

STATE CORPORATION COMMISSION OF KANSAS
 OIL & GAS CONSERVATION DIVISION
 WELL COMPLETION FORM
 ACO-1 WELL HISTORY
 DESCRIPTION OF WELL AND LEASE

ORIGINAL

Operator: License # 9953

Name: HARRIS OIL AND GAS COMPANY

Address 1125 17TH STREET SUITE 2290

CONFIDENTIAL

City/State/Zip DENVER, CO 80202

Purchaser: KOCH OIL, and CIG GAS

Operator Contact Person: DAN SOMMER

Phone (303) 293-8838

Contractor: Name: ALLEN DRILLING COMPANY

License: 5548

Wellsite Geologist: DAN SOMMER

Designate Type of Completion

New Well Re-Entry Workover

Oil SWD SIOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl., Cathodic, etc)

If Workover/Re-Entry: old well info as follows:

Operator: N/A

Well Name: _____

Comp. Date _____ Old Total Depth _____

Deepening _____ Re-perf. _____ Conv. to Inj/SWD _____
 Plug Back _____ PSTD _____
 Commingled _____ Docket No. _____
 Dual Completion _____ Docket No. _____
 Other (SWD or Inj?) _____ Docket No. _____

12/7/97 12/17/97 2/10/98
 Spud Date Date Reached TD Completion Date

RELEASED

APR 09 1998

FROM CONFIDENTIAL

API NO. 15-129-215480000

County MORTON

NE - SW - SW Sec. 20 Twp. 33 Rgs. 42 X

990 Feet from W (circle one) Line of Section

990 Feet from E (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:
 NE, SE, NW or SW (circle one)

Lease Name RICH SMITH Well # 1-20

Field Name WILDCAT

Producing Formation UPPER MORROW, KEYES

Elevation: Ground 3547 KB 3557

Total Depth 5175 PSTD 5139

Amount of Surface Pipe Set and Cemented at 1362 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from _____

foot depth to _____ w/ _____ ex cmt.

Drilling Fluid Management Plan ALT 1 JH 5-4-98
 (Data must be collected from the Reserve Pit)

Chloride content _____ ppm Fluid volume _____ bbl.

Watering method used _____

Location of fluid disposal if hauled offsite:

KCC

Operator Name _____

Lease Name _____ License No. _____

Quarter _____ Sec. _____ Twp. _____ S Rng. _____ E/W _____

County _____ Docket No. _____

FEB 10
CONFIDENTIAL

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature Daniel R Sommer

Title EXPLORATION MANAGER Date 2/10/98

Subscribed and sworn to before me this 10 day of February, 1998.

Notary Public Sammy Lynn Adamick

Date Commission Expires March 31, 2001

K.C.C. OFFICE USE ONLY		
F	<input checked="" type="checkbox"/>	Letter of Confidentiality Attached
C	<input checked="" type="checkbox"/>	Wireline Log Received
C	<input checked="" type="checkbox"/>	Geologist Report Received
Distribution		
<input checked="" type="checkbox"/>	KCC	<input type="checkbox"/> SVD/Rep
<input type="checkbox"/>	KGS	<input type="checkbox"/> NGPA
		<input type="checkbox"/> Other (Specify)
FEB 4 2 12 98 2-12-98		

Operator Name Harris Oil and Gas Company Lease Name RICH SMITH Well # 1-20

Sec. 20 Twp. 33 Rge. 42 East West
 County Morton

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem 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 during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken Yes No
 (Attach Additional Sheets.)
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No
 Electric Log Run Yes No
 (Submit Copy.)

List All E.Logs Run:
 DIS, CNS/PDS, MLS
 BY: BPB WIRELINE SERVICES

Log	Formation (Top), Depth and Datum	Sample
Name	Top	Datum
<input checked="" type="checkbox"/>	Kansas City A 3496	+61
	Marmaton 3846	-289
	Cherokee 4075	-518
	Morrow 4378	-821
	Upper Morrow L ₁ Sd 4446	-889
	Upper Morrow L ₂ Sd 4486	-929
	Lower Morrow G Sd 4838	-1281
	Keyes 4855	-1298
	Chester 4936	-1379
	St. Louis 5098	-1541

CASING RECORD <input checked="" 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
Surface	12 1/4"	8 5/8"	24	1360	Lite	475	3% cc 1/4# floccate
					Class A	150	3% cc
Production	7 7/8"	5 1/2"	15 1/2"	5175	ASC	200	5# Gilsonite

ADDITIONAL CEMENTING/SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate	4446-4452	Class A	50	2% cc
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input checked="" type="checkbox"/> Plug Off Zone		Class A	50	None

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type		Acid, Fracture, Shot, Cement Squeeze Record	
	Specify Footage of Each Interval Perforated		(Amount and Kind of Material Used)	Depth
2	5098-5104, 5120-5126: CIBP @ 5075		Acid w/1500g 15% NEFE	same
4	4859-4864 Packer @ 4399'		No Treatment	
2	4446-4452 Packer @ 4462'		1200g 7 1/2% NEFE	same
2	4486-4504		No Treatment	

TUBING RECORD
 Size 2 1/16" Set At 4465 Packer At 0 Liner Run Yes No
2 1/16" 4786 4800

Date of First, Resumed Production, SWD or Inj. 2/10/98 Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
		185	90	MCFD	0			31
	None		1.46	MCFD	0			

Disposition of Gas: Vented Sold Used on Lease (If vented, submit ACO-18.)
 METHOD OF COMPLETION: Open Hole Perf. Dually Comp. Commingled
 Production Interval: 4486-4504
4859-4864

CONFIDENTIAL

RELEASED

APR 09 1999

FROM CONFIDENTIAL

ORIGINAL

ALLIED CEMENTING CO., INC.

P.O. BOX 31
RUSSELL, KS 67665
PH (785) 483-3887
FAX (785) 483-5566

* I N V O I C E *

Invoice Number: 075906

Invoice Date: 01/26/98

KCC

FEB 10

CONFIDENTIAL

Sold Harris Oil & Gas Company
To: Attn: Tammy
1125 17th St., #2290
Denver, CO
80202

Cust I.D.....: Harris
P.O. Number...: SMITH 20
P.O. Date.....: 01/26/98

Due Date.: 02/25/98
Terms.....: Net 30

Item I.D./Desc	Qty. Used	Unit	Price	Net	TX
Common	100.00	SKS	7.5500	755.00	E
Chloride	1.00	SKS	28.0000	28.00	E
Handling	200.00	SKS	1.2000	240.00	E
Mileage (55) 200 sks @ \$.04 per sk per mi	55.00	MILE	8.0000	440.00	E
Squeeze	1.00	JOB	1255.0000	1255.00	E
Mileage pmp trk	55.00	MILE	2.8500	156.75	E
Squeeze Manifold	1.00	EACH	75.0000	75.00	E

All Prices Are Net, Payable 30 Days Following
Date of Invoice. 1 1/2% Charged Thereafter.
If Account CURRENT take Discount of \$ 442.46
ONLY if paid within 30 days from Invoice Date

Subtotal: 2949.75
Tax.....: 0.00
Payments: 0.00
Total...: 2949.75

PETROLEUM MANAGEMENT COMPANY

DATE: _____

TIME: _____

BY: Smith 1-20

REMARKS: Squeeze

120/30-07

H

RECEIVED
STATE CORPORATION COMMISSION
FEB 12 1998
CONSERVATION DIVISION
Wichita, Kansas

RECEIVED
JAN 27 1998
LEGISLATIVE

ref # 23922

ALLIED CEMENTING CO., INC. 8515

Federal Tax I.D.# 48-0727860

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

ORIGINAL

SERVICE POINT: Oakley

DATE <u>1/16/99</u>	SEC. <u>20</u>	TWP. <u>33S</u>	RANGE <u>42W</u>	CALLED OUT	ON LOCATION <u>8:45 AM</u>	JOB START <u>9:20 AM</u>	JOB FINISH <u>12:00 PM</u>
LEASE <u>Smith</u>	WELL# <u>1-20</u>	LOCATION <u>Elkhart 11N1W 4N E/S</u>			COUNTY <u>Morton</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)							

CONFIDENTIAL

CONTRACTOR _____ OWNER Sam

TYPE OF JOB Squeeze

HOLE SIZE _____ T.D. _____

CASING SIZE 5 1/2 15.50 DEPTH 4518 ABP

TUBING SIZE 2 3/4 DEPTH 4332

DRILL PIPE _____ DEPTH _____

TOOL PKA DEPTH 4332

PRES. MAX _____ MINIMUM 50

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. 4446-4452 RELEASED

DISPLACEMENT _____

CEMENT	AMOUNT ORDERED		
	<u>200 sks Class A</u>		
	<u>Used 200 sks Class A 15KCI</u>		
COMMON	<u>100 sks</u>	@ <u>7.55</u>	<u>755.00</u>
POZMIX		@	
GEL		@	
CHLORIDE	<u>1 SA</u>	@ <u>28.00</u>	<u>28.00</u>
		@	
		@	
		@	
		@	
		@	
HANDLING	<u>200</u>	@ <u>1.20</u>	<u>240.00</u>
MILEAGE	<u>200 x .04 x 55</u>		<u>440.00</u>
			TOTAL <u>1463.00</u>

EQUIPMENT APR 09 1999

FROM CONFIDENTIAL

PUMP TRUCK CEMENTER Max

102 HELPER Walt

BULK TRUCK

212 DRIVER Lonnice

BULK TRUCK

_____ DRIVER _____

REMARKS:

SERVICE

Test BP to 1000 PSI Plug Held Spotsand
Load Ann Pressure to 500 PSI Take
Injection Rate 4 BBL/min @ 800 PSI Mix
50 sks Class A + 29 cc + 50 sks Class A
Displace 5 BBL 2000 PSI Squeeze
Circulate Cement out Longway Test
Squeeze to 1200 PSI Squeeze Held

DEPTH OF JOB	<u>4452</u>		
PUMP TRUCK CHARGE			<u>12.55,00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>55 MI</u>	@ <u>2.88</u>	<u>156.75</u>
PLUG		@	
<u>Squeeze Manifold</u>		@ <u>75.00</u>	<u>75.00</u>
		@	
			TOTAL <u>1486.75</u>

CHARGE TO: Harris Oil & Gas

STREET 425 17th St. #2290

CITY Denver STATE Color ZIP 80202

FLOAT EQUIPMENT

_____	@	
_____	@	
RECEIVED	@	
STATE COMMISSION	@	
_____	@	
<u>FEB 12 1999</u>	@	

To Allied Cementing Co., Inc.
 You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE Larry G. Benedict

CONCRETE DIVISION
Wichita, Kansas

TAX _____

TOTAL CHARGE 2949.75

DISCOUNT 442.46 IF PAID IN 30 DAYS

PRINTED NAME _____

RELEASED

APR 09 1999

FROM CONFIDENTIAL

ORIGINAL

CONFIDENTIAL

ALLIED CEMENTING CO., INC.

P.O. BOX 31
RUSSELL, KS 67665
PH (785) 483-3887
FAX (785) 483-5566

* I N V O I C E *

Invoice Number 1076719

Invoice Date: 12/16/97 **KCC**

FEB 10

CONFIDENTIAL

Sold Harris Oil & Gas Company
To: P. O. Box 976
Liberal, KS
67905

Cust I.D.....: Harris
P.O. Number...: Smith 1-20
P.O. Date.....: 12/16/97

Due Date.: 01/15/98
Terms.....: Net 30

Item I.D./Desc.	Qty. Used	Unit	Price	Net	TX
Common	150.00	SKS	7.5500	1132.50	E
ALW	475.00	SKS	7.0500	3348.75	E
Gel	3.00	SKS	9.5000	28.50	E
Chloride	19.00	SKS	28.0000	532.00	E
FloSeal	119.00	LBS	1.1500	136.85	E
Handling	625.00	SKS	1.2000	750.00	E
Mileage (55)	55.00	MILE	25.0000	1375.00	E
625 sks @ \$.04 per sk per mi					
Surface	1.00	JOB	470.0000	470.00	E
Extra Footage	1070.00	PER	0.5000	535.00	E
Mileage pmp trk	55.00	MILE	2.8500	156.75	E
Rubber plug	1.00	EACH	90.0000	90.00	E
Texas Guide Shoe	1.00	EACH	335.0000	335.00	E
AFU Insert	1.00	EACH	358.0000	358.00	E
Centralizers	3.00	EACH	61.0000	183.00	E
Baker Lok	1.00	EACH	30.0000	30.00	E

All Prices Are Net, Payable 30 Days Following Subtotal: 9461.35
 Date of Invoice. 1 1/2% Charged Thereafter. Tax.....: 0.00
 If Account CURRENT take Discount of \$ 1419.20 Payments: 0.00
 ONLY if paid within 30 days from Invoice Date Total....: 9461.35

PETROLEUM MANAGEMENT COMPANY

THIS + COMP. _____
 PART INTANG. _____
 OPERATION EXPENSE _____
 PAGE Sum Th 1-20 _____
 FOR Cement 848 _____

RECEIVED
STATE CORPORATION COMMISSION

FEB 12 1998

CONSERVATION DIVISION
Wichita, Kansas

RECEIVED
DEC 17 1997

APPROVED BY _____

ALLIED CEMENTING CO., INC. 4647

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

ORIGINAL

SERVICE POINT: Neosho City

DATE <u>12-8-97</u>	SEC. <u>20</u>	TWP. <u>33</u>	RANGE <u>42</u>	CALLED OUT <u>12:00am</u>	ON LOCATION <u>5:30am</u>	JOB START <u>11:45am</u>	JOB FINISH <u>1:25pm</u>
LEASE <u>Smith</u>		WELL # <u>1-20</u>	LOCATION <u>Elkhart 11N 1W 1/4 NE S</u>		COUNTY <u>Morton</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)							

CONFIDENTIAL

CONTRACTOR Allen Duly #2

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 1370

CASING SIZE 8 5/8 DEPTH 1369

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT 42

CEMENT LEFT IN CSG. 42

PERFS. _____ RELEASED _____

OWNER Same

CEMENT

AMOUNT ORDERED

<u>475 lbs 3%cc 1/4" Flo Seal per sq</u>			
<u>150 com 3%cc 2 1/2" gel</u>			
COMMON <u>150</u>	@	<u>7.55</u>	<u>1132.50</u>
POZMIX <u>475 ALW</u>	@	<u>7.05</u>	<u>3348.75</u>
GEL <u>3</u>	@	<u>9.50</u>	<u>28.50</u>
CHLORIDE <u>19</u>	@	<u>28.00</u>	<u>532.00</u>
<u>Flo Seal 119 #</u>	@	<u>1.15</u>	<u>136.85</u>
_____	@	_____	_____
_____	@	_____	_____
_____	@	_____	_____
_____	@	_____	_____
HANDLING <u>625</u>	@	<u>1.20</u>	<u>750.00</u>
MILEAGE <u>59</u>			<u>1375.00</u>
TOTAL			<u>\$ 7303.60</u>

EQUIPMENT APR 09 1999

PUMP TRUCK CEMENTER J. Weyhous

224 HELPER B. White

BULK TRUCK DRIVER D. Walls

116

BULK TRUCK DRIVER J. Kelly mt.

257

REMARKS:

SERVICE

Circ 8 5/8 cas, max 475 lbs 3%cc
1/4" Flo Seal per sq, 150 com 3%cc
2 1/2" Gel Disp 8 7/8 BBL, Plus
down 125 pm cont did circ

Thanks

DEPTH OF JOB <u>1370</u>		
PUMP TRUCK CHARGE <u>0-300'</u>		<u>470.00</u>
EXTRA FOOTAGE <u>1070'</u>	@	<u>.50</u> <u>535.00</u>
MILEAGE <u>55</u>	@	<u>2.85</u> <u>156.75</u>
PLUG <u>Rubber</u>	@	<u>90.00</u> <u>90.00</u>
_____	@	_____
_____	@	_____
TOTAL		<u>\$ 1251.75</u>

CHARGE TO: Harris Oil & Gas Co.

STREET P.O. Box 976

CITY Liberal STATE Ks ZIP 67905

FLOAT EQUIPMENT

<u>(Rotex) Saw Tooth</u>			
<u>1- Texas Ankle shoe</u>	@	<u>335.00</u>	<u>335.00</u>
<u>1- AFU Inserts</u>	@	<u>358.00</u>	<u>358.00</u>
<u>3- Center liners</u>	@	<u>61.00</u>	<u>183.00</u>
<u>1- Bakerlok</u>	@	<u>30.00</u>	<u>30.00</u>
_____	@	_____	_____
TOTAL			<u>\$ 906.00</u>

RECEIVED
STATE CORPORATION COMMISSION

FEB 12 1999

CONSERVATION DIVISION
Wichita, Kansas

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

TAX <u>-0-</u>	
TOTAL CHARGE <u>\$ 9461.35</u>	
DISCOUNT <u>\$ 1419.20</u>	IF PAID IN 30 DAYS

Net \$ 8042.15

SIGNATURE [Signature]

RELEASED

APR 09 1999

FROM CONFIDENTIAL

ORIGINAL

CONFIDENTIAL

ALLIED CEMENTING CO., INC.

P.O. BOX 31
RUSSELL, KS 67665
PH (785) 483-3887
FAX (785) 483-5566

* INVOICE *

Invoice Number 82076761

Invoice Date: 12/31/97

KCC

FEB 10

CONFIDENTIAL

Sold Harris Oil & Gas Company
To: P. O. Box 976
Liberal, KS
67905

Cust I.D.....: Harris

P.O. Number...: Smith-Richl-20

P.O. Date.....: 12/31/97

Due Date.: 01/30/98

Terms.....: Net 30

Item I.D./Desc.	Qty. Used	Unit	Price	Net	TX
Class A	15.00	SKS	7.5500	113.25	E
Pozmix	10.00	SKS	3.2500	32.50	E
Gel	1.00	SKS	9.5000	9.50	E
ASC	200.00	SKS	9.0500	1810.00	E
Kol Seal	1000.00	LBS	0.3800	380.00	E
Mud-Clean	500.00	GAL	0.7500	375.00	E
Clapro	13.00	GAL	22.9000	297.70	E
Handling	225.00	SKS	1.2000	270.00	E
Mileage (55)	55.00	MILE	9.0000	495.00	E
225 sks @\$.04 per sk per mi					
Production	1.00	JOB	1414.0000	1414.00	E
Mileage pmp trk	55.00	MILE	2.8500	156.75	E
Rubber-plug	1.00	EACH	50.0000	50.00	E
Guide Shoe	1.00	EACH	168.0000	168.00	E
AFU Insert	1.00	EACH	263.0000	263.00	E
Centralizers	10.00	EACH	56.0000	560.00	E
Baker Lock	1.00	EACH	30.0000	30.00	E

RECEIVED
STATE CORPORATION COMMISSION

FEB 12 1998

CONSERVATION DIVISION
Wichita, Kansas

All Prices Are Net, Payable 30 Days Following
Date of Invoice. 1 1/2% Charged Thereafter.
If Account CURRENT take Discount of \$ 963.70
ONLY if paid within 30 days from Invoice Date

Subtotal: 6424.70
Tax.....: 0.00
Payments: 0.00
Total....: 6424.70

Comp
Smith 1-20
cement 542 ass
/D

Thank You

RECEIVED
JAN 06 1998
WICHITA, KANSAS

CONFIDENTIAL ALLIED CEMENTING CO., INC.

5789

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

ORIGINAL

SERVICE POINT: Medicine Lodge

DATE <u>12-18-97</u>	SEC. <u>20</u>	TWP. <u>33s</u>	RANGE <u>42w</u>	CALLED OUT <u>9:00pm</u>	ON LOCATION <u>3:00 AM</u>	JOB START <u>8:40 AM</u>	JOB FINISH <u>9:30 AM</u>
LEASE <u>Smith-Rich</u>	WELL # <u>1-20</u>		LOCATION <u>EIKHART KS. 1/4, 1/4 N, on 22 1/2</u>	COUNTY <u>Morton</u>	STATE <u>Kansas</u>		

OLD OR NEW (Circle one)

CONTRACTOR <u>Allen Drilling</u>	OWNER <u>Harris Oil & Gas</u>
TYPE OF JOB <u>Production</u>	CEMENT
HOLE SIZE <u>7 7/8</u>	T.D. <u>5175</u>
CASING SIZE <u>5 1/2 x 15.50</u>	DEPTH <u>5179.29</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX <u>1200</u>	MINIMUM <u>100</u>
MEAS. LINE	SHOE JOINT <u>37</u>
CEMENT LEFT IN CSG.	RELEASED
PERFS.	

AMOUNT ORDERED <u>200sx ASC + 5# Kol-seal</u>	
<u>25sx 60:40:6</u>	
<u>500 Gal Mud clean + 13 Gal Clapro</u>	
COMMON CLASS A <u>15sx @ 7.55</u>	<u>113.25</u>
POZMIX <u>10sx @ 3.25</u>	<u>32.50</u>
GEL <u>1sx @ 9.50</u>	<u>9.50</u>
CHLORIDE @	
<u>200 sx ASC @ 9.05</u>	<u>1810.00</u>
<u>1000 lbs Kol-seal @ .38</u>	<u>380.00</u>
<u>500 Gal Mud clean @ .75</u>	<u>375.00</u>
<u>13 Gal Clapro @ 22.90</u>	<u>297.70</u>
HANDLING <u>225 sx @ 1.20</u>	<u>270.00</u>
MILEAGE <u>225 x 55 x .04</u>	<u>495.00</u>

EQUIPMENT

PUMP TRUCK # <u>255-265</u>	CEMENTER <u>Carl Baldina</u>
BULK TRUCK # <u>256-252</u>	HELPER <u>Shane Winsor</u>
BULK TRUCK #	DRIVER <u>Mark Brungardt</u>
BULK TRUCK #	DRIVER

APR 09 1999

FROM CONFIDENTIAL

TOTAL 3782.95

REMARKS:

SERVICE

Pipe on Bottom breaks circulation with Rig, circulate for 1 hour. pump 500 Gal Mud clean, plug Rebt + Mouse Hole w/ 25 sx 60:40:6, start mixing ASC (200 sx) Cement in stop pumps, switch valves + wash pumps + lines, switch valves + release plug. Displace with 125.2 Bl 26 K/L water. (Pump plug float held)

DEPTH OF JOB <u>5179.29</u>	
PUMP TRUCK CHARGE	<u>1414.00</u>
EXTRA FOOTAGE @	
MILEAGE <u>55 @ 2.85</u>	<u>156.75</u>
PLUG <u>Rubber 5 1/2" @ 50.00</u>	<u>50.00</u>

TOTAL 1620.75

CHARGE TO: Harris Oil & Gas
STREET P.O. Box 976
CITY LIBERAL STATE KANSAS ZIP 67905

FLOAT EQUIPMENT

<u>1 Guide shoe @ 168.00</u>	<u>168.00</u>
<u>1-APU inser @ 263.00</u>	<u>263.00</u>
<u>10-Centralizers @ 56.00</u>	<u>560.00</u>
<u>1-Baker lock @ 30.00</u>	<u>30.00</u>

TOTAL 1021.00

RECEIVED
STATE COMMISSION

FEB 12 1998

WICHITA DIVISION
Wichita, Kansas

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

TAX _____
TOTAL CHARGE 6,424.70
DISCOUNT 963.70 IF PAID IN 30 DAYS
NET 5,461.00

SIGNATURE Larry G. Benedick Larry G. Benedick

RELEASED

APR 09 1999

Harris Oil and Gas Company, 1125 17th Street, Suite 2290, Denver, Colorado 80202
(303) 293-8838 · (303) 293-8853 Fax

**EAST WINTER PROSPECT
Rich Smith #1-20**

**NE/4 SW/4 SW/4 Section 20, T33S-R42W
Morton County, Kansas**

API #: 15-129-215480000

DAILY COMPLETION REPORT

CONFIDENTIAL

KCC

FEB 10

CONFIDENTIAL

ORIGINAL

- 02/06/98 MI & RU Coiled Tbg Unit, tag TD in packer mandrell, cleaned out 3 - 4', circ clean. RU slickline, est 1.43 FWG plug in F nipple, sting into packer, screw out plug, latch into packer, unlatched from packer. Pull up, install wrap-around in long string, unable to snub wrap-around through BOP stack. Changed out rams, stung into packer, set Tbg w/ 4000# comp. Flanged up long string, LD Landing Jt, SDFN.
7:30 a.m. - Prep to snub in short string.
- 02/07/98 RU to snub in short string. Ran 2 1/16 x 4' sub w/ muleshoe bottom, 1.43 ID Baker R nipple w/ plug in place, 137 Jts 2 1/6" Tbg. Landed short string @ 4465', SN @ 4460'. RD BOP stack, NU A section. RU slickline unit. Psi long string to 400# w/ N₂. Fish FWG plug from on-off tool. FL @ 3700'. Psi short string to 1000#. Fished equalizing prong, unable to fish plug, FL @ 4000'. RD slickline unit. Installed choke on short string (upper). Blew well down, well kicked off, pinched choke to 18/64, 30 min FTP 105#. Left well open to tank overnight.
- 02/08/98 FTP 150#, FCP 150#, rec 92.6 B/O in 11 1/2 hours, 8 B/hr. SIP lower zone - 540#, SI short string. RU slickline unit. Fished plug. 8:45 a.m., opened lower tank on 3/4" choke, FTS in 7 min, pinched choke to 1/2". 1 1/4 hours rec 13.7 bbls, TP 240#, next hour rec no fluid, TP 245#; venting est 1460 mcf, SI, 2 1/2 min SITP 720#. Hook flowline to short string. 3 hr SITP 280#, SICP 165#, opened short string on 18/64 choke. 1 hour - TP 200#, CP 140#, rec 12.8 bbls. 2 hours - TP 200#, CP 140#, rec 10.1 bbls, left well flowing to tank. RD, released rig.
8:00 a.m. - Prep to build tank battery pad.
- 02/09/98 Produced 169.5 B/O in 22 hours (7.7 B/hr), TP 200#, CP 155#. Built battery pad.

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Wichita, Kansas

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- 12/26/97 RU Schlumberger, ran bond log, good cement to 4180'. PBDT @ 5139'.
- 12/31/97 MI & RU WSR, RU 5 1/2" Csg swab, swab Csg down to 4500', SDFN.
- 01/02/98 Pulled perforators and Tbg on loc. Unloaded 165 Jts 2 3/8", B-grade Tbg, NU BOP. RU Star Jet. Perf St. Louis @ 5098' - 5104' and 5120' - 5126' w/ 4 1/2" Csg Gun, 2 s/ft, no show, swab dry, no show, wait 20 min. Ran swab, rec est 80' of load water, no show, SDFN.
- 01/03/98 SD - mud.
- 01/04/98 SD.
7:30 a.m. - Prep to run Tbg and packer.
- 01/05/98 Ran 5 1/2" ASII packer, 1 25/32 SN, 152 Jts 2 3/8" Tbg, set packer @ 5044'. Ran swab, FL @ 4400', no show. RU Halliburton, acidize w/ 1500 gal 15% NE FE acid and 35 balls. Psi to 2330# and broke to 1850# @ 2.3 BPM, inc to 2480# and broke to 1670# @ 4.2 BPM./ Good ball action, balled off @ 3100#, surged balls, complete flush @ 215# @ 1.1 BPM, ISIP 105#, 15 min 0, total load 60 bbls, rec total 37 bbls in 4 hrs, last 2 hrs rec 7 bbls, FL @ 4500' and scattered, no show of oil or gas, lack 23 BLTR. SDFN.
7:30 a.m. - SITP 20#, FL @ 2600', show of oil on top, cont to test.
- 01/06/98 7:30 a.m. - SITP 20#, FL @ 2600'; now show, released packer, TOO H w/ Tbg and packer. RU Star Jet, set CIBP @ 5075', dump 2 sx cement on top. Perf Keyes (4859' - 4864') w/ 4" Csg Gun - 4 s/ft. FL @ 3600', strong blow, RD Star Jet. 30 min SICP 640#, opened well on 3/4 choke. Blew down in 30 min to lite blow. Ran Csg swab, FL @ 500', pulled 300' fluid, well kicked off, unloading heavy stream of load water. Rec est 20 bbls in 1 1/2 hrs, SI. Hook up to swab tank and choke. 5 min SICP 220#, opened well on 3/4 choke @ 3:30 p.m., 4:30 - CP 170#, venting est 2300 mcf, no fluid, pinched to 1/2" choke. 5:30 - CP 310#, venting est 1900 mcf, no fluid. 5:45 - CP 310#, 1900 mcf, no fluid, SDFN.
- Water Analysis from St. Louis: sp. gr. - 1.050, cl - 51,000, ph - 6.5, res - .10 @ 70°, Iron - 500+. Appears to be some load water.
- 7:30 a.m. - SICP 750#, Cont to test.
- 01/07/98 Opened well on 1/2" choke @ 8:30.
9:30 - CP 195#, no fluid
10:30 - CP 220#
11:30 - CP 230#
12:30 - CP 240#
1:30 - CP 243#
2:30 - CP 249#
3:30 - CP 250#
4:30 - CP 250#
5:00 - CP 250#, no fluid, venting est 1450 mcf. Ran BII bomb, SI for buildup.

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CONSERVATION DIVISION
Wichita, Kansas

EAST WINTER PROSPECT

Rich Smith #1-20

**NE/4 SW/4 SW/4 Section 20, T33S-R42W
Morton County, Kansas**

API #: 15-129-215480000

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FROM CONFIDENTIAL

DAILY COMPLETION REPORT

- 01/08/98 SI.
7:30 a.m. - SICP 713.6# (36 hours), FL @ 4550'. Prep to pull BH bomb, set packer over Upper Keyes perfs, perforate Upper Morrow L-3 Zone from 4446' to 4452', production test.
- 01/09/98 TOO H w/ BHB, SICP 713.6#, SIBHP 949.9#, FL @ 4540'. RU Star Jet, perf Morrow L-3 from 4446' to 4452' w/ 4" Csg Gun, 2 s/ft. Lubricate AS I packer w/ 1.43 ID profile nipple and glass disc assembly on bottom. Set top of Pia @ 4805', did not shear. Worked wireline. Pulled out of rope socket. Blew Csg dead, lite blow, ran overshot, x-over, 1 25/32 SN, 154 Jts Tbg. Latch onto packer, worked packer, pulled loose, good blow on Csg. Lowered packer to 4813', packer not set, very strong blow, carrying lite mist of oil, SI. 1-hr SICP 768#, SDFN.
10:00 a.m. - Prep to set plug in SN. Packer is faulty.
- 01/10/98 10:00 a.m. - SICP 770#, equalize Tbg and Csg @ surface. RU Slickline, break cast iron disc @ 3220'. Ran gauge ring through SN. Set 1.78 OD FWE plug in SN @ 4792'. RD Slickline, SDFN.
- 01/11/98 SI.
7:30 a.m. - SICP 765#.
8:00 a.m. - SICP 765#, Prep to snub Tbg and fish OOH.
- 01/12/98 RU Snubbing Unit, spools, and platform. Snub OOH w/ 82 Jts Tbg, SDFN.
Prep to pull remaining 75 Jts Tbg, should rig down Snubbing Unit this p.m.
- 01/13/98 Finish snubbing tools OOH. Rec all fish, RD Snubbing Unit. RU Wedge Wireline. Lubricate Arrow XLW packer w/ screw out plug in hole, set @ 4800'. RD wireline, CP 750#. Blew down, dead. Ran Csg Swab to 4400', no fluid, no show. 2nd run pulled from 4750', FL @ 4600', show of oil on top, vac behind swab. Wait 1 hour, ran swab to 4750', no fluid, lite show of gas ahead of swab, vac behind swab, SDFN.
7:30 a.m. - SICP 50#, FL @ 4700', rec 10' oil, prep to run Tbg and packer. Prep to acidize and break down the Upper Morrow L-3 Formation.
- 01/14/98 TIH w/ 5 1/2" AS II packer, 1 25/32 SN, 141 Jts Tbg, set packer @ 4399'. RU Howco, acidize w/ 1200 gal 7 1/2% NE FE acid. Psi to 1200# and broke to 870#, inc to 900# @ 1 BPM, 1550# @ 4.4 BPM, FPI 1450# @ 4.5 BPM, ISIP 100#, vac in 1 min, total load 53 1/2 bbls. Ran swab, FL @ 2750', rec 6 bbls, swab dry, set 1 hour, rec est 1/4 bbl, next hour dry. Released packer, ran 1 Jt, hanging @ 4431', next 2 hours rec 1/4 bbl, no show, CP 5#. Rec total 6 1/2 bbls, lack 47 BLTR, SDFN.
7:30 a.m. - SITP 10#, SICP 15#, FL @ 4400'. Gas would burn, slight show of oil, cont to swab.
- 01/15/98 Rec total 1/2 bbl in 4 hours, last 2 hours rec 1/8 B/hr, very slight show of oil on top, good show of gas ahead of swab, vac behind swab, CP 22#, lack 46 1/2 BLTR, TOO H w/ Tbg and packer. Ran 5 1/2 Arrow RBP, AS II packer, 1 25/32 SN, 145 Jts 2 3/8 Tbg, set RBP @ 4518'. Pull packer up to 4332' w/ 141 Jts, did not set, SDFN.
7:30 a.m. - Prep to set packer, then squeeze Upper Morrow L-3 Zone.

FEB 12

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- 01/16/98 SITP 30#, set packer @ 4462', Psi RBP to 1000#, held OK. Spot 2 sx sand on RBP, set packer @ 4326'. Psi Csg to 600#, est inj rate @ 4 BPM @ 800#. Mixed 50 sx Class A w/ 2% cc, 50 sx Class A, squeezed to 2100# w/ 34 sx in formation. Opened bypass, Psi Csg to 2600#, unable to reverse out cement. Psi Tbg to 2800#, circ hole clean. Psi Tbg and Csg to 1200#, held OK, TOO H w/ Tbg and packer, SDFN.
7:30 a.m. - Prep to run bit and collars.
- 01/17/98 Ran 4 7/8" bit, X-over, 3 -3 1/2" OD DC's, 138 Jts 2 3/8 Tbg. Tag top of cement @ 4359', drilled hard to 4454', fell through, circ hole clean, Psi to 1000#, held OK. Circ sand off RBP, RD swivel. TOO H, LD DC's. Ran Ret head, 1 25/32 SN, 146 Jts Tbg, latch onto RBP, swab hole down to 1200'. SDFN.
- 01/18/98 SD
7:30 a.m. - Cont to swab down. Plan to perf Upper Morrow L-2 at approximately 12:00 this afternoon.
- 01/19/98 Swab hole down to 4250', TOO H w/ Tbg and RBP, TIH w/ Perf Gun, lost gun @ 3700', pulled out of rope socket. Ran overshot on wireline. Fished perf gun and collar locator, reran gun. Perf Upper Morrow L-2 from 4486' to 4504' w/ 4" Csg Gun, 2 s/ft, TOO H. Fluid came up to 2600', 15-min SICP 65#. Blew well down to 0, unloaded heavy slug of load water, unloaded several heavy slugs of oil, CP 80#. SIFN.
7:30 a.m. - SICP 350#, cont to flow test.
- 01/20/98 SICP 350#, hook up test separator, opened well on 34/64 choke, FTS in 3 min. Rec total 147 bbls in 8 hours, 100% oil, last 3 hours rec 45 bbls (15 B/hr), 100% oil. FCP 190#, venting 94 mcf on 24/64 choke, sep Psi 70#, pulled gas and oil sample. SIFN.
7:30 a.m. - SICP 320#, cont to test.
- 01/21/98 Open well on 1/2" choke, FTS in 3 min, pinched choke to 20/64". Rec 61.8 bbls - 100% oil in 5 hours, last hour CP 160#, venting 103 mcf, pinched to 18/64" choke. Next 5 hours rec 59.5 bbls, 100% oil. Last 2 hours rec 23 bbls, CP 190#, venting 96 mcf. Rec total 121.3 bbls in 10 hours, no free water. SIFN.
OIL SAMPLE: API gravity 31 @ 60°.
- 01/22/98 SI for Psi buildup.
- 01/23/98 Ran BH bomb, SICP 278.4#, BH Psi 1502.1#, FL @ 1000'.
- 01/27/98 9:00 a.m. - SICP 280#, opened well on 1/2" choke, FTS in 5 min, CP 60#, pinched choke to 18/64, rec total 93 bbls of oil in 8 hours (11.6 B/hr), last 3 hours CP 165# - 175#, rec 35.6 bbls (11.8 B/hr), venting 75 - 80 mcf, SIFN.
7:30 a.m. - SICP 280#, prep to LD 2 3/8 Tbg out of derrick.
- 01/28/98 SITP 280#, drained 14 B/W off frac tank, opened well to frac tank. LD 2 3/8 Tbg out of derrick. Broke out stands and stacked Tbg. Rec total 76 B/O in 6 hours (12.7 B/hr). Last hour FCP 160#, venting 75 mcf, SDFN.
7:30 a.m. - SICP 275#.

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Morton County, Kansas

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API #: 15-129-215480000

FROM CONFIDENTIAL

DAILY COMPLETION REPORT

- 01/29/98 SICP 275#, opened well to test separator @ 8:00 a.m., FTS in 5 min, CP 60#, rec 140 B/O in 12 hours, last 3 hours rec 12 B/hr, CP 180#, venting 73 mcf, SIFN.
- 01/30/98 SICP 290#, opened well on 1/2" choke, FTS in 5 min, CP 60#. Rec 20.1 bbls 1st hour, pinched choke to 18/64, rec 54.4 bbls next 5 hours (10.9 B/hr). Last hour rec 12.5 B/O, CP 175#, venting 83 mcf, SI. Changed rams on BOP to 2 1/16. Koch checked oil from frac tank, grind out 1/10 of 1%, will haul 3 loads.
- 02/02/98 SICP 290#, opened well on 1/2" choke. FTS in 5 min, CP 60#. Pinched to 18/64 choke in 30 min, rec total 129 B/O in 9 hours (14.3 B/hr). Last 2 hours rec 29 bbls, CP 170#, venting 97 mcf, unloaded 292 Jts 2 1/16" Tbg (9529"). PU 2 % and haul to yard, SDFN.
7:30 a.m. - Prep to snub 2 1/16 Tbg in hole, sold 1st oil to Koch on 1/30 - 278 bbls.
- 02/03/98 SICP 300#, RU Snubbing Unit. Ran stinger, seal assembly, 1.43 ID on-off tool w/ plug in place, 147 Jts 2 1/16 Tbg, tag TD @ 4786', 14' fillup, unable to go any deeper, SIFN.
7:30 a.m. - Prep to clean out to packer depth.
- 02/04/98 RU slickline truck. Fished 1.43 FWG plug out of on-off tool. RU coiled Tbg, cleaned out to 4800', circ clean. RU and TIH w/ 1.43 FWG plug. Set down @ 3198', unable to run below tight spot, sheared off plug, attempt to fish plug, unable to run past tight spot. Plug fell to bottom. Psi 2 1/16 Tbg to 3000#, held OK, CP 190#. Blew Tbg down, blew dead, SI, SDFN.
7:30 a.m. - SITP 0, prep to pull Tbg.
- 02/05/98 TOOH w/ 97 Jts 2 1/16 Tbg. LD 2 Jts (crimped). RU 4 stds, RU wireline, tag TD, tools went OK. TIH w/ long string, tag packer. Tag w/ stinger, sting into packer. Lack 5' being able to get to screw out plug. RU slickline. Fish 1.43 FWG plug, Tbg dead, SDFN.
7:30 a.m. - Prep to RU Coiled Tbg Unit.

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Morton County, Kansas

API #: 15-129-215480000

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DAILY COMPLETION REPORT

- 02/06/98 MI & RU Coiled Tbg Unit, tag TD in packer mandrell, cleaned out 3 - 4', circ clean. RU slickline, est 1.43 FWG plug in F nipple, sting into packer, screw out plug, latch into packer, unlatched from packer. Pull up, install wrap-around in long string, unable to snub wrap-around through BOP stack. Changed out rams, stung into packer, set Tbg w/ 4000# comp. Flanged up long string, LD Landing Jt, SDFN.
7:30 a.m. - Prep to snub in short string.
- 02/07/98 RU to snub in short string. Ran 2 1/16 x 4' sub w/ muleshoe bottom, 1.43 ID Baker R nipple w/ plug in place, 137 Jts 2 1/6" Tbg. Landed short string @ 4465', SN @ 4460'. RD BOP stack, NU A section. RU slickline unit. Psi long string to 400# w/ N₂. Fish FWG plug from on-off tool. FL @ 3700'. Psi short string to 1000#. Fished equalizing prong, unable to fish plug, FL @ 4000'. RD slickline unit. Installed choke on short string (upper). Blew well down, well kicked off, pinched choke to 18/64, 30 min FTP 105#. Left well open to tank overnight.
- 02/08/98 FTP 150#, FCP 150#, rec 92.6 B/O in 11 ½ hours, 8 B/hr. SIP lower zone - 540#, SI short string. RU slickline unit. Fished plug. 8:45 a.m., opened lower tank on ¾" choke, FTS in 7 min, pinched choke to ½". 1 ¼ hours rec 13.7 bbls, TP 240#, next hour rec no fluid, TP 245#, venting est 1460 mcf, SI, 2 ½ min SITP 720#. Hook flowline to short string. 3 hr SITP 280#, SICP 165#, opened short string on 18/64 choke. 1 hour - TP 200#, CP 140#, rec 12.8 bbls. 2 hours - TP 200#, CP 140#, rec 10.1 bbls, left well flowing to tank. RD, released rig.
8:00 a.m. - Prep to build tank battery pad.
- 02/09/98 Produced 169.5 B/O in 22 hours (7.7 B/hr), TP 200#, CP 155#. Built battery pad.

FEB 12

CONFIDENTIAL

15-129-21548

WELL NAME: Smith 1-20
COMPANY: Harris Oil & Gas Co.
LOCATION: 20-33S-42W
Morton County, Kansas
DATE: 12/17/97

ORIGINAL

FEB 10

CONFIDENTIAL

RELEASED

APR 09 1999

FROM CONFIDENTIAL

TRILOBITE TESTING L.L.C.

RATOR : HARRIS OIL & GAS CO. DATE 12-14-97
 L NAME: SMITH "1-20" KB 3557.00 ft TICKET NO: 10807 DST #1
 ATION : 20-33S-42W GR 3547.00 ft FORMATION: MORROW
 ERVAL : 4275.00 To 4496.00 ft TD 4496.00 ft TEST TYPE: CONVENTIONAL

ORDER DATA

ns	Field	1	2	3	4	TIME DATA-----
30 Rec.	13630	13630	ALPINE			PF Fr. 1535 to 1605 hr
120 Range(Psi)	4625.0	4625.0	5000.0	0.0	0.0	IS Fr. 1605 to 1805 hr
0 Clock(hrs)	12 HR	12 HR	24 HR			SF Fr. -- to -- hr
0 Depth(ft)	4485.0	4485.0	4277.0	0.0	0.0	FS Fr. -- to -- hr

	Field	1	2	3	4	
Init Hydro	2292.0	2288.0	2145.0	0.0	0.0	T STARTED 1330 hr
First Flow	1068.0	1060.0	964.0	0.0	0.0	T ON BOTM 1532 hr
Final Flow	1229.0	1220.0	1214.0	0.0	0.0	T OPEN 1535 hr
In Shut-in	1419.0	1415.0	1380.0	0.0	0.0	T PULLED 1805 hr
Init Flow	0.0	0.0	0.0	0.0	0.0	T OUT 2400 hr
Final Flow	0.0	0.0	0.0	0.0	0.0	
Fl Shut-in	0.0	0.0	0.0	0.0	0.0	

	Field	1	2	3	4	TOOL DATA-----
Final Hydro	2244.0	2253.0	2119.0	0.0	0.0	Tool Wt. 1800.00 lbs
side/Outside	0	0	I			Wt Set On Packer 24000.00 lbs
						Wt Pulled Loose 25000.00 lbs
						Initial Str Wt 73000.00 lbs
						Unseated Str Wt 79000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 540.00 ft
						D.P. Length 3722.00 ft

COVERY
 : Fluid 4262.00 ft of 540.00 ft in DC and 3722.00 ft in DP
 52.00 ft of CLEAN GASSY OIL 20%GAS 80%OIL
 10 ft of
 10 ft of
 10 ft of
 10 ft of
 10 ft of
 10 ft of
 10 ft of

UNITY 0.00 P.P.M. A.P.I. Gravity 33.00

OW DESCRIPTION
 itial Flow:
 STRONG bottom of bucket in 30 seconds
 Gas to surface in 7 minutes
 Gauged 86,300

Flowing mud immediately ~ flowing
 oil 15 minutes into initial Shutin:

Final Flow or Final Shutin:

MPLES: NONE

NT TO:

Test Successful: Y

RELEASED

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FROM CONFIDENTIAL

MUD DATA-----
 Mud Type CHEM.
 Weight 9.30 lb/cf
 Vis. 54.00 S/L
 W.L. 10.40 in3
 F.C. 0.00 in
 Mud Drop Y 20.0 ft
 Amt. of fill 0.00 ft
 Btm. H. Temp. 114.00 F
 Hole Condition GOOD
 % Porosity 18.00
 Packer Size 6.75 in
 No. of Packers 2
 Cushion Amt. 0.00
 Cushion Type
 Reversed Out Y
 Tool Chased N
 Tester LANNY SALOGA
 Co. Rep. TOMMY DISEKER
 Contr. ALLEN
 Rig # 2
 Unit #
 Pump T.

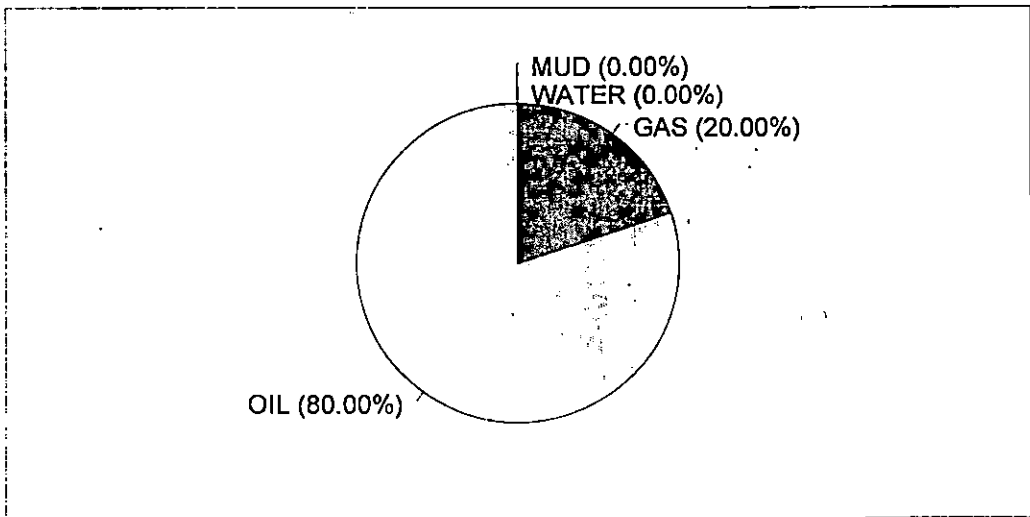
CALCULATED RECOVERY ANALYSIS

DST 1

TICKET 10807

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	3722	20	744.4	80	2977.6		0	0	0
PIPE 2	0	0	0	0	0	0	0	0	0
3	0	0	0		0	0	0	0	0
4	0	0	0		0	0	0		0
5			0		0		0		0
6			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1	540	20	108	80	432		0		0
COLLARS 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	4262		852.4		3409.6		0		0

BBL OIL= 44.45395 * HRS OPEN 2.5 = BBL/DAY 426.7579
 BBL WATER= 0 * HRS OPEN 2.5 = 0
 BBL MUD= 0
 BBL GAS = 11.11349



GAS RECOVERY

COMPANY: HARRIS OIL & GAS CO.

DATE: 12-14-97

WELL NAME: SMITH "1-20"

KB Elev: 3557.00 ft TICKET #10807 DST #1

WELL LOCATION: 20-33S-42W

GR Elev: 3547.00 ft FORMATION: MORROW

INTERVAL Fr.: 4275.00 To 4496.00 T.D.: 4496.00 ft TEST TYPE: CONVENTIONAL

GAS RECOVERY MEASURED WITH MERLA ORFICE

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.50	5	0	78100.0
15	0.50	6	0	86300.0
20	0.50	3	0	59200.0
25	0.50	2	0	47700.0
30	0.50	1	0	33900.0

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 10807

Well Name & No. Smith "1-20" Test No. 1 Date 12-14-97
 Company Harris Oil & Gas Co. Zone Tested Morrow
 Address 1125 17th St. Suite 2290 Denver Co. Elevation 3557 KB 3547 GL
 Co. Rep / Geo. Tommy Disler Cont. Allen Rig 2 Est. Ft. of Pay 11 Por. 18 %
 Location: Sec. 20 Twp. 33S Rge. 42W Co. Morton State Ks.
 No. of Copies 5 Distribution Sheet (Y, N) Y Turnkey (Y, N) N Evaluation (Y, N)

Interval Tested 4275 - 4496 Initial Str Wt./Lbs. 73000 Unseated Str Wt./Lbs. 79000
 Anchor Length 221 Wt. Set Lbs. 24000 Wt. Pulled Loose/Lbs. 25000
 Top Packer Depth 4270 Tool Weight 1800
 Bottom Packer Depth 4275 Hole Size — 7 7/8" Rubber Size — 6 3/4"
 Total Depth 4496 Wt. Pipe Run — Drill Collar Run 540
 Mud Wt. 9.3 LCM 4# Vis. 54 WL 10.4 Drill Pipe Size 4 1/2 XH. Ft. Run 3722 15' up

Blow Description String OBB in 30 sec. GTS in 7 min. "See Flow Chart"
Shut-In tool at 30 min. "Flowing mud immediately"
Flowing Oil 15 min into T.S.T.P.
Pulled loose "Reversed Flow to Reserve Pit"

Recovery — Total Feet	GIP	Ft. in DC	Ft. in DP
<u>4,262</u>	<u>—</u>	<u>540</u>	<u>3722</u>
Rec. <u>4,262</u> Feet Of <u>Clear Gassy Oil</u>		<u>20</u> % gas	<u>80</u> % oil
Rec. _____ Feet Of _____		% gas	% oil
Rec. _____ Feet Of _____		% gas	% oil
Rec. _____ Feet Of _____		% gas	% oil
Rec. _____ Feet Of _____		% gas	% oil

BHT 114 °F Gravity 3.3 °API D@ 60 °F Corrected Gravity 3.3 °API

RW — @ — °F Chlorides — ppm Recovery Chlorides 1,400 ppm System

(A) Initial Hydrostatic Mud	PSI	Recorder No.	T-Started
<u>2292 / 2145</u>		<u>3017 71321</u>	<u>1:30 P.M.</u>
(B) First Initial Flow Pressure	PSI	(depth)	T-Open
<u>1068 / 964</u>		<u>4277</u>	<u>3:35 P.M.</u>
(C) First Final Flow Pressure	PSI	Recorder No.	T-Pulled
<u>1229 / 1214</u>		<u>13630</u>	<u>6:05 P.M.</u>
(D) Initial Shut-in Pressure	PSI	(depth)	T-Out
<u>1419 / 1380</u>		<u>4485</u>	<u>12:00 A.M.</u>
(E) Second Initial Flow Pressure	PSI	Recorder No.	
<u>— / —</u>		<u>—</u>	
(F) Second Final Flow Pressure	PSI	(depth)	
<u>— / —</u>		<u>—</u>	
(G) Final Shut-in Pressure	PSI	Initial Opening	Test
<u>— / —</u>		<u>30</u>	<u>✓</u>
(H) Final Hydrostatic Mud	PSI	Initial Shut-in	Jars
<u>2244 / 2119</u>		<u>120</u>	<u>✓</u>

C1471321.017

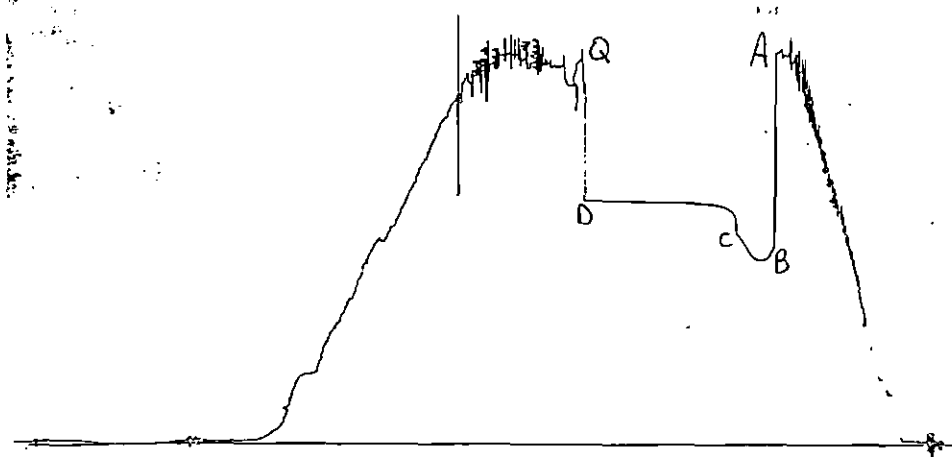
TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By [Signature]
 Our Representative [Signature]

Final Flow — Safety Joint ✓
 Final Shut-in — Straddle —
 Circ. Sub ✓
 Sampler —
 Extra Packer —
 Elect. Rec ✓
 Other 35.00
 TOTAL PRICE \$ 416.00

CHART PAGE

13630 DST /
Smith 1-20



This is a photocopy of the actual AK-1 recorder chart

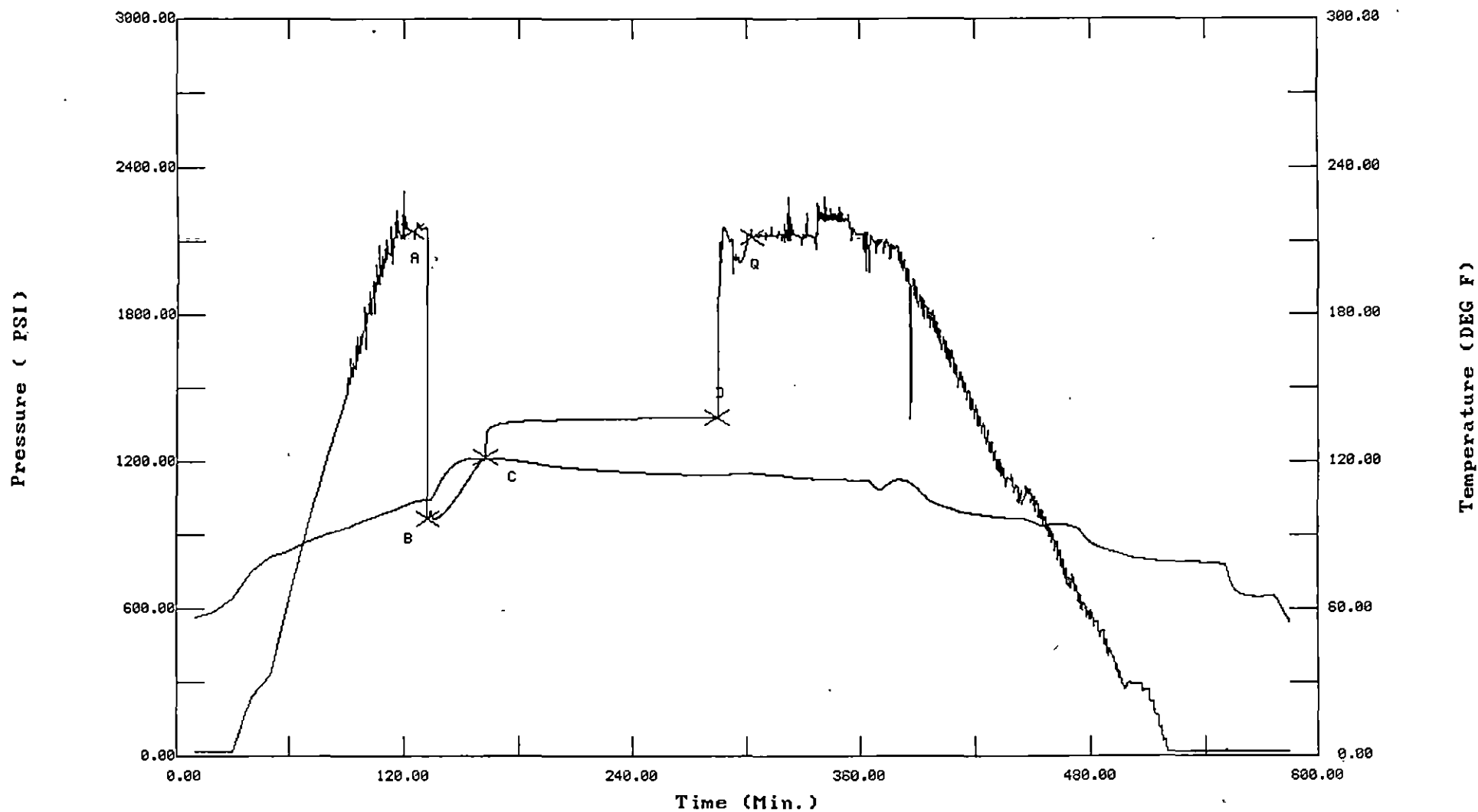
TEST HISTORY

10007 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS

Flag Points

t(Min.) P(PSI)

A:	0.00	2145.18
B:	0.00	964.01
C:	30.00	1214.91
D:	122.00	1300.14
Q:	0.00	2119.00



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
DATE: 12/14/97 TIME: 13:21:53

	Time	Pressure	delta P	Temp.	(T+dT)/dT	P^2/10^6
		PSI	PSI	DEG F		
***** Final Hydro.	303.00	2119.8	0.0	115.11		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS

DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
109.75	1379.1	164.2	114.64	1.2733	1.902
110.00	1379.2	164.3	114.63	1.2727	1.902
110.25	1379.2	164.3	114.63	1.2721	1.902
110.50	1379.3	164.4	114.62	1.2715	1.902
110.75	1379.3	164.4	114.62	1.2709	1.903
111.00	1379.3	164.4	114.62	1.2703	1.903
111.25	1379.3	164.4	114.61	1.2697	1.903
111.50	1379.4	164.5	114.60	1.2691	1.903
111.75	1379.4	164.5	114.60	1.2685	1.903
112.00	1379.4	164.5	114.59	1.2679	1.903
112.25	1379.4	164.5	114.58	1.2673	1.903
112.50	1379.4	164.5	114.58	1.2667	1.903
112.75	1379.4	164.5	114.57	1.2661	1.903
113.00	1379.4	164.5	114.57	1.2655	1.903
113.25	1379.4	164.5	114.56	1.2649	1.903
113.50	1379.4	164.5	114.56	1.2643	1.903
113.75	1379.4	164.5	114.55	1.2637	1.903
114.00	1379.4	164.5	114.55	1.2632	1.903
114.25	1379.4	164.5	114.54	1.2626	1.903
114.50	1379.4	164.5	114.54	1.2620	1.903
114.75	1379.4	164.5	114.53	1.2614	1.903
115.00	1379.4	164.5	114.53	1.2609	1.903
115.25	1379.4	164.4	114.52	1.2603	1.903
115.50	1379.3	164.3	114.53	1.2597	1.902
115.75	1379.3	164.3	114.51	1.2592	1.902
116.00	1379.3	164.4	114.51	1.2586	1.903
116.25	1379.4	164.5	114.51	1.2581	1.903
116.50	1379.5	164.6	114.50	1.2575	1.903
116.75	1379.6	164.6	114.50	1.2570	1.903
117.00	1379.6	164.7	114.48	1.2564	1.903
117.25	1379.5	164.6	114.48	1.2559	1.903
117.50	1379.5	164.6	114.48	1.2553	1.903
117.75	1379.5	164.6	114.47	1.2548	1.903
118.00	1379.6	164.7	114.47	1.2542	1.903
118.25	1379.5	164.6	114.46	1.2537	1.903
118.50	1379.7	164.7	114.46	1.2532	1.903
118.75	1379.8	164.8	114.44	1.2526	1.904
119.00	1379.8	164.9	114.44	1.2521	1.904
119.25	1379.9	165.0	114.43	1.2516	1.904
119.50	1379.9	165.0	114.43	1.2510	1.904
119.75	1379.9	165.0	114.43	1.2505	1.904
120.00	1379.9	165.0	114.43	1.2500	1.904
120.25	1379.9	165.0	114.43	1.2495	1.904
120.50	1379.9	165.0	114.43	1.2490	1.904
120.75	1380.0	165.1	114.43	1.2484	1.904
121.00	1380.1	165.2	114.43	1.2479	1.905
121.25	1380.2	165.3	114.43	1.2474	1.905
121.50	1380.2	165.3	114.43	1.2469	1.905
121.75	1380.2	165.3	114.43	1.2464	1.905
122.00	1380.1	165.2	114.42	1.2459	1.905

***** End Shut-in 1

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P _a PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
97.00	1378.1	163.1	114.98	1.3093	1.899
97.25	1378.1	163.2	114.98	1.3085	1.899
97.50	1378.1	163.2	114.96	1.3077	1.899
97.75	1378.2	163.2	114.95	1.3069	1.899
98.00	1378.2	163.2	114.95	1.3061	1.899
98.25	1378.1	163.2	114.94	1.3053	1.899
98.50	1378.1	163.2	114.94	1.3046	1.899
98.75	1378.1	163.2	114.93	1.3038	1.899
99.00	1378.2	163.3	114.92	1.3030	1.899
99.25	1378.2	163.3	114.91	1.3023	1.899
99.50	1378.2	163.3	114.91	1.3015	1.899
99.75	1378.2	163.2	114.91	1.3008	1.899
100.00	1378.1	163.2	114.89	1.3000	1.899
100.25	1377.9	163.0	114.88	1.2993	1.899
100.50	1377.9	163.0	114.88	1.2985	1.899
100.75	1377.9	163.0	114.88	1.2978	1.899
101.00	1378.0	163.1	114.87	1.2970	1.899
101.25	1378.1	163.2	114.86	1.2963	1.899
101.50	1378.2	163.3	114.85	1.2956	1.899
101.75	1378.2	163.3	114.85	1.2948	1.900
102.00	1378.3	163.4	114.84	1.2941	1.900
102.25	1378.3	163.4	114.83	1.2934	1.900
102.50	1378.3	163.4	114.82	1.2927	1.900
102.75	1378.2	163.3	114.82	1.2920	1.899
103.00	1378.2	163.3	114.82	1.2913	1.899
103.25	1378.3	163.3	114.81	1.2906	1.900
103.50	1378.4	163.5	114.81	1.2899	1.900
103.75	1378.5	163.6	114.80	1.2892	1.900
104.00	1378.6	163.6	114.79	1.2885	1.900
104.25	1378.6	163.6	114.78	1.2878	1.900
104.50	1378.6	163.7	114.77	1.2871	1.900
104.75	1378.5	163.6	114.77	1.2864	1.900
105.00	1378.5	163.6	114.77	1.2857	1.900
105.25	1378.5	163.6	114.75	1.2850	1.900
105.50	1378.5	163.6	114.75	1.2844	1.900
105.75	1378.6	163.7	114.74	1.2837	1.901
106.00	1378.6	163.7	114.74	1.2830	1.901
106.25	1378.6	163.7	114.73	1.2824	1.901
106.50	1378.7	163.8	114.72	1.2817	1.901
106.75	1378.8	163.9	114.71	1.2810	1.901
107.00	1378.9	164.0	114.71	1.2804	1.901
107.25	1379.0	164.1	114.71	1.2797	1.902
107.50	1379.1	164.2	114.70	1.2791	1.902
107.75	1379.1	164.2	114.69	1.2784	1.902
108.00	1379.1	164.2	114.68	1.2778	1.902
108.25	1379.1	164.2	114.68	1.2771	1.902
108.50	1379.1	164.2	114.67	1.2765	1.902
108.75	1379.1	164.2	114.66	1.2759	1.902
109.00	1379.1	164.2	114.65	1.2752	1.902
109.25	1379.1	164.1	114.65	1.2746	1.902
109.50	1379.1	164.2	114.64	1.2740	1.902

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
84.25	1376.7	161.7	115.41	1.3561	1.895
84.50	1376.8	161.8	115.41	1.3550	1.895
84.75	1376.8	161.9	115.38	1.3540	1.896
85.00	1376.9	162.0	115.39	1.3529	1.896
85.25	1377.0	162.1	115.37	1.3519	1.896
85.50	1377.0	162.0	115.36	1.3509	1.896
85.75	1377.0	162.1	115.36	1.3499	1.896
86.00	1377.1	162.2	115.34	1.3488	1.896
86.25	1377.2	162.3	115.34	1.3478	1.897
86.50	1377.3	162.4	115.33	1.3468	1.897
86.75	1377.3	162.4	115.32	1.3458	1.897
87.00	1377.3	162.4	115.32	1.3448	1.897
87.25	1377.3	162.4	115.30	1.3438	1.897
87.50	1377.5	162.6	115.29	1.3429	1.897
87.75	1377.5	162.5	115.28	1.3419	1.897
88.00	1377.5	162.5	115.27	1.3409	1.897
88.25	1377.3	162.4	115.27	1.3399	1.897
88.50	1377.3	162.4	115.25	1.3390	1.897
88.75	1377.3	162.4	115.24	1.3380	1.897
89.00	1377.4	162.4	115.24	1.3371	1.897
89.25	1377.4	162.5	115.22	1.3361	1.897
89.50	1377.4	162.5	115.23	1.3352	1.897
89.75	1377.5	162.6	115.21	1.3343	1.897
90.00	1377.6	162.6	115.21	1.3333	1.898
90.25	1377.6	162.7	115.19	1.3324	1.898
90.50	1377.6	162.7	115.17	1.3315	1.898
90.75	1377.7	162.7	115.17	1.3306	1.898
91.00	1377.7	162.7	115.16	1.3297	1.898
91.25	1377.7	162.8	115.16	1.3288	1.898
91.50	1377.8	162.9	115.15	1.3279	1.898
91.75	1377.9	162.9	115.14	1.3270	1.898
92.00	1377.9	163.0	115.13	1.3261	1.899
92.25	1377.9	163.0	115.13	1.3252	1.899
92.50	1377.9	163.0	115.11	1.3243	1.899
92.75	1377.9	163.0	115.11	1.3235	1.899
93.00	1377.9	162.9	115.10	1.3226	1.898
93.25	1377.8	162.9	115.09	1.3217	1.898
93.50	1377.7	162.8	115.07	1.3209	1.898
93.75	1377.7	162.8	115.08	1.3200	1.898
94.00	1377.7	162.8	115.06	1.3191	1.898
94.25	1377.7	162.8	115.05	1.3183	1.898
94.50	1377.7	162.8	115.06	1.3175	1.898
94.75	1377.7	162.8	115.06	1.3166	1.898
95.00	1377.7	162.8	115.05	1.3158	1.898
95.25	1377.8	162.9	115.05	1.3150	1.898
95.50	1377.8	162.9	115.02	1.3141	1.898
95.75	1377.9	163.0	115.01	1.3133	1.899
96.00	1378.0	163.0	115.01	1.3125	1.899
96.25	1378.0	163.1	115.01	1.3117	1.899
96.50	1378.0	163.1	115.00	1.3109	1.899
96.75	1378.0	163.1	114.99	1.3101	1.899

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
 TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P^2/10^6
71.50	1375.4	160.5	115.96	1.4196	1.892
71.75	1375.3	160.4	115.95	1.4181	1.892
72.00	1375.5	160.5	115.92	1.4167	1.892
72.25	1375.6	160.7	115.92	1.4152	1.892
72.50	1375.6	160.7	115.91	1.4138	1.892
72.75	1375.6	160.7	115.90	1.4124	1.892
73.00	1375.6	160.7	115.89	1.4110	1.892
73.25	1375.6	160.7	115.88	1.4096	1.892
73.50	1375.7	160.8	115.87	1.4082	1.893
73.75	1375.8	160.8	115.86	1.4068	1.893
74.00	1375.8	160.9	115.85	1.4054	1.893
74.25	1375.9	160.9	115.83	1.4040	1.893
74.50	1375.9	160.9	115.82	1.4027	1.893
74.75	1375.9	161.0	115.82	1.4013	1.893
75.00	1375.9	161.0	115.80	1.4000	1.893
75.25	1376.0	161.1	115.79	1.3987	1.893
75.50	1376.0	161.1	115.79	1.3974	1.893
75.75	1376.0	161.1	115.75	1.3960	1.893
76.00	1376.0	161.1	115.74	1.3947	1.893
76.25	1376.0	161.1	115.74	1.3934	1.893
76.50	1376.0	161.1	115.72	1.3922	1.893
76.75	1376.0	161.1	115.72	1.3909	1.893
77.00	1375.8	160.9	115.70	1.3896	1.893
77.25	1375.7	160.7	115.70	1.3883	1.892
77.50	1375.5	160.6	115.68	1.3871	1.892
77.75	1375.8	160.8	115.67	1.3859	1.893
78.00	1375.9	161.0	115.66	1.3846	1.893
78.25	1376.0	161.1	115.65	1.3834	1.893
78.50	1376.1	161.2	115.64	1.3822	1.894
78.75	1376.2	161.3	115.63	1.3810	1.894
79.00	1376.2	161.3	115.61	1.3797	1.894
79.25	1376.3	161.4	115.60	1.3785	1.894
79.50	1376.3	161.4	115.60	1.3774	1.894
79.75	1376.4	161.5	115.59	1.3762	1.894
80.00	1376.4	161.5	115.57	1.3750	1.894
80.25	1376.4	161.5	115.57	1.3738	1.895
80.50	1376.5	161.5	115.55	1.3727	1.895
80.75	1376.5	161.6	115.54	1.3715	1.895
81.00	1376.5	161.6	115.54	1.3704	1.895
81.25	1376.5	161.6	115.51	1.3692	1.895
81.50	1376.5	161.6	115.51	1.3681	1.895
81.75	1376.6	161.7	115.50	1.3670	1.895
82.00	1376.5	161.5	115.49	1.3659	1.895
82.25	1376.5	161.5	115.48	1.3647	1.895
82.50	1376.5	161.6	115.49	1.3636	1.895
82.75	1376.5	161.6	115.48	1.3625	1.895
83.00	1376.6	161.7	115.46	1.3614	1.895
83.25	1376.7	161.8	115.45	1.3604	1.895
83.50	1376.7	161.7	115.44	1.3593	1.895
83.75	1376.7	161.8	115.44	1.3582	1.895
84.00	1376.6	161.7	115.42	1.3571	1.895

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
58.75	1374.1	159.2	116.62	1.5106	1.888
59.00	1374.2	159.3	116.60	1.5085	1.888
59.25	1374.2	159.3	116.60	1.5063	1.889
59.50	1374.3	159.4	116.58	1.5042	1.889
59.75	1374.3	159.4	116.56	1.5021	1.889
60.00	1374.3	159.4	116.55	1.5000	1.889
60.25	1374.3	159.4	116.54	1.4979	1.889
60.50	1374.4	159.5	116.52	1.4959	1.889
60.75	1374.5	159.6	116.50	1.4938	1.889
61.00	1374.5	159.6	116.49	1.4918	1.889
61.25	1374.5	159.6	116.48	1.4898	1.889
61.50	1374.7	159.8	116.47	1.4878	1.890
61.75	1374.5	159.6	116.45	1.4858	1.889
62.00	1374.5	159.6	116.44	1.4839	1.889
62.25	1374.5	159.6	116.43	1.4819	1.889
62.50	1374.5	159.6	116.41	1.4800	1.889
62.75	1374.4	159.5	116.40	1.4781	1.889
63.00	1374.4	159.5	116.39	1.4762	1.889
63.25	1374.3	159.4	116.37	1.4743	1.889
63.50	1374.4	159.5	116.36	1.4724	1.889
63.75	1374.5	159.6	116.35	1.4706	1.889
64.00	1374.5	159.6	116.34	1.4688	1.889
64.25	1374.6	159.7	116.31	1.4669	1.890
64.50	1374.6	159.7	116.31	1.4651	1.890
64.75	1374.6	159.7	116.29	1.4633	1.890
65.00	1374.6	159.7	116.28	1.4615	1.890
65.25	1374.6	159.7	116.26	1.4598	1.889
65.50	1374.5	159.6	116.25	1.4580	1.889
65.75	1374.6	159.7	116.25	1.4563	1.890
66.00	1374.6	159.7	116.23	1.4545	1.890
66.25	1374.7	159.8	116.23	1.4528	1.890
66.50	1374.7	159.8	116.21	1.4511	1.890
66.75	1374.7	159.8	116.20	1.4494	1.890
67.00	1374.8	159.9	116.17	1.4478	1.890
67.25	1374.9	160.0	116.16	1.4461	1.890
67.50	1375.0	160.1	116.14	1.4444	1.891
67.75	1375.0	160.1	116.14	1.4428	1.891
68.00	1375.0	160.1	116.13	1.4412	1.891
68.25	1375.0	160.1	116.13	1.4396	1.891
68.50	1374.9	160.0	116.11	1.4380	1.890
68.75	1375.0	160.1	116.10	1.4364	1.891
69.00	1375.1	160.2	116.09	1.4348	1.891
69.25	1375.3	160.3	116.09	1.4332	1.891
69.50	1375.3	160.4	116.06	1.4317	1.891
69.75	1375.3	160.4	116.05	1.4301	1.891
70.00	1375.3	160.4	116.04	1.4286	1.891
70.25	1375.1	160.2	116.02	1.4270	1.891
70.50	1375.2	160.2	116.01	1.4255	1.891
70.75	1375.3	160.4	116.00	1.4240	1.891
71.00	1375.3	160.4	115.98	1.4225	1.891
71.25	1375.3	160.4	115.97	1.4211	1.891

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P^2/10^6
46.00	1372.1	157.2	117.42	1.6522	1.883
46.25	1372.2	157.3	117.40	1.6486	1.883
46.50	1372.1	157.2	117.38	1.6452	1.883
46.75	1372.2	157.3	117.37	1.6417	1.883
47.00	1372.2	157.3	117.36	1.6383	1.883
47.25	1372.2	157.3	117.33	1.6349	1.883
47.50	1372.3	157.4	117.33	1.6316	1.883
47.75	1372.3	157.4	117.30	1.6283	1.883
48.00	1372.0	157.1	117.28	1.6250	1.882
48.25	1372.0	157.1	117.26	1.6218	1.882
48.50	1372.1	157.2	117.24	1.6186	1.883
48.75	1372.2	157.3	117.22	1.6154	1.883
49.00	1372.3	157.4	117.21	1.6122	1.883
49.25	1372.3	157.4	117.20	1.6091	1.883
49.50	1372.3	157.4	117.19	1.6061	1.883
49.75	1372.4	157.5	117.17	1.6030	1.884
50.00	1372.5	157.6	117.15	1.6000	1.884
50.25	1372.5	157.6	117.14	1.5970	1.884
50.50	1372.5	157.6	117.11	1.5941	1.884
50.75	1372.2	157.3	117.10	1.5911	1.883
51.00	1372.2	157.3	117.08	1.5882	1.883
51.25	1372.3	157.4	117.07	1.5854	1.883
51.50	1372.6	157.7	117.05	1.5825	1.884
51.75	1372.7	157.8	117.03	1.5797	1.884
52.00	1372.8	157.9	117.02	1.5769	1.885
52.25	1373.0	158.1	116.99	1.5742	1.885
52.50	1373.1	158.2	116.98	1.5714	1.885
52.75	1373.0	158.1	116.97	1.5687	1.885
53.00	1373.1	158.2	116.96	1.5660	1.885
53.25	1373.1	158.2	116.95	1.5634	1.885
53.50	1373.0	158.1	116.93	1.5607	1.885
53.75	1373.0	158.1	116.91	1.5581	1.885
54.00	1373.1	158.2	116.90	1.5556	1.885
54.25	1373.2	158.3	116.88	1.5530	1.886
54.50	1373.3	158.4	116.87	1.5505	1.886
54.75	1373.4	158.5	116.86	1.5479	1.886
55.00	1373.5	158.6	116.84	1.5455	1.886
55.25	1373.5	158.6	116.83	1.5430	1.887
55.50	1373.5	158.6	116.81	1.5405	1.887
55.75	1373.5	158.6	116.80	1.5381	1.887
56.00	1373.5	158.6	116.78	1.5357	1.887
56.25	1373.4	158.5	116.76	1.5333	1.886
56.50	1373.3	158.4	116.75	1.5310	1.886
56.75	1373.3	158.4	116.73	1.5286	1.886
57.00	1373.4	158.5	116.71	1.5263	1.886
57.25	1373.5	158.6	116.70	1.5240	1.887
57.50	1373.6	158.7	116.69	1.5217	1.887
57.75	1373.7	158.8	116.67	1.5195	1.887
58.00	1373.8	158.9	116.66	1.5172	1.887
58.25	1373.8	158.9	116.64	1.5150	1.887
58.50	1374.0	159.1	116.63	1.5128	1.888

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P^2/10^6
33.25	1369.4	154.5	118.47	1.9023	1.875
33.50	1369.5	154.6	118.46	1.8955	1.875
33.75	1369.5	154.6	118.42	1.8889	1.876
34.00	1369.5	154.6	118.40	1.8824	1.875
34.25	1369.3	154.4	118.38	1.8759	1.875
34.50	1369.2	154.3	118.36	1.8696	1.875
34.75	1369.2	154.3	118.33	1.8633	1.875
35.00	1369.3	154.4	118.31	1.8571	1.875
35.25	1369.5	154.6	118.29	1.8511	1.876
35.50	1369.7	154.8	118.27	1.8451	1.876
35.75	1369.9	155.0	118.25	1.8392	1.877
36.00	1370.0	155.1	118.23	1.8333	1.877
36.25	1370.1	155.2	118.20	1.8276	1.877
36.50	1370.2	155.3	118.18	1.8219	1.878
36.75	1370.2	155.3	118.15	1.8163	1.878
37.00	1370.2	155.3	118.13	1.8108	1.878
37.25	1370.3	155.3	118.11	1.8054	1.878
37.50	1370.3	155.4	118.08	1.8000	1.878
37.75	1370.4	155.5	118.07	1.7947	1.878
38.00	1370.5	155.6	118.04	1.7895	1.878
38.25	1370.6	155.7	118.02	1.7843	1.879
38.50	1370.6	155.7	118.00	1.7792	1.879
38.75	1370.7	155.8	117.98	1.7742	1.879
39.00	1370.6	155.7	117.96	1.7692	1.879
39.25	1370.6	155.7	117.94	1.7643	1.879
39.50	1370.7	155.8	117.92	1.7595	1.879
39.75	1370.8	155.9	117.89	1.7547	1.879
40.00	1370.8	155.9	117.88	1.7500	1.879
40.25	1370.8	155.9	117.86	1.7453	1.879
40.50	1370.9	156.0	117.83	1.7407	1.879
40.75	1371.0	156.1	117.82	1.7362	1.880
41.00	1371.1	156.2	117.79	1.7317	1.880
41.25	1371.2	156.3	117.77	1.7273	1.880
41.50	1371.2	156.3	117.75	1.7229	1.880
41.75	1371.1	156.2	117.73	1.7186	1.880
42.00	1371.0	156.1	117.71	1.7143	1.880
42.25	1370.9	156.0	117.70	1.7101	1.879
42.50	1370.8	155.9	117.67	1.7059	1.879
42.75	1370.8	155.9	117.66	1.7018	1.879
43.00	1370.7	155.8	117.64	1.6977	1.879
43.25	1370.8	155.9	117.62	1.6936	1.879
43.50	1371.0	156.1	117.60	1.6897	1.880
43.75	1371.3	156.4	117.58	1.6857	1.880
44.00	1371.5	156.6	117.56	1.6818	1.881
44.25	1371.6	156.7	117.55	1.6780	1.881
44.50	1371.8	156.9	117.52	1.6742	1.882
44.75	1371.9	157.0	117.51	1.6704	1.882
45.00	1371.9	157.0	117.49	1.6667	1.882
45.25	1372.0	157.1	117.47	1.6630	1.882
45.50	1372.0	157.1	117.47	1.6593	1.883
45.75	1372.1	157.2	117.44	1.6557	1.883

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
20.50	1364.8	149.9	119.77	2.4634	1.863
20.75	1365.0	150.1	119.75	2.4458	1.863
21.00	1365.2	150.3	119.72	2.4286	1.864
21.25	1365.3	150.4	119.69	2.4118	1.864
21.50	1365.5	150.6	119.66	2.3953	1.865
21.75	1365.5	150.6	119.63	2.3793	1.865
22.00	1365.6	150.7	119.61	2.3636	1.865
22.25	1365.6	150.7	119.58	2.3483	1.865
22.50	1365.7	150.8	119.56	2.3333	1.865
22.75	1365.7	150.8	119.53	2.3187	1.865
23.00	1365.9	151.0	119.49	2.3043	1.866
23.25	1366.1	151.1	119.47	2.2903	1.866
23.50	1366.2	151.3	119.44	2.2766	1.866
23.75	1366.3	151.4	119.42	2.2632	1.867
24.00	1366.4	151.5	119.38	2.2500	1.867
24.25	1366.6	151.7	119.36	2.2371	1.868
24.50	1366.7	151.8	119.33	2.2245	1.868
24.75	1366.8	151.8	119.31	2.2121	1.868
25.00	1366.9	152.0	119.27	2.2000	1.868
25.25	1367.0	152.1	119.26	2.1881	1.869
25.50	1367.1	152.2	119.22	2.1765	1.869
25.75	1367.2	152.3	119.19	2.1650	1.869
26.00	1367.2	152.3	119.16	2.1538	1.869
26.25	1367.2	152.2	119.14	2.1429	1.869
26.50	1367.3	152.4	119.13	2.1321	1.869
26.75	1367.3	152.4	119.09	2.1215	1.870
27.00	1367.4	152.5	119.07	2.1111	1.870
27.25	1367.5	152.6	119.03	2.1009	1.870
27.50	1367.6	152.7	119.01	2.0909	1.870
27.75	1367.7	152.8	118.99	2.0811	1.871
28.00	1367.7	152.8	118.95	2.0714	1.871
28.25	1367.7	152.8	118.93	2.0619	1.871
28.50	1367.8	152.8	118.91	2.0526	1.871
28.75	1367.9	152.9	118.89	2.0435	1.871
29.00	1368.0	153.1	118.86	2.0345	1.871
29.25	1368.2	153.2	118.84	2.0256	1.872
29.50	1368.2	153.3	118.81	2.0169	1.872
29.75	1368.3	153.4	118.78	2.0084	1.872
30.00	1368.3	153.4	118.77	2.0000	1.872
30.25	1368.3	153.4	118.73	1.9917	1.872
30.50	1368.2	153.3	118.68	1.9836	1.872
30.75	1368.3	153.4	118.68	1.9756	1.872
31.00	1368.4	153.5	118.67	1.9677	1.872
31.25	1368.5	153.6	118.67	1.9600	1.873
31.50	1368.7	153.8	118.67	1.9524	1.873
31.75	1368.8	153.9	118.65	1.9449	1.874
32.00	1369.0	154.0	118.62	1.9375	1.874
32.25	1369.0	154.1	118.59	1.9302	1.874
32.50	1369.1	154.2	118.55	1.9231	1.874
32.75	1369.2	154.3	118.53	1.9160	1.875
33.00	1369.3	154.4	118.50	1.9091	1.875

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING
 TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
7.75	1353.8	138.9	120.96	4.8710	1.833
8.00	1354.2	139.3	120.95	4.7500	1.834
8.25	1354.7	139.8	120.94	4.6364	1.835
8.50	1355.0	140.1	120.92	4.5294	1.836
8.75	1355.3	140.4	120.92	4.4286	1.837
9.00	1355.6	140.7	120.90	4.3333	1.838
9.25	1356.0	141.1	120.90	4.2432	1.839
9.50	1356.4	141.5	120.88	4.1579	1.840
9.75	1356.7	141.8	120.86	4.0769	1.841
10.00	1357.0	142.1	120.84	4.0000	1.842
10.25	1357.3	142.4	120.83	3.9268	1.842
10.50	1357.7	142.8	120.81	3.8571	1.843
10.75	1357.9	143.0	120.79	3.7907	1.844
11.00	1358.1	143.2	120.77	3.7273	1.844
11.25	1358.3	143.4	120.76	3.6667	1.845
11.50	1358.5	143.6	120.73	3.6087	1.846
11.75	1358.5	143.6	120.71	3.5532	1.846
12.00	1358.8	143.9	120.69	3.5000	1.846
12.25	1359.2	144.3	120.67	3.4490	1.848
12.50	1359.5	144.6	120.65	3.4000	1.848
12.75	1359.9	145.0	120.63	3.3529	1.849
13.00	1360.2	145.3	120.60	3.3077	1.850
13.25	1360.5	145.6	120.57	3.2642	1.851
13.50	1360.8	145.8	120.55	3.2222	1.852
13.75	1360.9	146.0	120.52	3.1818	1.852
14.00	1360.9	146.0	120.50	3.1429	1.852
14.25	1361.1	146.1	120.47	3.1053	1.852
14.50	1361.2	146.3	120.45	3.0690	1.853
14.75	1361.4	146.5	120.42	3.0339	1.853
15.00	1361.5	146.6	120.39	3.0000	1.854
15.25	1361.6	146.7	120.36	2.9672	1.854
15.50	1361.8	146.9	120.33	2.9355	1.855
15.75	1362.2	147.3	120.31	2.9048	1.856
16.00	1362.4	147.5	120.29	2.8750	1.856
16.25	1362.8	147.8	120.26	2.8462	1.857
16.50	1363.0	148.0	120.23	2.8182	1.858
16.75	1363.1	148.2	120.20	2.7910	1.858
17.00	1363.2	148.3	120.17	2.7647	1.858
17.25	1363.3	148.4	120.15	2.7391	1.859
17.50	1363.3	148.4	120.12	2.7143	1.859
17.75	1363.4	148.5	120.10	2.6901	1.859
18.00	1363.6	148.6	120.07	2.6667	1.859
18.25	1363.7	148.8	120.04	2.6438	1.860
18.50	1363.7	148.8	120.01	2.6216	1.860
18.75	1363.9	149.0	119.98	2.6000	1.860
19.00	1364.1	149.2	119.94	2.5789	1.861
19.25	1364.3	149.4	119.93	2.5584	1.861
19.50	1364.4	149.5	119.89	2.5385	1.862
19.75	1364.4	149.5	119.86	2.5190	1.862
20.00	1364.4	149.5	119.84	2.5000	1.862
20.25	1364.7	149.7	119.80	2.4815	1.862

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS
 DATE: 12/14/97 TIME: 13:21:53

	Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P^2/10^6
	25.25	1176.4	212.4	121.21		
	25.50	1179.1	215.1	121.22		
	25.75	1181.3	217.3	121.22		
	26.00	1183.7	219.7	121.21		
	26.25	1186.0	222.0	121.21		
	26.50	1188.3	224.3	121.21		
	26.75	1190.8	226.7	121.21		
	27.00	1193.1	229.1	121.21		
	27.25	1195.2	231.2	121.21		
	27.50	1197.3	233.3	121.20		
	27.75	1199.2	235.2	121.20		
	28.00	1201.2	237.1	121.19		
	28.25	1202.4	238.4	121.17		
	28.50	1203.9	239.9	121.17		
	28.75	1205.5	241.5	121.16		
	29.00	1207.2	243.2	121.16		
	29.25	1208.6	244.6	121.15		
	29.50	1211.0	247.0	121.13		
	29.75	1213.0	249.0	121.13		
***** End Flow 1	30.00	1214.9	250.9	121.12		
***** Start Shutin 1	0.00	1214.9	0.0	121.12	0.0000	1.476
	0.25	1248.6	33.7	121.11	121.0000	1.559
	0.50	1298.6	83.7	121.10	61.0000	1.686
	0.75	1314.5	99.6	121.09	41.0000	1.728
	1.00	1322.5	107.6	121.08	31.0000	1.749
	1.25	1327.2	112.3	121.07	25.0000	1.761
	1.50	1330.2	115.3	121.07	21.0000	1.769
	1.75	1332.8	117.9	121.05	18.1429	1.776
	2.00	1335.0	120.1	121.05	16.0000	1.782
	2.25	1336.7	121.8	121.05	14.3333	1.787
	2.50	1338.1	123.2	121.04	13.0000	1.791
	2.75	1339.5	124.6	121.04	11.9091	1.794
	3.00	1340.7	125.8	121.04	11.0000	1.797
	3.25	1341.9	127.0	121.02	10.2308	1.801
	3.50	1343.0	128.1	121.02	9.5714	1.804
	3.75	1344.0	129.1	121.03	9.0000	1.806
	4.00	1344.8	129.9	121.03	8.5000	1.808
	4.25	1345.6	130.7	121.02	8.0588	1.811
	4.50	1346.4	131.5	121.02	7.6667	1.813
	4.75	1347.1	132.2	121.02	7.3158	1.815
	5.00	1347.8	132.9	121.02	7.0000	1.817
	5.25	1348.6	133.7	121.01	6.7143	1.819
	5.50	1349.3	134.3	121.01	6.4545	1.820
	5.75	1349.8	134.9	121.01	6.2174	1.822
	6.00	1350.4	135.5	121.01	6.0000	1.824
	6.25	1350.9	136.0	120.99	5.8000	1.825
	6.50	1351.5	136.6	120.99	5.6154	1.827
	6.75	1352.2	137.3	120.99	5.4444	1.828
	7.00	1352.7	137.7	120.98	5.2857	1.830
	7.25	1353.1	138.2	120.97	5.1379	1.831
	7.50	1353.5	138.6	120.97	5.0000	1.832

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS

DATE: 12/14/97 TIME: 13:21:53

Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
12.50	1025.3	61.3	117.99		
12.75	1027.9	63.9	118.16		
13.00	1030.3	66.3	118.33		
13.25	1031.2	67.2	118.48		
13.50	1034.9	70.9	118.67		
13.75	1038.6	74.5	118.75		
14.00	1042.1	78.1	118.90		
14.25	1045.2	81.2	119.04		
14.50	1048.0	84.0	119.17		
14.75	1051.1	87.1	119.30		
15.00	1054.1	90.1	119.43		
15.25	1056.8	92.8	119.54		
15.50	1059.6	95.6	119.65		
15.75	1061.1	97.1	119.75		
16.00	1064.9	100.9	119.86		
16.25	1068.6	104.5	119.96		
16.50	1071.9	107.9	119.94		
16.75	1075.5	111.5	120.13		
17.00	1078.8	114.8	120.23		
17.25	1082.2	118.2	120.30		
17.50	1086.2	122.2	120.37		
17.75	1089.3	125.3	120.44		
18.00	1092.4	128.4	120.51		
18.25	1095.1	131.1	120.57		
18.50	1098.3	134.3	120.64		
18.75	1101.4	137.4	120.69		
19.00	1104.6	140.6	120.74		
19.25	1107.5	143.5	120.78		
19.50	1110.6	146.5	120.83		
19.75	1113.3	149.3	120.87		
20.00	1116.2	152.2	120.90		
20.25	1118.6	154.6	120.95		
20.50	1121.6	157.6	120.98		
20.75	1124.3	160.3	121.01		
21.00	1127.2	163.2	121.03		
21.25	1129.5	165.4	121.05		
21.50	1133.3	169.3	121.07		
21.75	1136.2	172.2	121.09		
22.00	1138.7	174.7	121.10		
22.25	1140.8	176.8	121.13		
22.50	1143.7	179.7	121.15		
22.75	1146.6	182.6	121.16		
23.00	1150.3	186.3	121.16		
23.25	1154.3	190.3	121.18		
23.50	1157.6	193.6	121.20		
23.75	1160.6	196.6	121.21		
24.00	1163.5	199.5	121.21		
24.25	1166.0	202.0	121.21		
24.50	1168.7	204.7	121.21		
24.75	1171.4	207.4	121.21		
25.00	1174.0	210.0	121.21		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10807 D.S.T.#1 SMITH "1-20" HARRIS OIL & GAS

DATE: 12/14/97 TIME: 13:21:53

	Time	Pressure PSI	delta P PSI	Temp. DEG F	(T+dT)/dT	P ² /10 ⁶
***** Initial Hydro.	124.00	2145.2	0.0	103.07		
***** Start Flow 1	0.00	964.0	0.0	104.21		
	0.25	966.1	2.1	104.22		
	0.50	973.0	9.0	104.25		
	0.75	981.2	17.2	104.28		
	1.00	989.8	25.8	104.33		
	1.25	993.5	29.5	104.43		
	1.50	992.7	28.7	104.60		
	1.75	988.4	24.4	104.86		
	2.00	979.3	15.3	105.15		
	2.25	973.9	9.9	105.44		
	2.50	971.1	7.1	105.83		
	2.75	967.4	3.4	106.11		
	3.00	964.4	0.3	106.50		
	3.25	964.0	-0.0	106.89		
	3.50	965.2	1.1	107.32		
	3.75	964.6	0.6	107.69		
	4.00	964.0	-0.0	108.09		
	4.25	966.1	2.0	108.47		
	4.50	966.1	2.1	108.87		
	4.75	966.9	2.9	109.25		
	5.00	967.7	3.7	109.64		
	5.25	968.7	4.7	110.03		
	5.50	969.2	5.2	110.38		
	5.75	969.2	5.2	110.77		
	6.00	970.7	6.7	111.14		
	6.25	972.2	8.2	111.47		
	6.50	973.8	9.8	111.84		
	6.75	975.4	11.4	112.20		
	7.00	977.0	13.0	112.48		
	7.25	978.7	14.6	112.84		
	7.50	980.6	16.6	113.15		
	7.75	981.7	17.7	113.47		
	8.00	983.3	19.3	113.78		
	8.25	984.4	20.4	114.08		
	8.50	986.4	22.4	114.37		
	8.75	989.7	25.7	114.64		
	9.00	990.4	26.4	114.92		
	9.25	993.2	29.2	115.20		
	9.50	995.6	31.6	115.46		
	9.75	998.2	34.2	115.72		
	10.00	1000.5	36.5	115.96		
	10.25	1002.9	38.9	116.19		
	10.50	1005.4	41.4	116.42		
	10.75	1008.1	44.0	116.64		
	11.00	1010.6	46.6	116.86		
	11.25	1013.0	49.0	117.05		
	11.50	1015.4	51.4	117.26		
	11.75	1018.1	54.1	117.45		
	12.00	1020.3	56.3	117.63		
	12.25	1022.8	58.8	117.82		

