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WM Record File
106

WM Project 16
Docket No. _____
PDR
LPDR

Distribution:
J Linehan _____
R Johnson _____ DRM
(Return to WM, 623-SS) _____
J Trapp
R Lee nb

August 23, 1985

John J. Linehan, Section Leader
Salt Section
Repository Projects Branch
Division of Waste Management, MS 623-SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Linehan:

SUBJECT: PALO DURO BASIN GEOLOGY AND REPORTS

This letter is to provide a status of our response to your letter of May 16, 1985, requesting reports and data produced as part of our Palo Duro Basin program.

1. The report: "Structural Analysis of the Northern Palo Duro Basin" (tracking number 1334), by Regan and Murphy of Stone and Webster Engineering Corp. is currently in a review cycle. Issuance of the final report is scheduled for October 1, 1985. For information, we are attaching a copy of the draft report which has been sent for review.
2. The report: "Field Test Activities, Black No. 1 Well, Deaf Smith County, Texas" (tracking number 1484), also is in a review cycle. Issuance of the final report is currently showing in the Catalog as October 1, 1985. A copy of the draft report is provided for your information. The complete set of geophysical well logs for the Black No. 1 well was provided to you on June 25, 1985.
3. As indicated in our letter of June 25, 1985, the geophysical logs of the Hudson Taylor No. 1 Well were purchased by Stone and Webster from a commercial source. Discussions with your staff indicate that you wish the DOE to procure an additional set of these logs for your use. We have directed our contractors to purchase a set of reduced-scale copies of the logs shown on Attachment 1. These will be provided to you as soon as they are received.

We apologize for any confusion which may have been caused by the changes in distribution dates for the above listed reports. Our Catalog of on-going and planned work forecasts expected dates for completion of specific studies.

However, because of occasional redirection of work, or additional reviews, these dates are subject to change. The regular printed updates of the Catalog as well as the on-line access provide a means for following these changes. As we mentioned in the May management meeting, we are working this summer to develop a report tracking system and improve our publication planning projections as part of our project planning and networking. We look forward to significantly improving our projections this Fall.

If you have questions regarding any of the above items, please contact Tom Baillieul of my staff.

Sincerely,


J.O. Neff
Program Manager
Salt Repository Project Office

SRPO:TAB:max:8318B

Enclosures:

- 1) Headers of logs of Hudson Taylor #1 well
- 2) Field Test Activities Report Black No. 1 Well Deaf Smith County, Texas (April 1985 draft)
- 3) Structural Analysis of the Northern Palo Duro Basin, (November 1984 draft)

cc: T. Baillieul, SRPO
L. Casey, SRPO
S. Starr, SRPO
J. Van Vliet, ONWI
C. Head, DOE-HQ
T. Verma, NRC
R. Johnson, NRC
D. Dawson, ONWI

GS# 476-85

ATTACHMENT 1

LOG HEADERS FOR THE HUDSON TAYLOR NO. 1 WELL

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FINAL PRINT
Schlumberger

**BOREHOLE COMPENSATED
 SONIC LOG**

COUNTY DEAF SMITH FIELD WILDCAT
 LOCATION SECT. 100, BLK K-5 WELL TAYLOR NO. 1
 COMPANY HUDSON RESOURCES

COMPANY HUDSON RESOURCES

WELL TAYLOR NO. 1

FIELD WILDCAT

COUNTY DEAF SMITH STATE TEXAS

LOCATION 980 FSL & 000 FEL
SECTION 100, BLOCK K-5

Other Services:
 DIL/LDT/CNL
 DLL/CWL

API SERIAL NO. SEC. TWP RANGE

- Permanent Datum: GROUND LEVEL; Elev.: 4009'
 Log Measured From K.B. 12 Ft. Above Perm. Datum
 Drilling Measured From KELLY BUSHING

Elev.: K.B. 4021
 D.F. 4020
 G.L. 4009

Date	4/22/84	5/9/84		
Run No.	ONE	TWO		
Depth-Driller	4461	9000		
Depth-Logger (Schl.)	4460	8999		
Btm. Log Interval	4457	8069		
Top Log Interval	1243	4460		
Casing-Driller	13 3/8 @ 1245	9 5/8 @ 4460		
Casing-Logger	1243	4460		
Bit Size	12 1/2	9 5/8		
Type Fluid in Hole	SGM	FGM		
Dens.	10.2	34	9.1	43
Visc.				
pH	3.5	24 ml	9.5	3.8 ml
Fluid Loss				
Source of Sample	FLOWLINE	MUD PIT		
Rm @ Meas. Temp.	.015 @ 76 °F	.340 @ 72 °F	@ °F	@ °F
Rmf @ Meas. Temp.	.050 @ 78 °F	.604 @ 74 °F	@ °F	@ °F
Rmc @ Meas. Temp.	.093 @ 76 °F	1.26 @ 72 °F	@ °F	@ °F
Source: Rmf Rmc	MP C	MP C		
Rm @ BHT	.049 @ 105 °F	.442 @ 143 °F	@ °F	@ °F
Circulation Stopped	0300	1100		
Logger on Bottom	1000	1600		
Max. Rec. Temp.	105 °F	143 °F		
Equip. Location	8237 DUMAS	8247 DUMAS		
Recorded By	JIM STOKES	JIM STOKES		
Witnessed By	JIM COULTER	PAF PATTON		

PERMIAN BASIN GPM
 @ ONWI @
 J.O. No. 13697
 P.O. No. HUD RES.
 Document I.D. DEP-312

The well name, location and borehole reference data were furnished by the customer.

SCALE CHANGES

FOLD HERE

Run No.

COMPENSATED NEUTRON/LITHODENSITY W/ GR



COMPANY: HUDSON RESOURCES

WELL: TAYLOR # 1

FIELD: WILDCAT
 COUNTY: DEAF SMITH
 STATE: TEXAS
 NATION: U.S.A.
 LOCATION: 960 FSL & 660 FEL

SEC. 100 BLK. K-5

RECEIVED
 B.R.C. OF TEXAS

JUL 23 1984

O.G.
 PAMPA, TEXAS

OTHER SERVICES:
 DLL
 LDT/CNL/GR
 BHC
 CYBERLOOK

PERMANENT DATUM: GROUND LEVEL ELEVATIONS-
 ELEV. OF PERM. DATUM: 4009.0 F KB: 4021.0 F
 LOG MEASURED FROM: K.3. DF: 4020.0 F
 12.0 F ABOVE PERM. DATUM GL: 4009.0 F
 DRLG. MEASURED FROM: K.3.

PROGRAM
 TAPE NO:
 25.586
 SERVICE
 ORDER NO:
 400835

DATE: 22 APR 84
 RUN NO: 1

DEPTH-DRILLER: 4461.0 F
 DEPTH-LOGGER: 4460.0 F
 BTM. LOG INTERVAL: 4457.0 F
 TOP LOG INTERVAL: 1243.0 F

CASING-DRILLER: 1245 F
 CASING-LOGGER: 1243 F
 CASING: 13 3/8

BIT SIZE: 12 1/4

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COMPUTER PROCESSED LOG

COMPANY HUDSON RESOURCES
 WELL TAYLOR NO. 1
 FIELD WILDCAT
 COUNTY DEAF SMITH STATE TEXAS
 LOCATION 980 FSL & 550 FEL
SECTION 100, BLOCK K-5
 ELEVATION 4009.0
 DATE COMPUTED 22- APRIL- 1984

PERMIAN BASIN GPM
ONWI
J.O. No. 13697
P.O. No. HUD.RES.
Document ID DFA-395

LOG										
Date Logged	5-9-84									
Run No.	TWO									
Depth-Driller	9000									
Depth-Logger (Schl.)	8999									
Btm. Log Interval	8950									
Top Log Interval	4460									
Casing-Driller	1240	@	4460	@		@		@		
Casing-Logger	1243		4460							
Bit Size	13 3/8 9 5/8									
Type Fluid in Hole	FGM									
Dens.	9.1		43.0							
Visc.										
pH	9.5		8.8 ml		ml		ml		ml	
Fluid Loss										
Source of Sample	MUD PIT									
Rm @ Meas. Temp.	840	@	72 °F	@	°F	@	°F	@	°F	
Rmf @ Meas. Temp.	604	@	74 °F	@	°F	@	°F	@	°F	
Rmc @ Meas. Temp.	1.25	@	72 °F	@	°F	@	°F	@	°F	
Source: Rmf Rmc	MUD P CALC									
Rm @ BHT	436	@	145 °F	@	°F	@	°F	@	°F	
Circulation Stopped	11:00									
Logger on Bottom										
Max. Rec. Temp.	145		°F		°F		°F		°F	
Equip. Location	8237		DUMAS							
Recorded By	JIM STOKES									
Witnessed By Mr.	MR. PAT PATTON									

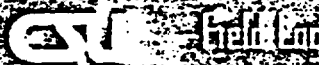
The well name, location and borehole reference data were furnished by the customer.

Run No.	TWO
	402304
Service Order No.	
API Serial No.	
Fluid Level	
SCALE CHANGES	
Type Log	Depth
Scale Up Hole	Scale Down Hole

FOLD HERE

DUAL INDUCTION / SFL W/ GR

Call for more information



COMPANY: HUDSON RESOURCES
 WELL: TAYLOR # 1
 FIELD: WILDCAT
 COUNTY: DEAF SMITH
 STATE: TEXAS
 NATION: U.S.A.
 LOCATION: 980 FSL & 660 FEL
 SEC. 100

RECEIVED
 R.R.C. OF TEXAS
 JUL 23 1984
 O.G.
 PAMPA, TEXAS

BLK. K-5

OTHER SER
 DIL/SFL
 LDT/CNL
 CYBERLO

PERMANENT DATUM: GROUND LEVEL ELEVATIONS-
 ELEV. OF PERM. DATUM: 4009.0 ' KB: 4021.0 '
 LOG MEASURED FROM: L.B. DF: 4020.0 '
 12.0 ' ABOVE PERM. DATUM GL: 4009.0 '
 DRLG. MEASURED FROM: K.B.

PROGRAM
 TAPE NO:
 24.2
 SERVICE
 ORDER NO:
 402304

DATE: 9 MAY 84
 RUN NO: 2

DEPTH-DRILLER: 9000.0 '
 DEPTH-LOGGER: 8999.0 '
 BTM. LOG INTERVAL: 8993.0 '
 TOP LOG INTERVAL: 4460.0 '

CASING-DRILLER: 1240 ' 4460 '
 CASING-LOGGER: 1243 ' 4450 '
 CASING: 13 3/8 9 5/8

BIT SIZE: 12 1/4 8 3/4

FINAL PRINT

DUAL LATEROLOG W/ GR



COMPANY: HUDSON RESOURCES
WELL: TAYLOR # 1
FIELD: WILDCAT
COUNTY: DEAF SMITH
STATE: TEXAS
NATION: U.S.A.
LOCATION: 980 FSL & 660 FEL
SEC. 100 BLK. K-5

RECEIVED
R.R.C. OF TEXAS
JUL 23 1984
O.G.
PAMPA, TEXAS

OTHER SERVICES-
DLL
LDT/CNL/GR
BHC

PERMANENT DATUM: GROUND LEVEL ELEVATIONS-
ELEV. OF PERM. DATUM: 4009.0 F K3: 4021.0 F
LOG MEASURED FROM: K.3. DF: 4020.0 F
12.0 F ABOVE PERM. DATUM GL: 4009.0 F
DRLG. MEASURED FROM: K.3.

PROGRAM
TAPE NO:
25.586
SERVICE
ORDER NO:
400635

DATE: 22 APR 84
RUN NO: 1

DEPTH-DRILLER: 4461.0 F
DEPTH-LOGGER: 4460.0 F
BTH. LOG INTERVAL: 4445.0 F
TOP LOG INTERVAL: 1243.0 F
CASING-DRILLER: 1245 F
CASING-LOGGER: 1243 F
CASING: 13 3/8
BIT SIZE: 12 1/4

LITHOLOGY CYBERLOOK

COMPANY: HUDSON RESOURCES

WELL: TAYLOR # 1

RECEIVED
R.R.C. OF TEXAS

JUL 23 1984

FIELD: WILDCAT
COUNTY: DEAF SMITH
STATE: TEXAS
NATION: U.S.A.
LOCATION: 980 FSL & 660 FEL

O.G.
PAMPA, TEXAS

SEC. 100

BLK. K-5

PERMANENT DATUM: GROUND LEVEL ELEVATIONS-
ELEV. OF PERM. DATUM: 4009.0 * KB: 4021.0 *
LOG MEASURED FROM: L.S DF: 4020.0 *
12.0 * ABOVE PERM. DATUM GL: 4009.0 *
DRLG. MEASURED FROM: K.S.

DATE: 9 MAY 84
RUN NO: 2

DEPTH-DRILLER: 9000.0 *
DEPTH-LOGGER: 8999.0 *
BTM. LOG INTERVAL: 8950.0 *
TOP LOG INTERVAL: 4460.0 *

CASING-DRILLER: 12 1/2 * 4460 *
CASING-LOGGER: 12 1/2 * 4460 *
CASING: 13 3/8 9 5/8

BIT SIZE: 12 1/4 8 3/4

OTHER
LITHOLOGY
CYBERLOOK

RECORD
TAPE
SERVICES
ORDER

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SIMULTANEOUS COMPENSATED NEUTRON-LITHO DENSITY

COUNTY <u>DEAF SMITH</u> FIELD <u>WILDCAT</u> LOCATION <u>SEC 100, BLK. K-5</u> WELL <u>TAYLOR NO. 1</u> COMPANY <u>HUDSON RESOURCES</u>	COMPANY <u>HUDSON RESOURCES</u> WELL <u>TAYLOR NO. 1</u> FIELD <u>WILDCAT</u> COUNTY <u>DEAF SMITH STATE TEXAS</u>
LOCATION <u>980 FSL, 560 FEL, SECTION 100, BLOCK K-5</u>	
API SERIAL NO. _____ SEC. _____ TWP. _____ RANGE _____	
Other Services: <u>DLL/DLL/SFL</u> <u>3HC/CWL</u>	

Permanent Datum: <u>GROUND LEVEL</u> ; Elev.: <u>4009</u>	Elev.: K.B. <u>4021</u>
Log Measured From <u>K.B.</u> ; <u>122</u> Ft. Above Perm. Datum	D.F. <u>4020</u>
Drilling Measured From <u>KELLY PUSHING</u>	G.L. <u>4009</u>

Date	<u>1/22/84</u>	<u>5/9/84</u>		
Run No.	<u>ONE</u>	<u>TWO</u>		
Depth-Driller	<u>4461</u>	<u>9000</u>	PERMIAN BASIN GPM ONWI J.O. No. <u>18697</u> P.O. No. <u>HUD RES.@</u> Document I.D. <u>PCA-395</u>	
Depth-Logger	<u>4461</u>	<u>8999</u>		
Btm. Log Interval	<u>4457</u>	<u>2096</u>		
Top Log Interval	<u>1245</u>	<u>4460</u>		
Casing-Driller	<u>15 5/8 @ 1245</u>	<u>12 @ 4460</u>		
Casing-Logger	<u>1245</u>	<u>4460</u>		
Bit Size	<u>12 1/2</u>	<u>8 5/8</u>		
Type Fluid in Hole	<u>SGM</u>	<u>FGM</u>		
Dens.	<u>10.2</u>	<u>9.2</u>		
Visc.	<u>36</u>	<u>45</u>		
pH	<u>8.5</u>	<u>8.5</u>		
Fluid Loss	<u>24 ml</u>	<u>9.8 ml</u>		
Source of Sample	<u>FLOWLINE</u>	<u>MUD PIE</u>		
Rm @ Meas. Temp.	<u>.065 @ 76F</u>	<u>.240 @ 71F</u>	@	F
Rmf @ Meas. Temp.	<u>.050 @ 76F</u>	<u>.204 @ 74F</u>	@	F
Rmc @ Meas. Temp.	<u>.195 @ 76F</u>	<u>1.260 @ 72F</u>	@	F
Source: Rmf Rmc	<u>MP C</u>	<u>MP C</u>		
Rm @ BHT	<u>.040 @ 105F</u>	<u>.445 @ 145F</u>	@	F
TIME: Circulation Stopped	<u>0500</u>	<u>1100</u>		
TIME: Logger on Bottom	<u>0550</u>	<u>1000</u>		
Max. Rec. Temp.	<u>105 F</u>	<u>145 F</u>		
Equip. Location	<u>8257 DUMAS</u>	<u>8257 DUMAS</u>		
Recorded By	<u>JIM STOKES</u>	<u>JIM STOKES</u>		
Witnessed By	<u>JIM COULTER</u>	<u>BOB PATTON</u>		

The well name, location and borehole reference data were furnished by the customer.

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SIMULTANEOUS
DUAL LATEROLOG

COUNTY DEAF SMITH FIELD WILDCAT
 LOCATION SEC. 100. BLK. P-5 WELL TAYLOR NO. 1
 COMPANY HUDSON RESOURCES

COMPANY HUDSON RESOURCES
 WELL TAYLOR NO. 1
 FIELD WILDCAT
 COUNTY DEAF SMITH STATE TEXAS

LOCATION 980 FSI & 660 FEI
SECTION 100 - BLOCK K-5

API SERIAL NO.	SEC.	TWP	RANGE

Other Services:
 DLL/DIL/SFL/
 LDT/CNL/BHC/
 CWL

Permanent Datum: GROUND LEVEL; Elev.: 4009
 Log Measured From: K.B. 12 Ft. Above Perm. Datum
 Drilling Measured From: KELLY BUSHING

Elev.: K.B. 4021
D.F. 4020
G.L. 4009

Date	4-2-84	5-9-84		
Run No.	ONE	TWO		
Depth-Driller	4451	9000	PERMIAN BASIN GPM ONWI J.O. No. 13697 P.O. No. HVD. RES. Document I.D. DEA-395	
Depth-Logger (Schl.)	4460	8900		
Btm. Log Interval	4445	8903		
Top Log Interval	1243	4460		
Casing-Driller	13 3/8@ 1245	9 5/8@ 2460		
Casing-Logger	1243	4460		
Bit Size	12 1/4	S 3 3/4		
Type Fluid in Hole	SGM	FGM		
Dens.	10.2	34.0	43	9.5
Visc.				
pH	8.5	24 ml	9.5	9 ml
Fluid Loss				
Source of Sample	FLOW LINE	MUD PIT		
Rm @ Meas. Temp.	065 @ 76 °F	840 @ 72 °F	@ °F	@ °F
Rmf @ Meas. Temp.	050 @ 72 °F	604 @ 72 °F	@ °F	@ °F
Rmc @ Meas. Temp.	003 @ 76 °F	1.26 @ 72 °F	@ °F	@ °F
Source: Rmf Rmc	MD CALL	MP 050		
Rm @ BHT	020 @ 103 °F	442 @ 123 °F	@ °F	@ °F
TIME				
Circulation Stopped	03:00	11:00		
Logger on Bottom	07:30	16:00		
Max. Rec. Temp.	102 °F	145 °F	°F	°F
Equip.	2237 OUMAC	2237 OUMAC		
Location				
Recorded By	JIM STOKES	JIM STOKES		
Witnessed By	JOHN COULTER			

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The well name, location and borehole reference data were furnished by the customer.
 ONE
 FOLD HERE
 THE NAME, LOCATION AND BOREHOLE REFERENCE DATA WERE FURNISHED BY THE CUSTOMER.

ONWI/SUB/84/E512-05000-T30

**Structural Analysis
of the
Northern Palo Duro Basin**

Topical Report

November 1984

by

**Terence R. Regan
Philip J. Murphy**

**Stone & Webster Engineering Corporation
245 Summer Street
Boston, MA 02107**

LCAFT

This report was prepared by Stone & Webster Engineering Corporation under Contract E512-05000 with Battelle Memorial Institute, Project Management Division, under Contract DE-AC02-83-CH10140 with the Department of Energy. The Contract was administered by the Battelle Project Management Division.

ONWI/SUB/85/E512-05000-T36

DRAFT

**Field Test Activities Report
Black No. 1 Well
Deaf Smith County
Texas**

April 1985

**Stone & Webster Engineering Corporation
245 Summer Street
Boston, MA 02107**

This report was prepared by Stone & Webster Engineering Corporation under Contract E512-05000 with Battelle Memorial Institute, Project Management Division, under Contract DE-AC02-83-CH10140 with the Department of Energy. The Contract was administered by the Battelle Project Management Division.