

12-13-2011



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FILE_CAB_DRAWER_

Animas TFD 55-7
Well History.
Hidalgo County, New Mexico

STEAM RESERVES CORPORATION
ANIMAS 55 WELL NO. 7
HIDALGO COUNTY, NEW MEXICO
JAN. 7, 1985

BD2-165

EASTMAN WHIPSTOCK, INC.
MAGNETIC MULTI SHOT SURVEY
SURVEYOR: TROY ONEY

WT0185-S0160
(360'-1031')



VERTICAL SECTION CALCULATED IN PLANE OF PROJECTION
DIRECTION: N 0 DEG 0 MIN
ZERO POINT AT 0.00 A PETROBRAS COMPANY

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

STEAM RESERVES CORPORATION
 ANIMAS 55 WELL NO. 7
 HIDALGO COUNTY, NEW MEXICO

BD2-165

COMPUTATION
 TIME DATE
 07:57:40 07-JAN-84

PAGE NO. 1

MEASURED DEPTH FEET	DRIFT ANGLE D M	DRIFT DIRECTION D	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES FEET		DOGLEG SEVERITY DG/100FT
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360.	0 0	0	0.	360.00	0.00	0.00	0.00	0.00
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CASING ASSUMED VERTICAL TO 360 FT.

373.	0 15	N 58 W	13.	373.00	0.01	0.01 N	0.02 W	1.92
465.	0 45	S 83 W	92.	465.00	0.19	0.19 N	0.79 W	0.63
559.	0 15	N 58 W	94.	558.99	0.36	0.36 N	1.58 W	0.61
654.	0 15	N 65 W	95.	653.99	0.56	0.56 N	1.94 W	0.03

748.	0 15	S 34 W	94.	747.99	0.46	0.46 N	2.31 W	0.35
842.	0 15	S 20 W	94.	841.99	0.09	0.09 N	2.49 W	0.06
937.	0 30	S 7 W	95.	934.99	0.51	0.51 S	2.64 W	0.28
1031.	1 15	S 17 W	94.	1030.98	-1.91	1.91 S	2.93 W	0.81



FINAL CLOSURE - DIRECTION: S 56 DEGS 53 MINS W PETROLANE COMPANY
 DISTANCE: 3.50 FEET

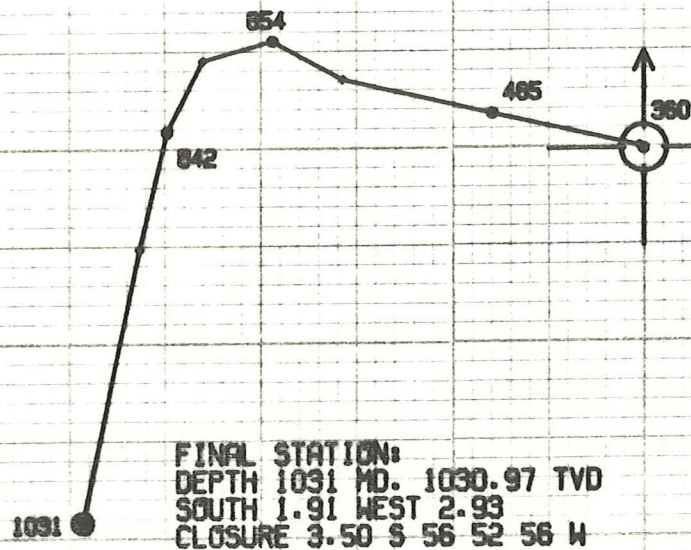
STEAM RESERVES CORPORATION
ANIMAS 55 WELL NO. 7
HIDALGO COUNTY, NEW MEXICO

BD2-165

HORIZONTAL PROJECTION

SCALE 1 IN. = 1 FEET
DEPTH INDICATOR: MD

EASTMAN WHIPSTOCK, INC.



DAILY DRILLING REPORT

Well No. 55-7

Report No. 52

Date: 2/18/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 2/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 7001' TD Drilled -- to -- Footage cut last 24 hours 0'

Mud / Air Temperature in °F. Out °F. Mud Cooler On/Off Mud Loss last 24 hrs

Mud Weight Vis. Waterloss cc PH Mud Cost last 24 hrs

Hole Size 12 1/4 " Deviation Surveys

Bit #

Stabilizers, Reamers

Shocksups and other

Lithology

Gases

Loss Circulation - Other

Mudlogger Engineer/ Drilling Foreman Day Geologist M. Connelly

ADDITIONAL REPORT 18 hrs rigging down. Willbros rig #1 & crews off payroll @ midnight 2/18/85

Well History

	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u> to <u>1050'</u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>
Other	<u> </u>	<u> </u>	<u> </u> to <u> </u>

EXPENDITURES

Budgeted
 Forward
 Daily Cost 42,111
 TOTAL TO DATE 1,283,766

Cement Report

DAILY DRILLING REPORT

Report No. 51

Well No. 55-7

Date: 2/17/85

Location NW of SE Sec 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 7001' Drilled -- to -- Footage cut last 24 hours 0'

Mud / Air temperature in °F. Out °F. Mud Cooler On/Off Mud Loss last 24 hrs.

Mud Weight Vis. Waterloss cc. PH Mud Cost last 24 hrs.

Hole Size 12 1/4 " Deviation Surveys

Bit #

Stabilizers, Reamers

Shocksups and other

Lithology

Gases

Loss Circulation - Other

Mudlogger Engineer/ Drilling Foreman Day Geologist M. Connelly

ADDITIONAL REPORT 24 hrs rigging down

Well History	Hole Size	Casing Size	Interval	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>
Other	<u> </u>	<u> </u>	<u> </u>	to <u> </u>

EXPENDITURES	
Budgeted	<u> </u>
Forward	<u> </u>
Daily Cost	<u>5,409</u>
TOTAL TO DATE	<u>1,241,655</u>

Cement Report

DAILY DRILLING REPORT

Report No. 50
Date: 2/16/85

Well No. 55-7
Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84
Rig No. 1

County, State Hidalgo, NM Contractor Willbros

Present Depth 7001' TD Drilled -- to -- Footage cut last 24 hours 0'

Mud / Air temperature in °F. Out °F. Mud Cooler On/OFF Mud Loss last 24 hrs

Mud Weight Vis. Waterloss cc PH Mud Cost last 24 hrs

Hole Size 12 1/4 " Deviation Surveys

Bit #

Stabilizers, Reamers

Shocksups and other

Lithology

Gases

Loss Circulation - Other

Mudlogger Engineer/ Drilling Foreman Day Geologist M. Connelly

ADDITIONAL REPORT 2 hrs flange down BOP, 2 hrs rig up casing crew & lay down machine, 1 hr run 90 joints of 2 7/8" EUE tubing in hole (3018'), 8 hrs wait on wellhead adapter, 4 hrs land tubing & nipple up wellhead, 7 hrs rig down (2 days rigging down period starts Sat. 2/16 @midnight)

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted <u> </u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>	Forward <u> </u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>27,954</u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>	TOTAL TO DATE <u>1,236,246</u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>	
Other	<u> </u>	<u> </u>	<u> </u>	to <u> </u>	

Cement Report

DAILY DRILLING REPORT

Well No. 55-7

Report No. 49

Date: 2/15/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 7001' TD Drilled 7001' to 7001' Footage cut last 24 hours 0'

Mud / Air _____ temperature in _____ °F. Out _____ °F. Mud Cooler On/OFF _____ Mud Loss last 24 hrs _____

Mud Weight _____ Vis. _____ Waterloss _____ cc. PH _____ Mud Cost last 24 hrs _____

Hole Size 12 1/4 " Deviation Surveys _____

Bit # _____

Stabilizers, Reamers _____

Shocksups and other _____

Lithology _____

Gases _____

Loss Circulation - Other _____

Mudlogger _____ Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 4.5 hrs POH with plug pipe, 2.5 hrs unplug Monel, 3.5 hrs RIH with drl collars & drl pipe, 2 hrs circl & cond. mud, 6 hrs rig up and lay down drl pipe & drl collars, 5.5 hrs nipple down blow out preventor

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
			Start	End	Budgeted	Actual
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>		
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>		
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050</u>		
Liner	_____	_____	_____	to _____		
Liner	_____	_____	_____	to _____		
Other	_____	_____	_____	to _____		
Cement Report	_____					

Budgeted _____
 Forward _____
 Daily Cost 8939
 TOTAL TO DATE 1,208,642

DAILY DRILLING REPORT

Well No. 55-7

Report No. 40 48

Location NW of SE SEC 7 T 25S R 19W

Date: 2/14/85

County, State Hidalgo, NM Contractor Willbros

Spud Date 12/29/84

Present Depth 7001' TD Drilled -- to -- Footage cut last 24 hours --

Rig No. 1

Mud / Air Temperature in °E. Out °E. Mud Cooler On/Off Mud Loss last 24 hrs

Mud Weight Vis. Waterloss cc PH Mud Cost last 24 hrs 70,491 TTL

Hole Size 12 1/4 " Deviation Surveys

Bit # run #21, bit #18 rerun

Stabilizers, Reamers

Shocksups and other

Lithology

Gases

Loss Circulation - Other

Mudlogger released Engineer/ Drilling Foreman Day Geologist M. Connelly

ADDITIONAL REPORT 21.5 hrs rig up Schlumberger and run dual induction & SP, gamma, borehole compensated, sonic, comp. neutron, dip meter, caliper, temp log, rig down Schlumberger, 2.5 hrs pick up rerun bit & RIH

Well History	Hole Size	Casing Size	Interval	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050'</u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>
Liner	<u> </u>	<u> </u>	<u> </u>	to <u> </u>
Other	<u> </u>	<u> </u>	<u> </u>	to <u> </u>

EXPENDITURES	
Budgeted	<u> </u>
Forward	<u> </u>
Daily Cost	<u>56,586</u>
TOTAL TO DATE	<u>1,198,187</u>

Cement Report

DAILY DRILLING REPORT

Well No. 55-7

Report No. 47

Location NW of SE sec 7 T 25S R 19W

Date: 2/13/85

County, State Hidalgo, NM Contractor Willbros

Spud Date 2/29/84

Present Depth 7001TD Drilled 6854 to 7001 Footage cut last 24 hours 147'

Rig No. 1

Mud / Air mud temperature in 131 °F. Out 152 °F. Mud Cooler On/OFF on Mud Loss last 24 hrs. _____

Mud Weight 9.4 Vis. 38 Waterloss 7.8 cc. PH 11.5 Mud Cost last 24 hrs. 2313; 70,491

Hole Size 12 1/4 " Deviation Surveys 6956: 17 1/4°N75W

Bit # 20 out @ 7001; made 817' in 78 hrs

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 6850-6860: 100% sandst; 6860-6870: 40% sandst, 60% granite; 6870-7001: 100% granite

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 15.5 hrs drlg, 1.5 hrs survey & 10 stands short trip, 1/2 hr drlg to TD 7001', 3.5 hrs circ & condition hole & mud for logs, 3 hrs POH, lay down BHA

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to	<u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to	<u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to	<u>1050</u>	Daily Cost <u>10,941</u>
Liner	_____	_____	_____	to	_____	TOTAL TO DATE <u>1,141,601</u>
Liner	_____	_____	_____	to	_____	
Other	_____	_____	_____	to	_____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 46

Well No. 55-7

Date: 2/12/85

Location NW of SE sec 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 6854 Drilled 6592 to 6854 Footage cut last 24 hours 262

Mud / Air mud temperature in 123 °F. Out 146 °F. Mud Cooler On/Off on Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 39 Waterloss 7.6 cc PH 11 Mud Cost last 24 hrs 1162; 68,178

Hole Size 12 1/4 " Deviation Surveys 6800: 14°45'N75W

Bit # 20, same

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 6590-6630: 100% intrusive; 6630-6660: 5-40% intrusive, 60-95% dolomite; 6660-6680: 100% dolom; 6680-6710: 80-100% dolom, 10% limest, 5-10% shale; 6710-6750: 90-100% dolom, 10% shale; 6750-6780: 80-100% dolom, 20% intrus; 6780-6800: 30-100% dolom, 40-70% limest; 6800-6830: 20% limest, 80% silica deposit.

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 1/2 hr finish survey @ 6549, 22 hrs drlg, 1 hr circ & survey @ 6800; 1/2 hr drlg

(drlg break @ 6625' from 13-21'/hr; 6685: 15-26'/hr

GASES: C₁ 6650-6770 9-45ppm

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
					Budgeted	Forward
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>		
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____		
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>		Daily Cost <u>10,078</u>
Liner	_____	_____	_____	to _____		TOTAL TO DATE <u>1,130,660</u>
Liner	_____	_____	_____	to _____		
Other	_____	_____	_____	to _____		

Cement Report _____

DAILY DRILLING REPORT

Report No. 45

Well No. 55-7

Date: 2/11/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 2/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 6592 Drilled 6372 to 6592 Footage cut last 24 hours 220

Mud / Air mud temperature in 122 °F. Out 146 °F. Mud Cooler On/Off on Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 41 Waterloss 7.4 cc. PH 11 Mud Cost last 24 hrs 2015; 67,016

Hole Size 12 1/4 " Deviation Surveys 6549: 11 3/4°N74W

Bit # 20, same

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 6370-6390: 100% limest; 6390-6450: 30-80% limest, 20-70% dolomite; 6450-6470: 100% limest; 6470-6490: silica deposit (70%), limest (10%), dolom (20-30%); 6490-6580: 100% dolom

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 23.5 hrs drlg, 1/2 hr circ for survey

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>13,183</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>1,117,495</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 44

Well No. 55-7

Date: 2/10/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 6372 Drilled 6184 to 6372 Footage cut last 24 hours 188'

Mud / Air mud temperature in 122 °F. Out 145 °F. Mud Cooler On/Off ON Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 38 Waterloss 7.2 cc PH 11 Mud Cost last 24 hrs 2,113; 65,001

Hole Size 12 1/4 " Deviation Surveys 6299: 8 1/2° N70W

Bit # 20, Reed HS51J #939813

Stabilizers, Reamers BHA bit #20 + Driltrol 3. reamer, used + Monel + drl collars + crossover + drl pipe

Shocksups and other _____

Lithology 6180-6200: 80% dolomite, 10% limest, 10% shale; 6200-6350: 100% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 4 hrs cont temp survey, 1 hr pick up bit #20 and BHA & RIH, 1/2 hr break circ @2103', 1/2 hr RIH, 1/2 hr break circ @4077, 1/2 hr RIH, 14.5 hrs drlg, 1 hr circ & survey, 1.5 hrs drlg

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>20,180</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>1,104,312</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 43

Date: 2/9/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 2/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 6184 Drilled 6184 to 6184 Footage cut last 24 hours 0'

Mud / Air -- temperature in -- °F. Out -- °F. Mud Cooler On/OFF off Mud Loss last 24 hrs ---

Mud Weight -- Vis. -- Waterloss -- cc. PH -- Mud Cost last 24 hrs --; 62,888 TTL

Hole Size 12 1/4 " Deviation Surveys --

Bit # ---

Stabilizers, Reamers ---

Shocksups and other ---

Lithology ---

Gases ---

Loss Circulation - Other ---

Mudlogger Gonzales Engineer/ Drilling Foreman --- Day --- Geologist M. Connelly

ADDITIONAL REPORT 3 hrs POH with bit #19, lay down BHA, 21 hrs run temp survey

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted <u>---</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>	Forward <u>---</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>9,206</u>
Liner	<u>---</u>	<u>---</u>	<u>---</u>	to <u>---</u>	TOTAL TO DATE <u>1,084,132</u>
Liner	<u>---</u>	<u>---</u>	<u>---</u>	to <u>---</u>	
Other	<u>---</u>	<u>---</u>	<u>---</u>	to <u>---</u>	

Cement Report ---

DAILY DRILLING REPORT

Report No. 42

Well No. 55-7

Date: 2/8/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 6184 Drilled 5990 to _____ Footage cut last 24 hours 194

Mud / Air mud temperature in 122 °F. Out 146 °F. Mud Cooler On/OFF on Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 40 Waterloss 7.2 cc PH 11 Mud Cost last 24 hrs 2540; 62,888

Hole Size 12 1/4 " Deviation Surveys 6037: 6 3/4° N67W

Bit # 19, Reed FP51A, #PXT14104

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 5970-5980: 70% siltst, 30% limest; 5980-6070: 100% limest; 6070-6100: 85% limest, 15% chert; 6100-6140: 60% limest, 40% dolomite; 6140-6170: 100% dolomite; 6170-6180: 70% dolomite, 20% limest, 10% shale

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 9.5 hrs drlg, 1 hr survey, 11.5 hrs drlg, 2 hrs circ & cond mud in hole for wireline survey

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u> to <u>1050'</u>	Daily Cost <u>11,298</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>1,074,886</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Well No. 55-7

Report No. 41

Location NW of SE SEC 7 T 25S R 19W

Date: 2/7/85

County, State Hidalgo, NM Contractor Willbros

Spud Date 2/29/84

Present Depth 5990 Drilled 5826 to 5990 Footage cut last 24 hours 164'

Rig No. 1

Mud / Air mud temperature in 125 °F. Out 145 °F. Mud Cooler On/Off on

Mud Weight 9.3 Vis. 47 Waterloss 7 cc PH 11.5

Mud Loss last 24 hrs _____

Hole Size 12 1/4 " Deviation Surveys 5924: 5 1/2° N71W

Mud Cost last 24 hrs 1492; 60,348

Bit # same

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 5810-5820: 90% siltst, 10% marl; 5820-5850: 100% silt; 5850-5910: 100% argillite; 5910-5960: 80% arg, igneous
intrusive dike; 5960-5970: 100% siltst

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____

Geologist M. Connelly

ADDITIONAL REPORT 13.5 hrs drlg, 1 hr cir & survey, 9.5 hrs drlg

Well History

	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u> to <u>1050'</u>
Liner	_____	_____	_____ to _____
Liner	_____	_____	_____ to _____
Other	_____	_____	_____ to _____

Cement Report _____

EXPENDITURES

Budgeted _____
 Forward _____
 Daily Cost 11,874
 TOTAL TO DATE 1,044,837

DAILY DRILLING REPORT

Report No. 40

Date: 2/6/85

Spud Date 12/29/84

Rig No. 1

Well No. 55-7
 Location NW of SE SEC 7 T 25S R 19W

County, State Hidalgo, NM Contractor Willbros

Present Depth 5826 Drilled 5635 to 5826 Footage cut last 24 hours 191

Mud / Air mud temperature in 121 °F. Out 141 °F. Mud Cooler On/OFF ON Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 37 Waterloss 7 cc PH 10.5 Mud Cost last 24 hrs 1604; 58,856

Hole Size 12 1/4 " Deviation Surveys 5693: 4°15'N74W

Bit # 19, same

Stabilizers, Reamers same

Shocksups and other "

Lithology 100% marl 5610-5770; 55% marl, 45% siltst 5770-5810

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 13 hrs drlg, 1/2 hr circ1 & survey, 10.5 hrs drlg

Well History	Hole Size	Casing Size	Interval	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>
Liner	_____	_____	_____	to _____
Liner	_____	_____	_____	to _____
Other	_____	_____	_____	to _____

Cement Report _____

EXPENDITURES

Budgeted _____
 Forward _____
 Daily Cost 10,360
 TOTAL TO DATE 1,032,963

DAILY DRILLING REPORT

Report No. 39

Well No. 55-7

Date: 2/5/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 5635 Drilled 5480 to 5635 Footage cut last 24 hours 155

Mud / Air mud temperature in 120 °F, Out 140 °F, Mud Cooler On/Off on Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 43 Waterloss 6.8 cc PH 11 Mud Cost last 24 hrs 1140; 57,252

Hole Size 12 1/4 " Deviation Surveys 5536: 3 3/4°N67W

Bit # 18, Reed FP 53 272' in 33 hrs; #19 Reed FP51 #PX4104

Stabilizers, Reamers same

Shocksups and other _____

Lithology 100% Timest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 7.5 hrs cont drlg with bit #18 to 5525', 3 hrs POH & chj bit, 2 hrs RIH with bit #19 & ream 21' to bottom, 5.5 hrs drlg, 1/2 hr circ & survey, 5.5 hrs drlg with bit #19 @ 5635

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>19,426</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>1,022,728</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 38

Date: 2/4/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 5480 Drilled 5299 to 5480 Footage cut last 24 hours 181'

Mud / Air mud Temperature in 116 °E. Out 137 °E. Mud Cooler On/Off ON Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 40 Waterloss 6.6 cc PH 10.5 Mud Cost last 24 hrs 1496; 56,112

Hole Size 12 1/4 " Deviation Surveys _____

Bit # 18 same

Stabilizers, Reamers same

Shocksups and other _____

Lithology 100% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Day Geologist M. Connelly

ADDITIONAL REPORT 4.5 hrs cont drlg with bit #18, 1/2 hr survey, 3.5 hrs drlg, 1.5 hrs survey & jet pit, 15 hrs drlg

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050'</u>	Daily Cost <u>10,284</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>1,003,302</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

St. Olson

Report No. 37

Date: 2/3/85

Spud Date 12/29/84

Rig No. 1

Well No. 55-7
 Location NW of SE sec 7 T 25S R 19W

County, State Hidalgo, NM Contractor Willbros

Present Depth 5299 Drilled 5192 to 5299 Footage cut last 24 hours 107'

Mud / Air mud Temperature in 120 °F. Out 142 °F. Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 40 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 1468; 54,616

Hole Size 12 1/4 " Deviation Surveys --

Bit # 17, out @5255'; 475' in 50.5 hrs; T6-B4-132; #18 Reed FP 53 #NCF468

Stabilizers, Reamers Driltrol 3. reamer, new + shksub used + new Driltrol 3. ream + Monel + Driltrol stabil, + 16-8" drl collars + crossover & drl pipe

Shocksups and other _____

Lithology 100% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 9 hrs cont. drlg with bit #17, 3 hrs POH to chj bit, 1.5 hrs chj bit & BHA, RIH with drl collar, 1 1/4 hrs slip & cut drlg line, 1 1/4 hrs RIH with bit #18, 1.5 hrs ream 65' to bottom, 5.5 hrs drlg with bit #18

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to _____	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>24,450</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>992,618</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 36

Date: 2/2/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 5192 Drilled 4998 to 5192 Footage cut last 24 hours 194

Mud / Air mud Temperature in 123 °F Out 141 °F Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 37 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 1629; 53,148

Hole Size 12 1/4 " Deviation Surveys 5073: 3°45'N69W

Bit # 17, same

Stabilizers, Reamers same

Shocksups and other same

Lithology 100% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman _____ Day _____ Geologist M. Connelly

ADDITIONAL REPORT 9 hrs drlg, 1/2 hr survey, 14.5 hrs drlg

Well History	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>
Liner	_____	_____	_____ to _____
Liner	_____	_____	_____ to _____
Other	_____	_____	_____ to _____
Cement Report	_____		

EXPENDITURES	
Budgeted	_____
Forward	_____
Daily Cost	<u>10,634</u>
TOTAL TO DATE	<u>968,400</u>

DAILY DRILLING REPORT

Report No. 35

Well No. 55-7

Date: 2/1/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 4998 Drilled 4840 to 4998 Footage cut last 24 hours 158'

Mud / Air mud Temperature in 112 °F. Out 139 °F. Mud Cooler On/OFF ON Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 39 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 2532; 51,519 TTL

Hole Size 12 1/4 " Deviation Surveys 4868: 3°45'N70W

Bit # 17, FP53 Reed #936278

Stabilizers, Reamers shksub Monel IBS welded stabil, 1 drl collar, stabil, 15 drl collars, crossover drl pipe

Shocksups and other _____

Lithology 100% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 4 hrs POH, gauge BHA & RIH, 1/2 hr reamed to bottom, 9.5 hrs drlg, 1/2 hr survey, 9.5 hrs drlg

Well History	Hole Size	Casing Size	Interval	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050</u>
Liner	_____	_____	_____	to _____
Liner	_____	_____	_____	to _____
Other	_____	_____	_____	to _____

EXPENDITURES	
Budgeted	_____
Forward	_____
Daily Cost	<u>10,425</u>
TOTAL TO DATE	<u>956,709</u>

Cement Report _____

DAILY DRILLING REPORT

Report No. 34
 Date: 1/31/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros Rig No. 1

Present Depth 4840 Drilled 4788 to 4840 Footage cut last 24 hours 52'

Mud / Air mud Temperature in 112 °F. Out 134 °F. Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 37 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 1673; 48,978

Hole Size 12 1/4 " Deviation Surveys 4758: 3°45'N71W

Bit # 16, HTC J33 #090FA, cut 155'/22.5 hrs; engaged a 4-5-1/8G; #17, FP53 Reed #936278, new

Stabilizers, Reamers shocksub Monel IBS #12275, new, welded stabil, used, 1 drl collar, welded stabil, 15 drl collars

Shocksups and other same

Lithology 100% limest

Gases _____

Loss Circulation - Other losing 10-15 bbls of mud during connections

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2.5 hrs drlg, 1/2 hr survey, 6 hrs drlg, 7.5 hrs chain out of hole for wash out, lay down short drl collar, bad pin & RIH, 5.5 hrs ream from 4730-4840, 2 hrs POH to gauge BHA & bit

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>21,730</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>946,284</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 33
 Date: 1/30/85

Well No. 55-7
 Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84
 Rig No. 1

County, State Hidalgo, NM Contractor Willbros
 Present Depth 4788 Drilled 4684 to 4788 Footage cut last 24 hours 104

Mud / Air mud temperature in 113 °F. Out 134 °F. Mud Cooler On/Off on Mud Loss last 24 hrs _____
 Mud Weight 9.3 Vis. 36 Waterloss 6.6 cc. PH 11.0 Mud Cost last 24 hrs 1375; 47,305

Hole Size 12 1/4 " Deviation Surveys _____
 Bit # 16, HTC J33 #090FA

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 100% intrusive & 70% limest & siltst to 30% intrusive

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1 hr drlg, 3 hrs POH, 1.5 hrs lay down BHA, make up bit #16, 1.5 hrs RIH, 3 hrs ream
to btm to 4685, 14 hrs drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>19,604</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>922,581</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 32
 Date: 1/29/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros Rig No. 1

Present Depth 4684 Drilled 4498 to 4684 Footage cut last 24 hours 186'

Mud / Air mud Temperature in 113 °F. Out 140 °F. Mud Cooler On/Off On Mud Loss last 24 hrs

Mud Weight 9.4 Vis. 32 Waterloss 7.0 cc PH 11.0 Mud Cost last 24 hrs 1689; 45,930

Hole Size 12 1/4 " Deviation Surveys 4569: 3°45'N75W

Bit # same

Stabilizers, Reamers "

Shocksups and other "

Lithology 100% Limest. ^{to} 100% intrusive

Gases

Loss Circulation - Other

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 7.5 drlg, 1.5 jet shale pits, 6.5 drlg, 3/4 survey, 7 3/4 drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted <u> </u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward <u> </u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>10,423</u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>	TOTAL TO DATE <u>902,977</u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>	
Other	<u> </u>	<u> </u>	<u> </u> to <u> </u>	

Cement Report

DAILY DRILLING REPORT

Report No. 31
Date: 1/28/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 4498 Drilled 4272 to 4498 Footage cut last 24 hours 226'

Mud / Air mud temperature in 113 °F. Out 140 °F. Mud Cooler On/OFF on Mud Loss last 24 hrs. _____

Mud Weight 9.2 Vis. 37 Waterloss 6.6 cc. PH 11.0 Mud Cost last 24 hrs. 1327; 44,241

Hole Size 12 1/4 " Deviation Surveys 4257: 4°30'N63W; 4444: 3°15'N75W

Bit # 15, same

Stabilizers, Reamers same

Shocksups and other same

Lithology 100% intrusive back to 20% intrusive, 80% limest.

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2 hrs drlg, 1/2 hr survey, 3 hrs drlg, 1 hr jet shale pit, 12 hrs drlg, 1 hr survey, 4 hrs drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>10,110</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>892,554</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 30 30

Date: 1/27/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 4272 Drilled 4165 to 4272 Footage cut last 24 hours 107'

Mud / Air mud temperature in 116 °F. Out 144 °F. Mud Cooler On/OFF on Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 38 Waterloss 6.6 cc. PH 11.0 Mud Cost last 24 hrs 1022; 42,914

Hole Size 12 1/4 " Deviation Surveys _____

Bit # 15, Sec. GS88 #165138 RR

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 100% intrusive

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2 hrs WO fishing tools, 3/4 hr RIH with overshot, 4 1/4 hrs pick up fish, POH, lay fishing tools down + 1 bad joint of 4 1/2" drl pipe, ck BHA, 2 1/4 hrs RIH, 1 1/4 hrs wash & ream from 4120-4165, 13.5 hrs drlg to 4272

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u>	to <u>1050'</u>	Daily Cost <u>12,252</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>882,414</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 29 29

Date: 1/26/85

Well No. 55-7

Location NW of SE sec 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 4165 Drilled 4133 to 4165 Footage cut last 24 hours 32'

Mud / Air mud temperature in 119 °F. Out 137 °F. Mud Cooler On/Off on Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 39 Waterloss 6.4 cc. PH 11.5 Mud Cost last 24 hrs 526; 41,892

Hole Size 12 1/4 " Deviation Surveys _____

Bit # 15, Security GS88 #165138, new, rebuilt RR

Stabilizers, Reamers IBS stabil #14439; welded stabil #8052, new

Shocksups and other #G2327 new

Lithology 100% limest, cal sandst

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 4.5 hrs POH & lay down BHA, 1.5 hrs makeup new BHA, 1 hr install new series 3 accumulator & test stack (1 min. close & open), 2 hrs RIH with #15, 1 hr wash & ream from 4078-4133, 4 hrs drlg, twist off pin, 29 stands in, left 9 stands + 1 single of drill pipe + BHA in hole, 1 hr to retrieve the same, 9 hrs waiting on Homco fishing tools

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2"</u>	<u>13 3/8"</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>14,856</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>870,192</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 20 28
 Date: 1/25/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 4133 Drilled 3894 to 4133 Footage cut last 24 hours 239'

Mud / Air mud Temperature in 119 °F. Out 137 °F. Mud Cooler On/Off on Mud Loss last 24 hrs _____

Mud Weight 9.2 Vis. 39 Waterloss 6.4 cc PH 11.0 Mud Cost last 24 hrs 1205;41,366

Hole Size 12 1/4 " Deviation Surveys 4002: 3°45'N68W; 4100: 3°30'N72W

Bit # 14 HTC J22 #FF658

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 100% limest & calcareous siltst

Gases _____

Loss Circulation - Other 45 bbls; @4064; drlg break from 4095-4100 11-23'/hr

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3 hrs drlg, 1 hr jet shale pit & sand trap, 10 hrs drlg, 1/2 hr survey, 8.5 hrs drlg, 1 hr survey,
POH

Well History	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>
Liner	_____	_____	_____ to _____
Liner	_____	_____	_____ to _____
Other	_____	_____	_____ to _____

EXPENDITURES	
Budgeted	_____
Forward	_____
Daily Cost	<u>10,088</u>
TOTAL TO DATE	<u>855,336</u>

Cement Report _____

DAILY DRILLING REPORT

Well No. 55-7

Report No. 27

Date: 1/24/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3894 Drilled 3778 to 3894 Footage cut last 24 hours 116

Mud / Air mud Temperature in 128 °E. Out 150 °E. Mud Cooler On/Off ON Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 41 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 1345; 40,161 TTL

Hole Size 12 1/4 " Deviation Surveys 3791: 3°15'N69W 3882: 3°45'N64W

Bit # 13, cut 366' 48 3/4 hrs; #14, new HTCJ22 #FF658

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 100% limest.

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 4 hrs drlg, 1/2 hr survey, 5 hrs drlg, 1/4 BOP check, 5 1/4 hrs drlg, 1/2 hr work on BOP, 1.5 hrs drlg,
1/2 hr survey, 4.5 hrs POH, change bit, gauge stabil, 1.5 hrs RIH with #14, 1/2 hr wash & ream from
3822-3882, precautionary; on bottom @ 6am

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>19,697</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>845,248</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 26

Well No. 55-7

Date: 1/23/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3778 Drilled 3589 to 3778 Footage cut last 24 hours 189'

Mud / Air mud Temperature in 155 °F Out 165 °F Mud Cooler On/Off off Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 39 Waterloss 6.6 cc PH 11.5 Mud Cost last 24 hrs 1098; 38,816 TTL

Hole Size 12 1/4 " Deviation Surveys 3635: 3°N68W

Bit # 13, RR Smith F3

Stabilizers, Reamers same

Shocksups and other "

Lithology 70% limest, 30% siltst, calcareous

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 7.5 hrs drlg, 1 hr circulate, 1/2 hr survey, 15 hrs drlg

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to	<u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to	<u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to	<u>1050</u>	Daily Cost <u>10,443</u>
Liner	_____	_____	_____	to	_____	TOTAL TO DATE <u>823,201</u>
Liner	_____	_____	_____	to	_____	
Other	_____	_____	_____	to	_____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 2

Date: 1/22/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3589 Drilled 3568 to 3589 Footage cut last 24 hours 21'

Mud / Air mud temperature in 138 °F. Out 161 °F. Mud Cooler On/Off being installed POH Loss last 24 hrs. _____

Mud Weight 9.3 Vis. 48 Waterloss 6.4 cc. PH 11.0 Mud Cost last 24 hrs 552; 37,718 TTL

Hole Size 12 1/4 " Deviation Surveys none

Bit # 13, Smith F3 #ET3100 RR

Stabilizers, Reamers same as previous

Shocksups and other "

Lithology 100% Limest.

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2.5 hrs screw into fish, POH with 5 stands & 1 single of drl pipe, total 10 stands & 1 single recorded at KB1021', pin twisted off drl pipe, 3 hrs wait on fishing tools, 1 hr make up overshot & guide, 1 hr RIH & pickup 5 joints of drl pipe, 1.5 hrs work stuck pipe, came free, 3 1/4 hrs POH to top of fish, lay down fishing tools + 1 bad joint of drl pipe & RIH, 5 3/4 hrs drlg, 2.5 hrs POH, check stabil & bit, 1/2 hr rig repair, make up cathead, 3 hrs RIH, wash & ream from 3550-3589, on bottom @ 6 am

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to	<u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to	<u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to	<u>1050</u>	Daily Cost <u>12,198</u>
Liner	_____	_____	_____	to	_____	TOTAL TO DATE <u>810,898 (updated)</u>
Liner	_____	_____	_____	to	_____	
Other	_____	_____	_____	to	_____	

Cement Report _____

31. Olson

DAILY DRILLING REPORT

Report No. 24
Date: 1/21/84

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3568 Drilled 3495 to 3568 Footage cut last 24 hours 73'

Mud / Air Mud Temperature in 139 °F Out 161 °F Mud Cooler On/OFF Off Mud Loss last 24 hrs. 916: 37,166

Mud Weight 9.3 Vis. 37 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs.

Hole Size 12 1/4 " Deviation Surveys 3506: 3° 30' N64W

Bit # 13, Smith F3 #ET3100; 12, cut 710', 76 1/2 hrs. bringing on 1 cone bad, rated @ 5/6, 1/8 out of gage

Stabilizers, Reamers 3 new stabilizers, IBS #11680, #11410, #6708

Shocksups and other

Lithology 100% Intrusive

Gases

Loss Circulation - Other

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3 hrs. drilling, 1 hr. circulate, 1 hr. survey, 4 hrs. pull out of hole, BHA, pick up 3 new stabilizers and put 1 1/2 hr. run in. 3480-3516, precaution, 7 hrs. drilling, backed out of 2, run in hole, screw in, pull out of hole, 1 single twisted off pin

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
Conductor	36"	30"	0	to	30'	Budgeted
Surface	26"	20"	0	to	360'	Forward
Intermediate	17 1/2"	13 3/8"	0	to	1050'	Daily Cost 24,079
Liner				to		TOTAL TO DATE 792,721
Liner				to		
Other				to		
Cement Report						

DAILY DRILLING REPORT

Report No. 23

Date: 1/20/85

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

County, State Hidalgo, NM Contractor Willbros

Spud Date 12/29/84

Rig No. 1

Present Depth 3495 Drilled 3220 to 3495 Footage cut last 24 hours 275'

Mud / Air Mud temperature in 157 °F. Out 167 °F. Mud Cooler On/OFF Off Mud Loss last 24 hrs. _____

Mud Weight 9.4 Vis. 43 Waterloss 6.4 cc. PH 10.5 Mud Cost last 24 hrs. 1791: 36,250

Hole Size 12 1/4 " Deviation Surveys 3302: 2°30'N68W

Bit # 12, Reid, still in hole

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 70% Limestone, 30% Ignious Intrusive

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 5 1/2 hrs. drilling, 1/2 hr. jet shale pit, 5 1/2 hrs. drilling, 1/2 hr. survey, 11 1/2 hrs. drilling, 1/2 hr. survey

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>10,281</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>768,683</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 22

Well No. 55-7

Date: 1/19/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3220 Drilled 3020 to 3220 Footage cut last 24 hours 200'

Mud / Air Mud Temperature in 134 °E. Out 152 °E. Mud Cooler On/Off Off Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 44 Waterloss 6.4 cc PH 10.5 Mud Cost last 24 hrs 1275: 34,459

Hole Size 12 1/4 " Deviation Surveys 3022: 3°15'N65W, 3179: 2°15'N74W

Bit # 12, FP53, #173507

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 90% Intrusive 10% Limestone

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1 1/2 hrs. drilling, 1 hr. survey, 20 1/2 hrs. drilling, 1/2 hr. survey, 1/2 hr. drilling

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>10,206</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>758,402</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

H. Olson

DAILY DRILLING REPORT

Report No. 21

Well No. 55-7

Date: 1/18/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 3020 Drilled 2843 to 3020 Footage cut last 24 hours 177'

Mud / Air Mud temperature in 129 °F Out 141 °F Mud Cooler On/OFF On Mud Loss last 24 hrs

Mud Weight 9.3 Vis. 43 Waterloss 6.6 cc PH 10.0 Mud Cost last 24 hrs 1208: 33,184

Hole Size 12 1/4 " Deviation Surveys 2855: 4°N64W

Bit # 12, FP53, #173507

Stabilizers, Reamers

Shocksups and other

Lithology 80% Limestone, 20% Siltstone

Gases

Loss Circulation - Other

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3 1/2 hrs. drilling, 1 1/2 hrs. survey, jet shale pit, 19 1/4 hrs. drilling

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	36"	30"	0 to 30'	Budgeted
Surface	26"	20"	0 to 360'	Forward
Intermediate	17 1/2"	13 3/8"	0 to 1050'	Daily Cost 10,140
Liner				TOTAL TO DATE 748,196
Liner				
Other				
Cement Report				

DAILY DRILLING REPORT

Harvey

Well No. 55-7

Report No. 2

Date: 1/17/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2843 Drilled 2733 to 2843 Footage cut last 24 hours 110'

Mud / Air Mud Temperature in 113 °F Out 131 °F Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.3 Vis. 43 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 1680: 31,976

Hole Size 12 1/4 " Deviation Surveys 2806 3°45'N63W

Bit # 12, Reid FP53 #173-507

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 100% Limestone

Gases C1 Trace 130 ppm

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1/4 hr. drilling, 3/4 hr. survey, 11 hrs. drilling, 1 3/4 hr. circulating, 1/4 hr. survey, 2 3/4 hrs.

POH, ring gauge, BHA, pickup lead collar new bit, 2 1/4 hrs. RIH, 1/2 hr. wash & ream. from 2766 to 2806, 4 1/2 hrs. drilling, 2806 to 2843

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
					Budgeted	Forward
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>		
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to _____		
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>19,867</u>	
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>738,056</u>	
Liner	_____	_____	_____	to _____		
Other	_____	_____	_____	to _____		

Cement Report _____

DAILY DRILLING REPORT

Report No. 19

Well No. 55-7

Date: 1/16/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2733 Drilled 2566 to 2733 Footage cut last 24 hours 167'

Mud / Air _____ Temperature in 113 °F. Out 126 °F. Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.1 Vis. 46 Waterloss 6.0 cc PH 10.0 Mud Cost last 24 hrs 1741; 30,926

Hole Size 12 1/4 " Deviation Surveys 2600: 3°N73W; 2723: 3°45'N63W

Bit # 11, S86F #198-344

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 70% siltst, 30% limest

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 6 1/4 hrs drlg, 3/4 hr survey, 16 hrs drlg, 1 hr survey

Well History	Hole Size	Casing Size	Interval		EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to <u>1050</u>	Daily Cost <u>12,561</u>
Liner	_____	_____	_____	to _____	TOTAL TO DATE <u>718,189</u>
Liner	_____	_____	_____	to _____	
Other	_____	_____	_____	to _____	

Cement Report _____

DAILY DRILLING REPORT

Well No. 55-7

Report No. 18

Date: 1/15/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2566 Drilled 2430 to 2566 Footage cut last 24 hours 136

Mud / Air _____ Temperature in 113 °F. Out 129 °F. Mud Cooler On/Off On Mud Loss last 24 hrs _____

Mud Weight 9.0 Vis. 43 Waterloss 6.8 cc PH 11.0 Mud Cost last 24 hrs 923; 28,555

Hole Size 12 1/4 " Deviation Surveys 2453: 3°N73W

Bit # 11, Security S86F #198-344 new

Stabilizers, Reamers shksub + MC = IBS #14438, new + wlded stail. #11408, new, + drl collar + stabil,used, + 15 drl collars

Shocksups and other _____

Lithology 80% tuff, 20% volcanic sediments, calcite & pyrite

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2.5 hrs drlg, 3/4 hr survey, 1.5 hrs POH lay down 2 stabil, 3 1/4 hrs pick up new BHA, RIH, 1/2 hr wash & ream from 2400-2453, 1/2 hr drlg, 2 3/4 hrs jet shale pit & sand trap & install riser between tanks, 12 1/4 hrs drlg

Well History	Hole Size	Casing Size	Interval		EXPENDITURES		
				to	Budgeted	Forward	
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to	<u>30'</u>		
Surface	<u>26"</u>	<u>20"</u>	<u>0</u>	to	<u>360'</u>		
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u>	to	<u>1050</u>		Daily Cost <u>23,236</u>
Liner	_____	_____	_____	to	_____		TOTAL TO DATE <u>704,730</u>
Liner	_____	_____	_____	to	_____		
Other	_____	_____	_____	to	_____		

Cement Report _____

DAILY DRILLING REPORT

Report No. 17

Well No. 55-7

Date: 1/14/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2430 Drilled 2229 to 2430 Footage cut last 24 hours 201'

Mud / Air _____ Temperature in 126 °F. Out 152 °F. Mud Cooler On/Off _____ Mud Loss last 24 hrs 85 bbls

Mud Weight 9.1 Vis. 38 Waterloss 10.0 cc PH 11.0 Mud Cost last 24 hrs 3477; 27,632

Hole Size 12 1/4 " Deviation Surveys 2246: 3°15'N73W

Bit # 10, same

Stabilizers, Reamers same

Shocksups and other "

Lithology 100% calcitic

Gases _____

Loss Circulation - Other 85 bbls @2275; also crossed fault

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 4.5 drlg, 2.5 jet shale pit, dump sand trap & weld in a 6" collar & nipple for installation of mud cooler, 3 3/4 drlg, 3/4 survey, 12.5 drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>13,685</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>681,494</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Well No. 55-7

Report No. 16

Date: 1/13/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2229 Drilled 2087 to 2229 Footage cut last 24 hours 142

Mud / Air _____ Temperature in 125 °F. Out 145 °F. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.9 Vis. 36 Waterloss 10.2 cc PH 11.5 Mud Cost last 24 hrs 5400; 24,155

Hole Size 12 1/4 " Deviation Surveys 2095: 1°S37W

Bit # 10, #8 rerun J22-#BW350

Stabilizers, Reamers _____

Shocksups and other _____

Lithology tuff 100% high silica

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2 3/4 hrs drlg, 1.5 hrs survey, 3/4 hr drlg, 1/2 hr survey, 1/2 hr drlg, 2.5 hrs POH @2119, 3 hrs jet & clean 3 pits + 1 slug pit, 1.5 hrs RIH with rerun #8 & 12.5 hrs drlg

Well History	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>
Liner	_____	_____	_____ to _____
Liner	_____	_____	_____ to _____
Other	_____	_____	_____ to _____

EXPENDITURES
Budgeted _____
Forward _____
Daily Cost <u>13,183</u>
TOTAL TO DATE <u>667,809</u>

Cement Report _____

DAILY DRILLING REPORT

Report No. 15

Well No. 55-7

Date: 1/12/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 2087 Drilled 1822 to 2087 Footage cut last 24 hours 265

Mud / Air _____ Temperature in 134 °F. Out 143 °F. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 9.4 Vis. 38 Waterloss 8.4 cc. PH 11.5 Mud Cost last 24 hrs 1850; 18,755 TTL

Hole Size 12 1/4 " Deviation Surveys 1903: 1°30'S50E

Bit # 9 J33 #122-537

Stabilizers, Reamers _____

Shocksups and other _____

Lithology ash flow tuff 80%, solution deposit 20%

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3/4 hrs wash & ream to 1822, 9 1/4 hrs drlg, 1/2 hr survey, 13 1/2 hrs drlg

Well History	Hole Size	Casing Size	Interval
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>
Liner	_____	_____	_____ to _____
Liner	_____	_____	_____ to _____
Other	_____	_____	_____ to _____

EXPENDITURES	
Budgeted	_____
Forward	_____
Daily Cost	<u>14,300</u>
TOTAL TO DATE	<u>648,832</u>

Cement Report _____

DAILY DRILLING REPORT

Report No. 14

Well No. 55-7

Date: 1/11/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 1822 Drilled 1620 to 1822 Footage cut last 24 hours 202

Mud / Air _____ Temperature in 127 °E. Out 154 °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 9.2 Vis. 40 Waterloss 11.0 cc PH 11.0 Mud Cost last 24 hrs 426;16,905 TTL

Hole Size 12 1/4 " Deviation Surveys 1822: 2°S51E

Bit # 8, HTC J22 #BW350 cut 217' 13 1/2hrs; #9 J33 #122-437, new

Stabilizers, Reamers shocksub + MC + IBS #85820 + welded stabil #14130, new + 1 DC + welded stabil #12367 used + 15 DC's +

Shocksubs and other crossover & drl pipe

Lithology welded tuff, highly mineralized interbedded crystallized siltst & sandst

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 5 hrs drlg, 1/2 hr survey, 8 1/4 hrs drlg, 1 hr circl & survey, 2 3/4 hrs POH, ring gauge BHA, lay down 1 stabil, pick up bit & 2 new stabil, 2 hrs RIH, 4 1/4 hrs precautionary ream from 1620-1822

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>23,064</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>634,532</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 12

Well No. 55-7

Date: 1/9/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 1320 Drilled 1140 to 1320 Footage cut last 24 hours 180

Mud / Air Temperature in 119 °E. Out 138 °E. Mud Cooler On/Off Mud Loss last 24 hrs

Mud Weight 8.8 Vis. 40 Waterloss 10.4 cc PH 9.5 Mud Cost last 24 hrs 1894;12,146

Hole Size 12 1/4 " Deviation Surveys 1218: 0°30'S02°W

Bit # 6 94' - 9 1/4 hrs; #7 - Reed HS51 #T59189, new (40K, 70 RPM: full pmp)

Stabilizers, Reamers

Shocksups and other H&H (8659)+Monel collar+3. reamer(02811), new + 1 drl collar + welded stabil #12367, new+15 - 8" drl collars + 1 crossover + drill pipe

Lithology 1140-1200: tuff, red, brown, gray silica sand

Gases

Loss Circulation - Other

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 5 1/4 hrs drlg, 1 1/4 POH strap pipe, 2.5 hrs make up BHA & rig up with drl collars, 1 hr slip & cut drl line, 2 hrs ream from 1070-1164, 6 hrs drlg & conn, 3 1/4 hrs drlg, 3/4 hr survey @ 1218', 2 hrs drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted <u> </u>
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward <u> </u>
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>23,720</u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>	TOTAL TO DATE <u>592,572</u>
Liner	<u> </u>	<u> </u>	<u> </u> to <u> </u>	
Other	<u> </u>	<u> </u>	<u> </u> to <u> </u>	

Cement Report

DAILY DRILLING REPORT

Report No. 01

Well No. 55-7

Date: 1/8/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 1140 Drilled 1070 to 1140 Footage cut last 24 hours 70'

Mud / Air mud Temperature in 64 °F. Out 121 °F. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 9.1 Vis. 48 Waterloss 11.0 cc. PH 9.5 Mud Cost last 24 hrs 1017; 10,252 TTL

Hole Size 12 1/4 " Deviation Surveys _____

Bit # 6 Security M4N #323671 new

Stabilizers, Reamers _____

Shocksups and other _____

Lithology 1070-1140: tuff, red bwn mod. hard, very oxidated & apparent

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2 hrs nipple up pipe ram ORC, 12.5 hrs nipple up picture nipple & flow line, 1 1/4 hrs fill up line, RU with BHA & bit #6 (1/4 hrs), 3 hrs tighten bolt on top flange, 5 hrs drl out float collar & 78' cmt float shoe, drl from 1070-1140 650 psi test stack & casing with 9.0 mud

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360'</u>	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>22,559</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>568,853</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 10

Well No. 55-7

Date: 1/7/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 1070 Drilled 1070 to 1070 Footage cut last 24 hours 0'

Mud / Air mud Temperature in °E Out °E Mud Cooler On/Off off Mud Loss last 24 hrs

Mud Weight 8.9 Vis. 49 Waterloss 13 cc PH 9.5 Mud Cost last 24 hrs 9235 TTL

Hole Size 17 1/2" Deviation Surveys

Bit # Same

Stabilizers, Reamers same

Shocksups and other "

Lithology

Gases

Loss Circulation - Other

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 15 hrs WOC & strip out cellar, rough cut 13 3/8" casing, ready to nipple up, 3 hrs pre-heat & wld on 13 3/8 SOW 12-900 starting head, 6 hrs nipple up drlg valve, HCR gate valve spool & banjo box

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	36"	30"	0 to 30'	Budgeted
Surface				Forward
Intermediate				Daily Cost 21,812
Liner				TOTAL TO DATE 546,294
Liner				
Other				
Cement Report				

DAILY DRILLING REPORT

Report No. 9

Well No. 55-7

Date: 1/6/85

Location NW of SE SEC 7 T 25S R 19W Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros Rig No. 1

Present Depth 1070 Drilled 1070 to 1070 Footage cut last 24 hours 0'

Mud / Air mud Temperature in °E Out °E Mud Cooler On/Off _____ Mud Loss last 24 hrs. _____

Mud Weight 8.9 Vis. 49 Waterloss 13 cc PH 9.5 Mud Cost last 24 hrs. 0; 9235 TTL

Hole Size 17 1/2 " Deviation Surveys multi shot closure 4.44'S46°38'W

Bit # 5, 17 1/2, used up (685') in 31 1/4 hrs. 5-5in. gauge

Stabilizers, Reamers same

Shocksups and other _____

Lithology _____

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 2 hrs lay down BHA & 11" DC, 2 hrs pu MC + DP RIH, recover multi-sht w-wire line, 1 hr circl,
1.5 hrs POH, lay down BHA, 3.5 hrs rig up & run 13 3/8" casing, full up on run, 1.5 hrs run 13 3/8" casing - ttl
of 27 joints 61# K55 butress + guide shoe + stabl in float collar, 1 stabl with W-4 1/2 DP & circ w-full rtns @ flow
line, 1.5 hrs cmt w-780 sks class H w-40% ssc + 8# sk pearlite in place @ 7pm, 1/2 hr surge sloat valve, stab. out
& wash down, 3.5 hrs WOC & POH, stand bk 4 1/2 DP, 6 hrs WOC

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	<u>17 1/2</u>	<u>13 3/8</u>	<u>0</u> to <u>1050</u>	Daily Cost <u>73,801</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>524,482 (corrected)</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report cmt w-10bbl preflush (48 cu ft) @ 1.5 bbl/min rate mix 780 sks class H, w-8#'s sk pearlite 40% silica
flour @ (2.14 cu ft per sk yield) @ 6.0 bbl/min rate = (307 bbl) @ 500# psi, increase rate 6.7 bbl/min rate = (@317 bbl)

Shut down, switch over displace @ 6.9 bbl/min rate (@12.5bbl) surge @ 750 psi, release pressure, unstab, float

-valves held, recovery 3 bbl mud cost cmt + 15 bbl, neat slurry to pit, wash down top float collar

DAILY DRILLING REPORT

Well No. 55-7

Report No. 8

Date: 1/5/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 1070 Drilled 642 to 1070 Footage cut last 24 hours 428

Mud / Air mud Temperature in 105 °F Out 123 °F Mud Cooler On/Off _____ Mud Loss last 24 hrs 160 bbl

Mud Weight 9 Vis. 50 Waterloss 13.0 cc PH 9.5 Mud Cost last 24 hrs 1110; 9235.

Hole Size 17 1/2 " Deviation Surveys 734: 0°15'N36W

Bit # 5, 17 1/2 OWV, VE 368, still in hole

Stabilizers, Reamers same as previous

Shocksups and other _____

Lithology 640-1070: tuff brick red welded lithic ash _ rhy1.

Gases _____

Loss Circulation - Other 100 bbls loss @ 695'; losing appx. 6 bbls p/hr from 695-1070

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3/4 survey, 1 1/4 drlg, 7.5 drlg, 1/2 rig service, 8 drlg, 1 3/4 drlg, 3 circ, 1 1/4 POH lay down tools & recover multi-shot

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>10,047</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>515,965</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 7

Well No. 55-7

Date: 1/4/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 642 Drilled 384 to 642 Footage cut last 24 hours 258

Mud / Air mud Temperature in 104 °E. Out 107 °E. Mud Cooler On/Off off Mud Loss last 24 hrs --

Mud Weight 9.1 Vis. 50 Waterloss 13.0 cc. PH 10.0 Mud Cost last 24 hrs 830,8125

Hole Size 17 1/2 " Deviation Surveys 640: vertical

Bit # 5, 17 1/2 OWV #VE368

Stabilizers, Reamers bit sub + shksub #30257 + MC + 1 TDC + 3. roller reamer #200502 new + TDC + welded stabil #10309

Shocksups and other XO + 13 x 8" DC + XO + drl pipe

Lithology 3-400: tuff with clay, 3% clacity; 500-640: tuff from gray to red rhy1 70-30%

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1/2 hr nipple up, 1.5 BHA, 1 1/4 RIH, pck up DC 3 3/4 drl float collar + 39' CMT float shoe, 2 drlg,

1 survey, 3 POH & pu 1-3.rr & 1-W-stabil & RIH, 5 drlg, 1 survey, 5 drlg to 642'

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>13,802</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>505,918</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Well No. 55-7

Report No. 6

Date: 1/3/85

Location NW of SE SEC 7 T 25S R 19W Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros Rig No. 1

Present Depth 384 Drilled 384 to 384 Footage cut last 24 hours 0'

Mud / Air mud Temperature in -- °E Out -- °E Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.9 Vis. 58 Waterloss 13.2 cc PH 9.7 Mud Cost last 24 hrs --; \$7295 TTL

Hole Size 17 1/2 " Deviation Surveys _____

Bit # 17 1/2 HTC-OWB #VE368

Stabilizers, Reamers _____

Shocksups and other _____

Lithology _____

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 6 hrs WOC, 4 hrs rig down flow line fill up line, cellar jet to cut off & nipple up 20" casing, 7 1/2 hrs cut off 30' riser & 20" casing, weld on 20" SOW flange starting head, 6 1/2 hrs nipple up 20" hydrill annular BOP, all lines, etc + 20" riser & flow line to shaker pit.

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>13,615</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>492,116</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 5

Well No. 55-7

Date: 1/2/85

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 384 Drilled 320 to 384 Footage cut last 24 hours 64' opened

Mud / Air mud Temperature in 67 °E. Out 90 °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.9 Vis. 58 Waterloss 13.2 cc. PH 9.7 Mud Cost last 24 hrs \$635;7,295 TTL

Hole Size 26" Deviation Surveys 385: 1°

Bit # 4, 26", HTC OSCIG #034

Stabilizers, Reamers same as previous

Shocksups and other "

Lithology _____

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 3.5 hrs open 17 1/2-26", 4 hrs cond. mud and circulate bottoms up compl. & clean flow line, 1/2 hr survey, 2.5 hrs POH with 26" drlg setup and lay down BHA, 6 hrs rig & run 20" 94# Butress ST&C casing, 9 joints =360.28' + float shoe & stabilizer in float collar, fill up on run, 1/2 hr rig down casing crew & equip, 1 3/4 hrs pickup 11 joints 4 1/2 drill pipe + stab. in sub, 1 1/4 hrs rig up Halliburton & CMT with 760 sacks class H CMT with 40% silica & 2% calcium chloride, 1/2 hr lay down drill pipe, 2.5 hrs WOC.

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	<u>26"</u>	<u>20"</u>	<u>0</u> to <u>360</u>	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>45,939</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>385,744</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report Pump 10 bbls preflush (48 cu. ft.) cmt with 760 sacks class H with 40% silica flour mix & pump @ 2.5 bbls per min. rate @ 13.6# per gal slurry = (10 bbls). Increase rate to 6.0 bbls p. min. @ 15.9# slurry = (203 bbls) reduce rate to 2.0 bbls p. min (213 bbls), shut down, change over, displace @ 2.0 bbls p. min. rate = (3.5 bbls) of 8.9 mud, surge same, release pressure, float valve held (returns), circulate 3 bbls of mud cut cmt, followed by 4 bbls clean cmt slurry to pit & wash down.

DAILY DRILLING REPORT

Report No. 4

Well No. 55-7

Date: 1/1/85

Location NW of SE SEC 7 T 25S R 19W Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros Rig No. 1

Present Depth 320 Drilled 212 to 320 Footage cut last 24 hours 108' opened

Mud / Air mud Temperature in 67 °F. Out 90 °F. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.9 Vis. 50 Waterloss 14.0 cc PH 9.5 Mud Cost last 24 hrs \$520;6,660 TTL

Hole Size 26" " Deviation Surveys _____

Bit # 26" #05C1G Hughes Tool #0-34

Stabilizers, Reamers Bitsub = shksub #30257 used + Monel collar + 3. reamer #201576 new + 2 - 11" drl collars + 6-8" drl

Shocksups and other collars + crossover and drl pipe

Lithology same

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1 hr RIH, 7 hrs open 17 1/2-26", 1 hr circulate & WOB, 3 3/4 hrs POH chj 26" hole opener to a 26"

Hughes Tool drl bit, RIH, 3/4 hr ream to shoulder, 3.5 hrs open 17 1/2-26" hole, connect, 7 hrs open

17 1/2-26" hole

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>17,439</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>325,422</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 3

Well No. 55-7

Date: 12/31/84

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 212 Drilled 78 to 212 Footage cut last 24 hours 134' opened

Mud / Air mud Temperature in 67 °E. Out 90 °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.7 Vis. 48 Waterloss 14.4 cc PH 9.0 Mud Cost last 24 hrs \$710;6080 TTL

Hole Size 26" Deviation Surveys 150': 0°vertical; 300: 0°15'

Bit # 26" hole opener #2600

Stabilizers, Reamers 3. reamer, #201577 + Monel collar + wlded stabilizer #14341 + shocksub #30257 + wlded stabil. #14340 +

Shocksubs and other 2 drl collars + drl pipe

Lithology same as previous

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Ken Kelso Geologist M. Connelly

ADDITIONAL REPORT 1.5 hrs drlg 17 1/2" hole to 385', 3/4 hr circulating, 3/4 hr survey, 3 hrs POH, change 17 1/2"

BHA, 2 hrs 26" BHA, 3 hrs open hole 17 1/2"-26", 1 hr survey, 3 hrs open hole 17 1/2"-26", connection, 2 hrs

open hole 17 1/2-26", connection 5 hrs open hole 17 1/2"-26", 2 hrs POH, ck. hole opener

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>9,178.</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>303,829</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 2

Well No. 55-7

Date: 12/30/84

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 385 Drilled 76 to 385 Footage cut last 24 hours 309

Mud / Air mud Temperature in 67 °E. Out 90 °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight 8.7 Vis. 43 Waterloss 13 cc. PH 9.5 Mud Cost last 24 hrs \$1230:5370 TTL

Hole Size 26" Deviation Surveys 150': 3/4°

Bit # 1, Security S3S #416006

Stabilizers, Reamers 3. reamer #9229, 17 1/2" stabilizer #10310

Shocksups and other #30257, blade stabilizer #10399 + 2 drl collars + 8 - 8" drill collars

Lithology 30% soft clay, 70% orange rusty brown volcanoclastics

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Mara Geologist M. Connelly

ADDITIONAL REPORT 1 1/2 hrs drlg, 3 hrs POH, lay down 26" hole opener, RIH 17 1/2" drlg assembly, 4 1/2 hrs drlg, 1 hr survey, 13.5 hrs drlg, .5 hr circulating.

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>18,787</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>294,651</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	

Cement Report _____

DAILY DRILLING REPORT

Report No. 1

Well No. 55-7

Date: 12/29/84

Location NW of SE SEC 7 T 25S R 19W

Spud Date 12/29/84

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth 76' Drilled 47 to 76 Footage cut last 24 hours 29'

Mud / Air _____ Temperature in 61 °E. Out 62 °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs. _____

Mud Weight 8.6 Vis. 51 Waterloss 14 cc. PH 9.5 Mud Cost last 24 hrs. 4,140.

Hole Size 17 1/2 " Deviation Surveys _____

Bit # 17 1/2" Grant 26" hole opener #2600

Stabilizers, Reamers 9 1/2" Eastman Monel drill collar and drill pipe

Shocksups and other _____

Lithology Alluvium wlded tuff mixed with iron stained qtz fragments

Gases _____

Loss Circulation - Other _____

Mudlogger Gonzales Engineer/ Drilling Foreman Mara Geologist M. Connelly

ADDITIONAL REPORT 12 hrs rigged up, spud in @ 8p this day, 12 hrs drlg

Well History	Hole Size	Casing Size	Interval	EXPENDITURES
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u> to <u>30'</u>	Budgeted _____
Surface	_____	_____	_____ to _____	Forward _____
Intermediate	_____	_____	_____ to _____	Daily Cost <u>\$21,407</u>
Liner	_____	_____	_____ to _____	TOTAL TO DATE <u>\$275,864</u>
Liner	_____	_____	_____ to _____	
Other	_____	_____	_____ to _____	
Cement Report	_____			

DAILY DRILLING REPORT

Report No. 0

Date: 12/28/84

Well No. 55-7

Location NW of SE SEC 7 T 25S R 19W

Spud Date _____

County, State Hidalgo, NM Contractor Willbros

Rig No. 1

Present Depth _____ Drilled _____ to _____ Footage cut last 24 hours _____

Mud / Air _____ Temperature in _____ °E. Out _____ °E. Mud Cooler On/Off _____ Mud Loss last 24 hrs _____

Mud Weight _____ Vis. _____ Waterloss _____ cc. PH _____ Mud Cost last 24 hrs _____

Hole Size _____ " Deviation Surveys _____

Bit # _____

Stabilizers, Reamers _____

Shocksups and other _____

Lithology _____

Gases _____

Loss Circulation - Other _____

Mudlogger _____ Engineer/ Drilling Foreman Mara Geologist Connelly

ADDITIONAL REPORT 50% rigged up

Well History	Hole Size	Casing Size	Interval		EXPENDITURES	
			_____	to _____	Budgeted _____	_____
Conductor	<u>36"</u>	<u>30"</u>	<u>0</u>	to <u>30'</u>	Forward	<u>242,643</u>
Surface	_____	_____	_____	to _____	Daily Cost	<u>11,814</u>
Intermediate	_____	_____	_____	to _____	TOTAL TO DATE	<u>254,457</u>
Liner	_____	_____	_____	to _____		
Liner	_____	_____	_____	to _____		
Other	_____	_____	_____	to _____		
Cement Report	_____	_____	_____	_____		

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 2 / 9 / 85 to 8 a.m. 2 / 16 / 85

Well: 55-7 Spud Date 12/29/84

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: NM

Projected Depth: 6,000' Depth: 7001' TD

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Day

Casing	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360'</u>	<u>26"</u>	<u>20"</u>
	<u>0-1050</u>	<u>17 1/2"</u>	<u>13 3/8"</u>

Hole Size: 12 1/4 From 6184 To 7001

Bits: # 15 from 6184 to 7001 # from to # from to

Footage Cut: 817 Daily Average 204

Circulating Medium: mud, 9.4 lbs/gal

Temperature: (°F)	In	Out	Depth	Deviation	Depth
	<u>122</u>	<u>145</u>	<u>6372</u>	<u>8 1/2° N70W</u>	<u>6299</u>
	<u>122</u>	<u>146</u>	<u>6592</u>	<u>11 3/4° N74W</u>	<u>6549</u>
cooler	<u>123</u>	<u>146</u>	<u>6854</u>	<u>14 3/4° N75W</u>	<u>6800</u>
on	<u>131</u>	<u>152</u>	<u>7001</u>	<u>17 1/4° N75W</u>	<u>6956</u>

Bit location relative to Kelly Bushing: NR e

Formation: Mixed dolomite and limestone to 6870', then granite (Pre Cambrian)
basement to TD

Remarks: Commenced rig down on 2/16
Ran full suite of logs (Schlumberger) on 2/14. Plan to run 2 7/8" tubing to
bottom and suspend well for equilibrated temperature survey.

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 2 / 2 / 85 to 8 a.m. 2 / 9 / 85

Well: 55-7 Spud Date 12/29/84,

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: NM

Projected Depth: 6,000' Depth: 6184

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Day

Casing	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360'</u>	<u>26"</u>	<u>20"</u>
	<u>0-1050'</u>	<u>17 1/2"</u>	<u>13 3/8"</u>
	<u> </u>	<u> </u>	<u> </u>

Hole Size: 12 1/4 From 1070 To 6184

Bits: #12 from 4880 to 5255 # 13 from 5255 to 5527 # 14 from 5527 to 6184

Footage Cut: 992 Daily Average 142

Circulating Medium: mud, 9.4 lbs/gal

Temperature: (°F)	In	Out	Depth	Deviation	Depth
	<u>120</u>	<u>142</u>	<u>5299</u>	<u> </u>	<u> </u>
	<u>116</u>	<u>137</u>	<u>5480</u>	<u> </u>	<u> </u>
	<u>120</u>	<u>140</u>	<u>5635</u>	<u>3 3/4° N67W</u>	<u>5536</u>
Cooler	<u>121</u>	<u>141</u>	<u>5826</u>	<u>4 1/4° N74W</u>	<u>5693</u>
on	<u>125</u>	<u>145</u>	<u>5990</u>	<u>5 1/2° N71W</u>	<u>5924</u>
	<u>122</u>	<u>146</u>	<u>6184</u>	<u>6 3/4° N67W</u>	<u>6084</u>
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Bit location relative to Kelly Bushing: NR e

Formation: Limestone to 4635, then mixed marl, siltstone, limestone, dolomite

Remarks: Time temperature survey @ 6184'. Deduced true formation temperature at best 310°F

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 1 / 26 / 85 to 8 a.m. 2 / 2 / 85

Well: 55-7 Spud Date 12/29/84,

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: NM

Projected Depth: 6,000' Depth: 5192

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Kelso

Casing:	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360</u>	<u>26"</u>	<u>20"</u>
	<u>0-1050'</u>	<u>17 1/2"</u>	<u>13 3/8"</u>

Hole Size: 12 1/4 From 1070 To 5192

Bits: # 10 from 3866 to 4685 # 11 from 4685 to 4840 # 12 from 4840 to 5192

Footage Cut: 1027' Daily Average 147'

Circulating Medium: mud 9.3 lbs/gal

Temperature: (°F)	In	Out	Depth	Deviation	Depth
	<u>116</u>	<u>144</u>	<u>4272</u>		
	<u>113</u>	<u>140</u>	<u>4498</u>	<u>3 1/4° N75W</u>	<u>4444</u>
	<u>113</u>	<u>140</u>	<u>4684</u>	<u>3 3/4° N75W</u>	<u>4569</u>
Cooler on	<u>113</u>	<u>134</u>	<u>4788</u>		
	<u>112</u>	<u>134</u>	<u>4840</u>	<u>3 3/4° N71W</u>	<u>4758</u>
	<u>112</u>	<u>139</u>	<u>4998</u>	<u>3 3/4° N70W</u>	<u>4868</u>
	<u>123</u>	<u>141</u>	<u>5192</u>	<u>3 3/4° N69W</u>	<u>5073</u>

Bit location relative to Kelly Bushing: NR e

Formation: Mixed intrusive and limestone to 4788 then limestone

Remarks: _____

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 1 / 19 / 85 to 8 a.m. 1 / 26 / 85

Well: 55-7 Spud Date 12/29/84

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: NM

Projected Depth: 6,000' Depth: 4165

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Kelso

Casing	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360'</u>	<u>26"</u>	<u>20"</u>
	<u>0-1050'</u>	<u>17 1/2"</u>	<u>13 3/8"</u>

Hole Size: 12 1/4 From 1070 To 4165

Bits: # 8 from 2800 to 3500 # 9 from 3500 to 3866 # 10 from 3866 to 4133

Footage Cut: 945 Daily Average 135

Circulating Medium: mud 9.3 lbs/gal vis 40 pH 11.5

Temperature: (°F)	In	Out	Depth	Deviation	Depth
	<u>157</u>	<u>167</u>	<u>3495</u>	<u>2 1/2° N68W</u>	<u>3302</u>
	<u>139</u>	<u>161</u>	<u>3568</u>	<u>3 1/2° N64W</u>	<u>3506</u>
	<u>138</u>	<u>161</u>	<u>3589</u>		
	<u>155</u>	<u>165</u>	<u>3778</u>	<u>3° N68W</u>	<u>3635</u>
mud cooler on	<u>128</u>	<u>150</u>	<u>3894</u>	<u>3 3/4° N64W</u>	<u>3882</u>
	<u>119</u>	<u>137</u>	<u>4133</u>	<u>3 1/2° N72W</u>	<u>4100</u>
	<u>119</u>	<u>137</u>	<u>4165</u>		

Bit location relative to Kelly Bushing: not relevant @

Formation: Monzonite/limestone 3220-3495; dominantly limestone 3495-4165

Remarks: _____

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 1 / 12 / 85 to 8 a.m. 1 / 19 / 85

Well: 55-7 Spud Date 12/29/84,

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: NM

Projected Depth: 6,000' Depth: 3220'

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Kelso

Casing	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360'</u>	<u>26"</u>	<u>20"</u>
	<u>0-1050'</u>	<u>17 1/2"</u>	<u>13 3/8"</u>

Hole Size: 12 1/4" From 1070 To 3220

Bits: # 6 from 1822 to 2430 # 7 from 2430 to 2800 # 8 from 2800 to 3220

Footage Cut: 1133' Daily Average 162'

Circulating Medium: mud; 9 lb/gal

Temperature: (°F)	In	Out	Depth	Deviation	Depth
	<u>125</u>	<u>145</u>	<u>2229</u>	<u>1° S37W</u>	<u>2095</u>
	<u>126</u>	<u>152</u>	<u>2430</u>	<u>3° 1/4° N73W</u>	<u>2246</u>
	<u>113</u>	<u>129</u>	<u>2566</u>	<u>3° N73W</u>	<u>2453</u>
mud cooler on	<u>113</u>	<u>126</u>	<u>2733</u>	<u>3° N73W</u>	<u>2600</u>
	<u>113</u>	<u>131</u>	<u>2843</u>	<u>3° 3/4° N63W</u>	<u>2806</u>
	<u>129</u>	<u>141</u>	<u>3020</u>	<u>4° N64W</u>	<u>3020</u>
	<u>134</u>	<u>152</u>	<u>3220</u>	<u>2° 1/4° N74W</u>	<u>3179</u>

Bit location relative to Kelly Bushing: not relevant **e**

Formation: Tertiary volcanics to 1960' - Paleozoic calcitic rocks to 3020
Dominantly monzonite to 3220

Remarks: Lost 85 bbls mud @ 2275'; mud temp encouraging; favorable reservoir
rocks (will hold open fractures)

STEAM RESERVE CORPORATION
Weekly Drilling Summary

Period: 8 a.m. 12 / 29 / 84 to 8 a.m. 1 / 5 / 85

Well: 55-7 Spud Date 12/29/84

Location: NW of SE Sec. 7 T 25S R 19W

County: Hidalgo State: New Mexico

Projected Depth: 6000' Depth: 1070'

Contractor: SRC Rig: Willbros #1

Geologist: Connelly Drilling Supervisor Kelso

Casing	Interval	Hole Size	Casing
	<u>0-30'</u>	<u>36"</u>	<u>30"</u>
	<u>0-360'</u>	<u>26"</u>	<u>20"</u>

Hole Size: 17 1/2 From 360' To 1070'

Bits: # 1 from 376 to 385 # 2 from 385 to 1070 # from to

Footage Cut: 1070 Daily Average 153

Circulating Medium: mud 9.1 lb/gal

Temperature: (OF)	In	Out	Depth	Deviation	Depth
	<u>61</u>	<u>62</u>	<u>76'</u>		
	<u>67</u>	<u>90</u>	<u>385</u>		
	<u>104</u>	<u>107</u>	<u>642</u>		
	<u>105</u>	<u>123</u>	<u>1070</u>		

Bit location relative to Kelly Bushing: vertical hole @

Formation: volcaniclastics

Remarks: _____

Note: Secondary minerals expressed in direct percentages, e.g., 1=1% etc; "-" = trace, "+" = greater than 9%.

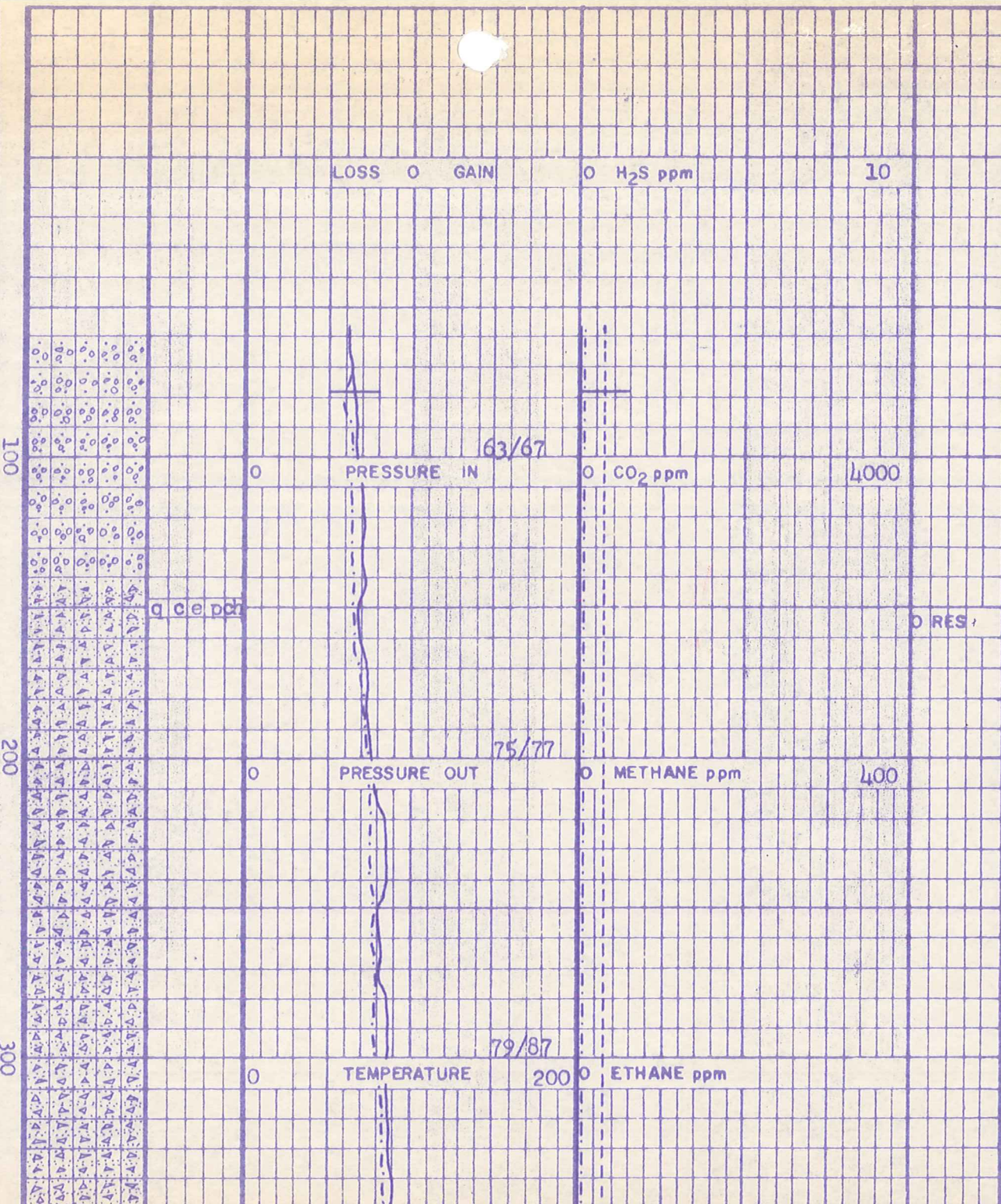
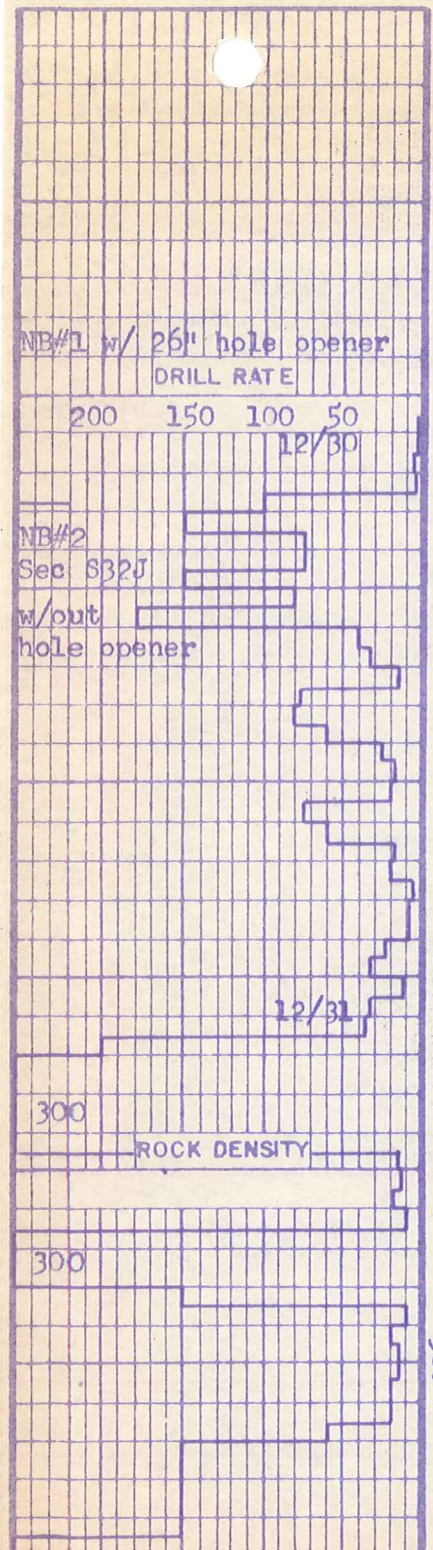
Note: Set 30" surface conductor @ 30'. Spud in on 12/29/84 w/ 17 1/2" bit & 26" hole opener, begin logging f/56'.

Alluvium: pred orng-yel, v prly srted fn-v crs, pred volcanic clasts (tuffs, ash & andesite) w/ comm-v abndt wht yel sft clay mtrx, r clr qtz, r loc drusy qtz, comm hematite, mnr poss psilomelane.

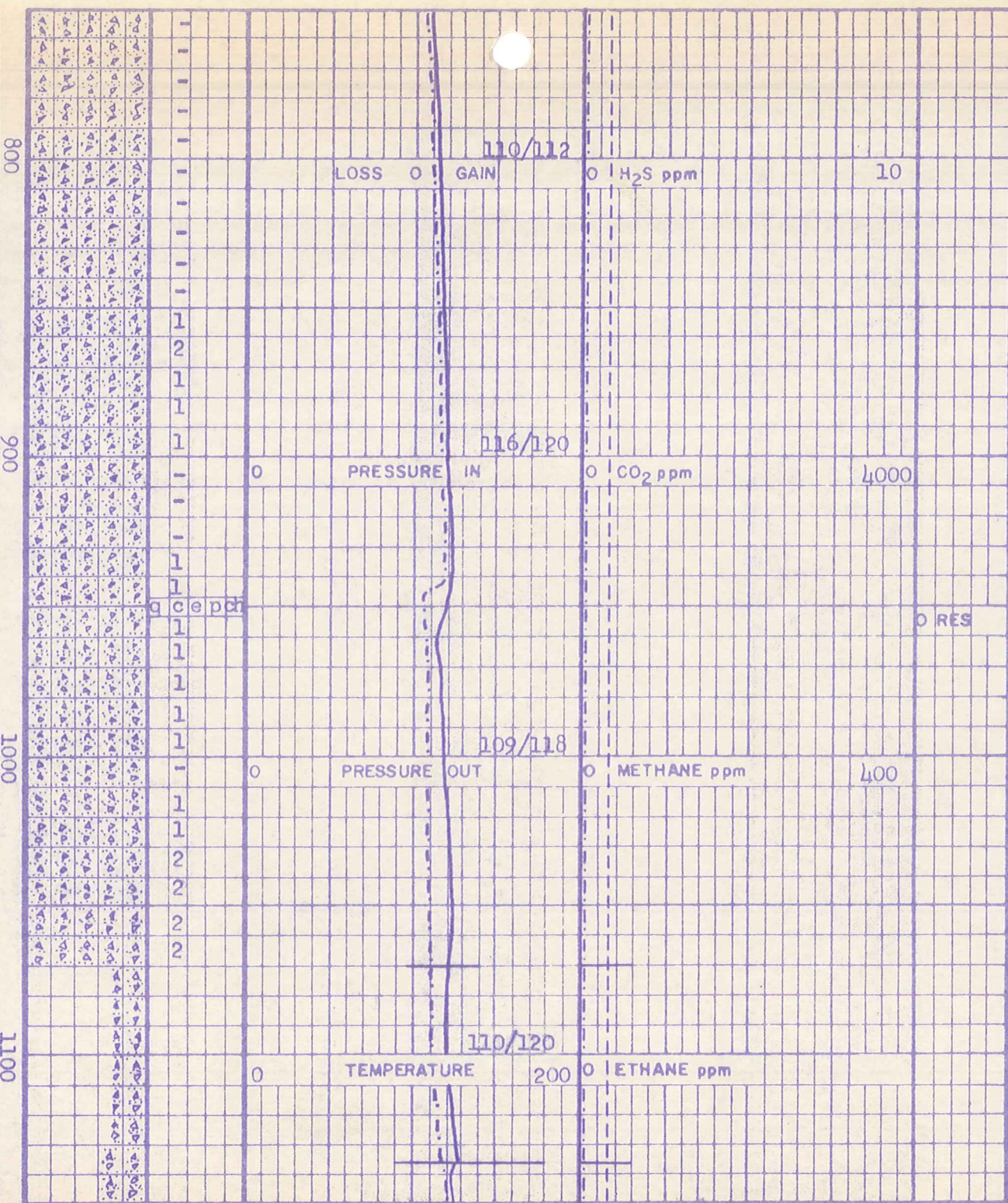
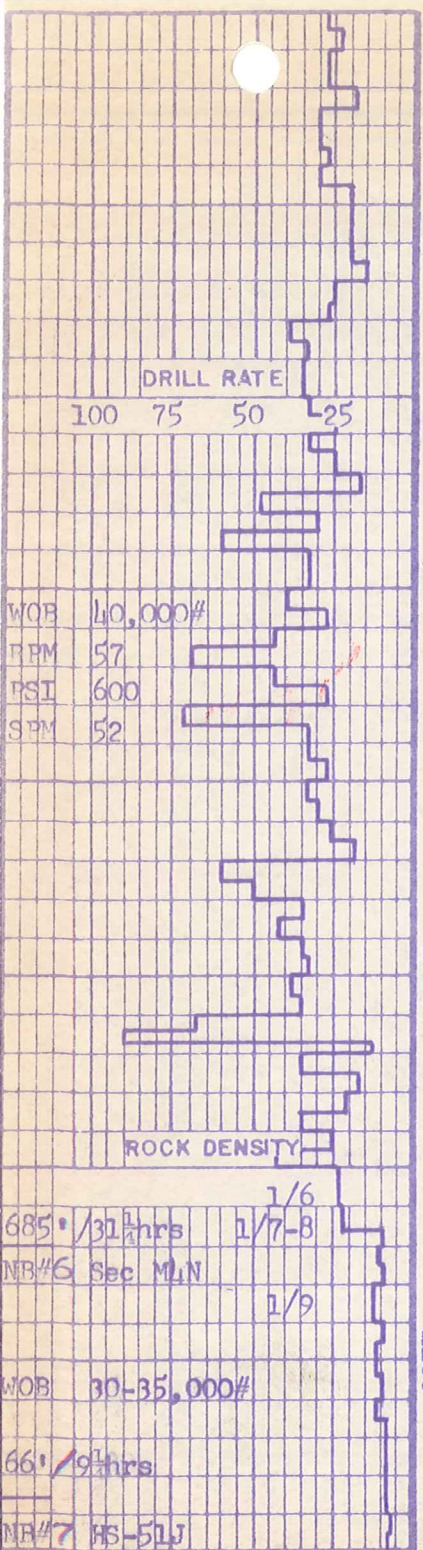
Lithic Ash Flow Tuff?: pred lt-red orng, abndt rndd clasts, cong-sandy? apparent pore space, fria-v hd, prly-v well cnsldtd, comm sft clr mnrl lining grs, mnr clay

Tuff: red orng, red brn, tan, wht, pred trans w/ comm earthy app, highly silic w/ 10-20% clay, aphan-sucrosic text w/ comm qtz & felds phenos mnr-comm rhyolite frags

Tuff: red, red brn, stained appr, tan, wht, comm elongated gr struc, comm-abndt silic & lith frag, decr clay content.



W 9.1 V 50 PV 20 YP
 14 pH 10 Fil 13 Cl
 700 Slds 590



Tuff: brick red due Fe
 stn, sub ang-rnd clasts
 in clay mtrx, pred weld-
 ed w/ mnr rhyolite &
 xl tuff clasts, colors
 vary, tr calc frac fill,
 mnr dissem subhdrl hem.

Note: Losing approx
 6 bbls/hr drilling
 fluid f/ 695'.

Tuff: pred cont'd as
 above w/ incr igns intr
 clasts.

Note: Temp drop due
 add H₂O to build
 volume.

Tuff: red brn-red, oxid
 appr, cong-sandy appr,
 abndt lithic frags (tuff
 welded & xln, ash, igns
 intr & r breccia), tr-
 mnr calc frac fill, r
 clr qtz, tr-mnr hem.

Note: Drilled 17 1/2"
 hole to 1070', set
 13 3/8" casing @
 1070'. Begin Drill-
 ing 12 1/4" hole.

Note: cement present
 in cuttings f/ 1080-
 1150'.

MOB 36,000#

469' / 27hrs

NB#8 HTC J-22 1/11

DRILL RATE

100 75 50 25

MOB 28-30,000#

RPM 70

PSI 950

SPM 58

217' / 13hrs

NB#9 HTC J-33 1/12

ROCK DENSITY

MOB 20-35,000#

RPM 65-70

PSI 850-900

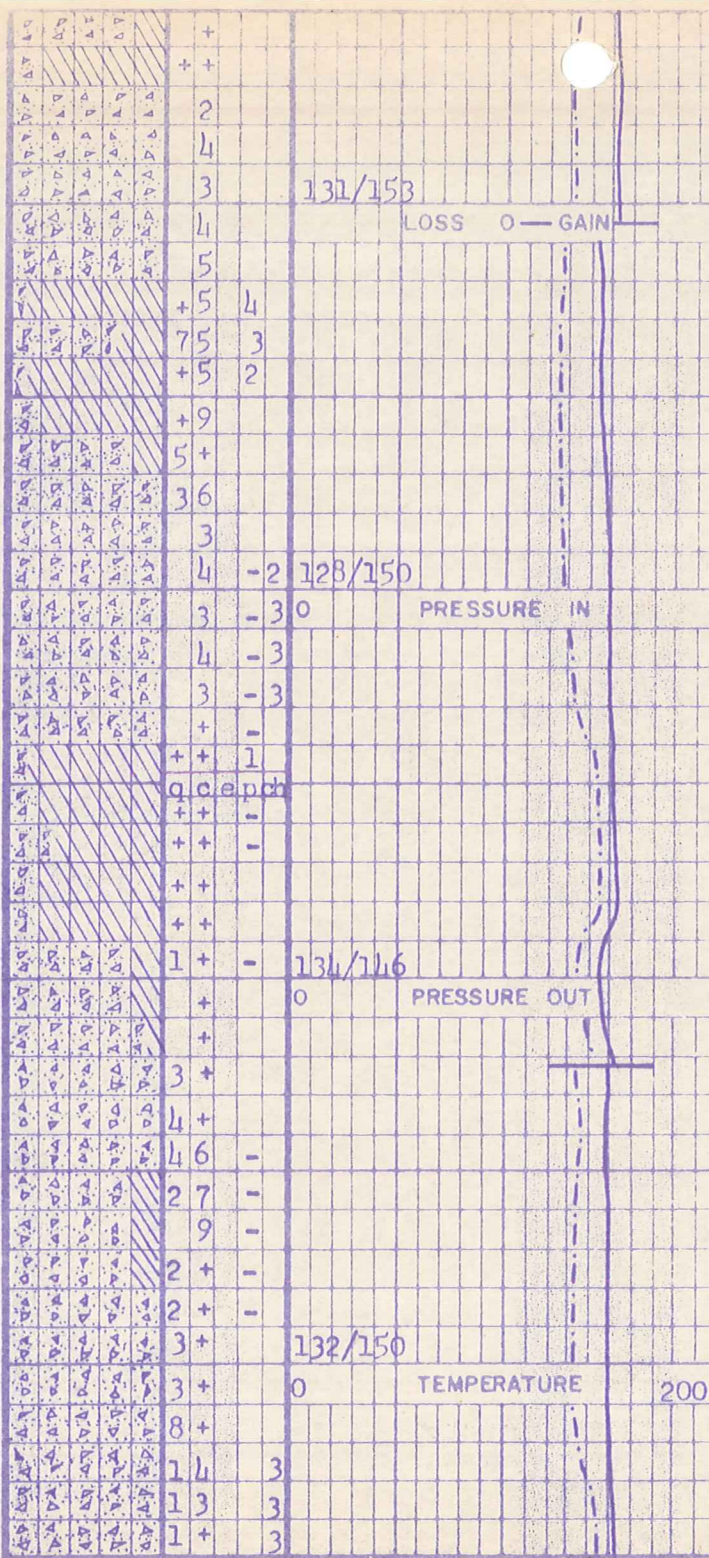
SPM 58-60

1600

1700

1800

1900



2°15'	\$53E
2°15'	\$58E
0 RES	
2°00'	\$51E
1°30'	\$50E

Solution Deposit: @ 1570' pred clr qtz w/ calc frac fill, abndt sft blk mnrl, highly fractured. Tuff: red-lt grn-brn, highly altrd & oxid appr, sandy-slty appr w/ abndt clay.

Solution Deposit: clr-wht-lt. tan, pred qtz w/ calc, highly frac, loc abndt sft blk mnrl, loc abndt pyr vng.

Tuff: wht w/ grn mottled appr, pred xln text w/ mnrl poss felds phenos, sft-hd, comm-abndt calc micro vng, abndt mag w/ wht mnrl aureoles.

Solution Deposit: Pred calc w/ abndt clr qtz, pred tan, rexln appr w/ mnrl calc frac fill, intercalated wht-clr cryptoxln silica, r-tr poss forams?.

Tuff: variable color, wht, grn, red, brn, pred xln, mnrl pumaceous appear, com sandy appear v calcareous, r-tr pyr.

Solution Deposit: pred calc w/ abdt clr qtz, v fn-fn gr calcite w/ com clr calcite x-tals, mnrl-com blk mnrl (poss magnetite), tr-mnrl pyr.

Tuff: gry brn, gd weld-ing xln text, abndt sl-mod alt felds phenos. comm alt mica, mnrl hem.

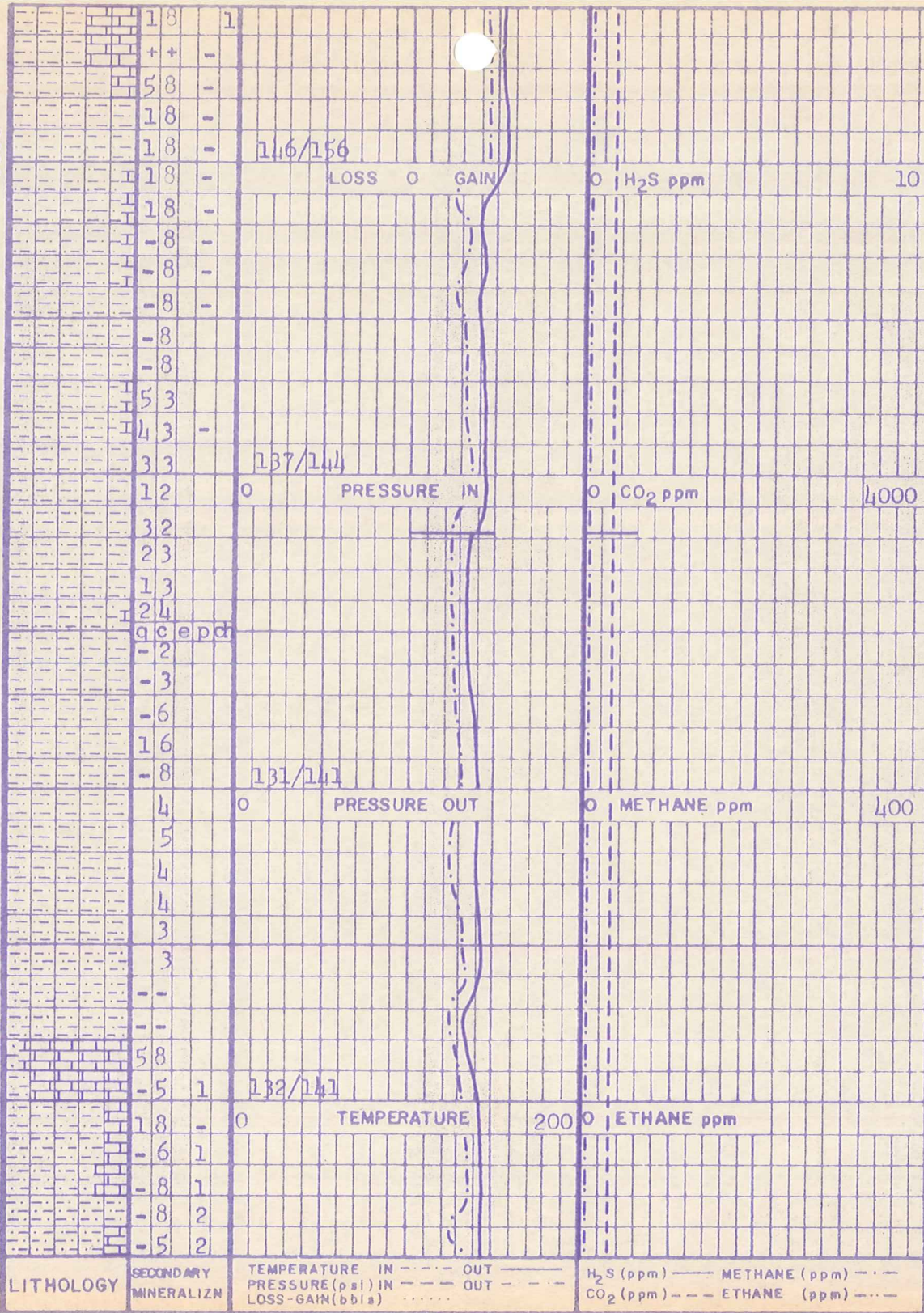
*H.S.O.
This page may be in error about 1900'
Tuff may be siltstone*

WOB 36,000#
 RPM 65
 PSI 850-900 1/13
 SPM 58
 DRILL RATE
 100 75 50 25

297°/26hrs
 RRB#8(Blt#10)

WOB 30-32,000#
 RPM 65
 PSI 900
 SPM 56
 ROCK DENSITY

2000
2100
2200
2300
DEPTH



Siltstone: pred gry, tr red, mod hd-hd, v fn-fn gr, abndt clay, loc abdt sft blk mnrl, highly calcic, loc highly silic (poss frac fill), comm tuff frags poss slough.

Note: Temp variation due dump pits & add H₂O to keep dring fluid conditioned.

W 9.4 V 38 PV 16 YP
 5 pH 11.5 Fil 8.4
 Cl 770 Slds 6%

Note: Dumped pits during trip. Temp drop due to adding water & new mud to build volume.

Siltstone: pred gry, mnrl wht, pred fn gr w/ mnrl v fn gr, fria-v sft-mod hd, v calcic, pred fis-sile, comm-abndt sft blk mnrl.

Siltstone: pred gry w/ loc abndt wht due calc cmnt, v fn-fn gr, mnrl clay tr poss kaol, v highly calcic w/ abndt calc vng.

Siltstone: pred blk, mnrl dk gry brn, mod hd sl fissile, highly calcic, tr silic frac fill.

Note: lost 85 bbls dring fluid f/ 2275 spot LCM pill.

1/15
 WOB 29,000#
 RPM 65
 PSI 850
 SPM 51

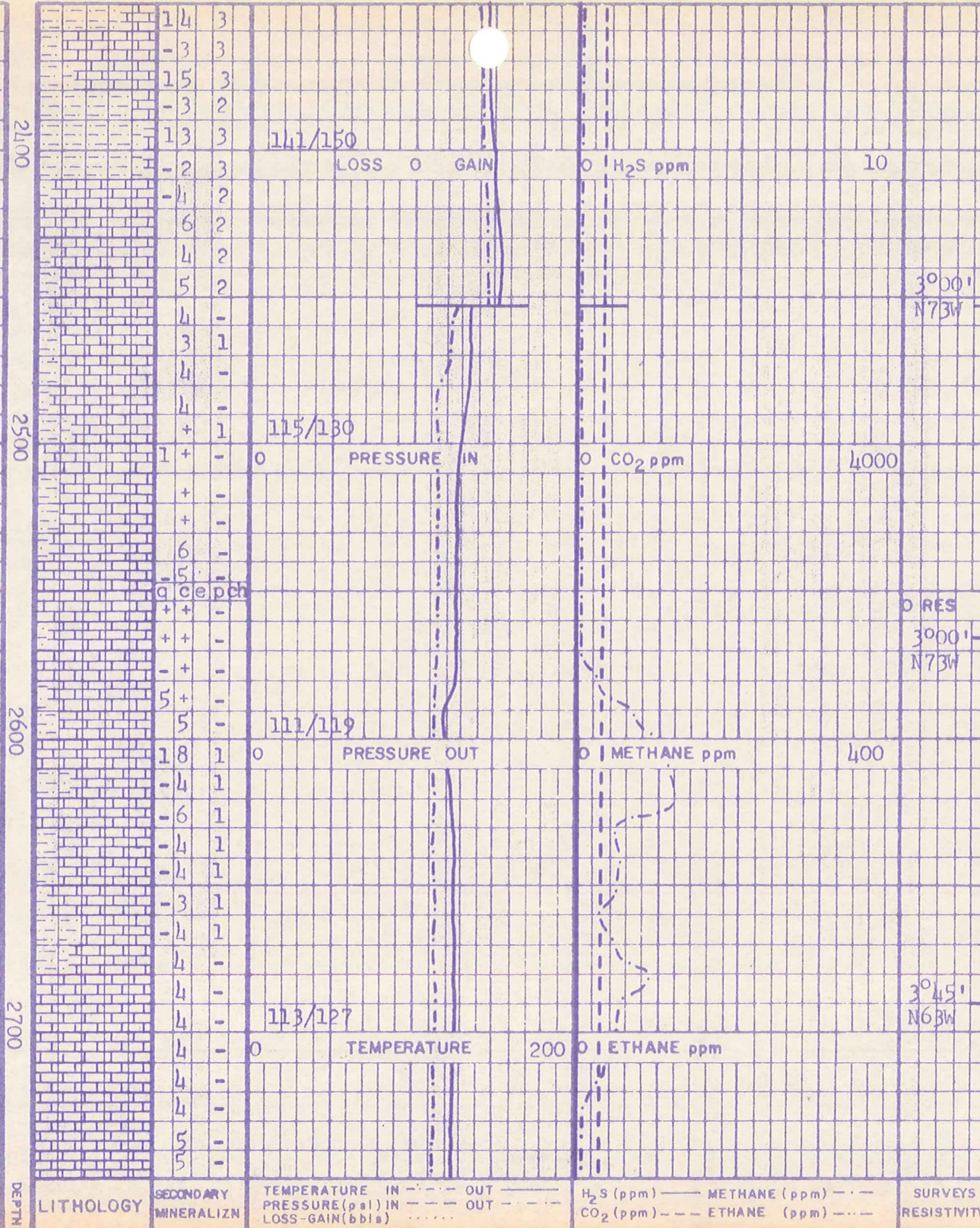
552' / 47 hrs
 DRILL RATE
 100 75 50 25
 NB#10 Sec 586-F

1/16

ROCK DENSITY

WOB 28-38,000#
 RPM 62
 PSI 1250
 SPM 56 1/17

SRC Animas 55-7



Limestone:f/2290'-2360'
 lt-dk bl pred rexln
 sucrosic text,hd-v hd,
 loc abndt microfossils,
 abndt wht-clr calc vng,
 sl silic.

W 9.1 V 38 PV 12 YP
 4 pH 11 Fil 10 Cl
 500 Slids 3%

Note:POH,chnng bit &
 BHA to decrease
 angle,rig up mud
 cooler.

Limestone:lt-dk brn,v
 highly frac,tr-mnr bio-
 clasts,loc slty-sandy
 Marl,grades & intbds w/
 mnr highly calcic sft
 Siltstone.

Limestone:pred lt tan,
 mnr dk brn,loc v abndt
 cryptoxln lt blu sil-
 ca w/ v abndt bioclasts
 ,tr carbonized plant
 material.

Limestone:pred dk brn,
 hd-v hd due sl silic,
 pred slty.

Limestone:med-dk gry,
 hd-v hd,pred sucrosic
 text,loc rexln fn-med
 gr,com-abndt wht-clr
 calc vng,loc tr micro-
 fossils,tr pyr,assoc w/
 Marl:lt brn-lt gry,sl-
 v hd,com mottled,com
 rexln,abndt calc vng,
 tr pyrite.

W 9.1 V 46 PV 15
 YP 7 10 Fil 6
 Cl 370 Slds 4%

353' / 48hrs
 1/18
 NB#11 Reed FP53

DRILL RATE
 100 75 50 25

WOB 38-42,000#
 RPM 62
 PST 1250
 SPM 56

1/19

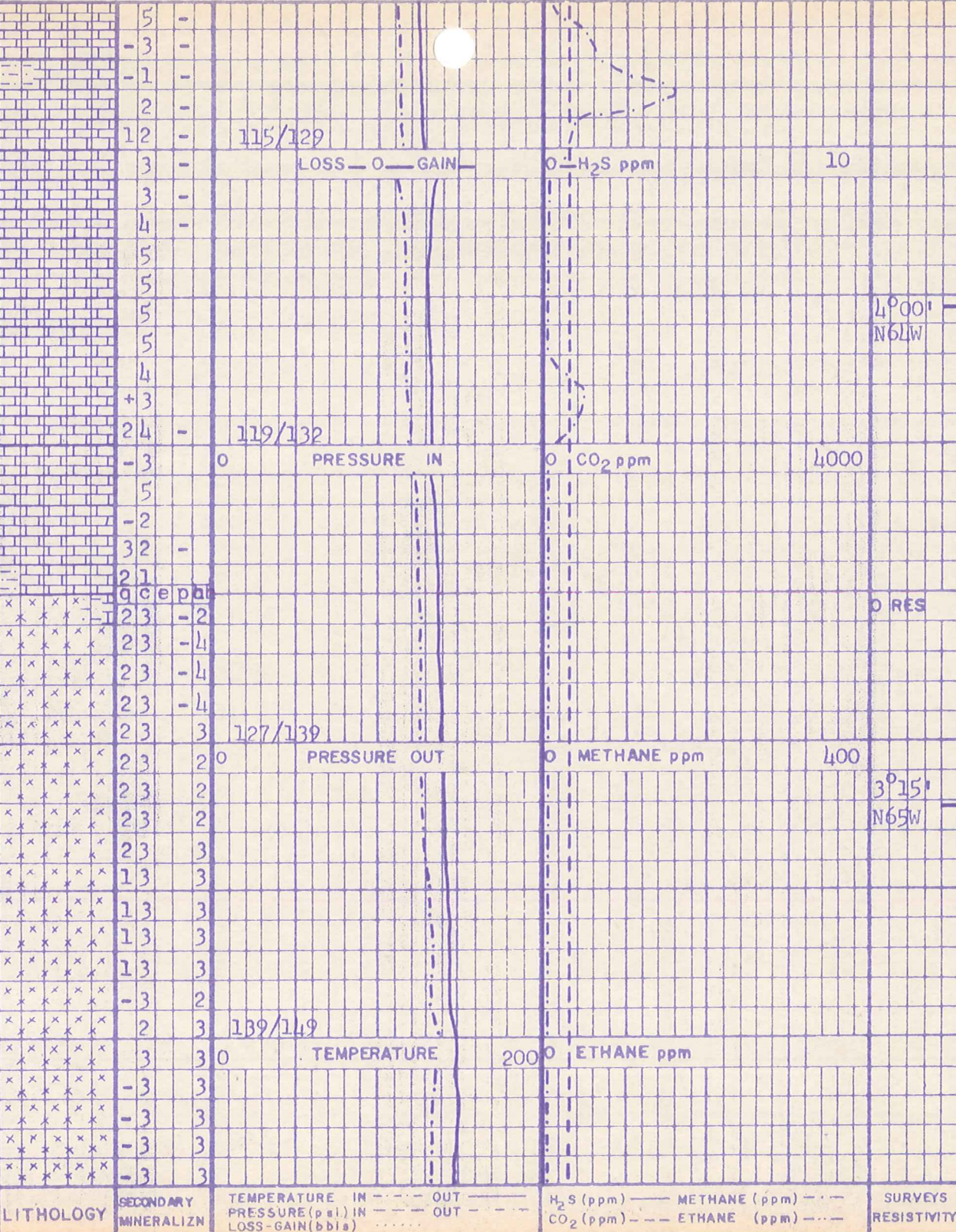
DRILL RATE
 40 30 20 10
 SCALE CHANGE

ROCK DENSITY

WOB 40-42,000#
 RPM 62
 PST 1250
 SPM 56

SRC Animas 55-7

2800
2900
3000
3100
DEPTH



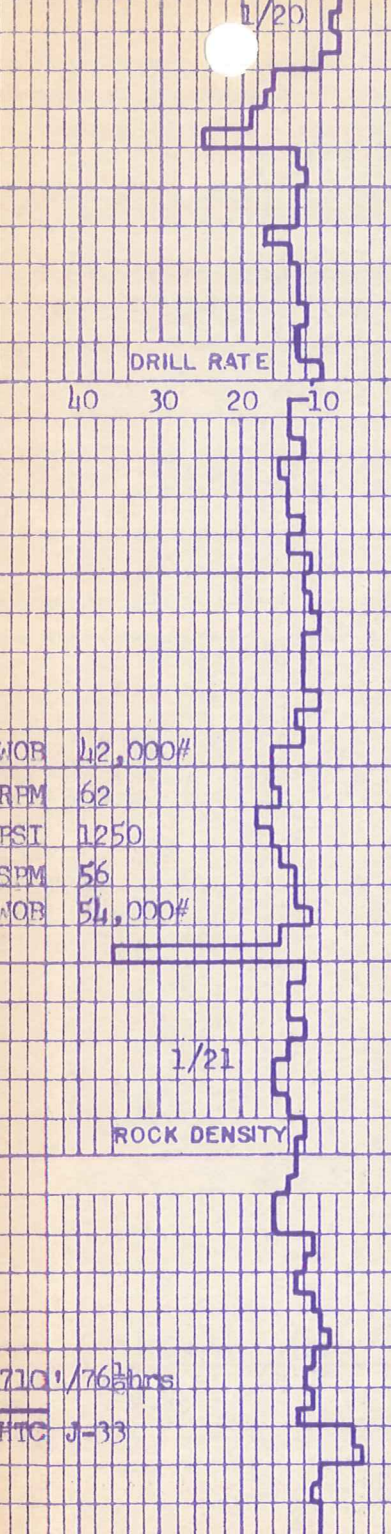
Limestone: pred lt-med brn, mnr dk gry w/ sucrosic text, sl-v hd, com rexln, comm mottled, loc intbdd w/ mnr Marl & Siltstone, comm-abdnt wht calc vng, tr clr, loc tr microfossils, tr dissem pyrite.

Limestone: lt brn-brn, mnr dk brn, hd-v hd due tr-loc v abdnt lt brn cryptoxln silica w/ dolo rhombs as inclusions, loc highly frac, loc comm bioclasts, tr pyr vng.

Intrusive Dike: inter-med, lt pnk-lt gry mott w/ grn & wht, hd-v hd, v fn-fn gr grndmass w/ abdnt feld phenos, mnr-comm chlrtzd hnbld, mnr calc, mnr mag, tr qtz, loc tr pyr.

Intrusive Dike: pred lt orng poss due Fe stn, mott w/ grn & wht, pred hd, aphan grndmass w/ fresh-alt plag & alt bio & tr musc phenos, abdnt subhdrl-euh mag, comm wht/clr calc vng.

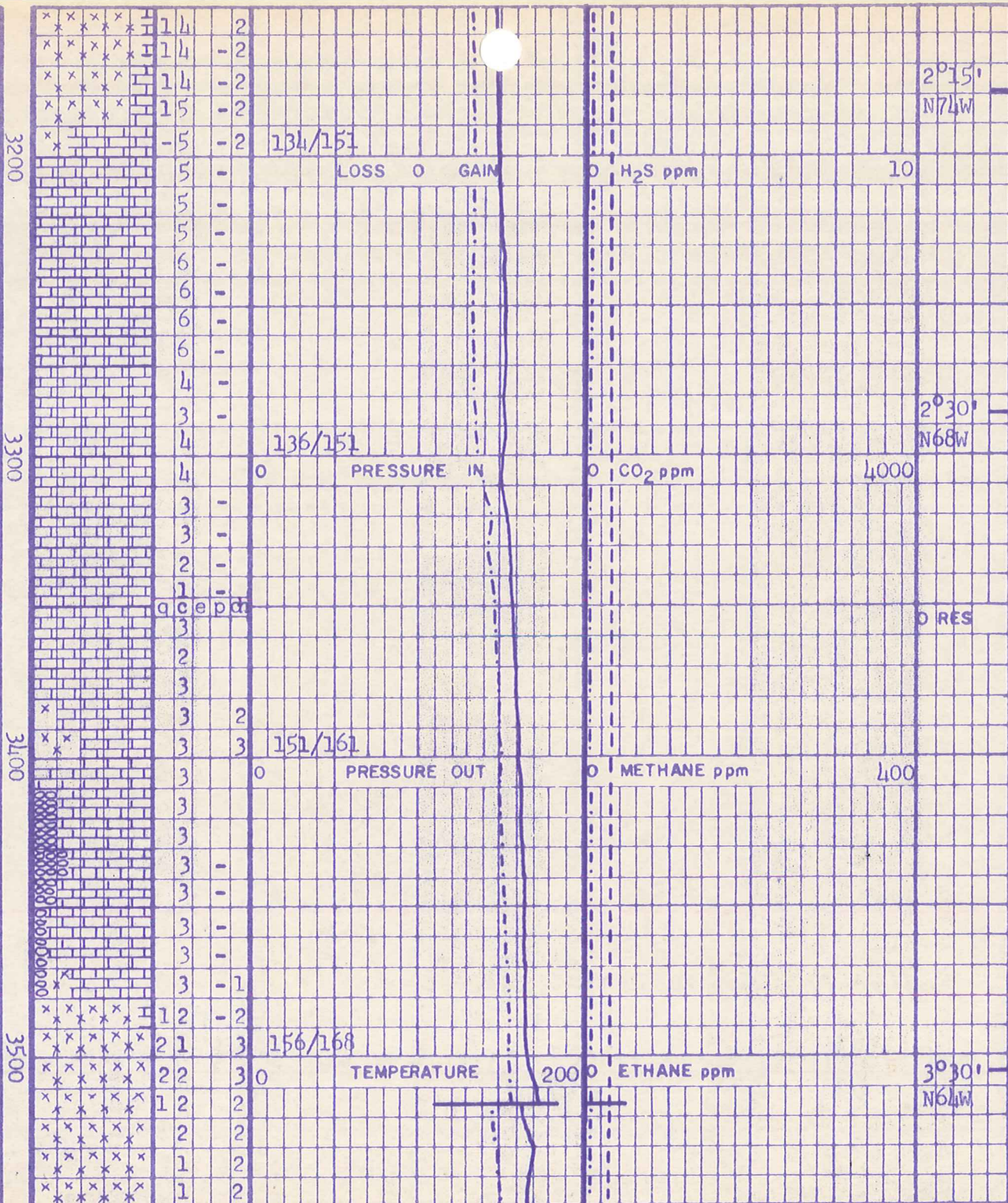
Note: Temp incr due inefficient cooling by mud cooler.



WOB 42,000#
 RPM 62
 PSI 1250
 SPM 56
 WOB 54,000#

710#/76# hrs
 HIC J-33

SRC Animas 55-7



LITHOLOGY SECONDARY MINERALIZATION TEMPERATURE IN --- OUT --- PRESSURE (psi) IN --- OUT --- LOSS-GAIN (bbis) H₂S (ppm) --- METHANE (ppm) --- CO₂ (ppm) --- ETHANE (ppm) --- SURVEYS RESISTIVITY

W 9.4 4 PV 17
 YP 6 pH 10.5 Fil
 6.4 Cl 600 Slds 4%

Limestone:lt-med brn, dk gry,hd-v hd,pred sucrosic text,com rexln com mottled,loc intbdd w/mnr marl & sltstn, com-abdnt wht calc vng, tr dism pyrite.

Limestone:pred lt tan, mnr dk brn-blk,pred hd, mnr v hd,pred sucrosic text,rexln,loc abdnt microfossils,comm wht calc vng,tr pyr.

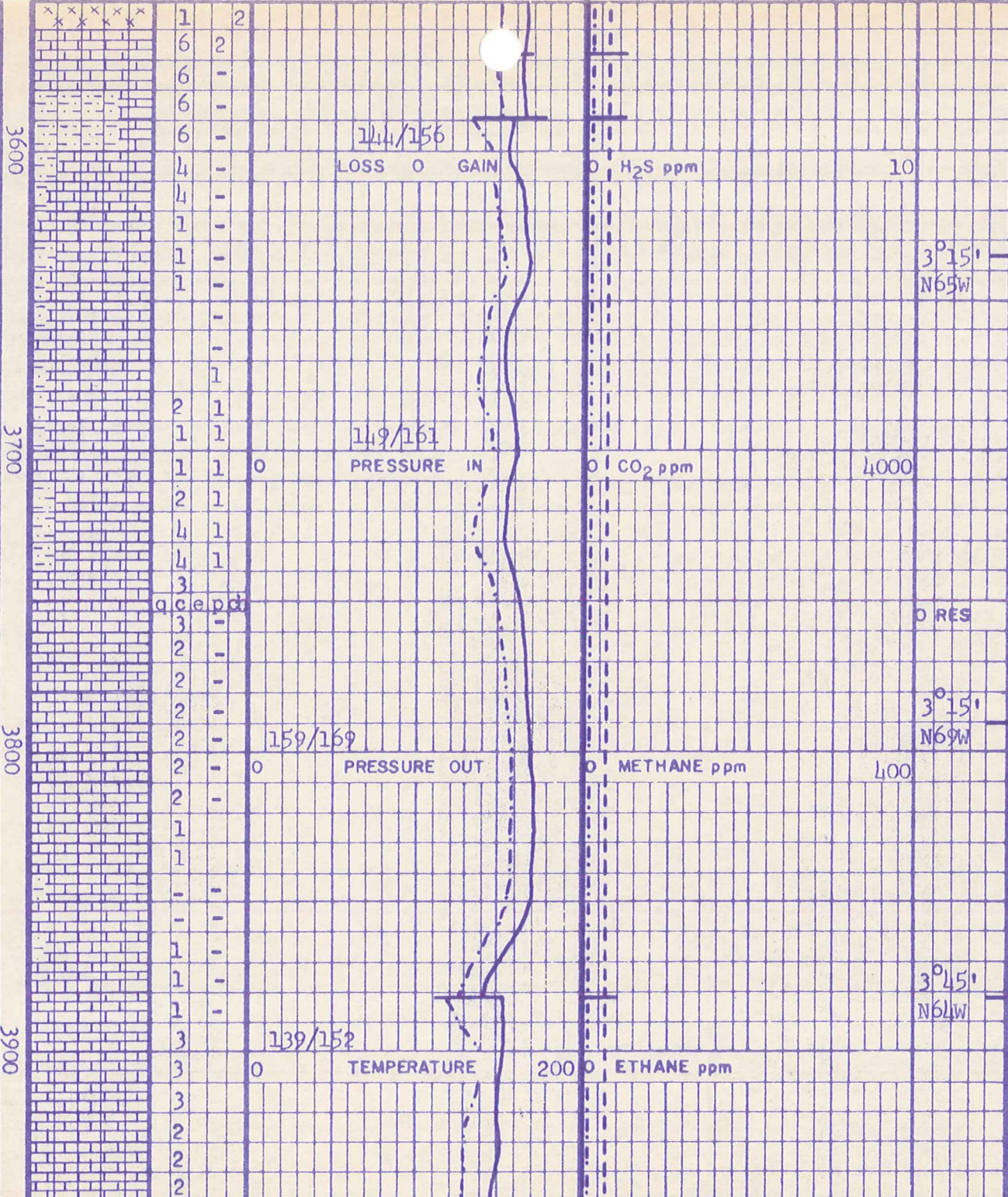
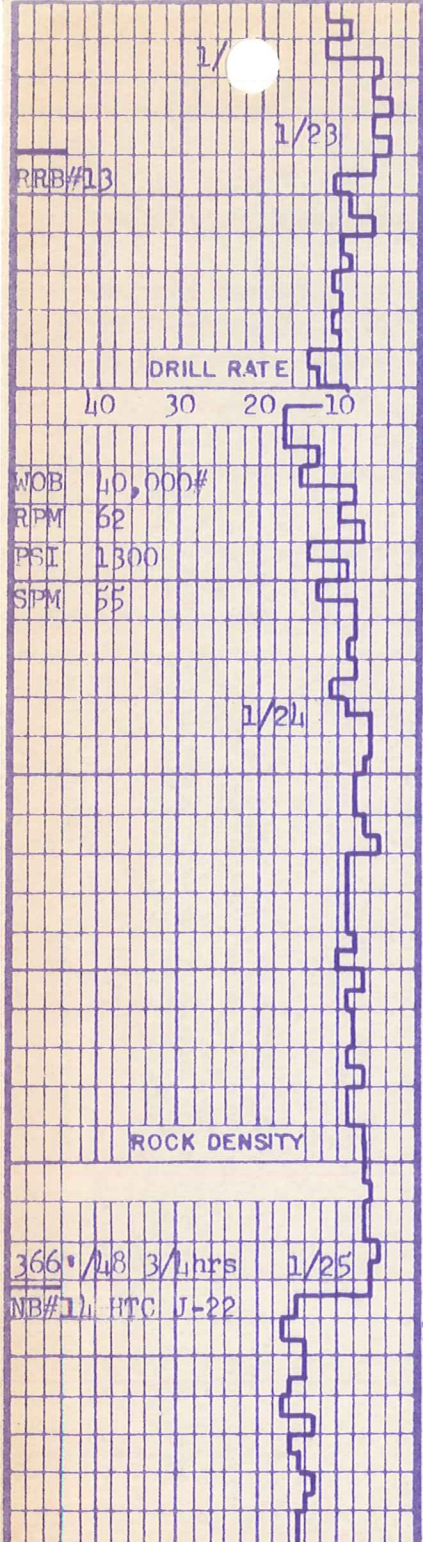
Note:Temp incr due mud cooler down.

Limestone:pred lt brn, mnr blk & sl slty,hd-v hd due loc sl silic, comm bioclasts,comm wht-clr calc vng.

Intrusive Dike:med-dk grn,hd-v hd,aphan grnd-mass w/abdnt feld phen, comm chlor,mnr calc, mnr mag,tr pyrite.

Chert:lt-med brn,v hd, translucent,loc frac w/calc microvng,tr pyr, intbdd w/lmstn a/a.

Intrusive Dike:gry,grn, & wht,hd-v hd,aphan grndmass w/abdnt feld phenos,com chlor,mnr-comm mag,mnr calc vng.



Note: trust off at 3568', tested off 10 stnds & 1 snl f/kelly, fishing, POH w/fish, RIH.

Siltstone: dk gry, v fn gr, blocky, sft, v calcareous, tr-mnr dism pyr.

Note: temp changes due to erratic efficiency of mud cooler.

Limestone: med brn w/ comm fusilinids, tan-lt brn comm mottled & rexln, intbdd w/calc silt-stn, mnr-comm calc vng, tr pyrite.

Limestone: lt tan-lt brn, sl-v hd, comm mott, comm rexln, mnr-loc com clr & wht calc vng, loc mnr fusilinids, tr dism pyrite.

W 9.4 V 39 PV 11
YP 5 pH 11.5 Fil
6.6 Cl 500 Slds 5%

Note: temp decrease due to mud cooler on.

Limestone: tan-lt brn, mod hd, comm rexln, loc comm fusilinids, tr-mnr wht & clr calc vng, r dism mag, loc r pyr.

W 9.3 V 41 PV 18
 YP 11 11 Fil
 6.8 Cl 600 Slds 4%

Limestone:lt brn-grn,
 tan,mod hd,loc brittle,
 loc sft,comm rexln,abdt
 microfossils,tr wht vn
 calcite,r-tr fn gr pyr.

Note:45 bbl mud
 loss @ 4060'.

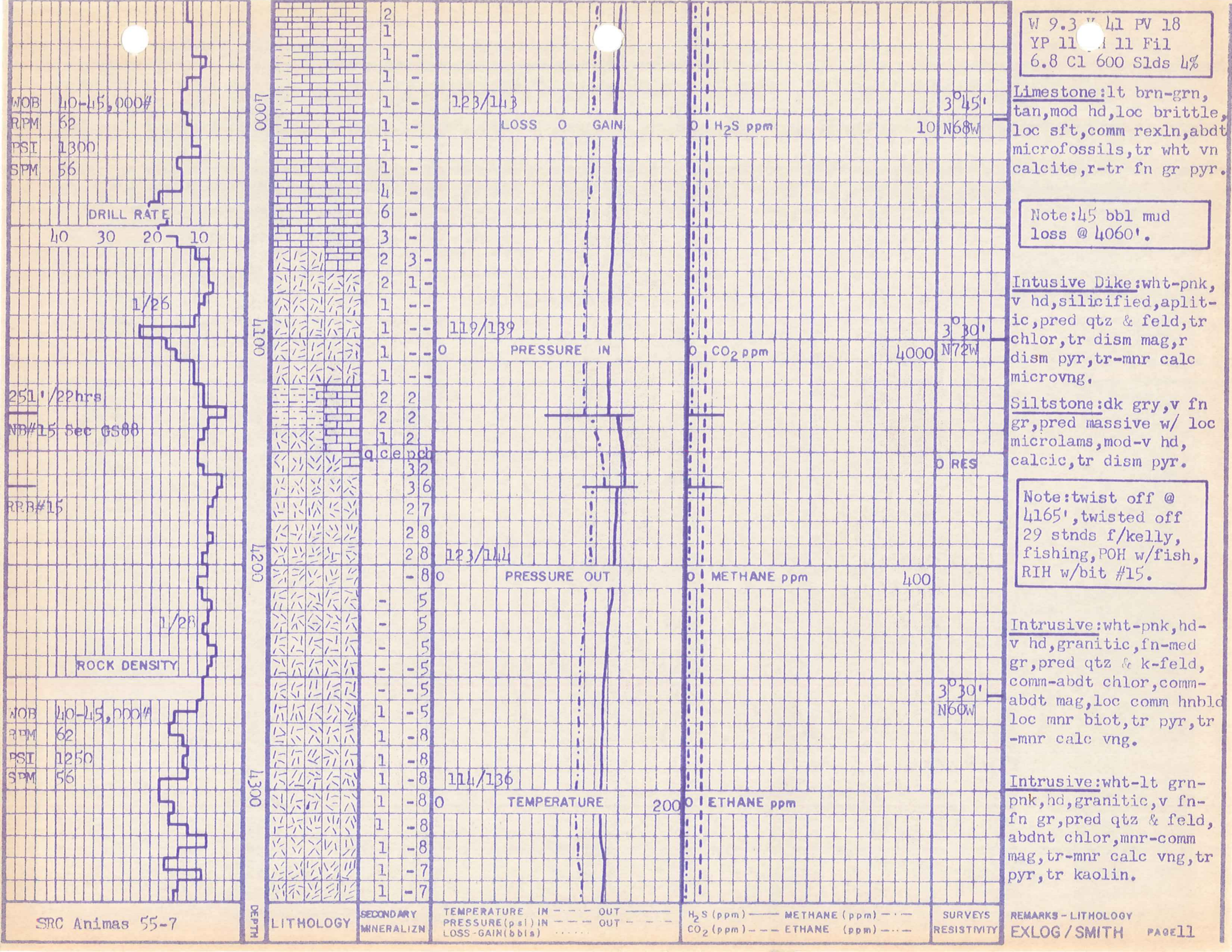
Intrusive Dike:wht-pnk,
 v hd,silicified,aplitic,
 pred qtz & feld,tr
 chlor,tr dism mag,r
 dism pyr,tr-mnr calc
 microvng.

Siltstone:dk gry,v fn
 gr,pred massive w/ loc
 microlams,mod-v hd,
 calcic,tr dism pyr.

Note:twist off @
 4165',twisted off
 29 stnds f/kelly,
 fishing,POH w/fish,
 RIH w/bit #15.

Intrusive:wht-pnk,hd-
 v hd,granitic,fn-med
 gr,pred qtz & k-feld,
 comm-abdt chlor,comm-
 abdt mag,loc comm hnbld
 loc mnr biot,tr pyr,tr
 -mnr calc vng.

Intrusive:wht-lt grn-
 pnk,hd,granitic,v fn-
 fn gr,pred qtz & feld,
 abdt chlor,mnr-comm
 mag,tr-mnr calc vng,tr
 pyr,tr kaolin.



MOB 40-45,000#
 RPM 62
 PSI 1300
 SPM 56

DRILL RATE
 40 30 20 10

1/26
 251' / 22hrs
 NB#15 Sec GS88

RPB#15

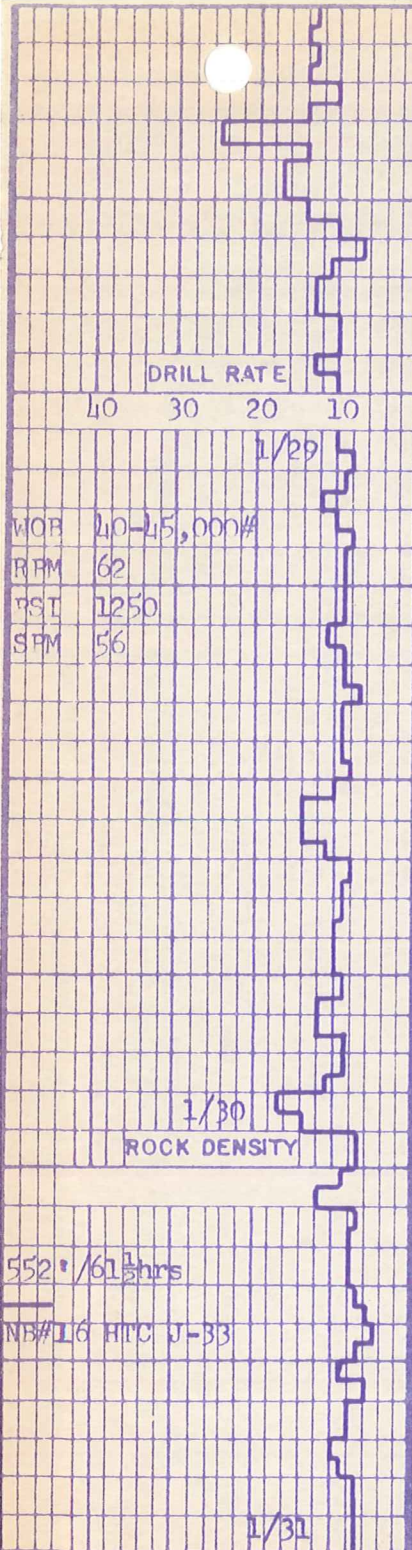
1/28
 ROCK DENSITY

MOB 40-45,000#
 RPM 62
 PSI 1250
 SPM 56

SRC Animas 55-7

DEPTH LITHOLOGY SECONDARY MINERALIZN TEMPERATURE IN --- OUT --- PRESSURE (psi) IN --- OUT --- LOSS-GAIN (bbls) H₂S (ppm) --- METHANE (ppm) --- CO₂ (ppm) --- ETHANE (ppm) --- SURVEYS RESISTIVITY

REMARKS - LITHOLOGY EXLOG / SMITH PAGE 11



WOB 40-45,000#
 RPM 62
 PSI 1250
 SPM 56

552°/61 hrs
 NB# 116 HPC U-33

SRC Animas 55-7

116/130	1	-6							
	2	-6							
	1	-4							
	1	-2							
	1	-2							
	1	-4	LOSS	0	GAIN				
	1	-5							
	1	-5							
	2	-6							
	2	-1							
	2	-1							
	3	-3							
	3	-3							
114/134	4	13							
	+	1-							
	+	1-	0		PRESSURE IN				
	5	1-							
	4	1							
	4	1							
	4	1							
	1	2							
	1	23							
	2	34							
	2	24							
117/138	-	24							
	-	115	0		PRESSURE OUT				
	-	214							
	1	2	3						
	2	2	3						
	1	-	3						
	1	-	3						
	2	-	2						
	2	-	2						
	1	-							
116/136	1	1-							
	1	2-	0		TEMPERATURE	200			
	-	2-							
	-	3-	3						
	1	3	3						
	1	-	3						

116/130

114/134

117/138

116/136

3°15' N75W

3°45' N75W

0 RES

Intrusive: pred wht, mnr lt grn-
 granitic appr w/incr altered appr, v fn gr, decr hd w/loc sft comm kaolin, decr chlorite, tr dism pyr.

Note: temp drop @ 4400' due to adding new mud.

Limestone: lt-med brn, lt-dk gry, sl-mod hd, loc silty, comm rexln, loc comm foss, comm-v abdnt calc vng, tr-loc mnr pyr, intbdd w/ Siltstone: med-dk gry, sl-mod hd, calcareous, comm-abdnt calc, tr pyr.

Intrusive: grn-gry, fn gr, hd, grn color & altered appr poss montmorillonite, comm fn gr chlorite, mnr-comm pyr, mnr magnetite.

Intrusive: med gry/grn, hd, fn gr, pred qtz & feld, mnr-comm chlor, mnr mag, tr-comm epidote tr-mnr calc, tr pyr.

W 9.4 V 32 PV 9
 YP 3 pH 11.0 Fil
 7 Cl 600 Slds 4%

Intrusive: pred grn, mnr wht-lt gry, hd, v fn-fn gr, pred qtz & feld w/mnr-comm grn, prismatic epidote, comm magnetite, tr calcite, tr pyr.

155' / 22 hrs 2/1
 NB#17 DRILL RATE
 40 30 20 10
 Reed FP-53

MOB 45,000# 2/2
 RPM 62
 PSI 1350
 SPM 57

ROCK DENSITY

2/3

1800
 0087
 1900
 0067
 5000
 5100
 DEPTH

1	-	12					
1	-	-					
2	-	-					
2	-		111/134				
2	-		LOSS	0	GAIN		
1	-					H ₂ S ppm	10
1	-						
2	-						
2	-						
1	-						
2	-						
2	-		107/134				
2	0		PRESSURE	IN			
2						CO ₂ ppm	4000
1							
1							
2			depth				
2							
1							
1							
1			114/136				
1	0		PRESSURE	OUT			
2						METHANE ppm	400
2	-						
2	-						
3	-						
2							
2							
1			119/138				
1	0		TEMPERATURE		2000	ETHANE ppm	
2							
2							
2							
2							

3045'
 N71W
 3045'
 N70W
 0 RES
 3045'
 N69W

Limestone:lt-med gry,
 sl-mod hd,loc friable,
 rexln,marblized,pred
 v fn-fn gr,mnr med gr,
 mnr calc vng,r-tr dism
 pyrite.

Limestone:lt gry-wht,
 sl hd,brittle,v fn-fn
 gr matrix w/comm-abdt
 intraclasts(rnd-elongate),
 loc sft-friable,
 mnr-comm lt brn-gry
 translucent chert,mnr
 wht calc vng,r-tr dism
 pyr.

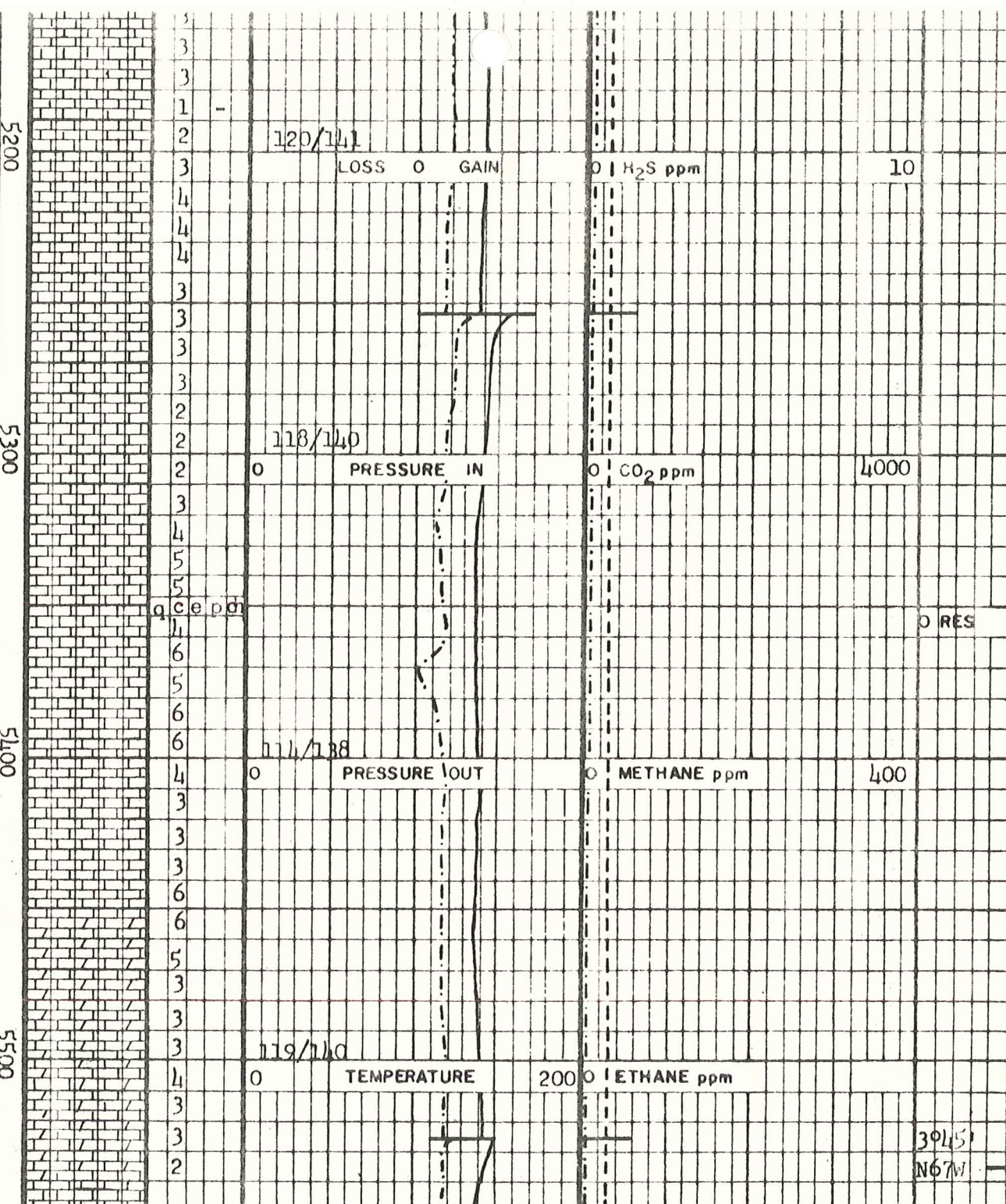
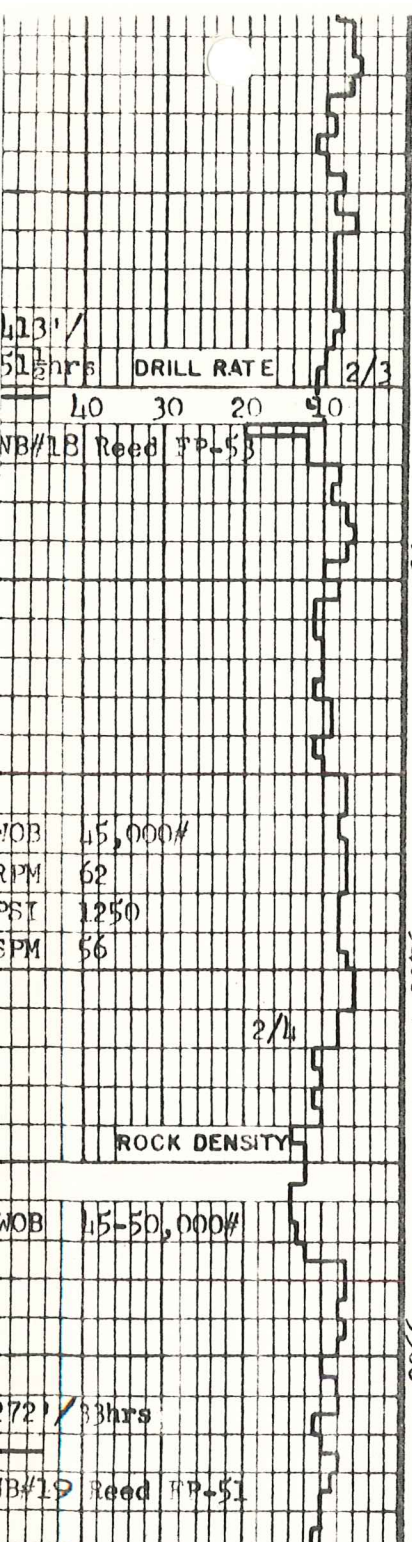
W 9.3 V 37 PV 12
 YP 7 pH 11.0 Fil
 6.8 Cl 500 Slids 4%

Limestone:wht-lt gry,
 sl-mod hd,comm brittle,
 rexln,comm intraclasts,
 intbdd w/mnr lt gry
 chert,tr-mnr calc vng.

Limestone:wht-lt gry,
 sl-mod hd,comm brittle,
 rexln,comm intraclasts,
 intbdd w/tr lt gry cht,
 tr-mnr calc vng,r-tr
 dism pyr.

Limestone:wht-lt gry,
 sl hd,comm brittle,
 rexln,comm-abdt intra-
 clasts,loc v sft,tr-mnr
 calc vng.

Limestone:lt-dk gry,
 mottled,mod hd-v hd,
 comm brittle,rexln,tr-
 mnr wht calc vng.



Limestone:lt-dk gry, mottled,hd-v hd, comm brittle,rexln, tr-mnr calc vng, tr intbdd chert,r pyr,r fossil (prob bivalve).

Limestone;pred wht,mnr lt gry,mod hd,loc brittle,microxln,loc silty appr,mnr-comm wht calc vng,tr intbdd lt brn chert.

Limestone:brn w/ mnr dk brn,pred hd-loc v hd,microxln,mass appr, tr lt brn translucent cryptoxln silica,comm calc vng.

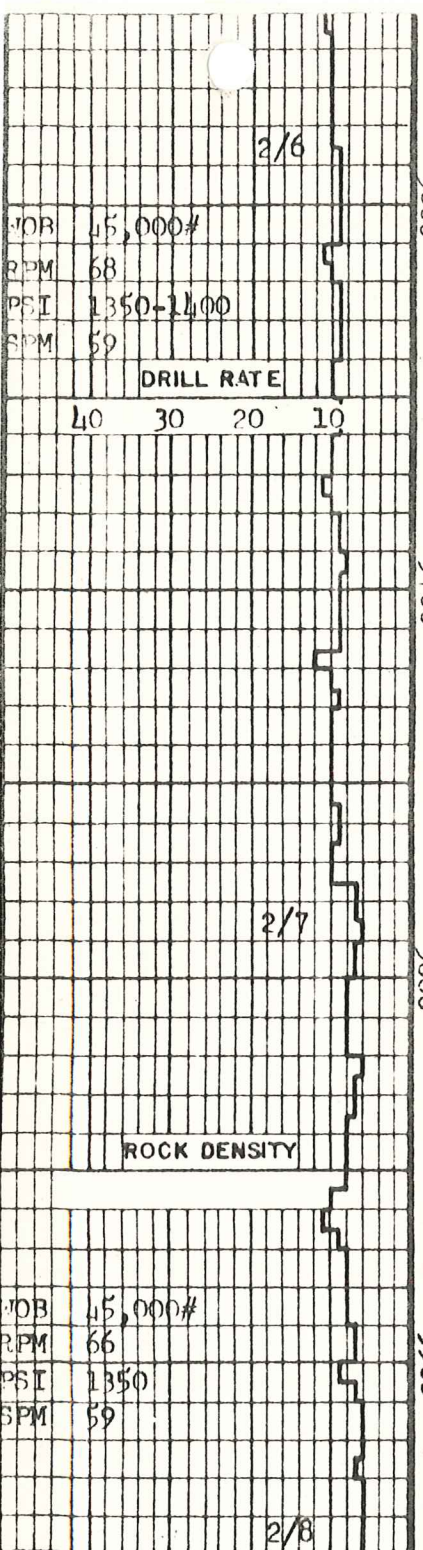
Note:jet shaker pit @ 5359'.Temp in drop @ 5370' due to adding new mud.

Limestone:pred brn-dk gry,mnr lt gry,hd-v hd, pred mass appr,comm frac'd appr,cryptoxln, comm-abdt calc frac vng.

Limestone:pred wht w/ mnr-comm gry brn,hd, granular rexln text, pred sl dolomitic,loc dolo rhombs vis,comm-abdnt calc vng,r pyr.

Limestone:lt-dk gry,w/ comm-abdt wht interbdd dolomite,sl hd-v hd, mass appr,mnr vn calc.

Note:jet shaker pit @ 5359'.Temp in drop @ 5370' due to adding new mud.



Marl: g sft-mod hd,
mnr hd, highly calcic,
sl-highly silty w/ mnr
gran text, loc mnr clay
mnr calc vng, r dissem
pyr.

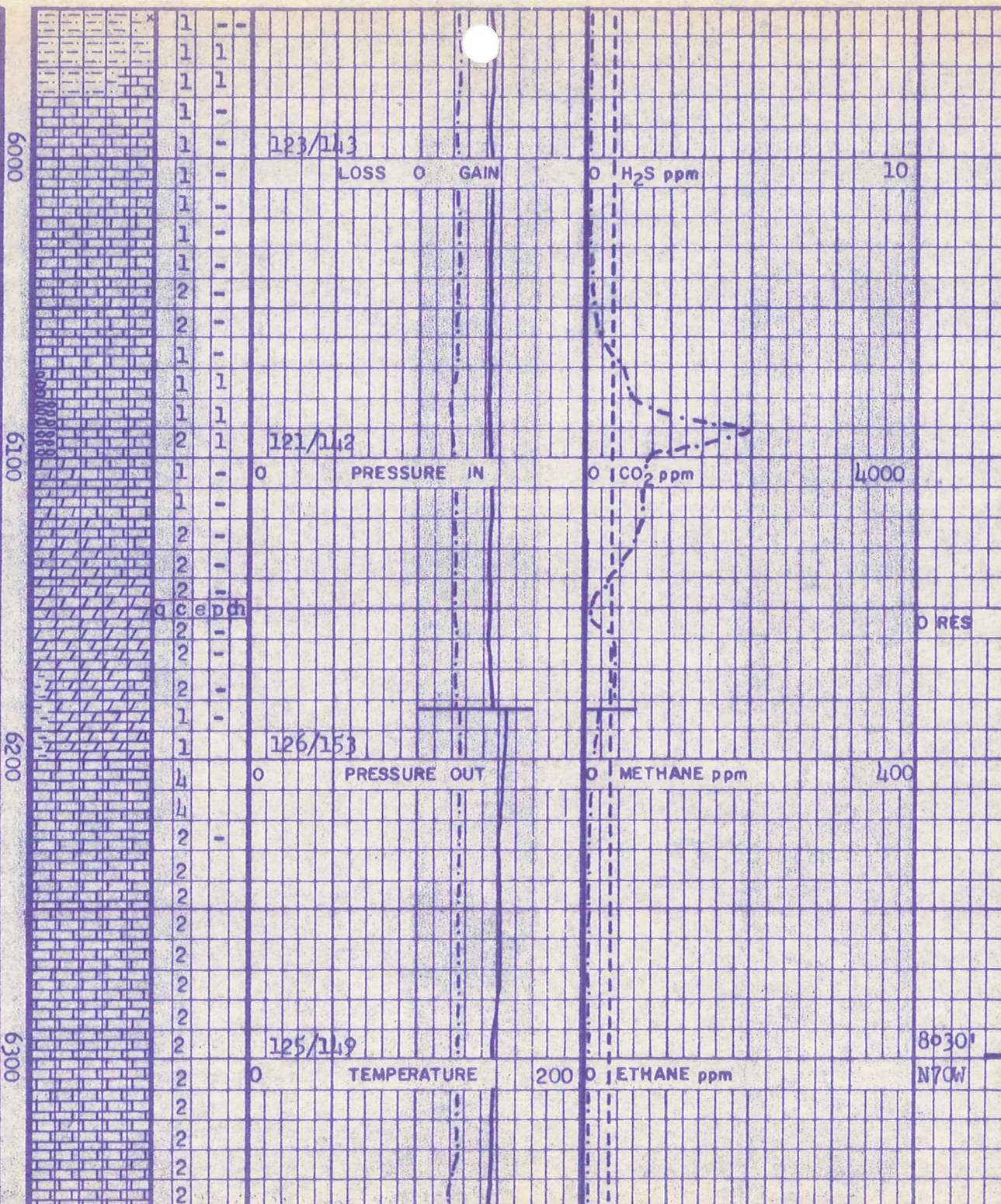
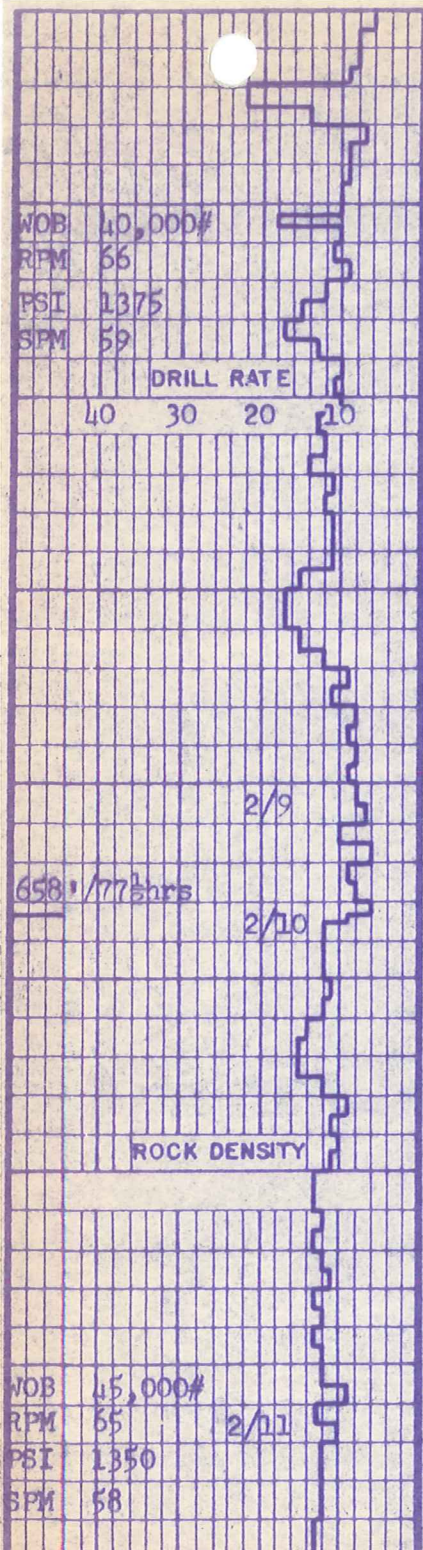
W 9.3 V 40 PV 13
YP 4 pH 10.5 Fil
6.6 Cl 500 Slds 4%

Marl: med-dk gry, sft-
mod hd, mnr v hd, inter-
bdd v fn-fn gr calcareous
silt & clay, w/ loc
vis microlams, tr wht
calc vng.

Marl: med-dk gry, sft-sl
hd, v fn-fn gr, comm-abdt
interbdd silt & clay,
blocky, loc fissile w/
vis microlams.

Siltstone: pred med gry
brn, mod hd, pred v well
laminated w/ comm fis-
sile appr, sl-v highly
calcic, tr calc micro-
vng w/ r v fn dissem
pyr.

Shale: pred dk gry-blk,
mnr med gry, v fn gr,
mod-v hd, mod calcareous
/w calc cmt, abdt dk
gry-blk organic matter,
pred blocky w/ comm
fissile appr, tr calc
vng, r dissm pyr.



Intrmdt igneous:lt grn cast,pr hd mnr sft, pred porph text,abdnt fn gr mag,sl calcic,f/5930'-5960'.

Limestone:med-dk gry,sl hd,brittle,sl dolomitic loc granular appr w/ incr interbdd silica, tr vn calcite,r-tr f gr dism pyr.

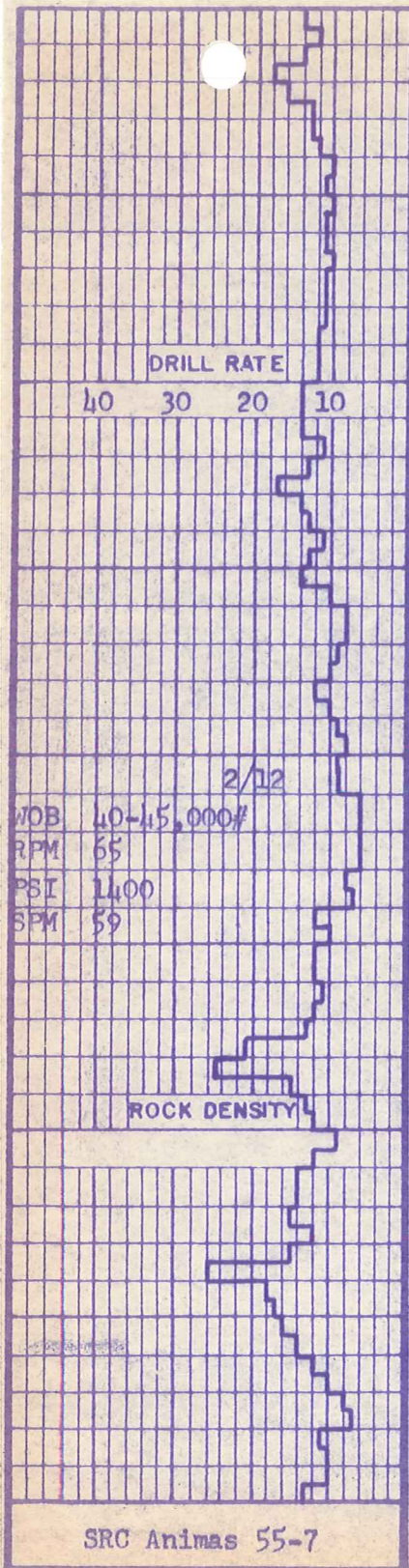
Chert:pred lt gry,mnr brn-blk,v hd & angular, translucent w/mnr v transparent,comm-abdt carbonate inclusions.

Dolomite:wht-lt brn, buff,mod hd-hd,fn-med gr xln,w/comm vis rhombs,loc comm crs granular masses,tr calc vng,tr dism pyr.

Note:Run two time Temp survey for ten hours each. Projected maximum bottom hole temp @ 290°F-307°F.

Limestone:lt gry-lt tan,hd,pred rexln text mass appr,loc tr fossils,mnr calc vng,r-tr dissem pyr.

W 9.4 V 38 PV 14
YP 4 pH 11.0 Fil
7.2 Cl 800 Slids 5%



6100	2						
	2						
	3						
	3						
	2	121/145					
	3		LOSS 0 GAIN	0	H ₂ S ppm		10
	4						
	6						
	24						
	34						
	32						
	32						
	+2						
	+2						
6500	51	123/147					
	41		0	PRESSURE IN	0	CO ₂ ppm	4000
	32						
	12						
	12						
	2						
	2						
	3						
	3						
	3						
	2						
	2						
	2						
	2						
	3						
	3						
	3						
	2						
	2						
	2						
	2						
	3						
	5	126/148					
	6			TEMPERATURE	200	0	ETHANE ppm
	4						
	4						
	1						
	3						
6700							

Limestone:lt gry,mod hd,rexln w/incler dolomite,pred cryptoxln w/loc granular dolomite,massive appr,mnr calc vng,r dism pyr.

Dolomite:pred lt gry,fn gr,rexln gran text,mod hd,loc mod fractured w/ abndnt calc vng.

Solution Deposit:lt tan-comm wht,pred translucent,cryptoxln silica,highly fractured.

Dolomite:pred wht,med gr,rexln gran text,hd,mnr calc vng.

Intrusive:lt-med grn,hd,fn gr,altered appr,comm-abdt dism magnetite,comm chlor,tr-mnr epidote,tr-mnr calc microvng,tr dism pyr.

W 9.4 V 41 PV 18
YP 6 pH 11.0 Fil
7.4 Cl 800 Slids 5%

Dolomite:gry-lt gry,mod hd-hd,pred rexln gran text,intbdd w/ mnr Shale:pred blk,sft-mod hd,pred sl fissile.

Note:Mnr slough vis in samples f/ 6730' ;poss f/ 1800'.

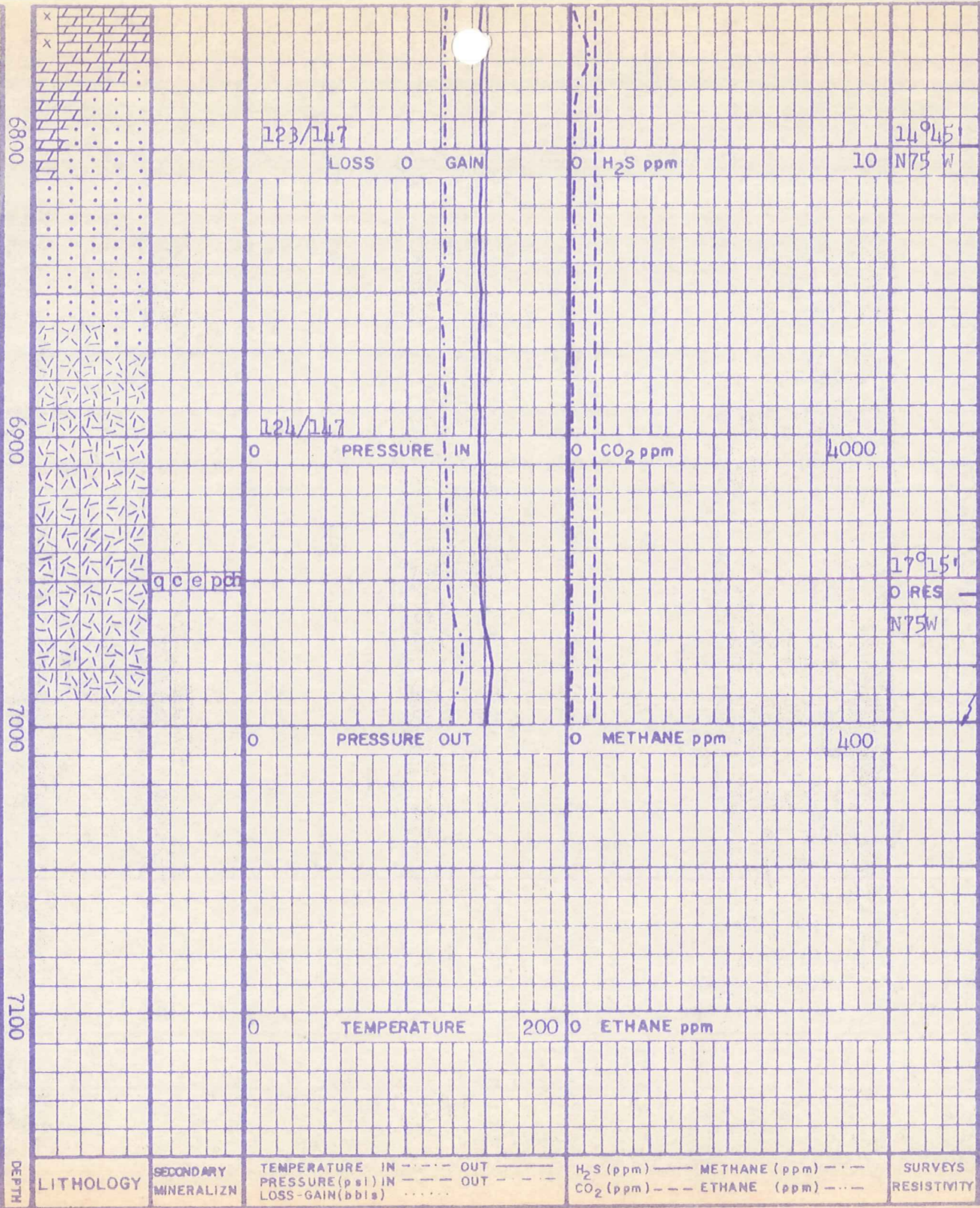
WOB 45,000#
 RPM 65 2/13
 PSI 1500
 SPM 58-59

DRILL RATE
 40 30 20 10

818' / 78hrs 2/11

ROCK DENSITY

SRC Animas 55-7



Dolomite: lt-med gry, hd granular text, fn gr, sl fractured w/ comm calc vng, tr dissem pyr.

Sandstone: pred clr-wht, mnr gry/grn cast, pred fn gr w/mnr med gr, sub ang-rd, pred qtz w/loc comm arkosic, mod-well srted, mnr-comm chlorite, tr vn calc, tr dism pyr.

Granite: lt pink w/ mnr wht-lt grn, pred v hd, hypidiomorphic text, loc mod fractured w/ mnr kaol & chlor frac fill, tr calc, r pyr, loc tr hem fresh subhdrl-oxid.

Note: Temp incr due mud cooler malfunction.

Total Depth 7001'.
 Run Schlumberger E logs.

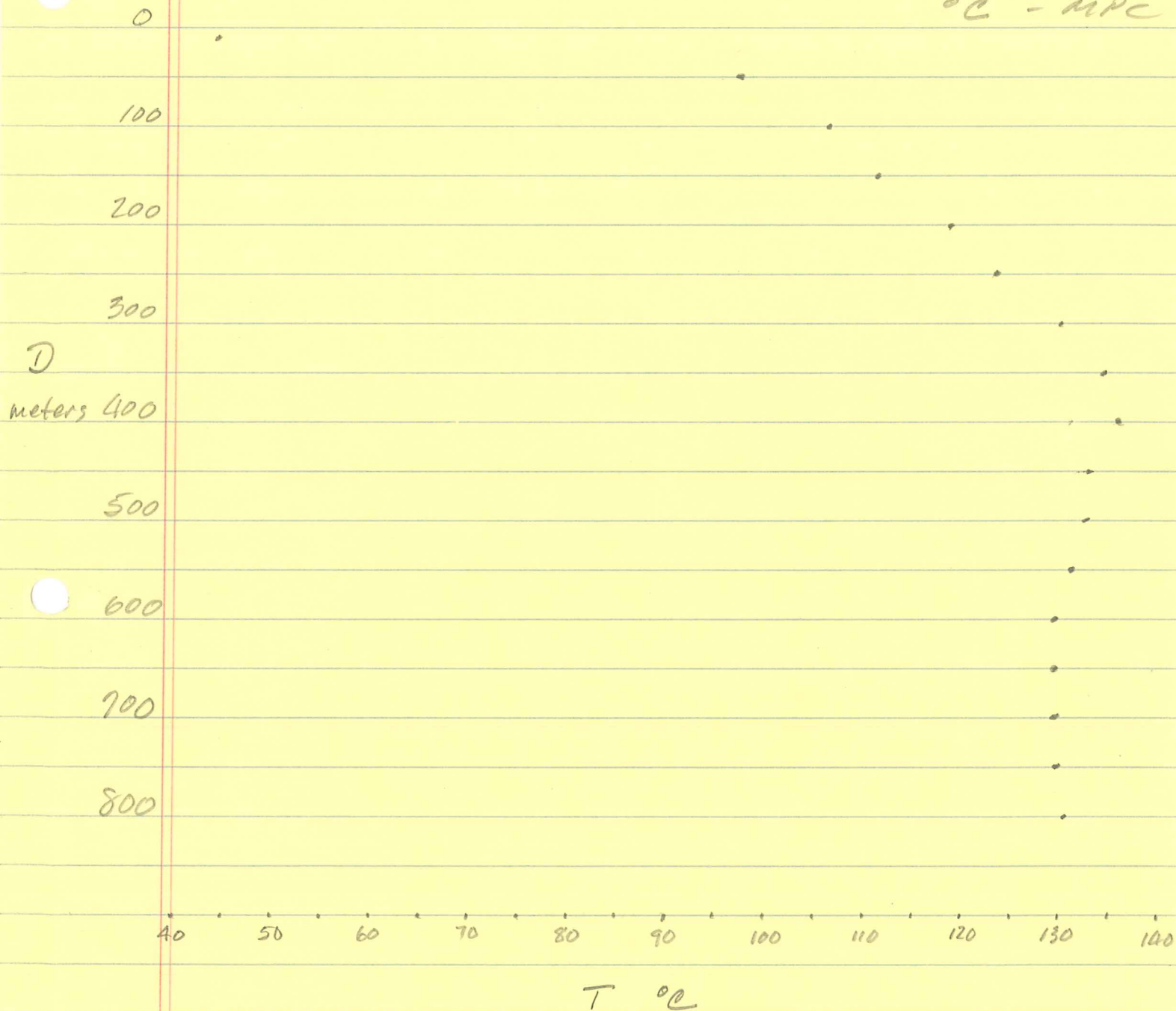
4 March 1985

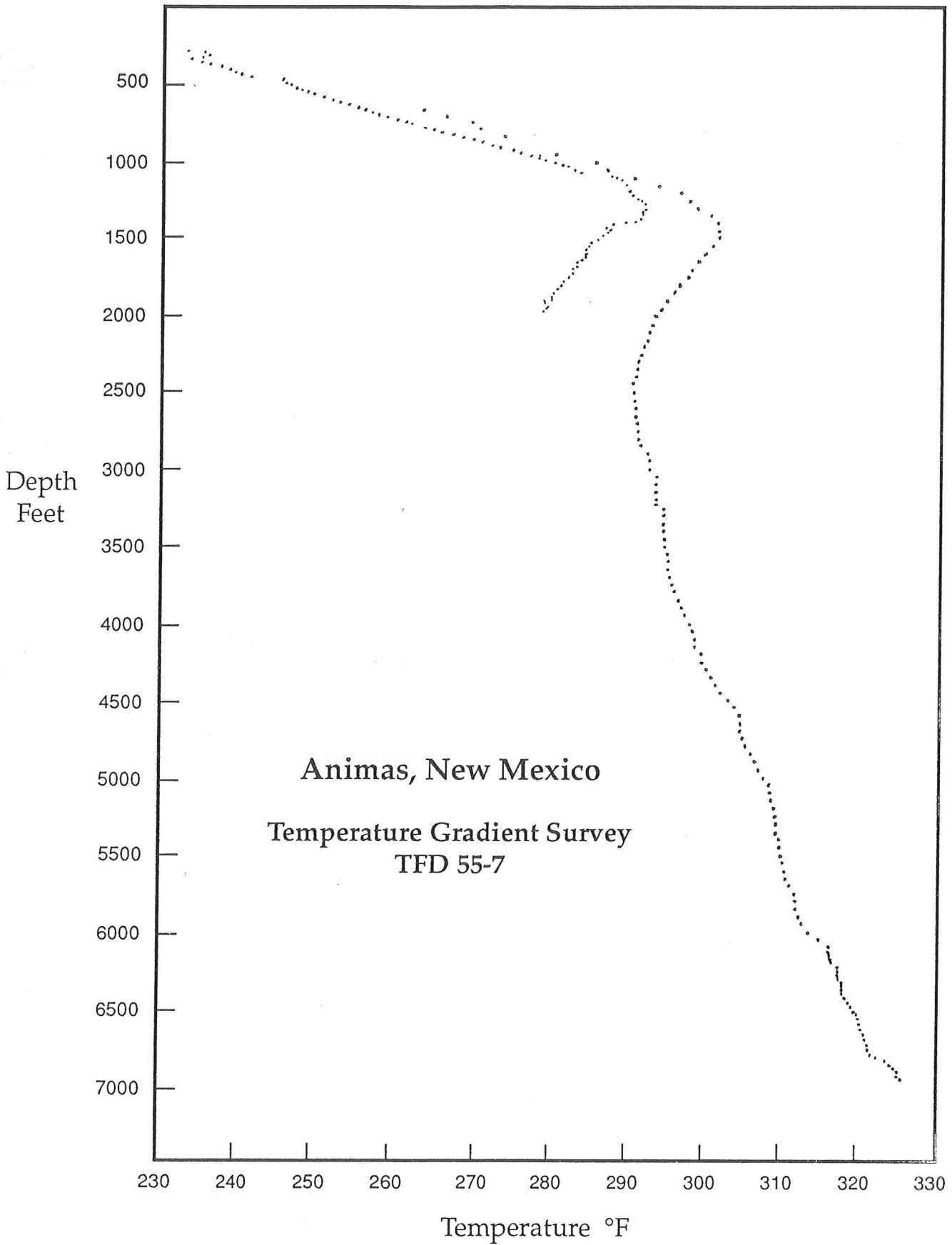
TFD 55-7

A - HDP

Notes - ~~OA~~

°C - MPC





Animos (33007) N.M.

H₂O = Notes
HDP = $\frac{K}{T}$
MPR = 00

Date Logged: 4 March 1985

ΔT Well No. TFD 55-7

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
5	37.40	44.64					Top of probe = Top
10	15.30	68.30	23.66	4732			of valve = 0
15	8.90	84.33	1603	3206			
20	6.77	92.94	8.61	1722			
25	6.22	95.68	2.74	548			
30	6.17	95.95	.27	54			
35	6.16	96.00	.05	10			
40	6.16	96.00	—	—			
45	6.16	96.00	—	—			
50	5.95	97.14	1.14	228			
55	5.52	99.62	2.48	496			
60	5.26	101.24	1.62	324			
65	5.06	102.55	1.31	262			
70	4.93	103.44	.89	178			
75	4.83	104.13	.69	138			
80	4.75	104.71	.58	116			
85	4.69	105.14	.43	86			
90	4.63	105.59	.45	90			
95	4.59	105.89	.30	60			
100	4.56	106.11	.22	44			
105	4.51	106.49	.38	76			
110	4.47	106.80	.31	62			
115	4.43	107.12	.32	64			
120	4.31	108.08	.96	192			
125	4.20	108.98	.90	180			
130	4.11	109.75	.77	154			
135	4.07	110.09	.34	68			

K=Conductivity

(2)

Date Logged: _____

ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
140	4.01	110.62	.53	106			
145	3.96	111.06	.44	88			
150	3.91	111.52	.46	92			
155	3.85	112.07	.55	110			
160	3.80	112.54	.47	94			
165	3.75	113.02	.48	96			
170	3.71	113.41	.39	78			
175	3.67	113.80	.39	78			
180	3.61	114.39	.59	118			
185	3.42	116.37	1.98	396			
190	3.36	117.03	.66	132			
195	3.29	117.80	.77	154			
200	3.27	118.03	.23	46			
205	3.22	118.60	.57	114			
210	3.18	119.07	.47	94			
215	3.13	119.66	.59	118			
220	3.10	120.02	.36	72			
225	3.07	120.39	.37	74			
230	3.03	120.89	.50	100			
235	2.98	121.52	.63	126			
240	2.94	122.03	.51	102			
245	2.88	122.82	.79	158			
250	2.83	123.49	.67	134			
255	2.78	124.17	.68	136			
260	2.72	125.02	.85	170			
265	2.68	125.60	.48	96			
270	2.65	126.04	.44	88			

K=Conductivity

Date Logged: _____

ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
275	2.62	126.48	.44	88			
280	2.48	128.65	2.17	434			
285	2.47	128.81	.16	32			
290	2.49	128.49	(.32)	(64)			
295	2.44	129.30	.81	162			
300	2.42	129.63	.33	66			
305	2.35	130.81	1.18	236			
310	2.34	130.98	.17	34			
315	2.30	131.68	.70	140			
320	2.25	132.57	.89	178			
325	2.21	133.31	.74	148			
330	2.18	133.89	.56	112			
335	2.11	135.22	1.35	270			
340	2.14	134.63	(.59)	(118)			
345	2.11	135.22	.59	118			
350	2.17	134.06	(1.16)	(232)			
355	2.15	134.44	.38	76			
360	2.13	134.83	.39	78			
365	2.13	134.83	-	-			
370	2.14	134.64	(.19)	(38)			
375	2.11	135.22	.58	116			
380	2.11	135.22	-	-			
385	1.99	137.68	2.46	492			
390	2.04	136.63	(1.05)	(210)			
395	2.07	136.01	(.62)	(124)			
400	2.08	135.81	(.20)	(40)			
405	2.10	135.42	(.39)	(78)			

1099
275.9°F135°C =
275°F1263'
279.8°F

K=Conductivity

page 3 of 6

Date Logged: _____

ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
410	2.11	135.22	(.20)	(40)			
			(.40)	(80)			
415	2.13	134.82	(.38)	(76)			
420	2.15	134.44	(.19)	(38)			
425	2.16	134.25	(.38)	(76)			
430	2.18	133.87	(1.11)	(222)			
435	2.24	132.76	.17	34			
440	2.23	132.93	(.19)	(34)			
445	2.24	132.76	—	—			
450	2.24	132.76	—	—			
455	2.24	132.76	(.18)	(36)			
460	2.25	132.58	—	—			
465	2.25	132.58	—	—			
470	2.25	132.58	(.37)	(74)			
475	2.27	132.21	—	—			
480	2.27	132.21	(.18)	(36)			
485	2.28	132.03	.18	36			
490	2.27	132.21	—	—			
495	2.27	132.21	—	—			
500	2.27	132.21	(.18)	(36)			
505	2.28	132.03	—	—			
510	2.28	132.03	(.17)	(34)			fluttorias
515	2.29	131.86	—	—			
520	2.29	131.86	—	—			
525	2.29	131.86	(.18)	(36)			
530	2.30	131.68	(.18)	(36)			
535	2.31	131.50	(.69)	(138)			
540	2.35	130.81					

K=Conductivity

page 4 of 6

Date Logged: _____

ΔT Well No. _____

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
545	2.38	130.30	(.51)	(102)			
			.68	136			
550	2.34	130.98	(.51)	(102)			
555	2.37	130.47	(.17)	(34)			
560	2.38	130.30	(.51)	(102)			
565	2.41	129.99	(.16)	(32)			
570	2.42	129.63	—	—			
575	2.42	129.63	(.33)	(66)			
580	2.44	129.30	—	—			
585	2.44	129.30	.51	102			
590	2.37	130.47	(.51)	(102)			
595	2.40	129.96	(.17)	(34)			
600	2.41	129.99	.17	34			
605	2.40	129.96	(.17)	(34)			
610	2.41	129.99	—	—			
615	2.41	129.99	(.13)	(26)			
620	2.42	129.63	.50	100			
625	2.39	130.13	(.17)	(34)			
630	2.40	129.96	(.50)	(100)			
635	2.43	129.46	.17	34			
640	2.42	129.63	—	—			
645	2.42	129.63	(.33)	(66)			
650	2.44	129.30	—	—			
655	2.44	129.30	(.17)	(34)			
660	2.45	129.13	—	—			
665	2.45	129.13	—	—			
670	2.45	129.13	—	—			
675	2.45	129.13	—	—			

K=Conductivity

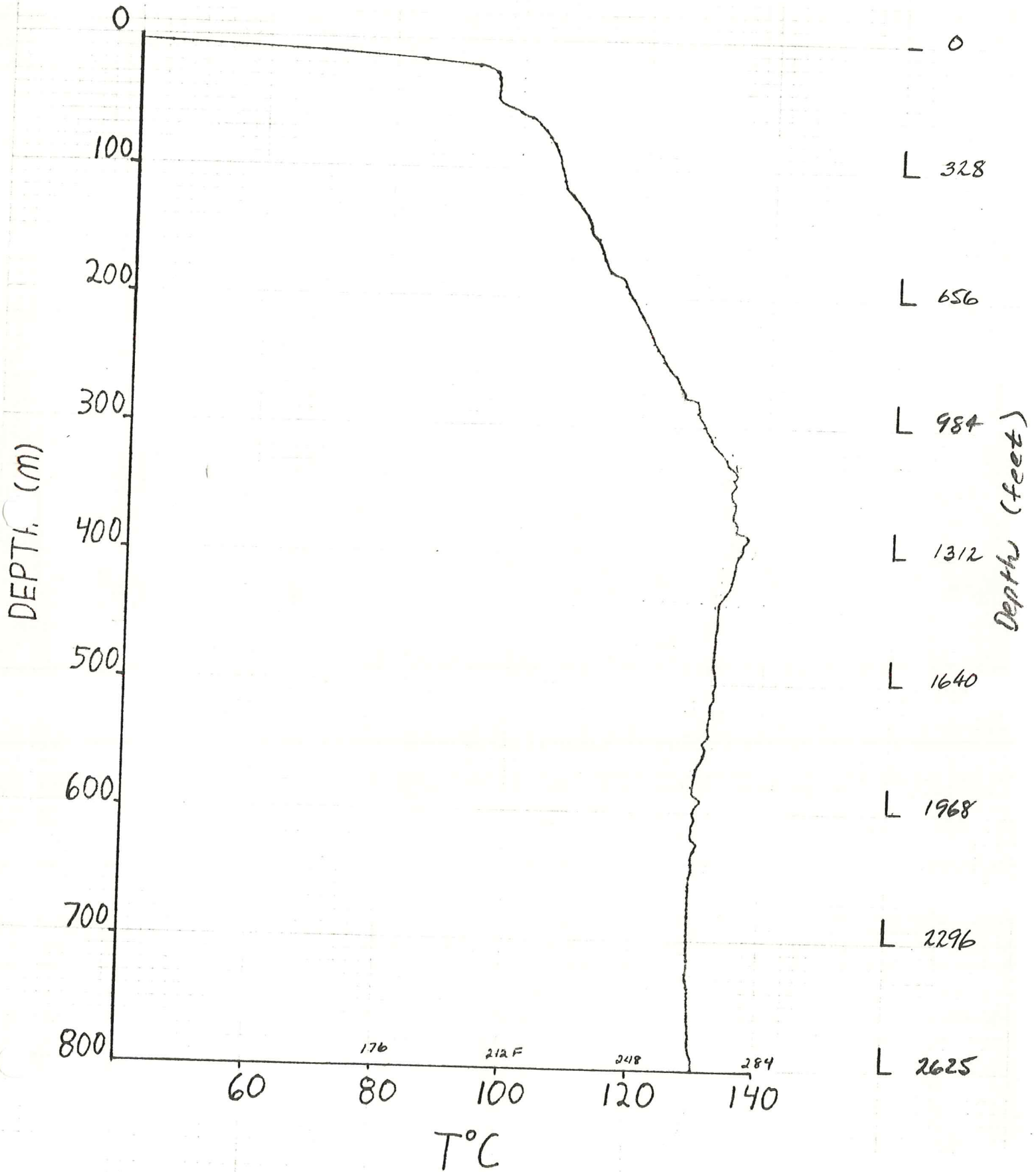
Date Logged: 4 March 1985ΔT Well No. TFD 55-7

Depth (meters)	Instr. Reading	Temp. °C	ΔT	Grad. °C/km	K (Est.)	H ₂ O Air	Lithology, etc.
680	2.45	129.13	—	—			
685	2.45	129.13	—	—			
690	2.45	129.13	—	—			
695	2.45	129.13	—	—			
700	2.45	129.13	—	—			
705	2.45	129.13	—	—			
710	2.45	129.13	—	—			
715	2.45	129.13	—	—			
720	2.45	129.13	—	—			
725	2.46	128.98	(.15)	(30)			
730	2.45	129.13	.15	30			
735	2.44	129.30	.17	34			
740	2.43	129.47	.17	34			
745	2.43	129.47	—	—			
750	2.43	129.47	—	—			
755	2.42	129.63	.16	32			
760	2.41	129.79	.16	32			
765	2.41	129.79	—	—			
770	2.41	129.79	—	—			
775	2.40	129.96	.17	34			
780	2.40	129.96	—	—			
785	2.40	129.96	—	—			
790	2.39	130.13	.17	34			
795	2.39	130.13	—	—			
800	2.39	130.13	—	—			
2629.67'							cable not measured 110 meters more down cable in

ANIMAS GRADIENT

TFD 55-7

4 March 1985



10am
27 Feb

Coliper

Temp

1000

high gradient ~ 6°F/100'

T spike @ 1050

100

opens to 15"

200

~ gauge

300

400

opens to 22"

well over

~ 160°F

500

17"

20 1/2"

600

15 1/2"

isothermal

700

↑

17-18"

800

900

156-160+

2000

reversal

100

15±

200

300

13±

increase

2400

gauge
to 13"

roll over

~160°F

500

reversal

600

700

increase

800

1-1.5°F/100

900

3000

100

↑
15"

200

300

gauge +

400

↓
15"

500

↑
gauge +

600

700

↓

3800



900

gauge +

4000



1-1.5° F/100

100



200

gauge +

300



15±

400



130 thermal

500



600

gauge +

700

1-1.5° F/100

800

900

5000

100



5200

4

gauge +

300



15"

400



500

600

1-1.5°F/100

gauge +

700

800

900

6000

100



13-14"

200



300



400

gauge

↑

500



2.5-3°F/100



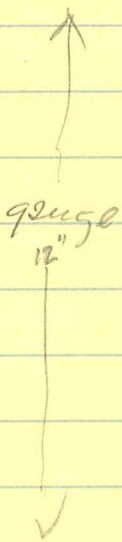
6600

700

800

900

7000



3° F/100



~5° F/100



Tuesday - up date of properties by Gesterney

Al Bohan - CEO Placer

week from Monday

SCB - Agreement / will buy plant at Beowawe
Sierra Pacific - negotiating w/ O'Brien

MEMORANDUM

SUBJECT: Well History TFD Animas 55-7
Hidalgo County, New Mexico (5644A). DATE: June 13, 1985

TO: H. J. Olson cc: H. D. Pilkington
J. E. Deymonaz

FROM: Michael Connelly *mic*

-
- 12/17-12/27/84 Willbros rig #1 began mobilization from Lovington, NM on 12/17. It began arriving on the site on 12/19 and finished arriving without incident on 12/27.
- 12/27-12/29/84 Rigged up and spudded the well at 8 p.m. on 12/29. Well was spudded with a Grant 26" hole opener to center punch the hole. Drilled from 47' to 71'.
- 12/30/84-1/2/85 Hole opener was pulled and a 17.5" bit was used to drill the hole to a depth of 385'. The 26" hole opener was then picked up and the hole opened to a depth of 212' before the hole opener had to be pulled. A HTC 26" bit was used to finish opening the hole to 385'.
- 1/2/85 9 joints of 20" 94 lbs. H-40 seamless casing, BT & C, R-3 were run with the float shoe set at 360.28'. Halliburton then pumped 760 sacks of class H cement with 40% silica (SSA-1) plus 2% CaCl.
- 1/3/85 CIP at 3:30 a.m. WOC 8.5 hrs. and nipped up on 20" Hydril.
- 1/4-1/5/85 Drilled 17.5" hole from 385' to 1070'. 100 bbls of mud lost at 695' and losing approximately 6 bbls of mud/hr from 695' to 1070'.
- 1/6/85 Ran 27 joints of 13 3/8" 61 lbs K-55 seamless casing, BT&C, R-3. Set casing shoe at 1050' and float collar at 972'. Halliburton pumped 780 sacks of class H cement with 40% silica (SSA-1) plus 8 lbs of perlite/sack. CIP at 7 p.m. Good cement returns and circulation throughout job.

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MEMORANDUM

Well History/TFD 55-7
June 13, 1985
Page Two

- 1/7/85 WOC and nipple up on 13 3/8" wellhead. Test BOP - slow but o.k.
- 1/8-1/21/85 Drilled 12.25" hole from 1070' to 3568'. Twisted off at 11 p.m. at a depth of 3568'. Able to screw back into a few joints before having to call HOMCO to have a fishing crew sent down.
- 1/22/85 Fishing was successful at 5:30 p.m. Drilled from 3568' to 3589'.
- 1/23-1/26/85 Drilled from 3589' to 4165'. Lost 45 bbls at 4065'. Twisted off at 8 p.m. at a depth of 4165'. Had to call HOMCO for a fishing crew again.
- 1/27/85 Fishing was successful at 1 p.m. Drilled from 4165' to 4272'.
- 1/28-1/31/85 Drilled from 4272' to 4840' when lead collar washed out. POH, replace collar, RIH.
- 2/1-2/8/85 Drilled from 4840' to 6184'.
- 2/9/85 Ran SRC Kuster time-temperature survey. B.H. temperature was 285°F. Two time-temperature surveys were run over a period of 24 hrs.
- 2/10-2/13/85 Drilled from 6184' to TD of 7001'.
- 2/14/85 Schlumberger ran the following logs: gama, neutron density, 4 arm caliber with fracture interpretation log, SP, dual induction, sonic, and temperature.
- 2/15/85 Rig down wellhead and lay down pipe.
- 2/16/85 Run 90 joints of 2 7/8" tubing. Approximately 3018' shut in well for observation.
- 2/17-2/18-85 Rig down Willbros #1. Release rig at midnight on February 18, 1985.

MEMORANDUM

Well History/TFD 55-7
June 13, 1985
Page Three

- 3/4/85 Temperature survey/Spafford probe to 2624' inside 2 7/8" tubing.
- 3/5-3/8/85 Pulling unit brought in pull tubing - install landing nipple; run 6919' of 2 7/8" tubing with sliding sleeves @ 6889', 4385', 2373' and 1381'. Release pulling rig - shut in well for observation.
- 4/3/85 Temperature survey/Spafford probe to 2000' inside 2 7/8" tubing. Temperature survey/Kuster test to 6919' inside 2 7/8" tubing. Shut in well for observation.

INTER-OFFICE MEMORANDUM

SUBJECT: Review and Evaluation of TFD 55-7,
Animas Property, Hidalgo Co., NM (5646A).

DATE: June 13, 1985

TO: H. J. Olson

cc: H. D. Pilkington
J. E. Deymonaz

FROM: Michael Connelly *mic*

GENERAL:

Animas TFD well 55-7 was spudded at 8 p.m. on December 29, 1984, fulfilling SRC's contractual obligation with Grace Geothermal Corporation to spud before January 1, 1985. The hole was bottomed in Precambrian/granite at a depth of 7001 feet at 11:30 p.m. on February 13, 1985 without encountering high temperatures or large fluid entry zones. The drill rig was on site 47 days from spud-in to TD (Fig. 1). Actual drilling time was 742.75 hours. This represents a total of 28.57 days of drilling. The time difference represents trips to change bits, deviation surveys, fishing, logging and setting casing. This averages to a penetration rate of approximately 10 ft/hr, not counting 41 hours opening the hole. Penetration rate below the intermediate casing varied from 3-35 ft/hr, and averaged 8-10 ft/hr.

The drilling was completed within budget at a cost of approximately \$1,448,119. Minor adjustments in these costs may still be necessary.

A percentage breakdown of costs are shown on Figure 2. The well is currently "in suspension" and well costs do not include any abandonment charges.

Generalized Lithology (ft)

0- 145

Alluvium - Light brown to tan, very poorly sorted, subangular to subrounded, predominantly volcanic clasts (tuffs, ash and andesite), contains a soft weathered clay matrix, locally drusy quartz, some hematite and possibly manganese oxide.

INTER-OFFICE MEMORANDUM

Review/Evaluation/TFD 55-7, NM
June 13, 1984
Page Two

Generalized Lithology (ft)

- 145-1460 Rhyolitic lithic tuff - Light brown to tan to orange to red, subangular tuff and welded tuff clasts, often brick red due to iron staining, certain horizons are extremely silicified, often contains abundant calcite and clay, commonly contains a trace of magnetite and/or pyrite.
- 1460-1990 Interbedded lithic tuffs and solution deposits - White to light gray to dark gray, solution deposits are predominantly calcium carbonate, highly fractured with abundant clear to white calcite veining and locally abundant pyrite veining. The tuffs are red to light greenish-brown, often silicified with feldspars and micas altering to clay.
- This marks the base of the Tertiary section and the top of the Paleozoic section.
- 1990-2960 Interbedded limestones and siltstones - Light to dark-brown to black, sucrosic texture, hard to very hard, locally silty in places, locally highly fractured with abundant calcite veining, often contains abundant bioclasts and microfossils, pyritic in places.
- 2960-3200 Intrusive dike - White to light red, mottled green and white, hard with aphanitic groundmass, with freshly altered plagioclase and biotite and muscovite, abundant subeuhedral magnetite, with white to clear calcite veining. Biotite and hornblende commonly altered to chlorite, locally contains a trace of pyrite.
- 3200-4060 Limestone and small intrusive dikes - Light to medium brown, dark gray, hard to very hard with sucrosic texture commonly recrystallized, interbedded with siltstone, locally abundant microfossils, commonly abundant white calcite veining with a trace of pyrite. 3400 to 3480' section has been silicified into chert. From 3480' to 3560' there is an intrusive dike that has been chloritized.

INTER-OFFICE MEMORANDUM

Review/Evaluation/TFD 55-7, NM
June 13, 1984
Page Three

- 4060-4760 Intrusive dike and limestone - White to pink, very hard, silicified, aplitic predominantly quartz and feldspar, disseminated pyrite, propylitically altered, common to abundant chlorite and magnetite, locally minor biotite, trace of pyrite and kaolin, minor calcite veining. Small bed of limestone occurs at 4470' to 4550'; it is light to medium brown, light to dark gray, locally silty, commonly recrystallized, contains fossils, abundant calcite veining with a trace of pyrite.
- 4760-5780 Limestone - White to light gray to dark gray, hard, brittle, very fine to fine grain matrix with abundant intraclasts, locally soft and friable, minor light brown chert, minor calcite veining, locally dolomite rhombs are visible.
- 5780-5960 Siltstone and Shale - Siltstone is medium gray brown, moderately hard, well laminated with a fissile appearance, slightly to highly calcic, trace of calcite microveining, rare, very fine grained pyrite. Shale is dark gray to black, very fine grained with calcite cement, dark gray to black organic matter, predominantly blocky with a trace of calcite veining and rare disseminated pyrite.
- 5960-6530 Limestone and dolomite - Medium to dark gray, white, tan, hard brittle, locally granular in appearance, cherty with interbedded silica, trace of disseminated pyrite, trace of microfossils, minor calcite veining. At 6470' to 6490' solution deposit, tan to white cryptocrystalline highly fractured.
- 6530-6630 Intrusive - Light to medium green, hard, fine grained, altered appearance common to abundant disseminated magnetite, common chlorite, trace epidote, minor calcite, microveining, trace of disseminated pyrite.
- 6630-6800 Dolomite and shale - Light gray to gray moderately hard, recrystallized granular texture fractured with trace of disseminated pyrite. Shale is black, soft to moderately hard and slightly fissile.

INTER-OFFICE MEMORANDUM

Review/Evaluation/TFD 55-7, NM
June 13, 1984
Page Four

- 6800-6860 Sandstone - Clear to white with a minor gray green cast, fine to medium grained quartz subangular to round, moderately well sorted, minor chlorite, trace vein calcite, trace of disseminated pyrite. Probably the Bliss sandstone.
- 6860-7001 Granite - Light pink, white to light green, hard, hypidiomorphic texture, moderately fractured with minor kaolin and chlorite fracture fill, trace of calcite and hematite, rare pyrite. PRECAMBRIAN BASEMENT.

RESULTS OF DRILLING AND LOGGING:

Drilling

The target area for this hole was a Basin and Range westward dipping fault located to the east of the drill hole. This fault is located approximately .5 miles to the west of the drill site, and is a subsidiary to the major range front fault forming the Animas Valley. No major faulting was intersected while drilling. There were, however, minor drilling breaks at 220', 270', 345', 550', 680', 880', 920', 940', 1020', 1190', 1430', 1580', 1690', 1880', 3075', 4095', 4470', 5970', 6650', and 6680'. Hole deviation does not correlate with these drilling breaks. A plan map and vertical cross-section of the well is shown in Figure 3. The last survey was taken at 6956'. The vertical depth of the well is approximately 6,972 feet. The vertical drift angle was fairly constant between 1031' and 5536', varying between 0.5° and 3.75°. From 5536 feet to TD, the drift angle increases from 3.75° to 16.24°. The angle increases because the bottomhole assembly was made more flexible rather than due to structural or lithologic effects.

Temperature logs

Figure 4 shows the results of the temperature surveys including mud in and mud out temperatures. The highest temperature recorded is 326°F at 6919' feet on the April 3, Kuster time-temperature survey. Bottom hole temperatures for the Schlumberger survey are 238°F. The April 3, Kuster survey temperature gradient projects to 350°F at 8700-9600 feet. However, if this temperature is corrected to the Spafford probe measurements taken on the same date the thermal gradient projects to 350°F at 9400-10650 feet. The highest geothermal gradient below the

INTER-OFFICE MEMORANDUM

Review/Evaluation/TFD 55-7, NM

June 13, 1984

Page Five

13 3/8" casing is between 1030' and 1300', where it averages between 100°-110°C/km. The thermal gradient turns isothermal from 1300' to 2400'. Below 2400' it averages between 15° and 30°C/km. The difference between the March 4, Spafford probe survey and the April 3rd survey is due to the probes not being equilibrated with each other and/or the hole recovering from the thermal shock of drilling. The gradient maximum and roll over at about 1250' relates to three small fracture zones between 1200' and 1250' which are probably water bearing.

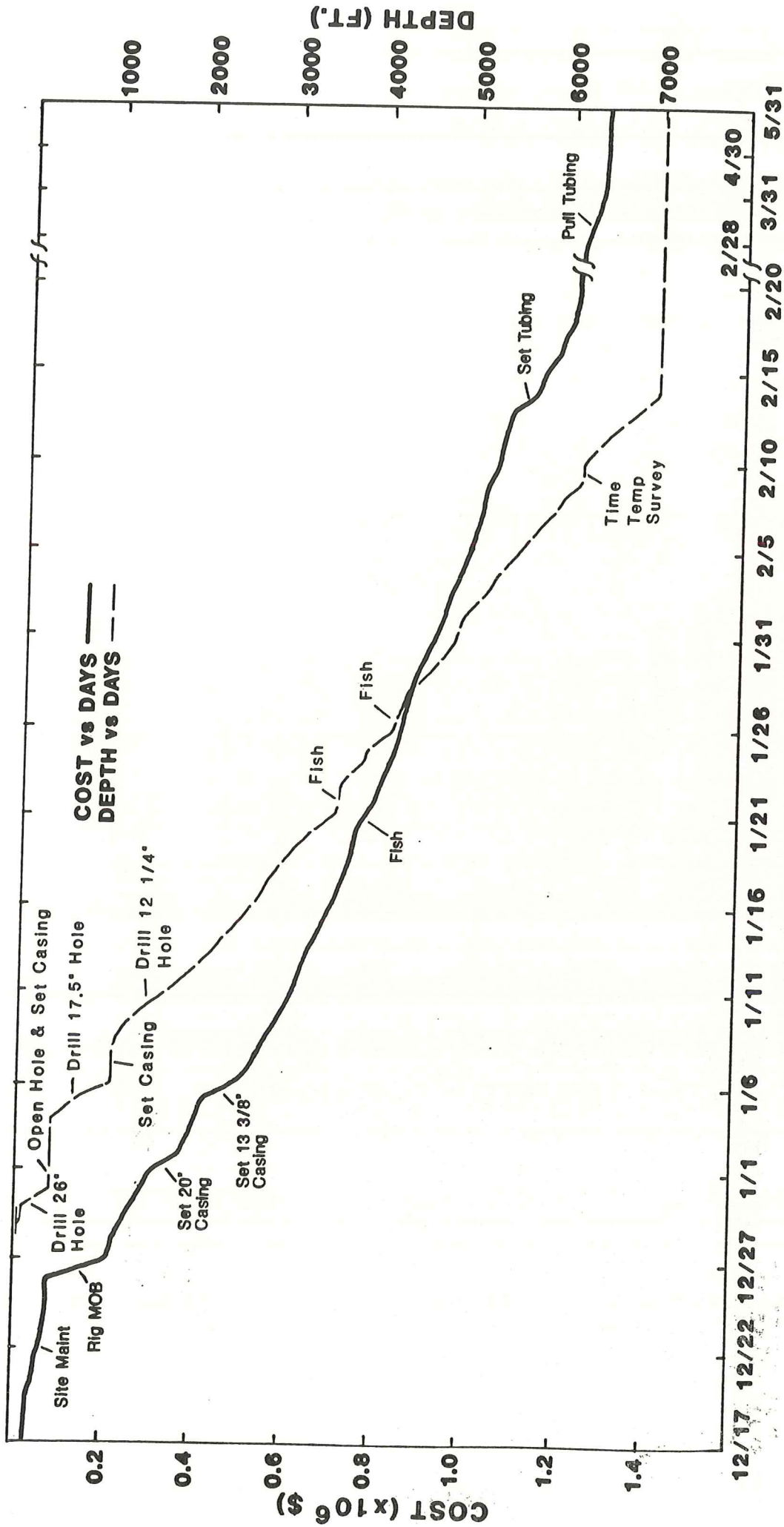


Figure 1. Animas TFD 55-7 Cost-Depth-Time Diagram

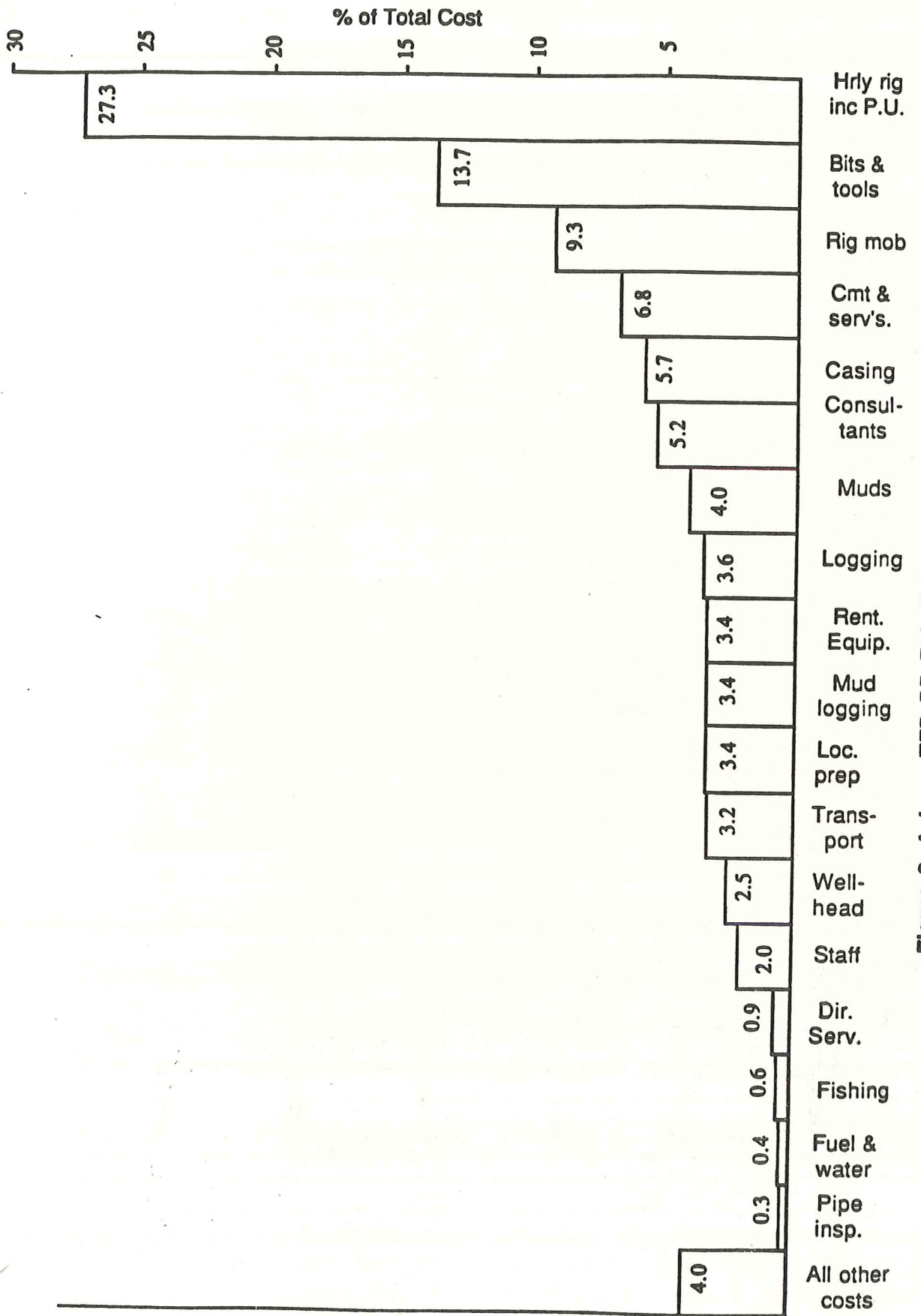


Figure 2. Animas TFD 55-7 Activity Percent Cost

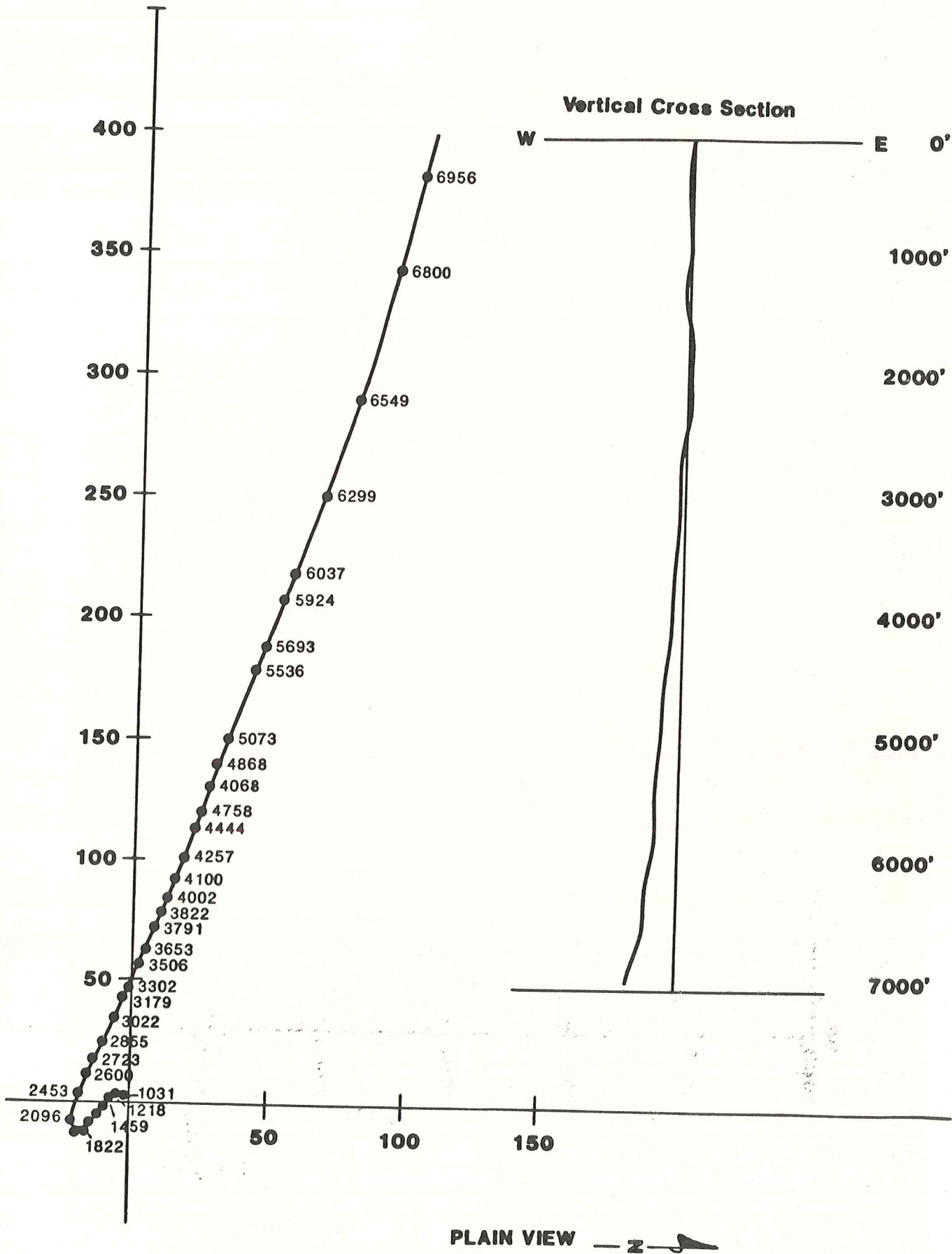


Figure 3. Animas TFD 55-7 Plan View and Vertical Cross Section

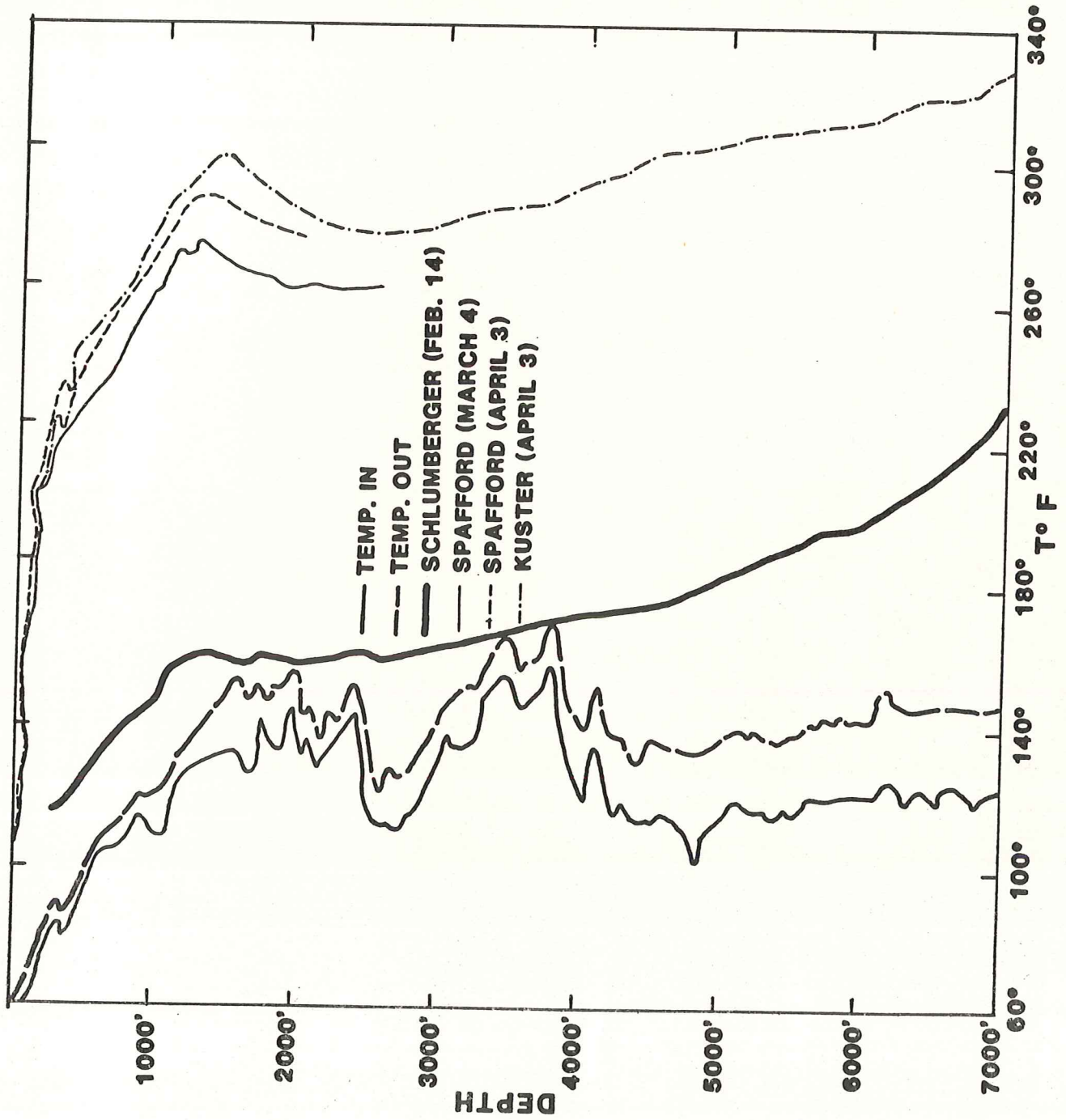


Figure 4. Anlmas TFD 55-7 Temperature Surveys

MEMO

FROM: Michael Connelly

TO: Harry Olson

CC: Dean Pilkington
John Deymonez

SUBJECT: Drilling Summary for TFD Animas 55-7

12/17 - 12/27/84 Wilbros rig # 1 began mobilization from Lovington, N. M. on 12/17. It began arriving on the site on 12/19 and finished arriving without incident on 12/27

12/27 - 12/29/84 Rigged up and spudded the well at 8 pm on 12/29. Well was spudded with a Grant 26" hole opener to center punch the hole. Drilled from 47' to 71'.

12/30/84 - 1/2/85 Hole opener was pulled and a 17.5" bit was used to drill the hole to a depth of 385'. The 26" hole opener was then picked up and the hole open to a depth of 212' before hole opener had to be pulled. A HTC 26" bit was used to finish opening the hole to 385'.

1/2/85 9 joints of 20" 94 lbs. H - 40 seamless casing , BT & C, R-3 were run with the float shoe set at 360.28'. Halliburton then pumped 760 sacks of class H cement with 40 % silica (SSA-1) plus 2% CaCl.

1/3/85 CIP at 3:30 am. WIC 8.5 hrs and nipped up on 20" Hydril.

1/4- 1/5/85 Drilled 17.5" hole from 385' to 1070'. 100 bbls of mud lost at 695' and losing approximately 6 bbls of mud/hr from 695' to 1070'.

1/6/85 Ran 27 joints of 13 & 3/8" 61lbs K - 55 seamless casing, BT & C, R-3. Set casing shoe at 1050' and float collar at 972'. Halliburton pumped 780 sacks of class H cement with 40% silica (SSA - 1) plus 8lbs of perlite /sack. CIP at 7 pm. Good cement returns and circulation throughout job.

1/7/85 WOC and nipple up on 13 & 3/8" wellhead. Test BOP - slow but OK.

1/8 - 1/21/85 Drilled 12.25" hole from 1070' to 3568'. Twisted off at 11 pm at a depth of 3568'. Able to screw back into a few joints before having to call HOMCO to have a fishing expert sent down.

1/22/85 Fishing was successful at 5:30 pm. Drilled from 3568' to 3589'.

1/23 - 1/26/85 Drilled from 3589' to 4165'. Lost 45bbls at 4065'. Twisted off at 8 pm at a depth of 4165'. Had to call HOMCO for a fishing expert again.

1/27/85 Fishing was succesful at 1 pm. Drilled from 4165' to 4272'.

1/28 - 1/31/85 Drilled from 4272' to 4840' when lead collar washed out. Pulled it before it could twist off.

2/1 - 2/8/85 Drilled from 4840' to 6184'.

2/9/85 Ran SRC Kuster time - temperature survey. B.H. Temperature was 285°F. Two time - temperature surveys were run over a period of 24 hrs.

2/10 - 2/13/85 Drilled from 6184' to 7000' (1 bit) TD hole at 7001'

2/14/85 Schlumberger ran the following logs: gamma, neutron density, 4 arm caliber with fracure intrepertation log, SP, dual induction, sonic, and temperature.

2/15/85 Rig down wellhead and laydown pipe.

2/16/85 Run 90 joints of 2 & 7/8" tubing. Approximately 3000'

2/17 - 2/18/85 Rig down Wilbros #1. Release rig at midnight on Feb. 18, 1985

Addendum to drilling report on TFD Animas 55 - 7

3/4 - 3/8/85 A pulling unit was brought in to pull the 3000' of tubing left in the hole to place to place 4 sliding sleeves and a landing nipple in the tubing and to run the tubing down to 7000' or TD. The purpose of placing these sliding sleeves and the landing nipple in the tubing is to be able to unload the hole at various depths. According to Percy Wickland the placement of the tubing is as follows: the landing nipple is placed at the end of the tubing, one joint up ($\approx 32'$) is the first sliding sleeve, approximately 2500' up from the first sleeve is the second sleeve, approximately 2000' above the second sleeve is the third sleeve, approximately, 1000' above the third sleeve is the fourth and final sleeve. The exact distance between the fourth sleeve and the top of the hole is not know, but should be between 1000' and 1500'.

INTER-OFFICE MEMORANDUM

SUBJECT: Review and evaluation of TFD 55-7,
Animas Property, Hildago Co., NM.

FROM: Michael Connelly

TO: Harry Olson

CC: Dean Pilkington
John Deymonez

GENERAL:

Animas TFD well 55 - 7 was spudded at 8 pm on Dec., 29, 1984, fulfilling SRC's contractual obligation with Oliver Grace & Co. to spud before Jan. 1, 1985. The hole was TD at 7000' at 11:30 pm on Feb. 13, 1985 without finding a massive loss circulation zone. It was TD in precambrian granite. The number of days the drill rig was on site from spud in to TD was 47 (fig 1). However the total number of hours actually drilling was 742.75. This represents a total of 28.57 days of drilling. The difference between these two numbers would be in trips to change bits, deviation surveys, fishing, logging and setting casing. This averages to a penetration rate of 10ft/hr, if the number of hours for opening up the hole (41) are subtracted off of the total. The actual penetration rate below the intermediate casing varied from 3 -35ft/hr averaging 8-10ft/hr.

Completed costs of the well included the pulling unit to run another 4000' of tubing complete with sliding sleeves was approximately \$1.282 million . The breakdown for this is as follows \$216,000 (fig. 1) in predrilling costs (land prep., permits, and rig mobilization) \$866, 000 in actual drilling costs to TD and \$200,000 in after drilling costs (rig down, logs, pulling unit, and completion costs). The breakdown of costs for major line items are shown in figure 2.

Although the drilling was completed within the budget, there were some minor problems with both the drill rig and the personnel running it. I would like to stress that these problems were minor and were taken care of at the site, but they could be avoided in the future by: 1.) insisting on drill rigs with mud pumps that are independently driven and 2.) if the contractor has geothermal experience, insists that he uses crews that have drilled geothermal holes in the past.

INTER - OFFICE MEMORANDUM

Review & Evaluation/TFD 55-7, NM
June 8, 1985
Page 2

Generalized Lithology

- 0 - 145 feet Alluvium --- Light brown to tan, very poorly sorted, subangular to subrounded, predominantly volcanic clasts (tuffs, ash and andesite), contains a soft weathered clay matrix, locally drusy quartz, some hematite and possibly manganese oxide.
- 145 - 1460 feet Rhyolitic lithic tuff --- Light brown to tan to orange to red, subangular tuff & welded tuff clasts, often brick red due to iron staining, certain horizons are extremely silicified, often contains abundant calcite and clay, commonly contains a trace of magnetite and/or pyrite.
- 1460 - 1990 feet Interbedded lithic tuffs and solution deposits -- White to light gray to dark gray, solution deposits are predominantly calcium carbonate, highly fractured with abundant clear to white calcite veining and locally abundant pyrite veining. The tuffs are red to light green brown, often silicified with feldspars and micas altering to clay
- This marks the base of the tertiary section and the beginning of the paleozoic section.**
- 1990 - 2960 feet Interbedded limestones and siltstones -- Light to dark brown to black, sucrosic texture, hard to very hard, locally silty in places, locally highly fractured with abundant calcite veining, often contains abundant bioclasts and microfossils, pyritic in places.
- 2960 - 3200 feet Intrusive dike -- White to light red mottled with green and white, hard with aphanitic ground mass, with freshly altered plagioclase and biotite and muscovite, abundant subeuhedral magnetite, with white to clear calcite veining. Biotite and hornblende commonly altered to chlorite, locally contains a trace of pyrite.
- 3200 - 4060 feet Limestone and small intrusive dikes -- Light to medium brown, dark grey, hard to very hard with sucrosic texture commonly recrystallized, interbedded with siltstone, locally abundant microfossils, commonly abundant white calcite veining with a trace of pyrite. 3400 to 3480' section has been silicified into chert. from 3480' to 3560' there is an intrusive dike that has been chloritized.

INTER - OFFICE MEMORANDUM

Review & Evaluation/TFD 55-7, NM

June 8, 1985

Page 3

- 4060 - 4760 feet Intrusive dike and limestone -- White to pink, very hard, silicified, aplitic predominantly quartz and feldspar, disseminated pyrite, propylitically altered, common to abundant chlorite and magnetite, locally minor biotite, trace of pyrite and kaolin, minor calcite veining. Small bed of limestone occurs at 4470' to 4550', it is light to medium brown, light to dark gray, locally silty, commonly recrystallized, contains fossils, abundant calcite veining with a trace of pyrite.
- 4760 - 5780 feet Limestone -- White to light gray to dark gray, hard, commonly brittle, very fine to fine grain matrix with commonly abundant intraclasts, locally soft and friable, minor light brown chert, minor calcite veining, locally dolomite rhombs are visible.
- 5780 - 5960 feet Siltstone and Shale -- Siltstone is medium gray brown, moderately hard, well laminated with a fissile appearance, slightly to highly calcic, trace of calcite microveining, rare, very fine grained pyrite. Shale is dark gray to black, very fine grained with calcite cement, dark gray to black organic matter, predominantly blocky with a trace of calcite veining and rare disseminated pyrite.
- 5960 - 6530 feet Limestone and dolomite -- Medium to dark gray, white, tan, hard, brittle locally granular in appearance, cherty with interbedded silica trace of disseminated pyrite, trace of microfossils, minor calcite veining. At 6470' to 6490' solution deposit, tan to white cryptocrystalline highly fractured.
- 6530 - 6630 feet Intrusive -- Light to medium green, hard, fine grained, altered appearance, common to abundant disseminated magnetite, common chlorite, trace epidote, minor calcite, microveining, trace of disseminated pyrite.
- 6630 - 6800 feet Dolomite and Shale -- Light gray to gray moderately hard, recrystallized granular texture fractured with trace of disseminated pyrite. Shale is black, soft to moderately hard and slightly fissile.
- 6800 - 6860 feet Sandstone -- Clear to white with a minor gray green cast, fine to medium grained quartz subangular to round, moderately well sorted, minor chlorite, trace vein calcite, trace of disseminated pyrite. Probably the Bliss sandstone.
- 6860 - 7001 feet Granite -- Light pink, white to light green, hard, hypidiomorphic texture, moderately fractured with minor kaolin and chlorite fracture fill, trace of calcite and hematite, rare pyrite. PRECAMBRIAN BASEMENT.

INTER - OFFICE MEMORANDUM

Review & Evaluation/TFD 55-7, NM

June 8, 1985

Page 4

Results of drilling and logging:

Drilling:

The target area for this hole was a basin and range westward dipping fault located to the east of the drill hole. Please note that this fault is not the major basin and range fault forming the Animas valley, which is located approximately .5 miles to the west of the drill site (AMAX geologic map for the Animas Valley). No major faulting was discovered while drilling. There were, however, minor drilling breaks at 220', 270', 345', 550', 680', 880', 920', 940', 1020', 1190', 1430', 1580', 1690', 1880', 3075', 4095', 4470', 5970', 6640', and 6680'. Hole deviation does not correlate with these drilling breaks. At the start of the 12.24" hole (1031', fig.3), hole deviation was 1.9'S and 2.9'W. It travel SW until 1218' where it turned \approx S60E at coordinates 5.1'S and 3.4'W. It continued to travel SE until 1903' and coordinates 21.4'S and 12.3'E. There it turned S37W to coordinates 23.4'S and 7.0'E at 2096'. From there it turned \approx N70W until the end of the hole. The last survey was taken at 6956' and coordinates 113'N and 382'W. The true vertical depth of the hole is approximately 6972' (fig 3). It is approximate because a survey was not taken at TD. The drift angle (vertical angle) was fairly constant between 1031' and 5536', varying between 0.5° and 3.75°. From 5536' to TD, the drift angle went from 3.75° to 16.24°. The angle built because the bottomhole assembly was loosened up rather than a structural or lithologic change.

Temperature logs:

Figure 4 shows the results of the temperature surveys including mud in and mud out temperatures. The highest temperature recorded is 326°F at 7000' on the April's Kuster time - temperature survey. Bottom hole temperatures on the Schlumberger survey was 238°F, and for the Feb.'s Kuster time - temperature it was 258°F. April's Kuster survey projects to 350°F at 8700' - 9600'. However, if this is corrected to the Spatford probe measurements taken at the same time, it projects to 350°F at 9400' - 10650'. The largest geothermal gradient below the intermediate casing is between 1030 and 1300', where it averages between 100° - 110°C/km. The geothermal gradient turns isothermal from 1300' to 2400'. Below 2400' it averages between 15° and 30°C/km. The difference between March's Spatford probe survey and April's is thought to be the probes are not equilibrated with each other, or the hole was still recovering from the thermal shock of drilling. From the profiles shown in figure 4, it is probably worthwhile to consider producing large volumes of moderately hot water (260° to 300°F) from shallow depths (less than 1500') for direct utilization or electrical power from small 2 - phase generators. Jim Jacobson noted that the maximum recorded temperature in the upper hole was recorded at 1250', and he identified, from the Schlumberger logs, three thin zones of fractures in the interval between 1200 and 1250' in which the introduction of hot water into the hole might occur. These zones are what should be targeted for future drilling operations at Animas.

ANIMAS - 55-7

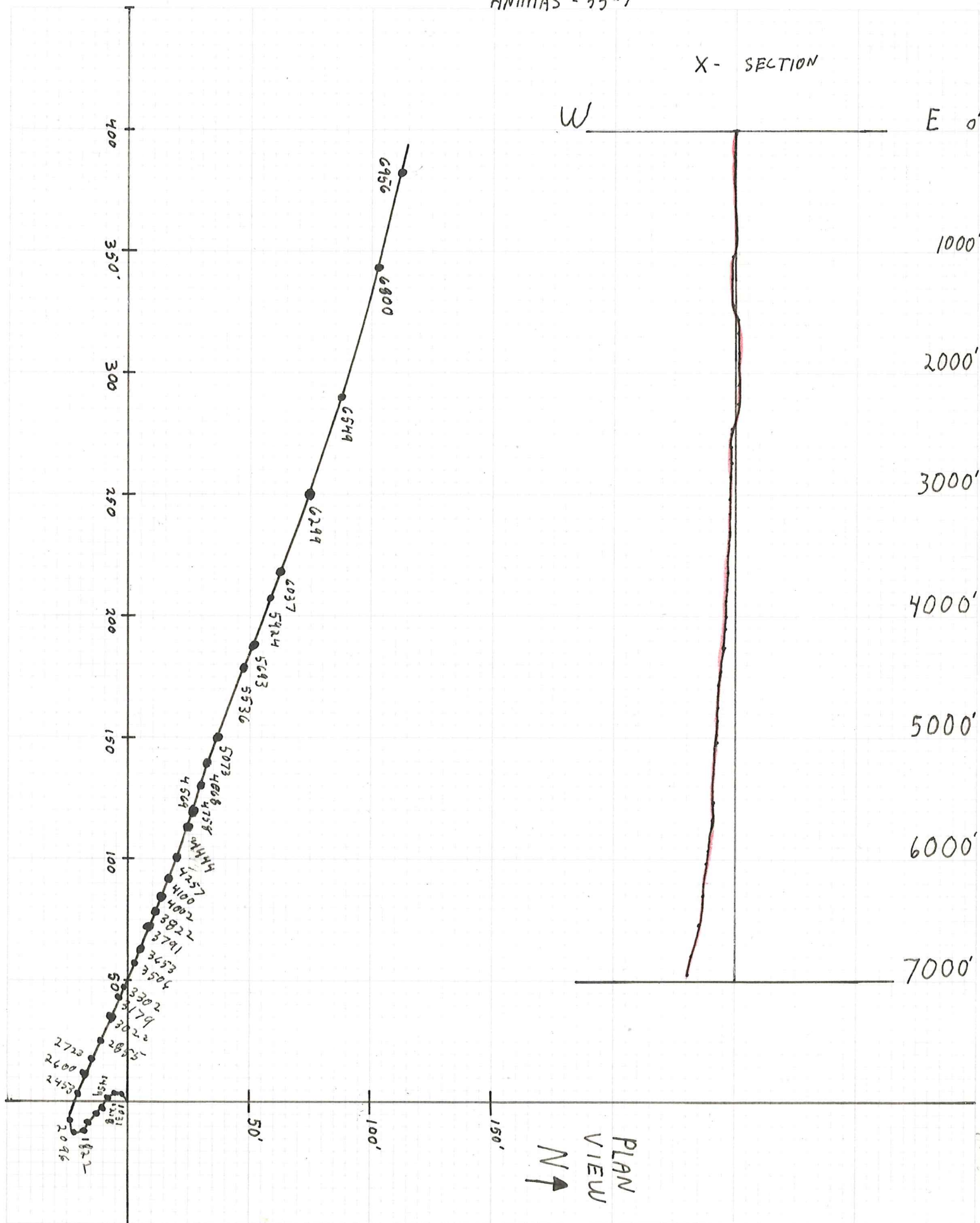


FIG. 3

FIG. 4

TEMPERATURE PROFILES FOR ANIMAS 55-7

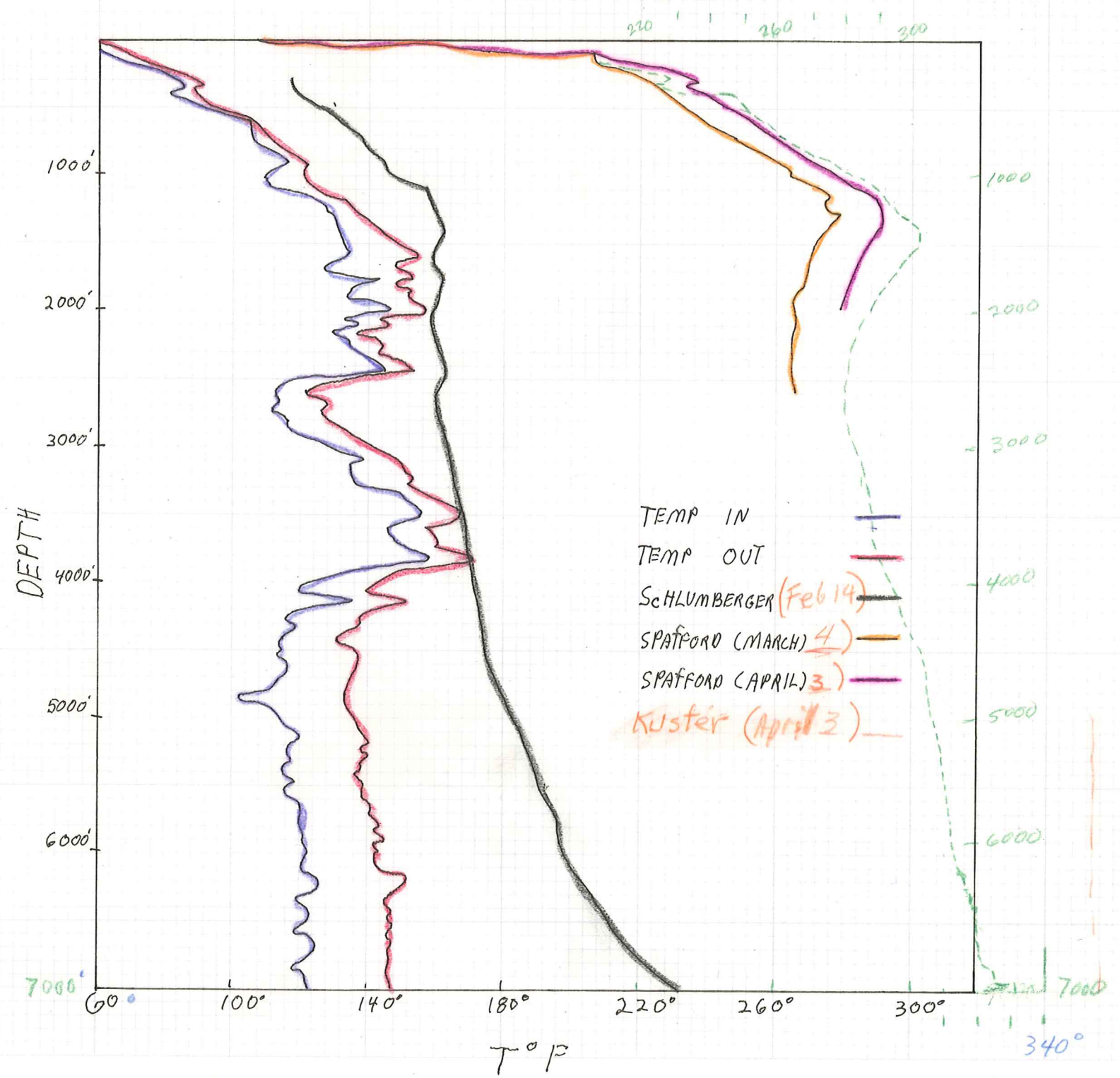


FIG. 1

COST (x 10⁶ \$)

DEPTH (FEET)

