHOOK 4644
-3242

1 M. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
TR. EN. VIL. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOOR. NOTE. 1. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
NOT. TRILL
L.M. MIN. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BIL. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BUBBLES. OIL. TR. EN. VIL. BIL. STAL

1 M. FINE. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
TR. EN. VIL. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
DOOR. NOTE. 1. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
NOT. TRILL
L.M. MIN. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
WEAK. IN. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BIL. 4 TR. BIL. STAL. 4 TR. BIL. STAL. 4 TR. BIL. STAL
BUBBLES. OIL. TR. EN. VIL. BIL. STAL

SAMPLE STILL GROUND. V. EN. - FINE
L.M. AS ABOVE

4700

SH. AS ABOVE W/ INCR. IN GRAY-GRN. CR.

20

SH. AS ABOVE

CHATTANOOGA 4730

-3528

40

SH. BLK. BY GRAY. BRNCH-BLK. V. CARB. (CR.)
BUBBLES GO IN 1 SPORE BEARING & SLK
DOLL IN PART

60

VIOLA 4765

-3363

SH. AS ABOVE W/ SOFT CON. BUBB. IT GRAY &
TR. TAN. EN. YAL. RIB. CHILKY TO FINE DUCK
HARD LN.

ASTN. LMS. AS ABOVE W/ WHT. CR. EN. YAL. SUB-
CHILKY / CHILKY (IN PART AND CR. TR. SH
V. FINE ORDR.??

80

LM. WHT. CON. IT GRAY. EN. YAL. CHILKY &
SUB-CHILKY IN PART. GRAY. TAN. & BRN. EN.
BYE. DUCK. YAL. PREY. V. DENSE. HARD.
CR. TR. 4 TR. / 1/2 IN. PLUS TR. IT GRAY. METAN.
BLK. TR. V. FRESH. DULL. BEYOND ORDR. PART

4800

LM. WHT. CON. BLK. GRAY. TAN. & BRN. EN. YAL.
TR. CHILKY & SUB-CHILKY TO DUCK. HARD &
FEM. PIECES DULL. CHRT. AS ABOVE

20

LM. AS ABOVE - BR. SO. BLK. & TAN. W/ CR. TR.
AS ABOVE

40

LM. FINE. BLK. GRAY & TAN. EN. YAL. SUB-
CHILKY TO DENSE & HARD IN GRAY. TAN. TR.
FRESH. SUB-TR. CHILKY TO CR. TR. DULL
CHRT.

60

SIMPSON 4860

-3038

TAMP. W/ COR. TAN. EN. YAL. EN. YAL. II. DENSE
HARD. CR. TR. & LITHO. PINE. DUCK. BLK.
AQUA. & GR. CR. PILL. IT GRAY. BLK. EN. I
TR. WHT. GRAN. COAR. HARD. SOFT. W/
ADD. TO SOFT. INTER-CR. GR. TR. N. S.

80

SIMPSON SAND 4882

-3082

SH. AQUA. CON. CR. & BLK. W/ TR. SOFT. AS
ABOVE. N. S.

4900

SOFT. CR. TR. IT GRAY. BLK. TAN. & BRN. EN.
GRAN. W/ SO. ADD. GR. TR. INTER-CR.
SUB-CHILKY TR. SUB-TR. DENSE. GRAN. SPER
TYPE. W/ ADD. INTER-CR. GR. TR. N. S.

20

SST. AS ABOVE IN MED TO TH GRN BLK
DOLA. SOLE GRN & GRN-CRN SU

40

SST. MED TO TH GRN BLK & DOLA. CONC
SST. CURD & (M) SILVER?

60

SST. DOLA MED TO TH GRN GRN & BLK. STILL
CONC STAINC?

80

SAME AS ABOVE - PRED DOLA SU & SILVER?

5000

BRUCKLE SOIL

3609

SST. LT GRN & BLUE. EN GRANNED. CONC
HARD IN BOOR BOO (INTER-CRAN) TO SST
FAIR INTER-CRAN BOO N S. DOLA. BOO
DOLA. MED TO TH GRN & BLK SU

20

SST. AS ABOVE. DOLA. CONC SU AS ABOVE
DOLA. BLUE GRN & TAN. EN N EN YIN L M &
BLUE & TAN. BOOPLY THOUD-LM DOLA. GRN Y
EN YIN THOUD'S LHM. NO VIT BOO-ALS

40

DOLA - SLL LMY BLUE. TAN & BOO EN Y.
EN YIN. TO EN YIN. SLL SILVER TEXT IN BOO
N S. TO WH. CHICKY L M W SST. SU (DOLA)
& LHM FROM ABOVE

60

SAME IN SST. LT GRN. EN YIN. IN BOO DOLA
& BEAL. HARD LHM - DOLA

80

DOLA - TO LHM. CONC. BLUE. GRN. TAN & BOO
EN YIN. PRED. DENCE & HARD

5100

DOLA - BLUE. GRN. TAN & BOO. EN YIN & EN YIN
TO EN YIN. V. DENSE & HARD. TO LHM & TO
WH. CHICKY L M

20

DOLA AS ABOVE IN SO. SPOTTY SILVER TEXT
PRED. V. DENSE & HARD

40

TRIP FOR BIT @ 5150 - DOLA - CON. BURE.
CAR. TR. TEN. 1. BEN. EN. YIN. SCAT. PROTY
YIN. BOU. POOR. INTER. YIN. POR. - N.S.

BIT TRIP @ 5150 - BOTTOM BOX
ACT. 8. BOTTOM BIT IN.

60

DOLA AS ABOVE IN SCAT. CON. BIT. CON. BOU.
YIN. DOLA. EN. BOU. INTER. YIN. POR. - N.S.

80

DOLA. CON. BURE. BIT. CON. EN. YIN. BOU.
2 MARKS IN SCAT. MID. YIN. IN. BOU. TO. ENIP
INTER. YIN. POR. - N.S.

5200

DOLA. AS ABOVE IN SCAT. IN. MIN. BOU.
BOU. BOU. BOU. TR. MIN. CHIN. IN.

20

SAME AS ABOVE

40

DOLA - CON. BURE. TEN. 1. BEN. EN. YIN. SLIC
TEXT. IN. BOU. IN. TR. BOU. YIN. IN. BOU.
INTER. YIN. POR. - N.S.

60

DOLA AS ABOVE - BOU. INTER. YIN. SLIC
POR. - N.S.

80

DOLA - TEN. 1. BEN. EN. YIN. BOU. SLIC
TEXT. ENIP. SLIC. POR. - N.S. IN. ENIP. BOU.
YIN. YIN. IN. BOU. BOU. ENIP. BOU. - N.S.

5300

DOLA - TEN. 1. BEN. AS ABOVE IN SCAT. ENIP
SLIC. 1. TR. BOU. YIN. BOU. IN. BOU. BOU. N.S.

20

DOLA - TEN. 1. BEN. IN. BOU. AS ABOVE ENIP
V. SCAT. IT. CON. ENIP. V. ENIP. BOU. IN. BOU.
MICO. POR. - N.S.

40

SAME AS ABOVE

60

DOLA-BLUE GR. TEN. BRN. V. DENSE &
HARD. W. LIT. GR. FRESH. SUR. TR. COLL. IT
SUA. W. BRN. L. CHRT. E. W. L. F. P. R. R.
DOLA. CURR. CHRT.

80

SAME AS ABOVE

5400

DOLA-BLUE IT. GR. TEN. BRN. L. CHRT. V.
SCAT. SUIC. & INTER. XLN. FOR. P. L. S. DOLA.
W. L. IT. GR. FRESH. SUR. TRANS. TO
DOLA. CHRT.

20

DOLA / CHRT AS ABOVE

40

SAME. W. FEW. PIECES. IT. GR. L. DOLA.
E. CASE. XLN. FOR. W. L. SCAT. INTER. XLN.
FOR. RE-VIATION. IN. GR. S. N. S.
STILL V. HARD

60

DOLA-BLUE. GR. TEN. L. TR. BRN. CHRT.
MED. XLN. DOLA. FOR. W. L. SCAT. SUIC.
FOR. N. S. P. L. S. DOLA. CHRT. FOR. EN
YLN. DENSE. HARD. DOLA.

80

DOLA AS ABOVE. P. L. S. GR. TEN. V. EN. YLN.
V. DENSE. HARD. LITTLE DOLA. HARD. W. L. IT.
IT. GR. TR. COLL. IT. GR. SUR. TRANS. TO
DOLA. CHRT.

5500

SAME AS ABOVE

20

DOLA-BLUE. IT. GR. F. TEN. EN. YLN. W. SCAT.
SUA. & INTER. XLN. FOR. N. S. M. R. CHRT.
AS ABOVE

40

DOLA-BLUE. GR. TEN. TR. BRN. V. DENSE &
HARD. W. L. SCAT. INTER. XLN. FOR. FOR.
N. S. W. L. GR. W. L. IT. GR. SUR. TRANS. TO
DOLA. CHRT.

60

DINO: BLUE & TAN TR. GRV. PRED. BENT
IN SCAT. SUCR. & INTER. XIN. BOB. PLUS
XIN. & LT. GRV. FRESH. SUB. TRACT. TO
ORAD. & BLK. BUA. (SIMP. DND). GRV. GRV.
UP-HOLE. SM.

TRIP BIT # 9576

80

DINO. CURT. & SU. AC. ABOVE

5600

DINO. BLUE. LT. GRV. & TAN. IN. XIN. PROD.
SCAT. BOB. TO. BOB. INTER. XIN. SUCR. &
TR. VUC. BOB.

20

DINO. AS ABOVE. IN. IMCR. IN. PROD. XIN.
& TR. GRV. XIN. DINO. IN. BOB. INTER. XIN.
& VUC. BOB. BOB. TO. TR. GOOD. N.S.

40

DINO. BLUE. GRV. & TAN. IN. XIN. PROD. BOB.
& BOB. IN. BOB. BOB. TO. BOB. INTER. XIN.
GRV. BOB. PLUS. BOB. IN. (SIMP. DND). GRV. SUB.
TRAND. BOB. CURT.

60

SAME. IN. V. SCAT. BOB. BOB. TO. GRV.
PROD. BOB. & HARD. DINO.

80

DINO. & CURT. AS ABOVE. IN. LT. GRV. & TAN. IN.
XIN. CURT. DINO. IN. BOB. BOB. BOB. BOB.
IN. BOB.

5700

DINO. LT. GRV. & BLUE. IN. XIN. IN. SCAT.
INTER. XIN. & VUC. BOB. N.S. PLUS. CURT. &
DINO. CURT. AS ABOVE.

20

DINO. AS ABOVE. IN. GRV. LT. GRV. BOB. TAN. IN.
GRV. SUB. CURT. & TR. BOB. CURT. AS ABOVE.

40

DINO. AS ABOVE. IN. SCAT. BOB. BOB. IN. GOOD.
BOB. N.S. PLUS. BOB. BOB. BOB. BOB. BOB.
IN. GOOD. INTER. XIN. & VUC. BOB. N.S.

TOTAL DEPTH

5750
-4248

