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## REPORTS

# DATE: 5/25/1978

#### PUAL HAMILTON WATER CONTAMINATION STUDY MOORE DEVONIAN POOL

#### REPORT II

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION HOBBS, NEW MEXICO

> John W. Runyan, Geologist Oil Conservation Division in cooperation with the Water Resources Division Roswell, New Mexico

May 25, 1978

#### APPENDIX

Location Plat and U.S.G.S. Topo Map

Results of Report II

General Data

Water Rate-Movement Calculations

Test Well Statistics

Well Numbering System

Daily Field Reports

Water Analysis

Drillers Logs

Maps -- Water Chloride Map Water Rate-Movement Map





-Area of study.

#### PAUL HAMILTON WATER CONTAMINATION STUDY REPORT II

The revised chloride map with the rate-movement map indicates that possibly both the Texaco Inc. SWD well #3 (D-24-11-32) and the Amerada C.W. Robinson lease pit (A-23-11-32) have caused the water contamination problem that exists.

The first water contamination movement has been masked by a second period of contamination which superimposed additional water into an already existing contaminated water flow.

The rate-movement map is based on the estimated lateral water movement (by Water Resources Division) of .8 feet per day x time x distance that contamination has moved. This map shows that Amerada's pit could have caused the original contamination because of the time (25.5 years) and rate (.8 f/d) is almost the same distance (calculation) as the front of the contamination which exists some + 8100 feet from the pit, plus the pit had approximately 752,045 barrels of produced water placed in it over a period of 5.5 years. The second chloride contamination period could not have been caused by Amerada's pit; at a rate of .8 f/d the water from the pit should be some + 5840 feet away in the 20 years that the pit has not been in use. A chloride high of 28,613 ppm lies 300 feet from the pit and at a rate of .8 f/d this distance computes 1.03 years from pit to TW #12. This high of 28,613 ppm in Texaco's test well #12 is 1075 feet from Texaco's SWD Well #3 and at the rate of .8 f/d it would take 3.7 years to reach this point. This is within the time span of 5.6 years which the SWD well #3 has been operating, and the chloride map shows the main high to be mainly south but around the SWD #3 well.

-2-Paul Hamilton Water Contamination Study, Report II

Refer to Rate-Movement Map and Rate-Movement Calculation Sheet in this report. The above rates are plotted on chloride map.

Texaco's SWD well, the New Mexico "BO" State #3, located in Unit D of Section 24, TIIS, R32E, to date, has had two casing leak tests and one tracer survey run. These tests as well as the chloride map and rate-movement map indicate that this well <u>is not</u> leaking at this time.

Texaco, Inc. has re-entered several of their original test wells, such as #4, #5, #15 and #16, and the chloride values of these samples vary greatly in relation to the original chloride analysis on these test hole. This difference is basically due to the fact that these samples were obtained from various depths above TD, not at TD where most of the original samples were obtained.

The data for this report was obtained from the Water Resources Division, Amerada Hess Corporation, Texaco, Inc., and Oil Conservation Division. The Water Resources Division ran water levels, elevations, and back-up water analysis on each test well. Water samples were taken by O.C.D. field people and were analyzed in the Hobbs Office. Amerada Hess Corporation and Texaco, Inc. furnished some data on dates of well completions and beginning dates of SWD operations.

#### GENERAL DATA

The original report on the Paul Hamilton Water Study was completed on January 9, 1978. Texaco subsequently decided to drill an additional series of test wells, 21 in all. Drilling began February 6, 1978, and was completed April 10, 1978. Several test wells were re-entered and last work by Texaco was May 12, 1978. The bulk of this report is concerned with information obtained, to date, from the additional test wells, as well as, revised maps and data from the original report.

The Moore Devonian Pool was discovered April 5, 1952, by Texaco, Inc. Moore Well #1 located in Unit D of Section 25, T11S, R32E.

The Amerada Petroleum Company completed their C.W. Robinson #1 December 14, 1952, and their C.W. Robinson #2 in April 1953. The pit on this lease was apparently in operation from January 1953 until about May 1958 when water production went into Texaco's SWD system. Pit size was 75' x 80' (from area photographs dated 5-16-55), located 1000'/N & 250'/E of Section 23, T11S, R32E. Amerada's Robinson lease produced water was put into this pit for 5 years and 5 months for a total of 752,045 bbls. (from 0.C.D. Stat. Reports).

Texaco's New Mexico "BO" State #4, located in Unit M of Section 13, TIIS, R32E, was converted to a SWD well October 1972, under R-4422, and is still being used to date as a SWD well.

Texaco SWD #1, the New Mexico "BN" State #1, located 1434'/S and 896'/W of Section 25, TllS, R32E, was completed as a SWD well in November 1957 and started injection May 25, 1958, under O.C.C. SWD Order #7 (perfs 1260' -- 1440') and was plugged April 20, 1964. -2-General Data Paul Hamilton Water Contamination Study -- Report II

Texaco Inc. New Mexico "BO" State Well #1 located 1980'/S & 660'/W in Section 25, TllS, R32E, was recompleted to a SWD well January 10, 1964, under R-1547 and was plugged February 11, 1969.

Elmer Sumruld, Lovington, water well driller, has drilled all the test wells, to date, in the Paul Hamilton Water Study.

Mr. Hamilton has drilled an additional 3 test wells, at the request of the Water Resources Division. These three test wells did add much to existing report, particularly to chloride contour map. The three additional test wells were drilled May 19, 20, and 21, 1978.

#### WATER MOVEMENT AND RATE CALCULATIONS

The water movement as shown by the chloride map is east and southeast, the direction being controlled by Triassic "Redbed" structure, dip and drainage patterns as well as surface topography dip.

The rate of .8 feet per day lateral water movement is estimated and is based on best information available to date by the Water Resources Division Office, Roswell, New Mexico, for the immediate area of the Paul Hamilton Water Contamination Study.

The following calculations are based on distances from the two possible sources of water contamination in relation to the contaminated area as shown on the chloride map and dates established on events of well completions.

I. Distance from Amerada's old Robinson lease pit (A-23-11-32) to the southern front of the water contamination is + 8100 feet, map distance. The date of pit completion December 1953, to date is a total of 25.5 years (water movement is aquifer).

> 25.5 x 365 x .7 = 6515 feet 25.5 x 365 x .8 = 7446 feet 25.5 x 365 x .9 = 8377 feet

II. Maximum possible distance of water movement from Texaco's SWD #3 well; assuming that the SWD #3 well possibly leaked when water injection first began, October 1972 to April 1978 is 5.6 years.

> 365 x 5.6 x .7 = 1431 feet 365 x 5.6 x .8 = 1635 feet 365 x 5.6 x .9 = 1840 feet

Note: distance to nearest contaminated irrigation well is 3850'.
III. (a) Distance from SWD #3 to irrigation well in 11.32.24.412224
is 3050 feet, the rate would have to be 3850 ÷ 365 x 5.6 = 1.9 f/d
or 2+ times the estimated rate of .8 f/d in order to cover this
distance in 5.6 years (total years SWD #3 has been in operation).

-2-Water Movement Rate Calculations Paul Hamilton Water Contamination Study - Report II

- III. (b) Distance from SWD #3 to southern front of water contamination is 5250 feet (map distance), rate would have to be 5250 ÷ 365 X 5.6 = 2.6 f/d or 3 times the estimated rate of .8 f/d, to cover distance in 5.6 years.
- IV. Amerada's pit has not been in use for the past 20 years. The high slug of contamination from the pit should be located east of pit by:

20 x 365 x .7 = 5110 feet 20 x 365 x .8 = 5840 feet 20 x 365 x .9 = 6570 feet

Note: The second period of contamination has been superimposed over original contamination distorting the original flow.

V. The distance from Texaco's SWD #3 to Texaco Test Well #12 (the highest chloride value the farthest away) is 1075 feet. At 1075 feet the time needed to move this distance is:

> 1075 ÷ 365 x .7 = 4.2 years 1075 ÷ 365 x .8 = 3.7 years 1075 ÷ 365 x .9 = 3.3 years

VI. (a) The distance from Amerada's pit to Texaco Test Well #12 (the highest chloride value closest to pit) is 300 feet. The time needed to travel this distance is:

> 300 x 365 x .7 = 1.17 years 300 x 365 x .8 = 1.03 years 300 x 365 x .9 = 0.91 years

(b) The rate to move from Amerada's pit to Test Well #12 would be:

 $300 \div 365 \times 25.5 = 0.032 \text{ f/d}$ 

To have a high of 28,513 ppm after 25.5 years and moving at .032 f/d while the remainder of the water moves at an estimated .8 f/d would be a very odd situation.

-3-Water Movement Rate Calculations Paul Hamilton Water Contamination Study -- Report II

Most of the above calculations have been plotted over the chloride contours on the chloride map and help explain that two sources of contamination did occur, each at a different time period.

Respectfully submitted,

John W. Runyan, Geologist Oil Conservation Division

May 25, 1978

## TEXACO TEST WELL DATA

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TEST WELL	LOCATION	CHLORIDE SAMPLE #1	CHLORIDE SAMPLE #2	TOP REDBED	<u>T.D.</u>
TW #1	500/N & 250/W 24-11-33	1- 1,633 2- 2,059	R1- 9,154 R2- 8,946	111	120
TW #2	700/N & 250/W 24-11-33	1- 5,112 2- 4,260	R1-11,644 R2-11,644	108	112
TW #3	925/N & 200/W 24-11-33	1- 25,134 2- 24,566	3 -24,282	108	110
TW #4	695/N & 695/W 24-11-33	25,844 R1- 3,621	26,128 R2- 1,845	108	109
TW #5	970/N & 660/W 24-11-33	1,107 R1-13,348	20,590	126	128
TW #6	660/N & 1460/W 24-11-33	5,325	6,390*	117	117
TW #7	1150/N & 1400/W 24-11-33	14,910	14,910	106	107
TW #8	1060/N & 150/E 23-11-33	22,812	22,812	107	109
TW #9	376/E & 644/N 23-11-33	<b>7</b> 1	85.2	119	120
TW #10	150/N & 150/W 24-11-33	1 - 71 2 - 71	R1- 71 R2- 71	137	140
רו# TW	1100/N & 410/E 23-11-32	24,992	22,720	106	108
TW #12	1260/N & 250/E 23-11-32	22,152	28,613	108	110
TW #13	1525/N & 200/W 24-11-32	28,542	28,542	98	110
TW #14	1525/N & 700/W 24-11-32	20,874	22,720	97	100
TW #15	840/N & 400/W 24-11-32	19,738 R1-21,726	23,998	108	110
TW #16	810/N & 660/N 24-11-32	24,424 R1-23,004	25,276	108	110
TW #17	810/N & 820/W 24-11-32	15,620	15,762	108	110
TW #18	950/N & 1970/W 24-11-32	12,212	12,212	118	120
TW #19	1250/N & 1920/W 24-11-32	10,295	10,437	117	120
<b>TW</b> #20	2220/N & 1880/E 24-11-32	11,928	11,502	123	125
TW #21	2470/N & 1660/E 24-11-32	1,420	1,998	144	146

#### ADDED TEST WELLS by Paul Hamilton

TEST WELL	LOCATION	CHLORIDE SAMPLE #1	CHLORIDE SAMPLE #2	TOP REDBED	<u>T.D.</u>
#14	11.32.14.444411	7,620	7,740	125	140
#15	11.32.23.222141	60	60	117	120
#16	11.32.24.1143412	23,400 #3 24,520 #5 24,400	24,490 #4 24,540	103	106

Drilling water from 11.32.25.212122 = 235 ppm C1



.-- System of numbering wells in New Mexico.

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 U	S	7		D-24-11-32 Texaco BO Test Well #2 700 feet from North line 250 feet from West Line To west Tatum to drill test well for Texaco in Moore Pool for water contamination study. Top red bed 108 feet TD 112 feet Caught circulation sample at TD 2 samples 30 minutes apart

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					D-24-11-33 Texaco Test Well #10 150 feet from North Line and 150 Feet from West Line. Top Redbed 137 feet TD 140 feet	
.					Circulation samples taken at TD 2 samples 30 minutes apart.	
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	× ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		U R S	A R T E R	Name M.G. CROSSLAND Date <u>4-5-78</u> Hiles <u>196</u> District <u>I</u> Time of Departure <u>7:30 a.m.</u> Time of Return <u>5:30 p.m.</u> Car No. <u>329</u>
0 .:	A TI ON	•		H O U R S	In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken. Signature Definition
W	υ	D	3		24-11-32 Texaco Inc. New Mexico BO State Test Well #15 840' FNL & 400' FWL top red bed 108 feet, TD 110 feet, Took Water sample #1 and waited 30 minutes and took water sample #2.
	υ	D	3		24-11-32 Texaco Inc. New Mexico BO State Test Well #16, 810'FNL & 660' FEL, top red bed 108 feet, TD 110 feet, Took sample #1 and waited 30 minutes and took sample #2.

·		F	ы		NEW MEXICO OIL CONSERVATION COMMISSION FIELD TRIP REPORT
1		, V C	0 U	U A	•
	S I		R S	R T	Name M.G. CROSSLAND Date <u>4-6-78</u> Hiles <u>259</u> District <u>1</u>
	F	TY		R	Time of Departure Time of Return Car No
0 4	TION			H O U R	In the space below indicate the purpose of the trip and the duties performed, listing wells of leases visited and any action taken. Signature The Alexander
	<b> </b>	<b> </b>		3	
Ĵ	0	Р	4		
	υ	D	4		14-12-32 Texaco Inc. New Mexico BO State top red bed 108 feet, TD 110 fee 810' FNL & 820' FWL took sample #1 and lone hour later took sample #2. Test Well #17
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	. <b>T</b>	YPE PE	INSP:	CT10	I INSPECTION NATURE OF SPECIFIC WILL. CLASSIFICATION OR FACILITY INSPECTED
		llouso Plugo Plugo Well Migh: Migh: Pater Other	ekcer ing ing Test flow clow cor	clear Clear Spil Spil	U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SUD, 2ndry injection and projuction volls, water flows or pressure tests, surface injection equipment, plugging, etc.)D = Drilling P = Production I = Injection S = SkD U = Underground Storage G = General Operation O = Other = Inspections not related to injection

;	,	F A C I L I T Y	H O U R S	0	NEW MEXICO OIL CONSERVATION COMMISSION FIELD TRIP REPORT			
	1 × 5 5 1 F			DU ARR ER R	NameM. G. CROSSLANDDate4-7-78Hiles146DistrictITime of Departure7:25 a.m.Time of Return3:30 p.m.Car Ho.329			
0 N	ATHON			H O U R S	In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken. Signature Definition Canada Strange			
M	U	D	4		24-11-32 Texaco Inc. New Mexico BO State least Test Well #18 950' FNL and 1970' FWL, took water sample #1 and waited 30 minutes and took water sample #2. Top redbed 113 feet and TD 120 feet.			
	U	D	3		24-11-32 Texaco Inc. New Mexico BO State least Test well #19 1250' FNL and 1920' FWL top redbed 118 feet, TD 120 feet, took sample #1 and waited 40 minutes and took sample #2.			

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	CLASS IFICATION		H O U R S	QUARTER HOURS	NEW MEXICO OIL CONSERVATION COMMISSION FIELD TRIP REPORT         Name       M.G. CROSSLAND       Date       4-10-78       Miles       207       District       I         Time of Departure       7:45 a.m.       Time of Return       6 p.m.       Car No.       329         In the space below indicate the purpose of the trip and the duties         performed, listing wells or leases visited and any action taken.         Signature       M.G. M.C.M.L.
	U	D	4		24-11-32 Texaco Inc. Gulf S.P. Johnson Lease, test well #202220' FNL and 1380' FEL, top red bed 123 feet, TD 125 feet took water sample #1 and waited 40 minutes and took water sample #2.
	u	D			24-11-32, Texaco Inc. Gulf S.P. Johnson Lease Test Well #21 2470' FNL and 1660' FEL, 400' NW from irrigation well. Top Redbed 144 feet, TD 146 feet, took water sample #1 and waited 45 minutes and took water sample #2.
<b>⊢</b> Ⅰ	TY	Pr: 7	NSPE	1	INSPECTION NATURE OF SPECIFIC WILL
H T C T F M W O	H = Housekeeping P = Plugging C = Plugging Cleanup T = Well Test F = Vaterflow M = Mishap or Spill W = Vater Contamination C = Other		ing Clean Spil tamin	U = Underground Injection Control - Any inspection of or related to injectionD = Drilling P = Production I = Injection S = SkD U = Underground to n pressure tests, surface injection equipment, plugging, etc.)D = Drilling P = Production U = Underground S = SkD U = Underground S = SkD U = Underground Storage G = General Operation	

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WATER ANALYSIS	Paul Hamilton Water Study
TEXACO Well Ownership:	Well No
Land Status: X State Federal Fee Well Location: Unit D, Section 24, T 11 S - R 32 New Mexico "BO" State #3 SWD	2 <u>Lea County</u>
Type Well: Injection well Well Use: SWD	Depth:feet.
Sample Number: Date Taken Specific Conductance:m/~	: <u>5-23-78 Les Clements</u>
Total dissolved Solids:PPM. Chlorides: <u>2144</u> PPM. Sulfates:PPM. Ortho-phosphates: <u>V. low</u> <u>Low</u> <u>1</u>	Med. High
Date Analized:         5-24-78         By:         John W. I           N.M.C           Remarks:	Runyan 0.C.C.
Sample from $5\frac{1}{2}$ " casing. Treated water.	
SU HIT Sample = /I.U TACTOR X 3U.2 titration = 2144.2	

11.32.14:44411 ANALYTICAL STATEMENT - GWOWTY L LA Jetted 45 LAS 10. RSED \_\_\_\_ / 0 17 Date of collection epm ppm Ignition Loss\_\_\_\_ Color\_ SIO, Dissolved Solids: Fe Source (type of well)\_\_\_\_ Residue at 180°C\_ omer. T-:+ 1/2!= =14 Calculated (Sum)\_\_\_\_ pril Hauseta, Co Tome per Acre Foot \_\_\_\_ Date drid 5- 18-73 Cased to \_\_\_\_\_ Mg ft Hardsess as CaCO, Depth\_\_\_\_\_Diam Na ĸ V17\_\_\_ 242 2 84. Vater level\_\_\_\_ ft Specific Conductance (micrombos at 25°C) 203.36 Na+K Tield\_\_\_\_\_ GPH (mass or est) roscoll Jetled HCO. co3 Appearance ..... Temp (\*Y)\_\_\_\_\_Use\_\_\_\_ S04 7620 CI Collector\_\_\_\_ Chemise Bradley & Charles F NO. Date completed 5-12.75 Checked by\_\_\_\_ Date transmitted\_\_\_\_ Tw#19 11.32.14.4.44411 ANALYTICAL STATEMENT - GWONTY - C. Jatal 60 LAB NO RSEO - 11 212 Date of collection. epm ppm Ignition Loss\_\_\_\_\_ \_ Color\_ TH # 14. SiO, Dissolved Solids: . Fe Source (type of vell) Over PSI Hamilton Trait Residue at 180°C. Calculated (Sum)\_ Aple #14 Ca Tons per Acre Foot Bate drid 5-19 26 Cased to Ma fr Hardmann Depth\_\_\_\_\_ 140 Nσ n-carbonate Hardness ĸ WRT SAR I He Water level\_\_\_\_ \_\_\_\_\_ft Specific Conductance (micromhos at 25°C)<u>204</u>69 Na+K Sampled after pumping ...... \_\_\_\_ hrs Tield\_\_\_\_\_GPK (meas or est) re of coll Jelied. HCO. co3 Annestance Semp (\*7)\_\_\_\_\_ lise \_\_\_\_\_ 504 7140 CI Collector\_\_\_ comise Bradley & Chiyez F Date completed 5- 32 . 75 NO. Checked by\_\_\_ Date transmitted

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ANALYTICAL STATEMENT - GWEGINTY LE-14 11.32,23, 222/32 222141 LAS 10. RSEO- 11033 TH # 15 7.S 5 -19 of collection ..... Location • p m ppm Celer SIO, **Dissolved Solids**; Fe Source (type of well)\_ Residue at 180°C. Aturl Calculated (Sum)\_ Ca Tons per Acre Foot. 5-22 12 Mg Date drld Cased to 120 No Destb carbonate Hardpess ĸ VIT Specific Conductance Water level. \*\* 3/4. hrs (microwhos at 25°C) <u>\$31</u> Na+K Sampled after pumping \_\_\_\_ Tield rivs. ditch - retied, fubring @ TD HCO3 Pt of coll\_ 5/1. murky co3 - Use OBS. 50**4** Temp (\*7). Collector JI Wright 60 CI Charp. F Chantat NO3 5. 22. 75 Date completed Chacked by\_\_ Date transmitted\_ Tw #15 ANALYTICAL STATEMENT-GWOUNT LEA 11.3 2.23. 222+3-2-222/41 11034 LAB 10. 0. 10. 72 TH # 15 5 -11. Loc et lon of collection \*pm ppm Ignition Loss\_\_\_\_ Color SIO2 Dissolved Solids: Fe Source (type of well) .... Realdue at 180°C. Calculated (Sum) Ca Tous per Acre Toot Date drid 5-22-78 Cased to Mg 62 Rerdness an CaCO. 120 No ion-carbonate Hardness ĸ Specific Conductance Water level fz 834 Na+K (micromhos at 25°C)\_\_\_ led after pumping GPM (mean , tubuy a TD coll dring . 1 HCO. lear co3 <u>o B S</u> 504 51 71 Wright CI Chaves F NO3 omplated 5 - 22. 75 Checked by Pate transmitted\_

Main	Date of collection 5-2	1.78		<u> </u>
117 11.16	Ignition Loss Celer		epm	ppm
	Disselved Solidg:	SIO,		
ource (type of well) dr/d.	Besidue at 180°C	F.		
mar Hannelton	Calculated (Sum)		Ł	
	Toes per Acre Foot	Co	·	
ate drldCased to	ft Hardness as CaCO <sub>3</sub>	Mg		
opthDia=	Non-carbonate Rardness	No		
۲ <u></u>	% #a \$ARpB	K _		
ster levelft	Specific Conductance	-		
mapled after pumping hre	(micrombos at 25°C) 5-48	99 No+K		·
LeldGPK (mess or est)				
a or construction of 99 , for the	L 30 mm.	HCO3		
postance ( ex to 5/1. Jun	cky	co3 -		
(7) <u> </u>		S04 -		
illector		C1 _		2340
mistCharer		F -		
ite completed 7 - 22.70	·	NO3 -		
wecked by		1 -		

Tw#161

STATEMENT - GWOUNTY LEA 11.32.24 1143412 ANALYTICAL B LAS NO. RSEO-11035 Location - 14 # 16 2.16 5 Det collection epm ppm Iga Color SiO2 Dissolved Solids: Inld Source (type of well)\_\_\_ Residue at 180°C Fe Ham ton Calculated (S Ca Bate drld 5- 2 -> ? Cased to Mg 10% No ĸ Water level\_ \_ \*\* Spacific Conductance (micrombos at 25°C) 56 494 Na + K pled after pumping hrs H (meas or est) Yield con drives ditely, getted I hour нсоз Pt of Clear to ste murky c03 - un 045 504 Temp 24490 Wright CI Collector CLARKEZ F NO3 4- · L1 - 75 Date completed\_ Checked by Date transmitted

11.32,24 1143402 ANALYTICAL STATEMENT-GWCOUNTY LEA LAS NO. RSEQ- 11037 C Location 14 15 5.11.75 Date of collection epm ppm Color Ignition Loss. SiO, Dissolved Solids: Source (type of wiji) dr.1d Fe Residue at 180°C Calculated (Sum) Ca Tons ser Acre Foot Date drid 5-22-78 Cased to\_\_\_\_ Ma Mardness as CaCO. Depth 106 No ĸ Vator level\_\_\_\_ Specific Conductance (micromhos at 25°C) <u>56571</u> Na+K Sampled after pumping\_ ar pumping\_\_\_\_\_ une \_\_\_\_ GPN (mess or est) Jury drtes to fait, 12 the 11/2 thes. Pt of colt derting the HCO. Appearance Clip co3 1 mg (\*7) \_\_\_\_\_ U...\_\_ 0 45 504 24520 collector\_ Wrigh CI Chavez Chemiat F Date completed 4-22-70 NO3 Checked by\_\_ Date transmitted. T.W#16 1 11.32.24.1143412 ANALYTICAL STATEMENT - GWONTY LEA LAS NO. RSEQ - 1103 2 ( LOCATION TH #16 5-22.78 Date of collection epm ppm Izait SIO2 source (Eype of vell) drid Disa lved Solids: Fe esidue at 180°C Calculated (Sum) Co drid 5-22.28 Canad to Mg 13% Diam No mate Hardness ĸ ft Specific Conductance Water level\_\_\_ (alcroados et 25°C) 56 495 Na + K plad after pumping \_\_\_\_\_ hre CPN (mean or est) Tield re of condrive detch - retter 13/4 hrs. HCO. Clear w/s/1. sediment c03 (m) \_\_\_\_\_ 055 S04 11/righ 24546 CI CLAINEZ F NO3 Bata complated 5-27-70 Checked by\_ Data transmitted\_

11.32,24,1143412. ANALYTICAL STATEMENT-GWOUTS LETA LAS NO. PSEO- 11039 Location THE 16 5- 22.73 Date of collection. e p m **ppm** Ignition Loss\_ Calar sio, Dissolved Solids: Source (type of well) dyld Fe Residue at 180°C. Calculated (Sus) Ca Date dr16 5-22-72 Mg Depth 136 No ĸ VXT Water level\_\_\_ Specific Conductance (micrombos at 25°C) 56544 Na+K Sampled after pumping \_\_\_\_\_ Yield \_\_\_\_GPH (meas or est) the steel 2hr. 10 mm. Pt of coll нсо. une\_Clear co3 - Un 045. so4 Temp (\*T) \_ Mright 24400 CI Collector CLAYEZ F Date completed  $5^{-22}.78$ NO3 Checked by ate trensmitted Tw#16 1 ANALYTICAL STATEMENT - GWEANTT - CAL LAB NO. RSEQ .... 11015 Date of collection e p m ppm Ignition Loss. Color SiO, Dissolved Solids: Fe Residue at 180°C Calculated (Sum) Ca ar Acre Foot Date drld Mg Cased to fr Kardness No ĸ VBZ. Water level\_\_\_ Specific Conductance ft (ascrowhoe at 25"C)\_1586 Sampled after pumping\_\_\_ Na+K hra Yield \_\_\_\_\_ GPH (mess or est) Pt of coll HCO3 c03 Appearance Uee 504 Tem (\*\*) 235 CI Collector chanist Bridley & chires F Date completed 5-22.75 NO3 Checked by\_ Date transmitted Drilling water 5/22/78

Well Ownership:PAUL HAMILTON STUDY	Well No	Texaco TW #1
Land Status: State Federal Federal Fee Well Location: Unit, Section <u>24</u> , T <u>11</u> S - R <u>32</u> Blew thru tubing	E <u>500/N</u>	<u>&amp; 250/W</u>
Type Well: Water test well De Well Use: Chloride Analysis	epth:	_feet.
#1 Date Taken: Specific Conductance:m/	3-7-7	8 (Eddie Seay)
Total dissolved Solids:PPM. Chlorides:PPM.		
Sulfates: PPM. Ortho-phosphates: <u>V. low</u> <u>Low</u> <u>Me</u> Sulfides: <u>None</u> <u>Low</u> <u>Me</u>	ed. Hi	sh sh
Date Analized: 3-8-78 N.M.O.	nyan .C.C.	
Remarks:		
Giver and a second second restant for the restance of the second s	an the second	

Well Ownership: PAUL HAMILTON STUDY	Well No. Texaco TW #1					
Land Status: 🔲 States 🛄 Federal	XX Fee					
Well Location: Unit, Section 24, T_	11 S - R 32 E 500/N & 250/W					
Blew through tubing						
Type Well: <u>Water test well</u>	Depth:feet.					
Well Use: Chloride analysis	₹\$					
Sample Number: #2	Date Taken: <u>3-7-78 (Eddie Seay)</u>					
Specific Conductance;						
Total dissolved Solids:	PPM.					
Chlorides: 2059	.0PPM.					
. Sulfates:	PPM.					
Ortho-phosphates: V. low	Low Med. High					
Sulfides: [] Mone	Low Med. High					
<b>02.2012</b>						
Date Analized: 3-8-78 By: John W. Runyan N.M.O.C.C.						
Remarks:						
10 ml sample = 355.0 x 5.8 = 2059.0						
On and a second provide second s	, a yan an ana ana ana ang kalango ang kana kana kana kana kana kana kana					
₲₭₶₺₲₶₺₭₺₦₺₽₩₽₽₩₽₽₩₽₽₩₽₽₩₽₽₽₩₽₽₽₩₽₽₽₩₽₽₽₩₽₽₩₽₽₽₩₽						
<b>@######</b> ##############################	ĨġĊĴġĔĊĨŦĬĬĨĨſĬĬġġŦĬſſijġġſġſſĸţġġĸĸĸĿĸſſġſijġŗġſŗſŗſġŗſġſĸġſŎŗĹijĸĸŀĸġſĸĸĸŎĬſĸĸĸŎŢſġĸĬĬĿĸţſŢſġĸŎſſŢĸĬġĸŔĬġſĸĸġġſĸ					
Edizan Isarazaran Katanan ang ang ang ang ang ang ang ang ang	ŎĸĊġĸĸŎĊĸŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎ					

Well Ownership:PAUL HAMILTON STUDY Well NoTexaco TW #1 (Re-entr						
Land Status: State Federal X Fee						
Well Location: Unit, Section <u>24</u> , T <u>11</u> S - R <u>32</u> E <u>500/N &amp; 250/W</u>						
Blew through tubing						
Type Well:feet.						
Well Use: Chloride Analysis						
Sample Number: Date Taken: 3-9-78 (Eddie Seay)						
Specific Conductance:m/						
Total dissolved Solids:PPM.						
Chlorides: <u>9159.0</u> PPM.						
Sulfates: PPM.						
Ortho-phosphates: V. low Low Med. High						
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>						
Date Analized: 3-10-78 By: John W. Runyan N.M.O.C.C.						
Remarks:						
10 ml sample = 355.0 x 25.8 = 9159.0						

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Well Ownership:PAUL HAMILTON STUDY	Well No. Texaco TW #1 (Re-ent)
Land Status: $\Box$ State $\Box$ Federal. $\chi \chi$ Fee	
Blew through tubing	
Type Well:	Depth:feet.
Sample Number: #2-R Date Taken Specific Conductance:m/a-	3-10-78 (Eddie Seay)
Total dissolved Solids:PPM. Chlorides:PPM.	
Sulfates: PPM. Ortho-phosphates: LowLow	Med. High
Sulfides: <u>None</u> <u>Low</u>	Med. High
Date Analized: <u>3-10-78</u> By: <u>John W. F</u> N.M.	Runyan O.C.C.
Remarks:	
10 ml sample = 355.0 x 25.2 = 8946.0 ppm	
<b>C</b> anada a su a	tar any management of the state
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Well Ownership: PAUL HAMILTON STUDY Well No Texaco TW	#2
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Land Status: State Federal 🕅 Federal	
Well Location: Unit, Section <u>24</u> , T <u>11</u> S - R <u>32</u> E <u>700/N &amp; 250/W</u> CIRCULATION SAMPLE - SAMPLE BY BLOWING	
Type Well: TEST WELL Depth: 112 feet.	
Well Use:Chloride Analysis	and the first the states
Sample Number: Bate Taken:	·)
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: <u>4260</u> PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low Med. High	
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>	
Date Analized: <u>3-8-78</u> By: John W. Runyan N.M.O.C.C.	
Remarks:	an a
5 ml sample = 710.0 x 60.0 titration = 4260 ppm	Liganite en suffision Recale en suffision
<u> </u>	
₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	in the second
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Well Ownership: PAUL HAMILTON STUDY Well No Texaco TW #
Land Status: State Federal Fee
Well Location: Unit, Section 24, T 11 S - R 32 E 700/N & 250/W Circulation sample
Type Well:Water test well Depth: 112feet.
Well Use:Chloride Analysis
Sample Number: #2 Date Taken: 3-6-78
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: <u>5112.0</u> PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: <u>3-8-78</u> By: <u>John W. Runyan</u> N.M.O.C.C.
Remarks:
5 ml sample = 710.0 factor x 7.2 titration = 5112.0 ppm
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\$95% - 575000 / Mark Anno

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Well Owners	hip: PAUL HAMILTON STUDY	Well No. Texaco TW #2 (Re-
Land Status	: State Federa	al 🔯 ree
Well Locatio	on: Unit, Section_24,	T <u>11</u> S-R <u>32</u> E <u>700'/N &amp; 250'/W</u>
Sample by bl	owing	₽₩ ``₩₩₽£₩₽`₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩₽₩
Type Well: _	Water test well	Depth: <u>112</u> feet.
Well Use:	Water analysis	
Sample Numbe	er: R-1	Date Taken: <u>3-8-78 (Eddie Seay)</u>
	Specific Conductance:	m/
	Total dissolved Solids:	PPM.
	Chlorides: 11	,644 ррм.
	Sulfates:	PPM.
	Ortho-phosphates: V. low	W Low Med. High
	Sulfides: 🚺 None	Low Med. High
Date Analize	:d :	By: John W. Runyan
<b>D</b>		N.M.O.C.C.
Remarks:	۵٬۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
5 ml sample	= 710.0 factor x 16.4 titrat	ion = 11.644 mm
Quality interactions of the second		
Ø	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	ay an year a bayan na anan an
Cr	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	<u>, a a a a a a a a a a a a a a a a a a a</u>
<b></b>	ĦĸĸġŦĊĦŇŶŒĿĿĿĊĔĬŎġĨŎĸĦĬĬŶĿĸĊĿĊĿŢĊĬĬĬĊĿŎĊĸĊĸĹŎĿŎĬĬĿĿġŎĸĬŎĸĬĸġĸŔġġŎŗġĸġĊŎ <mark>ĿŎĿĿŶŶ</mark> ŶġŎŎĸĬŔ	▚▆▖ۥᢧᢧᠿᡄᢂᢛ᠄ᡱ᠆ᢒᠱᢣᡅᡱᡵ᠂ᡓᢧᡓᡦᡧᡬᡰᢂᢤᡄᡜᢓᡆᡘᢓᠹᠮᢪᢆᢓᡭᡊᡁᠼᠧᢓᡎ᠈ᡷᡁᠴᠧᢧᢒᡮᢤᢂ᠈ᡁᡅᡬᢗᢒᡦᠯᢜᠧᡓᡘᢖᡅᡡ᠉᠂᠆ᡁᠵᡁᢛᡡ᠂ᡔᠧᡁᠬ᠇ᡠ᠆᠆᠆᠆᠕ᠼᠼ <b>ᢖ</b>
	ੑੑਫ਼ੑੑੑੑੑੑੑਗ਼ਗ਼ੑਗ਼ੑਗ਼ੑਗ਼ੑਗ਼ੑਗ਼ਗ਼ਗ਼ਗ਼ਗ਼ੑਗ਼ਗ਼ੑਗ਼ਗ਼ੑਗ਼ਗ਼ੑਗ਼ਗ਼ੑਗ਼	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
<b>(************************************</b>	<u></u>	ĸĸġĿĸĸĸĊĊ <sup>ĸ</sup> ĨŊŢĸŎŎĊĬŦĨŊſŎĊĔĊĸĊŎŔ <sub>Ŏ</sub> ĸŢĸŢĸĊĊŎĸġ <mark>ĸĸŊĸŊŢſĬ</mark> ŊſĊĊĸŎŶġġſĸĸijĸĊŎĊŎŔĿġĸĸĸĊĊĸĊŎĸŎĿĸŎĸŎŎĸŎĬĬĬŎŎŎ
and a second	<u>ਗ਼੶੶੶੶</u>	

<del>6</del>4-

Well Owners	Well No. (Exaco IW #2 (K
Dany Status	$\frac{1}{\sqrt{1 - \frac{1}{2}}} = \frac{1}{\sqrt{1 - \frac{1}{2}}}$
Sample by b	on: Unit, Section24, TT_S = $R_{,SZ}E_{,TOO}/R_{,R}^{250}/W_{,T}$
Jumpie by b	Water test woll
Type Well: _	Water test wern Depth: <u>112</u> feet.
Vell Use:	water analysis
Sample Numb	er: R-2 Date Taken: 3-8-78
	Specific Conductance:m/
	Total dissclved Solids:PPM.
	Chlorides: <u>11.644</u> PPM.
	Sulfates: PPM.
	Ortho-phosphates: V. low Low Med. High
	Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
	;
ate Analize	d:By:John W. RunyanN.M.O.C.C.
emarks:	
terminent	
iml sample	= 710.0 factor x 16.4 titration = $11.644$ ppm
	,
<b></b>	
Hall Theory Constant Office Constants	
<b></b>	

Well Ownership:_	PAUL HAMILT	ON STUDY		Well No	Texaco TW #3
Land Status:	State	🔲 Federal	X Fee		
Well Location: Blew thru tubing	Unit, Sect	ion <u>24</u> , T	<u>11_5 ~ R_32</u>	_E925	'/N & 200'/W
Type Well: wat	ter test well	nan ayan san san san san san san san san san s	]	Depth:	_feet.
Well Use: ch	loride analysi	S		Na tanang kang sang sang sang sang sang sang sang s	
Sample Number:	Sample #1	alere aantae manie yn Lyfsgar (15	Date Taken	<u>3-8-78 E</u>	ddie Seav
Spec	cific Conducta	nce:	m/		
Tota	al dissolved S	olids:	PPM.		
	Chlo	rides: 25,	134 PPM.		
	. Sul	fates:	PPM.		
Ortl	10-phosphates:	V. low		ied. Hi	g <u>h</u>
	Sulfides:	None		led. 🗍 Hij	_ gh
	:	Anively accuracional			- 3
	2 30 70	CARGE CONTRACTOR			
Date Analized:	3-10-78	B	y: John W. Ru N.M.(	nyan 	
Remarks:					
					an general and a second star was define the formula of the
Circulate 30 minu	tes after TD w	/e]]			
gen menter and were a set of the	i i a dal-supergradi i si da 200 ganing sa 14 mg				
5  ml sample = 710	.0 x 35.4 = 25	<b>,1</b> 34.0 ppm			
					•
999-976-27-299-999-999-999-999-999-999-999-999-	ليدين بين بين بين بين من <sup>ي</sup> لا بين من الين الي بين مي الين اليكاني الي الي	n a geologi sina dan siya di kara di kara di kara ang		ny kanangan kan profilik kanalarik	WT also all the line of the second
<b>Walion of Concern Concerning and Annal Ann</b>	ى بىلى بىلى بىلى بىلى بىلى بىلى بىلى بى	na ann an Stairt an S	: المراجع المر •	ti Mana (sportanti) y Sider facing san tri yan	E. S. C.
California and a factor of the second se	an a	ŦĸĸġġŦĸĸĸŢĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸ	an a	#* <u>\$*\$</u> \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	
GYNYMANNE FL LLANNENNAN ÂNN HEF MENNAN E LLANA		n aird an an an Antoine a su an an Antoin	anta una statomena de la Analia de La Ca		

Well Owners	nip:PUAL HAMILTON ST	Well No. Texaco TW #3
Land Status:	State Gre	ederal 🔀 Fee
Well Locatio	on: Unit, Section_2	$r_{4}$ , T <u>11</u> S - R <u>32</u> E <u>925'/N &amp; 200'/W</u>
Blew thru tu	bing	
Type Well:	Test well	Depth:feet.
Well Use:	Chloride analysis	
Sample Numbe	er:#2	Date Taken: <u>3-8-78 (Eddie Seay)</u>
	Specific Conductance:	m/~
	Total dissolved Solids:	PPM.
	Chlorides:	<u>24,566.0</u> PPM.
•	Sulfates:	: PPM.
	Ortho-phosphates: <u>V</u> .	low Med. High
	Sulfides: 🔲 <u>N</u>	None Low Med. High
		an a
Date Analize	d: 3-10-78	By: John W. Runyan
D		N.M.U.C.C.
Kemarks:	<u>٢٠٠,</u>	
Sample taken	30 minutes after sample	#]
€2200000000000000000000000000000000000	499 - 199 <sup>9 -</sup> Balanan Marina, atau katan dari dari dari yang menangkan dari penangkan dari penangkan dari penang	
5 ml sample =	= 710.0 x 34.6 = 24,566 p	pin .
\$100	Render <sup>for</sup> general a grap de Réferir y construction de la proper de	
<b>Anti-Annales and an and an an annales</b>	80- <del>010 / 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 19</del> 90 - 199	₩₩₩₽₩₽₩₩₩₩₩₩₩₽₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
<b>#</b> ###################################	na a fa sin an	₽₽₽₩\$
<u> </u>	na fra Manajari ya shiri sa ya maga na kata na anaja na maga ya shiri ana	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
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Well Ownership: PAUL HAMILTON STUDY Well No Texaco TW #3
Land Status: State Federal 🔀 Fee
Well Location: Unit, Section <u>24</u> , T <u>11</u> S - R <u>32</u> E <u>925'/N &amp; 200'/W</u>
Blew thru tubing
Type Well: Water test well Depth:feet.
Well Use: Chloride analysis
Sample Number: #3 Date Taken: <u>3-8-78 (Eddie Seay)</u>
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 24,282 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
3-10-78 John W. Runyan
bate Analized: By: N.M.O.C.C.
Remarks:
Circ sample 30 minutes after sample #2
5 ml sample = 710 x 34.2 = 24,282.0 ppm

Well Ownership: HAMILTON WATER STUDY	Well No. Texaco TW #4
Land Status: 🗍 State 🗍 Federa	1 IX Fee
Well Location: Unit, Section_24_, Sample by blowing	T_11_S - R_32_E _695'/N & 695'/W
Type Well: Water test well	Depth:feet.
Water analysis	
Sample Number: #1	Date Taken: <u>3-13-78 (Eddie Seay)</u>
Specific Conductance:	m/
Total dissolved Solids:	PPM.
Chlorides: 2	5.844 PPM.
Sulfates:	PPM.
Ortho-phosphates: []V. low	Low Med. High
Sulfides: <u>None</u>	Low Med. High
Date Analized:	By:John W. Runyan N.M.O.C.C.
Remarks:	ay na na tao ay ang
5 ml sample = 710.0 factor x 36.4 titra	tion = 25,844.0 ppm
Стинически получите и сположи и положи произон. Найтина и сположите и положи с на Солитерии и на Солитерии и на	
Сарании, минералица ин портите дешина продокции у сарагу била, <sub>стра</sub> ни и сулку и раз на кончисти и кончисти. По по	не умери на мини на чи на вала била «Спорти и Пара се на на при на при се се со се со се со се со се со се со с
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Well Ownership: HAMILTON WATER STUDY Well No. Texaco TW #4
Land Status: State Federal X Fee
Well Location: Unit, Section <u>24</u> , T <u>ILS - R_32</u> E <u>695'/N &amp; 695'/W</u> Sample by blowing
Type Well:feet.
Well Use:
Sample Number:
Specific Conductance:m/m/
Total dissolved Solids:PPM.
Chlorides: 26,128 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: 3-15-78 By: John W. Runyan N.M.O.C.C.
Remarks:
* sample #2 taken 30 minutes after sample #1
5 ml sample = 710.0 factor x 36.8 titration = 26,128 ppm

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Re-entry    Well Ownership:  PAUL HAMILTON WATER STUDY  Re-entry    Well No.  Texaco TW #4
Land Status: State Federal Federal
Well Location: Unit_D, Section_24, 711_S - R 32_E
695/N & 695/W Section 24
Type Well: Water test well Depth: Depth:
Well Use: Water analysis
Sample Number: R #1 Date Taken:5-10-78 Eddie Seay
Specific Conductance:m/_
Total dissolved Solids:PPM.
Chlorides: <u>3621</u> PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
· · · · · · · · · · · · · · · · · · ·
Date Analized:5-16-78 By: _
Re-entry TW #4 (Texaco) Sample after pumping for 30 minutes at 75 feet
Remarks:
5 ml sample = 710.0 x 5.1 titration = 3621 ppm
·
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Well Ownership: PAUL HAMILTON WATER STUDY	Re-entry Well No. Texaco TW #4
Land Status: $\Box$ State $\Box$ Federal $\boxtimes$ Fee Well Location: Unit $D$ , Section $24$ , $\pi$ 11 S - R $32$ 695/N & 695/W Section 24	E Re-entry
Type Well:  Water test well  D    Well Use:  Water analysis	epth: <u>103</u> feet.
Sample Number:  R-#2  Date Taken:    Specific Conductance:  m/s    Total dissolved Solids:  PPM.    Chlorides:  1845  PPM.    Sulfates:  PPM.    Ortho-phosphates:  V. low  Low  Me    Sulfides:  None  Low  Me	<u>5-10-78 Eddie Seav</u>
Date Analized: <u>5-16-78</u> By: <u>John W. Ru</u> N.M.O. Remarks: <u>Sample taken at 85 feet, pumped for 30 minutes</u> <u>5 ml sample = 710.0 x 2.6 titration = 1845 ppm</u>	Inyan .C.C.

Well Ownership: PAUL HAMILTON STUDY Well No. Texaco TW #5
Land Status: State Federal XX Fee
Well Location: Unit, Section 24, T 11 S - R 32 E 970'/N & 660'/W
Blowing thru tubing
Type Well: Water test well Depth: feet.
Well Use: Chloride analysis
Sample Number: Date Taken:
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: <u>1107.5</u> PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: None Low Med. High
Date Analized: 3-10-78 By: John W. Runyan
N.M.O.C.C.
Remarks:
5  m sample = 710.0 factor x 15.6 tituation = 1107.5 mm

Well Ownership	PAUL HAMILTON WATER	STUDY Well No. Texaco TW #5
Land Status:	State Feder	al 🕅 Fee
Well Location: Blew thru tubir	Unit, Section_24_,	T <u>11</u> S - R <u>32</u> E <u>770'/N &amp; 660'/W</u>
Type Well:	later test well	Depth:feet.
Well Use:	later analysis	
Sample Number:	#2	Date Taken: <u>3-9-78 (Eddie Seay)</u>
SI	ecific Conductance:	m/
To	tal dissolved Solids:	PPM.
	Chlorides:	20,590 PPM.
•	Sulfates:	PPM.
Or	tho-phosphates: <u>V. lo</u>	w Low Med. High
	Sulfides: <u>None</u>	Low Med. High
Date Analized:	3-10-78	By: <u>John W. Runyan</u> N.M.O.C.C.
Active NO .		nden er en men het hen en e
5 ml sample = 7	10.0 factor x 29.0 titrat	ion = 20,590.0 ppm
<u> </u>	angan képén kéréné kana kana kana kana kana kana kana k	
Ethioperationspectral the second second		۲۳۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰۰۵ - ۲۰
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<b>Manager and Provident Contract Contract</b>	nagan Der Mallander Der Beginnen gester Verster und der Berner der Bester Besternen von Beford	₩₩₽₩₩₽₽₽₩₽₩₽₩₩₽₩₩₽₩₩₽₩₩₩₽₩₩₽₩₩₽₩₩₽₩₽₩₽₩₽
Çığılılını musulanı Girmanin Agamayıra (dir	972537434974499494949449494949494949494944944944	₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$₩\$
Constantine and a second s	anna a mar an ann an ann an ann ann ann ann ann	ġĊŢĨĸĸŀĨĬĂĸŎġĸĸĊţĸĸŎĸĸŎĸĊĊĸĂſŦĬŊĿġŢĊŗĊŊŊŗŢŊŊŗŊĊŎĬĊĬĸŎĸĊŎĬĊĬĬŔŎĸĊĸĸŊĸĸĸŎĊŎŦĸĊĸĬĬĬŔĬĬŎĬĬŎĬĬĬŎĬĬŎĬĬĬŎĬĬ

Well Ownersh	ip: PAUL HAMILTON WATER STUDY Well No. Texaco TW #5
Land Status:	State Federal X Fee
Well Locatio Blew thru tu	n: Unit, Section_ <u>24</u> , T <u>11</u> S - R <u>32</u> E <u>770'/N &amp; 660'/W</u> bing
Type Well:	Water test well Depth:feet.
Well Use:	Water analysis
Sample Numbe	#2 Date Taken: <u>3-9-78 (Eddie Seay)</u>
	Specific Conductance:m/
	Total dissolved Solids:PPM.
	Chlorides: 20,590 PPM.
	Sulfates: PPM.
	Ortho-phosphates: V, low Low Med. High
	Sulfides: <u>None</u> Low <u>Med</u> , <u>High</u>
Date Analize	d: <u>3-10-78</u> By: <u>John W. Runyan</u> N.M.O.C.C.
Remarks:	
5 ml sample =	= 710.0 factor x 29.0 titration = 20,590.0 ppm
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Gutanite and a surplus of the second second	
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Well Ownership:PAUL HAMILTON WATER STUDY	Well No.	<b>Re-entry</b> Texaco TV #5
Land Status: State Federal Fee		
Well Location: Unit $\underline{D}$ , Section $\underline{24}$ , $\underline{\pi} \underline{11}$ S - $\underline{R} \underline{32}$	E Lea	County
970/N & 660/W		
Type Well: Water test well I	)epth: <u>128</u>	_feet.
Well Use:Water analysis		
Sample Number: R-#1 Date Taken:	5-12-78	Eddie Seay
Specific Conductance:m/~		
Total dissolved Solids:PPM.		
Chlorides: <u>13,348</u> PPM.		
Sulfates: PPM.		
Ortho-phosphates: V. low Low M	ied. 🗍 Hi	gh
Sulfides: Thone Thow Th	ed. 🗂 Hi	ơn the second
a an		, <b>5                                    </b>
Date Analized: 5-16-78 By: John W.	Runyan	
N.M.O	.C.C.	· · ·
Remarks:		
sample from 94 feet caught after 75 minutes pumping	<u></u>	
5 ml sample = 710.0 x 18.8 titration = 13,348 ppm		
•		
	****	
<b>#</b> ###################################		

Land Status: State Federal Federal Fee Well Location: Unit, Section 24, T 11_S - R 32_E _660/N & 1460/W Sample by blowing Type Well: Water test well Depth: 117_feet. Well Use: Water analysis Sample Number:	Well Ownership: HAMILTON WATER STUDY Wel	<b>1 No.</b> Texaco TW'#6
Type Well: <u>Water test well</u> Depth: <u>117_feet.</u> Well Use: <u>Water analysis</u> Sample Number: <u>#1</u> Date Taken: <u>3-14-78 (JWR)</u> Specific Conductance: <u>m/A</u> Total dissolved Solids: <u>PPM.</u> Chlorides: <u>5325.0</u> PPM. Sulfates: <u>PPM.</u> Ortho-phosphates: <u>TV. low</u> <u>Dow</u> <u>Med.</u> <u>High</u> Sulfides: <u>None</u> <u>Dow</u> <u>Med.</u> <u>High</u> <u></u> : Date Analized: <u>3-15-78</u> By: <u>John W. Runyan</u> N.M.O.C.C. Remarks: <u></u> 5 ml sample = 710.0 factor x 7.5 titration = 5325.0 ppm	Land Status: State Federal Federal Section: Unit, Section 24, T 11 S - R 32 E Sample by blowing	<u>660/N &amp; 1460/W</u>
Sample Number:  #1  Date Taken:  3-14-78 (JWR)    Specific Conductance:  m/	Type Well: Water test well Depth Well Use: Water analysis	: <u>117</u> feet.
Sulfides:  None  Low  Med.  High	Sample Number:	<u>3-14-78 (JWR)</u>
5 ml sample = 710.0 factor x 7.5 titration = 5325.0 ppm	Sulfides: <u>None</u> <u>Low</u> <u>Med.</u> Date Analized: <u>3-15-78</u> By: <u>John W. Runya</u> N.M.O.C.C Remarks:	<u>Ніgh</u> <u>n</u>
	5 ml sample = 710.0 factor x 7.5 titration = 5325.0 ppm	

Well Ownershi	p: KAMILTON	WATER STUDY	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	Well No. <u>Texaco TW #6</u>
Land Status:	State	🔲 Federal	XI Fee	
Well Locatior Sample by blo	a: Unit, So wing	ection 24 , T	<u>]]S - R 32</u>	E660'/N & 1460'/W
Type Well:	Water test we	]]		Depth: <u>117</u> feet.
Well Use:	water analysi	S .		
Sample Number	#2		Date Taken	:
	Specific Conduc	tance:	m/~	
	Total dissolved	Solids:	PPM.	
	Ch	lorides: <u>639</u>	0.0 ppm.	
	9	ulfates:	PPM.	
	Ortho-phosphate	s: <u>V. low</u>	Low	Med. High
	Sulfide	s: <u>None</u>		Med. 🔲 High
				Cartalitation and a second
Date Analized	:3-15-78	]	By: John W. N.M.	Runyan 0.C.C.
Remarks:				anga taman na ang ang ang ang ang ang ang ang an
Sample #2 take	en 15 minutes a	fter sample #1		
5 ml sample =	510.0 factor x	9.0 titration	= 6390.C ppm	
ale				
Name along a state of the state		analization de little de sector de la constantion de la constantion de la constantion de la constantion de la c		
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	an and a far far far far far far far far far f			

Well Owners	hip: Well No Texaco TW #6
Land Status	: State Federal 🕅 Fee
Well Locati Sample by b	on: Unit, Section24, T11S - R_32 E660'/N & 1460'/W lowing
Type Well:	water test well Depth: <u>117</u> feet.
Well Use:	water analysis
Sample Numb	#3 Date Taken:
	Specific Conductance:m/
	Total dissolved Solids:PPM.
	Chlorides: <u>355.0</u> PPM.
	Sulfates: PPM.
	Ortho-phosphates: V. low Low Med. High
	Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analiz	ed:By:John W. Runyan
Remarks:	
Sample #3 ta	ken at 87 feet (30' above TD)
5 ml sample	= 710.0 factor x .5 titration = 355.0
<b></b>	
<b></b>	
<b></b>	
<b>Constantion Constantion</b>	

Well Ownersh	hamilton water study Well No. Texaco TW #7
Land Status:	: State 🗍 Federal 🕅 Fee
Well Locations sample by bl	on: Unit, Section_24_, T_ <u>11_S - R_32_E</u> 1150/N & 1400/W owing
Type Well:	water test well Depth: 107_feet.
Well Use:	water analysis
Sample Numbe	er: Date Taken: 3-14-78 JWR
	Specific Conductance:m/
	Total dissolved Solids:PPM.
	Chlorides: 14,910 PPM.
	Sulfates: PPM.
	Ortho-phosphates: V. low Low Med. High
	Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analize	d: <u>3-15-78</u> By: <u>John W. Runyan</u> N.M.O.C.C.
	= 710.0 footon v 21.0 tituction = 14.010 cmm
<b></b>	
<del></del>	
<del>6</del>	
Waterstands and an Granes and Angel	
Çeriyi da karalı yaran genera da karalı yar	

Well Ownership: HAMILTON WATER STUDY	Well No. <u>Texaco TN #7</u>
Land Status: $\Box$ State $\Box$ Federal $\boxtimes$ Fe Well Location: Unit, Section <u>24</u> , T <u>11</u> S - K Sample by blowing	e 32 <u>e 1150'/N &amp; 1400'/W</u>
Type Well:	Depth: <u>107</u> feet.
Sample Number:	Med. High Med. High Med. High W. Runyan M.O.C.C.
Remarks:	pm

Well Ownership	HAMILTON I	WATER STUDY	and the first of the second	Well No.	Texaco TW <sup>'</sup> #8
Land Status:	State	🚺 Federal	X Fee		
Well Location:	Unit, Se	ction $\frac{23}{7}$ , T.	<u>.11 s - r 32</u>	E 1060	'/N & 150'/E
sample by blow	ing	97.7792CMD0039667_332.647667.448-64-550	والاربي والمتقرق والمتحمين والبريري والمتحم		
Type Well:	Water test we	2]]		Depth: 109	_feet.
Well Use:	water analys	İS			
Sample Number:	#1		Date Taken	3-10-78	3 Eddie Seav
S	pecific Conduc	tance:	m/		
I	<b>otal dissolv</b> ed	Solids:	PPM.		
	Ch	lorides: 2286	52.0 PPM.		
	S	ulfates:	PPM.		
C	rtho-phosphate	s: V. low	Low D	4ed. ☐Hi	gh
	Sulfide	s: None		ſed. ∏Hi	gh
			and an and a second	anangkan bernaj anan	
Date Analized:	3-15-78	B	y: John W. R	unyan	
	Ň		N.M.(	).C.C.	
Remarks:					
5 ml sample = 2	710.0 factor x	32.2 titration	= 22862.0 ppr	n	<u></u>
		المتعادية ويتقاول مشيرين ويربيها السامة والمتعاور			
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Container and an and a second	الىرى ئەلۇرىمۇمۇرىلىك ئىلۇرىتىكە ئۆكىتىكە <mark>تىكىتىكە تۈكىتىكە تەركىكە تەركىكە تەركىكە تەركىكە</mark> تۈك <mark>تەر</mark>				
Galder Company and California Statements and California and			ana ing pangangan ang pangkang pangkang pangkang pangkang pangkang pangkang pangkang pangkang pangkang pangkan		
<b>Congress Stationship (see a ship (see a s</b>	ĸŦŇŎġŎġĸĸĸĸĸĸĸŢĸĊĊĊĔĬŎŎŎſĊĸĸĸĸĿŊĊĿĸĬĊŎŎ				
Connected and the second s	nt film an	a Jampo - ng afait i Tantan, ng katapan katapan katapan katapan	Marina da Santa Sur a ang ang ang ang ang ang ang ang ang a	,	
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Well Ownership: HAMILTON WATER SUPPLY Well No Texaco TW #8
Land Status: State Federal 🕅 Fee
Well Location: Unit 23, Section 23, T 11 S - R 32 E 1060'/N & 150'/E
Sample by blowing
Type Well: <u>Water test well</u> Depth: <u>109</u> feet.
Well Use: water analysis
Sample Number: Date Taken:
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 22862.0 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Dow Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: 3-15-78 By: John W. Runyan N.M.O.C.C.
Remarks:
5 ml sample - 710.0 factor x 32.2 titration - 22,862.0 ppm

10

Well Ownership	HAMILTON WATER STUDY Well No. Texaco TW #9
Land Status:	State Federal XKFee
Well Location Sample by blow	Unit, Section <u>23</u> , T <u>11</u> S - R <u>32</u> E <u>376'/E &amp; 644'/N</u> ring
Type Well:	water test well Depth: <u>120</u> feet.
Sample Number:	#1 Date Taken: <u>3-13-78 Eddie Seav</u>
ະ 	pectric Conductance:
	Chloridos: 71.0 PPM
	Sulfator: PPM
C	rtho-phosphates: V. low Low Med. High Sulfides: None Low Med. High
Date Analized:	3-15-78 By: John W. Runyan N.M.O.C.C.
Remarks:	
5 ml sample -	142.0 factor x .5 titration - 71.0
an a	
Natural Statements in the American Statement	
<b>Ing:125-1</b> 6	
gan managan sa	

Well Ownership: HAMILTON WATER PROBLEM Well No. Teraco TW #9
Land Status: State Federal X Fee
Well Location: Unit, Section 23 , T ll S - R 32 E 376'/E & E44'/N Sample by blowing
Type Well: Water test well Depth: Depth:
Well Use:
Sample Number: Date Taken: 3-13-78 Eddie Seay
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides:PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med.</u> <u>High</u>
Date Analized: 3-15-78 By: John W. Runyan N.M.O.C.C.
Remarks:
5 ml sample = $142.0$ factor x .6 titration - $85.2$

Well Ownership:PAUL HAMILTON WATER STUDY Well No Texaco TW #10
Land Status: State Federal X Fee
Well Location: Unit, Section 24 , T 11 S - R 32 E 150'/N & 150'/W
Blew thru tubing
Type Well: Mater test well Depth: feet.
Well Use: Chloride analysis
Sample Number: Date Taken:
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 71.0 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: 3-8-78 By: John W. Runyan N.M.O.C.C.
Remarks:
10 ml sample = 355.0 factor x .2 titration = 71.0 ppm

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Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #10
Land Status: State Federal	Fee
Well Location: Unit, Section 24 , T 11 S	- R <u>32</u> E <u>150'/N &amp; 150'/W</u>
Blew thru tubing	
Type Well:Water test well	Depth:feet.
Well Use: Chloride analysis	« « « « » » » » » » » » » » » » » » » »
Sample Number: Date	Taken: 3-7-78 Eddie Seay
Specific Conductance:	m/
Total dissolved Solids:	PPM.
Chlorides: 71.0	Ррм.
Sulfates:	PPM.
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> Low	Med. High
	and the second se
Jo	ohn W. Runvan
Date Analized: By:	N.M.O.C.C.
Remarks:	
<u>@####################################</u>	
10 ml sample = $355.0$ factor x .2 titration = $71.0$	
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PAUL HAMILTON WATER STUDY  Well No.  Texaco TW #10 (re-entry)    Well Ownership:
Land Status: State Federal X Fee
Well Location: Unit, Section 24 , T 11 S - R 32 E 150'/N & 150'/W
sample by blowing
Type Well: Water test well Depth: Depth:
Well Use:water analysis
Sample Number: R-1 Date Taken: 3-8-78 Eddie Seay
Specific Conductance:
Total dissolved Solids:PPM.
Chlorides: 71.0 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> Low <u>Med</u> . <u>High</u>
Date Analized:By:John W. Runyan N.M.O.C.C.
Remarks:
25 ml sample = 152 factor x .5 titration = 71.0 ppm

Well Ownership:PAUL HAMILTON WATER STUDY Well No Texaco TW #10
Land Status: State Federal X Fee
Well Location: Unit, Section 24, T 11 S - R 32 E 150'/N & 150'/W
Sample by blowing
Type Well: Water test well Depth: Depth:
Well Use: Water analysis
Sample Number: <u>R-2</u> Date Taken: <u>3-8-78 Eddie Seav</u>
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 71.0 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: By: John W. Runyan
Remarks:
25 ml sample = 142.0 factor x .5 titration = 71.0 ppm
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Constrained and the second and th

Well Ownership:PAUL HAMILTON STUDY Well No. Texaco TW #11
Land Status: State Federal X Fee
Well Location: Unit, Section 23, T 11 S - R 32 E 1100'/N & 410'/E
Type Well: Water test well Depth: 108feet.
Well Use:
#1 Date Taken:4-3-78 Eddie Seay
Specific Conductance:m/_
Total dissolved Solids:PPM.
Chlorides: 24.992 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
Date Analized: Re 4-24-78 By: John W. Runyan
N.M.O.C.C.
Remarks:
5 ml sample = 710.0 factor x 35.2 titration - 24,992.0 ppm

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# WATER ANALYSIS

Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #11
Land Status: State []Federal	🔀 Fee
Well Location: Unit, Section 23, T 11 S	G - R 32 E 1100'/N & 410'/E
Type Well: Water Test well	Depth:feet.
Well Use: water analysis	
Sample Number: #2 Dat	e Taken:4-3-78 Eddie Seay
Specific Conductance:	_m/
Total dissolved Solids:	_PPM.
Chlorides: 23,720.0	_PPM.
Sulfates:	_ PPM.
Ortho-phosphates: V. low Lo	w Med. High
Sulfides: None	w 🗍 Med. 🗋 High
Date Analized: Re 4-24-78 By:	John W. Runyan N.M.O.C.C.
Remarks:	
Sample #2 taken 30 minutes after #1	
4 ml sample = 710.0 factor x 32.0 titration - 22	,720.0 ppm
	narde 2012 17 2012 (2012 X.11), 2010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 1010 - 10
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Well Ownership: PAUL HAMILTON WATER STUDY Well No Well No Vell No No No Vell No	aco TW #12
Land Status: State Federal X Fee Well Location: Unit_, Section $\frac{23}{7}$ , T $\frac{11}{5}$ S = R $\frac{32}{E}$ $\frac{1260'/N}{1260'/N}$	& 250'/E
Type Well: Water test well Depth: Depth:fe Water analysis	et.
Sample Number: #1 Date Taken:4-3-78 (Me	lvin Crosslan
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: 22,152 PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low Med. High	
Sulfides: <u>None</u> Low <u>Med</u> . <u>High</u>	
Date Analized: Re 4-24-78 By: John W. Runyan N.M.O.C.C.	
Remarks:	and a start of the second s
5 ml sample = 710.0 factor x 31.2 titration - 22,152.0 ppm	and a second
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WATE	CR	ANAL	YSIS

Well Ownership:
Land Status: State Federal X Fee
Well Location: Unit, Section, TS - REE
Type Well:Water test well Depth: 110 feet.
Well Use:
Sample Number: #2 Date Taken:4-3-78 Melvin Crosslan
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 28,613 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
· · · · · · · · · · · · · · · · · · ·
Date Analized: Re 4-24-78 By: John W. Runyan
N.M.O.C.C.
Remarks:
sample #2 taken 30 minutes after #1
5 ml sample = 710.0 factor x 40.3 titration - 28,613 ppm
C

Well Ownership: PAUL HAMILTON STUDY Well No	12
Land Status: State Federal X Fee	
Well Location: Unit, Section $\frac{23}{7}$ , T $\frac{11}{11}$ S - R $\frac{32}{2}$ E $\frac{1260'/N \& 250'/E}{250'/E}$	
Type Well: Water test well Depth: 110feet.	
Well Use:	
Sample Number: Bate Taken:4-3-78 Melvin Crossi	land
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: 28,613 PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Dow Med. High	
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>	
Date Analized: Re 4-24-78 By: John W. Runyan N.M.O.C.C.	
Remarks:	
sample #2 taken 30 minutes after #1	
5 ml sample = 710.0 factor x 40.3 titration - 28,613 ppm	
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Well Ownership:
Land Status: State Federal X Fee
Well Location: Unit, Section 24 , T 11 S - R 32 E 1525'/N & 200'/W
Type Well: Water test well Depth: 110 feet.
Well Use:
Sample Number: Date Taken:4-4-78 Melvin Crossland
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: 28,542 PPM.
Sulfates: PPM.
Ortho-phosphates: V. low Low Med. High
Sulfides: None Low Med. High
Date Analized: Re 4-24-78 By: John W. Runyan N.M.O.C.C.
Remarks:
5 ml sample = 710 factor x 40.2 titration = 28,542 ppm
<u> </u>
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PAUL HAMILTON WATER STUDY Well No
Land Status: $\Box$ State $\Box$ Federal $\Box$ Fee Well Location: Unit, Section 24, T_11_S - R_32_E E
Type Well: Water test well Depth: 110feet.
Sample Number: Bate Taken:4-4-78 Melvin Crossland Specific Conductance: M/o
Total dissolved Solids:PPM. Chlorides:28,542PPM.
Sulfates: PPM. Ortho-phosphates:V.lowLowMedHigh Sulfides:NoneLowMedHigh
Date Analized: <u>Re 4-24-78</u> By: John W. Runyan N.M.O.C.C.
Remarks:
5 ml sample = 710.0 factor x 40.2 titration = 28,542 ppm

WATER ANALYSIS	
PAUL HAMILTON STUDY	Well No. Texaco TW #14
Land Status: 🔲 State 🗍 Foderal	X Fee
Well Location: Unit, Section 24, T 11	_S - R <u>32</u> E <u>1525'/N &amp; 700'/H</u>
Type Well: Water test well	Depth: 100 feet.
Well Use: water analysis	
Sample Number:D	ate Taken:4-4-78 Melvin Crossland
Specific Conductance:	m/
Total dissolved Solids:PPM.	
Chlorides: 20,874 PPM.	
Sulfates:	PPM.
Ortho-phosphates: V. low	Low Med. High
Sulfides: <u>None</u>	Low Med. High
Carlo and a substantian and a	An an Andrew State and Andrew State and an an an and an and a state of the Andrew State State State State State
Re 4-24-78 Date Analized: By:	John W. Runyan N.M.Q.C.C.
Remarks:	
5 ml sample - 710.0 factor x 29.4 titration = 20,874 ppm	
De verska na verska stal og sen ander som at stal som at som	
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Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #14
Land Status: State Federal SF	e
Well Location: Unit, Section 24, T 11 S - R	<u>32</u> E <u>1525'/N 7 700'/W</u>
Type Well: Water test well	Depth: 100 feet.
Well Use: water analysis	
Sample Number: #2 Date Tak	en:4-4-78 Melvin Crossland
Specific Conductance:m/~	
Total dissolved Solids:PPM.	
Chlorides: 22,720 PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> Low	Med. High
	Characteristic Characteristic Characteristic Characteristic
Re 4-24-78	W Dunyan
Date Analized: By: N.	M.O.C.C.
Remarks:	Cyrygan an a
<b>@####################################</b>	۲۰ په مار د مارو مارو د مارو د دور و در در مارو د و در مارو د و در مارو د و مارو د و د و د و د و د و د و د و و ۲۰ په د و مارو د و و د و و د و و د و و د و و و و و و
<pre>sample #2 taken 30 minutes after #1</pre>	
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5 ml sample - 710.0 factor x 32.0 titration = 22,720 p	pm
C	
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Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #15
Land Status: State Federal SFee Well Location: Unit, Section 24, T 11 S - R 32	2 E 840/N & 400/W
Type Well: Water test well I Well Use: water analysis	Depth: <u>110</u> feet.
Sample Number: Date Taken: Specific Conductance:m/ Total dissolved Solids:PPM. Chlorides: 19,738 PPM.	4-5-78 Melvin Crossland
Sulfates: PPM. Ortho-phosphates: <u>V. low</u> <u>Low</u> <u>M</u> Sulfides: <u>None</u> <u>Low</u> <u>M</u>	1ed. High 1ed. High
Date Analized: Re 4-24-78 By: John W. R	Runyan D.C.C.
Remarks: 5 ml sample = 710.0 factor x 27.8 titration = 19,738 ppm	

#### WATER ANALYSIS

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Well Ownersh	ip: PAUL HAMILTON WATER STUDY Well No Texaco TW #15
Land Status: Well Location	State Foderal X Fee n: Unit, Section 24, T 11 S - R 32 E 840'/N & 400'/W
Type Well: Well Use:	Water test well Depth: <u>110</u> feet. Water analysis
Sample Number	#2 Tr: Date Taken:4-5-78 Melvin Crosslar Specific Conductance:M/2
	Total dissolved Solids:PPM. Chlorides:PPM.
	Sulfates: PPM. Ortho-phosphates: [V. low Low Med. High
Date Analized	Re     4-22-78     By:     John W. Runyan
Remarks:	N.M.O.C.C.
5 ml sample =	= 710.0 factor x 33.8 titration - 23,998 ppm
<b>101</b> 1110-01-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	
an a	

Well Ownership: PAUL HAMILTON	WATER STUDY	Re-entry Well No. <u>Texaco TW #15</u>
Land Status: 🗍 State	]Federal 🕅 F	20
Well Location: Unit D, Section	<u>24</u> , <u>7</u> <u>11</u> S - R	32 E Lea County
840/N & 400/W Section 24		
Type Well: Water test well		Depth: <u>110</u> feet.
Well Use: Water analysis		· · ·
Sample Number:	Date Tal	æn:5-10-78 Eddie Seav
Specific Conductance	:m/	
Total dissolved Soli	ds:PPM.	
Chlorid	es:21,726PPM.	
Sulfat	es: PPM.	
Ortho-phosphates:	V. low Low	Med. High
Sulfides:	None Low	Med. High
		·····
Date Analized: 5-16-78	By: John W.	Runyan M.O.C.C.
Remarks:		
Sample taken from 96 fee	. caught after 60 mi	nutes_pumping
5 ml sample = 710.0 factor x 30.6	titration = 21,726 p	pm
•		
		-
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Well Ownersh	ip:PAUL HAMI	TON STUDY	an a fille de 1910 de 1	We]	Ll No. Texa	co TW #16
Land Status:	State	[] Federal	$\boxtimes$	Fee		
Well Location could be sec	n: Unit, Sec . 24??	23, T	<u>11</u> S -	r <u>32</u> e	810'/N & 6	50'/W
Type Well:	water test well			Depth	a: 110 feet	•
Well Use:	water analysis		terte tetta anticationa			
Sample Numbe:	#1		Date 1	[aken:	4-5-78 Mel	/in Crosslan
	Specific Conduct	ance:	m/	-n-		
	Total dissolved	Solids:	PF	<b>м.</b>		
	Ch	orides: <u>24</u>	424PF	м.		
	St	ulfates:	ad The second	<b>.</b> ۳		
	Ortho-phosphates	: <u>V. low</u>	Low	Med.	<u>High</u>	
	Sulfides	None	Low	Med.	High High	
Date Analized	Re 4-24-78	Constanting and the second sec	By: Jo	hn W. Runy	yan	
Remarks:				N.M.O.C.C	9 <b>9</b>	
5 ml sample -	· 710.0 factor x	34.4 titratic	on = 24,424	4 ppm		199999 (304) - 1999 (1999) - 2000 (1999) 2019 - 2019 (1999) - 2019 (1997) - 2019 (1997)
					1	
Contractoria, a constitue de constitue		reduction of the second stream to a second stream of				
<b></b>	a an		ala gang kanalan sala pang ang ang ang ang ang ang ang ang ang			intelliste disconstructions and the second
1999 <del>-1997 - 1999 - 1999 - 1999 - 19</del> 99 - 19	na dan dan dan dapat kenangkan di dibungka dapi di Saka d			Terlit. Ways of Sunstations	i ya nya mangang ang ang ang ang ing ing ing ing ing ing ing ing ing i	a a na an
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Charles and the substances		<b>an pour la constant</b> au <b>Thuir</b>		anar initante antaraite	an a	

Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW -16
Land Status: 🗌 State 🔲 Federal 🕅 F	ee
Well Location: Unit, Section 23 , T 11 S - F could be sec. 24??	R <u>32</u> E <u>810'/N &amp; 660'/W</u>
Type Well: water test well	Depth: <u>110</u> feet.
Well Use:	
Sample Number: Date Ta	aken:4-5-78 Melvin Crossland
Specific Conductance:m/_	<b>)_</b>
Total dissolved Solids:PPM	1.
Chlorides: 25,276 PPM	<b>.</b> .
Sulfates: PPM	4.
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> <u>Low</u>	Med. High
	apexee operation and a constitution of
Date Analized: Re 4-24-78 By: John	W. Runyan
N	I.M.O.C.C.
Remarks:	۵
Sample #2 taken 30 minutes after sample #1	
5 ml sample = 710.0 factor x 35.6 titration - 25,276	ppm
Calencer and a finance of the second of the second of the second of the second second second second of the second s	
<b>****</b> ********************************	
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Well Ownership:PAUL HAMILTON WATER STUDY	Re-entry Well No. TEXACO TW #16
Land Status: State Federal X Fee	
Well Location: Unit_D_, Section_24_, T11_S - R_32 810/N & 660/W Section 24	2 E Lea County
Type Well:	Depth: <u>110</u> feet.
Well Use: Water analysis	
Sample Number: #R-1 Date Taker	a:5-9-78 Eddie Seav
Specific Conductance:m/_	
Total dissolved Solids: PPM.	
Chlorides: 23,004 PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> Low	Med. High
Date Analized: 5-16-78 By: John W. N.M.	Runyan O.C.C.
Remarks:	
sample from 104 feet, caught after 45 minutes pumping.	
5 ml sample = 710.0 factor x 32.4 titration = 21.726 ppm	······································
·	****

Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #17
Land Status: State Federal X Fee	
Well Location: Unit, Section 24 , T 11 S - R 32 810'/N & 820'/W	<u> </u>
Type Well: Water Test well	Depth: 110 feet.
Well Use:	
#1 Date Taker	4-6-78 Melvin Crossland
Specific Conductance:m/~	
Total dissolved Solids:PPM.	
Chlorides: 15,620 PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> <u>Low</u>	Med. 🗌 High
Date Analized: 4-17-78 By: John W.	Runyan
N.M.	0.C.C.
Remarks:	م الله الله الي من من المراجع المراجع الله الي المراجع الله بين المراجع الي الي الي الي الي الي الي الي الي ال المراجع الي
Top red bed 108, TD 110	
<u>₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩</u>	<u>ـــــــــــــــــــــــــــــــــــ</u>
5 ml sample = 710.0 factor x 22.0 titration - 15,620	antenen harriken hendriktigen anten standative anten harra
<u>Cale and an and an an an and a state and a state and a state and and a state /u>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
<u></u>	₽ġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġ
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ŢŦŎŦĬġŦŦĬĊĸĸġĊĸĸĸŎĸĬĊŎŎĸĸġĊĸĸĊĊŎŔŢŢŢĊĊţĸĸĸŎĸŎĊĸĸĹŊŎĊŎŢŎŎŎĸĸĊŢĿĸĸĸġŎĊŊĸĸĸĊŗġŎŎŊĊŎĬŎĸĬĊĬŎĬŎŢŎŎŎĊŎĹĊŎĬŎŢŢŢŎĊġŎŎĸŎĿŎ	ĦŧĊġĊ <u>ĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊĊ</u> ĊĊĊĊĊĊĊ
<u></u>	<u></u>

Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW #17
Land Status: State Federal JF	See
Well Location: Unit, Section 24 , 7 11 S - F	32 E Lea County
810'/N & 820'/W	
Water test well Type Well:	Depth: <sup>110</sup> feet.
water analysis	
	a nga na laka ya 2700 milikin 200 kwana na anto na mwana
Sample Number: #2 Date Ta	iken:4-6-78 Melvin Crossl
Specific Conductance:m/_	2
Total dissolved Solids:PPM	1.
Chlorides: 15,762 PPM	f
Sulfates: PPM	۱.
Ortho-phosphates: V. low Low	Med. High
Sulfides: 🗍 None 🗍 Low	Med. High
Barendi exter Annuano en externaria	
. Contraction and a second state in the second state of the second second second state where an an an and a second state state of the second second state state of the second	a na ta an
Date Analized: 4-17-78 By: John	W. Runyan
N	.M.O.C.C.
Remarks:	
<pre>sample #2 taken 70 minutes after sample #1</pre>	
5 ml sample - 710.0 factor x 22.2 titration = 15,762	ppm
ŧĸŎŧĸĸĬŦĸĊŊĊĸĨĹŎŶĸġĸĊĸĸĸġĸŎĸĸĸŦĸŢĊġſġŶſĊĸġĊĸġĸĊĸĸĿŊĊĬĬĬĊĬĊġĊĸĊġĊŎġŎġġġġġſĸĊĸĊĸĊĸĬĊĬĊŔġſġŔŎĬŎĸĸŎŀŶŎĿŎġĸĊĿŎġſĹĬġĸ	
ĨĨĊŎġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġġ	نین در میانید از این می این این این این این این این این این ای
	anan manan katyan Jana dan Katalapat katalan katyan katala katalan pada ang katalapat mina katalan katalapat k
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Well Ownership: PAUL HAMILTON WATER STUDY	Well No. Texaco TW	#18
Land Status: 🗍 State 🗍 Federal 🔀 Fee		
Well Location: Unit, Section <u>24</u> , T <u>11</u> S - R <u>32</u> 950'/N & 1970'/W	E <u>Lea County</u>	
Type Well: Water test well Well Use: water analysis	Depth: <u>120</u> feet.	مند بسبت
Sample Number: Date Taken	:4-7-78 Melvin Cro	<u>ssl</u> and
Specific Conductance:m/		
Total dissolved Solids:PPM.		
Chlorides: 12,212 PPM.		
Sulfates: PPM.		
Ortho-phosphates: V. low Low	Med. High	
Sulfides: None Low	Med. High	
Date Analized: 4-17-78 By: John W	. Runyan D.C.C.	a
Remarks:		
©		
Top redbed 118' TD 120'		
р-намаланындарынан дарын аларууларын каланан каланан калан каларык каларык каларык каларык калан калан калан к		
5 ml sample = 710.0 factor x 17.2 titration - 12,212 ppm		
Research was a second to the second state second state state and second and second and second states and second		
		in der Fillen B
		·

Well Ownersh	ip:	PAUL HAM	ILTON WATE	R STUDY	We	11 No. Te	xaco TW #18
Land Status: Well Locatio 950'/N & 1970	□: n: Unit. )'/W	State , Sect	Federa 24 ion 24	11 [X] T <u>11</u> S-	Fee R <u>32</u> E	Lea Cou	nty
Type Well:	Water t water a	est well nalysis		**************************************	Dept	h: <u>120</u> fe	eet.
Sample Numbe	r: <u>#2</u> Specific Total di	Conducta ssolved S Chlo Sul	nce: folids: prides:2 fates:	Date m P 2.212P F	Taken: / PM. PM. PM.	<u>4-7-78 r</u>	<u>Melvin Cross</u> la
	Ortho-ph	Sulfides:	<u>V. low</u> <u>None</u>		<u>Med.</u> <u>Med.</u>	□ <u>High</u> □ <u>Hi</u> gh	
Date Analized Remarks: Sample #2 tak	en 30 mir	nutes afte	er sample #	By:00	N.M.O.C.	yan C.	
;mlsample =	710.0 fa	actor x 17	7.2 titrati	on = 12,21	2 ppm		
Material Contract Constraints Street and Constraints	anta da	ager ding age ager color-collaborate plage	an a	ng paramatan Artikan di Karangan (Karangan)	a an	n og skiller at store skal som støre som	

PAUL HAMILTON WATER STUDY	Well No
Land Status: State Federal 🔀 Fe	e
Well Location: Unit, Section24_, T11_S - R 3 1250'/N & 1920'/W	32 E Lea County
Type Well:	Depth: 120 feet.
Well Use:	
Sample Number: #1 Date Take	en:4-7-78 Melvin Crosslar
Specific Conductance:m/	
Total dissolved Solids:PPM.	
Chlorides: <u>10.295</u> PPM.	
Sulfates: PPM.	
Ortho-phosphates: V. low Low	Med. High
Sulfides: <u>None</u> <u>Low</u>	Med. High
Date Analized: 4-17-78 By: John W.	Runyan
N.M	1.0.C.C.
Top redbed 119 feet	
5 m] sample = 710.0 factor x 14.5 titration = 10,295 p	pm
	and the start interaction of the start and the start of the

#### PATUR ANALYSIS

Well Ownersh	ip: PAUL HAMI	LTON WATER STUD	Y 	Wel	1 No. Texaco TW #19
Land Status: Well Location 1250'/N & 19	State n: Unit, 20'/W	[]Federal Section <u>24</u> , T	<u>[X]</u> <u>11</u> s - 1	Fee R <u>32</u> E	Lea County
Type Well:	water test we water analysi	5		Depth	: <u>120</u> feet.
Sample Number	#2 Specific Conda	actance:	Date Tam/_	aken:	4-7-78 Melvin Crossla
	Yotal dissolve	ca Solids: Chlorides: Sulfates:	PP1 PP1 PP1 PP1	м. м. Пмес	<b>T</b> High
	Sulfic	les: <u>None</u>		Med.	
Jate Analized	4-17-78	р С	Johr By:}	W. Runya N.M.O.C.C	an
5 ml sample -	- 710.0 factor	x 14.7 titratic	on = 10,437	<sup>7</sup> ppm	
				ar frans, 300 to 200	

Well Ownership	PAUL HAMILTON WATER ST	UDY Well No. Texaco TW #20
Land Status: Well Location: 2220'/N & 1880	State Feder Unit, Section 24 '/E	ral XJFee T <u>11</u> S-R <u>32</u> E Lea County
Type Well: Well Use:	water test well water analysis	Depth: <u>125</u> feet.
Sample Number: S T Date Analized: Remarks:	<pre>#1 Specific Conductance: Cotal dissolved Solids: Chlorides: Sulfates: Ortho-phosphates:V.lc Sulfides:None:</pre>	Date Taken: <u>4-10-78 Melvin Crossland</u> 
Top red bed 123 5 ml sample = 7	3 feet 710.0 factor x 16.8 titrat	ion = 11,928 ppm

Well Ownersh	PAUL HAM	ILTON WATER ST	JDY	Well No
Land Status:	State	🚺 Federal	X Fee	
Well Locatio 2220'/N & 18	n: Unit, S 80'/E	ection 24, T	<u>11</u> S - R <u>32</u>	E Lea County
Type Well:	Water test w	e]]		Depth: <u>125</u> feet.
Well Use:	Water analys	is		
Sample Numbe	r:#2	u 14 - Jacobi Maria -	Date Taken:	4-10-78 Melvin Crosslan
	Specific Condu	ctance:	m/	
	Total dissolve	d Solids:	PPM.	
	С	hlorides; <u>11</u> ,	.502 PPM.	
		Sulfates:	PPM.	
	<b>Ortho-</b> phosphat	es: V. low	Low M	ed. High
	Sulfid	es: <u>None</u>		ed. 🔲 High
	<b>Gi kana s</b> a kata kata kata kata kata kata kata ka	· · · · · · · · · · · · · · · · · · ·		
Date Analize	d:		By: John W. ( N.M.O	Runyan
Remarks:		angen yn meneserie ante angedetente affret		
Antonia and Antonia and Antonia and		terry Citizet See Thirty of Constant State		
5 ml sample =	= 710.0 factor >	(16.2 titratio	n = 11,502 ppm	
	ana 1920 mangangka mini kawang kanang ka			and a sub- start with the sub- start and the sub-
and the set of the second s	a tanàna dia mampika dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia ka	an a successive said filters, spectrumph statistics	والمحاوية	مەلىكى ئىرىمىيىرىمىيىرىكى ئىرىمىيىرىمىيىكى ئىرىمىيىرىمىيىرىكى ئىرىمىيىرىمىيىرىكى ئىرىمىيىرىمىيىرىكى ئىرىمىيىرى
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# WATER ANALYSIS

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Well Owners	PAUL HAMI	LTON WATER ST	UDY	Well No	Texaco TW #21
Land Status Well Location 2470'/N & 16	: []State on: Unit, Sec 560'/E	[] Federal	XX Fee 11_S - R_32	E Lea C	ounty
Type Well:	Water test well water analysis			Depth: 146	feet.
Sample Numbe	#] Specific Conduct Total dissolved	ance:	Date Taken	<b>4-10-78</b>	Melvin Crosslan
	Chl Su Ortho-phosphates Sulfides	Lorides:42 ulfates: : <u>V. low</u> : <u>None</u>	20 PPM. PPM. D D 	1ed. []Hig 1ed. []Hig	<u>sh</u> sh
Date Analize	ed:4-17-78	B	y: John W. Ri N.M.C	unyan ).C.C.	
Top red bed	144 feet		12-1-1,-2,-2,-2,-1,-1,-1,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,-2,		
5 ml sample ·	- 710.0 factor x 2	2.0 titration	= 1420 ppm		
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# WATER ANALYSIS

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Well Ownership: PAUL HAMILTON WATER STUDY Well No Texaco TW #21
Land Status: State Federal X Fee
Well Location: Unit, Section 24 , T 11 S - R 32 E Lea County
2470'/N & 1660'/E
Type Well: Water test well Depth: 146feet.
Well Use:
Sample Number:#2 Date Taken:4=10-78 Melvin Crossland
Specific Conductance:m/
Total dissolved Solids:PPM.
Chlorides: <u>1998</u> PPM.
Sulfates:PPM.
Ortho-phosphates: V. low Med. High
Sulfides: <u>None</u> <u>Low</u> <u>Med</u> . <u>High</u>
4-17-78     John W. Runyan       Date Analized:     By:
N.M.O.C.C.
Remarks:
5 m] sample - 710.0 factor x 2.8 titration = 1998 ppm
•

Well Owners	hip:PAUL HAMILTON WATER STUDY	Well No. Drilling water
Land Status	: State Federal X	] Fee
Well Locati Texaco dril	on: Unit, Section <u>25</u> , T <u>11</u> S - ling additional test wells	R <u>32</u> E <u>11.32.25.1222311</u>
Type Well:	from house supply well	Depth:feet.
Well Use:	drilling water	
Sample Numb	er: Date	Taken: <u>3-6-78 Melvin Crossl</u> an
	Specific Conductance:m	1
	Total dissolved Solids:P	PM.
	Chlorides: <u>56.8</u> P	Рм.
	Sulfates:P	PM.
	Ortho-phosphates: V. low Low	Med. High
	Sulfides: <u>None</u> Low	□ Med. □ High
Date Analize	3-8-78 Johr ed:By:	N.M.O.C.C.
Remarks:		
25 ml sample	e = 142 factor x .4 titration - 56.8	
	ĦŎġĊĿĿĸŎŊĿijġĊĔŎŢŎŎŢŎĿŎŢŎŎſŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎ	
Commencer and the surgeous	ŦĨŎġĊĸġĊĸŧġĿġĿĸĨġĿġġĿġġĿġġĿġĿĸĿġĸĿġĿĸĿġĿſġĿĸĿġĿſġĿĸĿġĿġĿĸŎġĿŔŎĸŎġŦĔĸġĿġĿŔĸĸĿŎŀĬĸĿġġġĿĸijĸĿŎĸĹŎŔĬĸŔĿĬŎĬĸŔĿ	
& <del>78 - År en 10 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100 - 1100</del>	₩₩₩₩₽₽₩₩₽₽₩₽₽₩₩₩₩₽₽₩₽₽₩₽₩₩₽₩₩₩₩₩₩₩₩₩₩	
Mangoowen goowen die weer onteng	Ŧĸŗĸĸĸĸĸĸĸŧĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸ	
<b>Citat</b> alanan manakan manakan sa	Na manana kata manana ang katang manana kata na manana manana mata kata kata kata kata kata kata kat	
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#### WATER ANALYSIS

Well Ownership: PAUL HAMILTON WATER ST	TUDY Well No.
Land Status: State Federa Well Location: Unit D, Section 24 Texaco SWD Well #3 (State New Mexico "BO"	1
Type Well:	Depth:feet.
Well Use:	
Sample Number:#1	Date Taken: <u>3-2-78 Nathan Clegg</u>
Specific Conductance:	m/
Total dissolved Solids:	PPM.
Chlorides: <u>42</u>	<u>60.0</u> PPM.
Sulfates:	PPM.
Ortho-phosphates: <u>V. low</u> Sulfides: <u>None</u>	Low Med. High
Date Analized: <u>3-22-78</u>	By: John W. Runyan N.M.O.C.C.
Remarks:	<b>₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩</b>
sample also contains some other chemical	
sample has bubble head when stirred	
@~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
5 ml sample = 710.0 factor x 6.0 titration	n = 4260.0 ppm
galanda yaku masa dan da muyana kayan, basa tuman turatu, mpanasina padinta palanta muna pad, waka bagyanan	Ħ₩ġ\$_\$#₩₩ĸĸĸ₩₩₩₩ <u>₩₩</u> ₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
€₽₩₩₽₽₽₩₩₽₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩	ŊĸĸġŎŀĊĹŴŎġŎĸŎĊĊĹŴĊġŎĊŎĊŎŎŎŎĊŎĊŎŎŎŎŎĊŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎŎ
филичиных мыны филичения на полици и разовлавания на полици на полици и робними избини морто на которология ини	ŊġġĸĸĸŎĬŎĨĨĨŢġĊġŎĠĊŎĨŦŗġŦĸŢŎġġĊġĊĸĊŊĸĸġġĸĸĸĊĸġĊġġĸĸĿĸŎĸġĊţŎĸŎĸŎĸŎĸĸĸĸĊĸţŎĊŎĬŔĸĸĸŎŎŎĨŎŎĬŎĬŎŎŎĬŎŎŎĬŎŎŎŎŎŎŎŎŎŎŎŎŎŎ
(۵) (۲) مراحه می از این است. در این که مناصب ۱۹۹۵ همچنی ۲۰۰۰ میرون میکنوند. در ۲۰۰۰ میرون میکنوند که میدون میکنون که ا	Aanal 196 Kapata - an Managari 196 Analah (189 Kapata) an Talandara ang kalimban ng panakang panakang kalimban kalimban (1996).

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	WATER ANALYSI	<u>IS</u>	
PAUL HAMILTON WATER ST	JDY		
Well Ownership:AMERADA	HESS		ell No. #1
Land Status: 🗍 State	🗌 Federal	🛄 Fee	
Well Location: Unit A, Se	ection $\frac{23}{5}$ , T	$\frac{11}{5} - R \frac{32}{2} E$	
Producing oil well - water	from wellhead		
Type Well:	oump	Dept	th:feet.
Well Use:			
#1 Sample Number:		Date Taken:	3-14-78 JWR
Specific Conduc	tance:	m/	
Total dissolved	l Solids:	PPM.	
Cł	lorides: 26,6	96 PPM.	
S	Sulfates:	. PPM.	
Ortho-phosphate	es: <u>V. low</u>	Low Med.	High
Sulfide	s: <u>None</u>	Low Med.	🔲 High
4.700 - 10.00 - 10.00 - 10.00 - 10.00	gi		
3-23-78		John W. Runy	an
Date Analized:	B	N.M.O.C.	С.
Pemarke •			
Central No .	andara ay ang mala ang kang mang mang mang mang mang mang mang m		
5  m sample = $710.0  factor x$	37 6 titratio	2 - 26 696 ppm	
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	67	100	and A gravel	.,			65	113	send, si	and & er	'Avel
	100	105	brown clay				113	119	sandy cl	Loy	
	1.08	).11	red sandy clay				1.19	120	clay		
	111	112	red clay				Nole	# 10	)		
	Hole	# 3	The state of the s				0	14	surfec	e soil	
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	99	10%	sandy clay &	gravel			104	111	Band &	: cravel	
	TOG	110	ced club				111	137	eendy	clay 2	zra <b>vel</b>
	Hole	¥ 4					137	140	elay	•	
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	20	105	peng & sanggu ang andy els	nne v leva	re						
	105	10#	cley	y 12990 1	1.60						
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	105	126	candstone & sa	andy c	lay lay	<b>ers</b>					
	126	128	elay								
	Nele	ð 6									
	0	1	surface soil								
	1	22	caliche								
	22 Ar	109	eand, cend &	one Fravel	. aandv	elev					
	109	117	lavers of sand	i & gr	ovcl. s	endy	clay				
	Hala	 _} ••			–	· · · ·	v		•		
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	72	103	sand, sand & i	travel			ľ	exie	o, inc.		
	103	106	sandstone, sand	iv cla	У			11 ()			
	106	107	clay					00806	n rugrues	* 6	

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1ex vo; Inc. Water Study, Moore Devenian S.W.D.system.

Texace, Inc.

	Hole #	11		Bole	#	17	•
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	18	59 c	lavev sand	20		6.5 Æ A	and t and taxa
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		100 81		102		TON	sendy clay with
	100	108 re	ed <b>Clay</b>				Bandstone stringers
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	Hole	/ 12			л	3.0	
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	21	62 6	sond.gondatono condu alev	2		19	celiche
			Jonoso Jonana Conception and a cray	18		65	sand & sandstone
	69	103 -		65		105	sand with sand grave)
	10%	103 6	send & senderene leyers	108		114	sendy clay & colored
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	M-1-	// • •		118		120	red clay
	HOTE 3	¥ 13			•		
	0	8	BUTIBOO	Kole	ŧ.	19	
	z	27	caliche & send	0		2 .	surface soil
	37	44	send & sendstone	2		26	caliche & sand
	44	65	eandy clay	25		66	sand & sandstone
	65	96	bend	66		106	send with sand gravel
	96	08	quartzito	106		110	colored gravel
	98	100	red clay	110		117	sandy clay & gravel
			•	117		120	red clay
	Hole #	14	· · · ·				•
	0	25	caliche			<b>,</b> ·	
	28	69	Band, sandy cley, sandsto	ne			
			leyers.	Hole	đ	¥ 20	
	69	75	sand			0	2 surface
	75	85	eandy clay & sandetone(q	uertzit		2	22 caliche
			layers.		-	22	67 gand & sendstone
· .	85	97	yellow.grey.gandy glay			67	109 sand & sand grave
	97	100	red elay			109	123 gandy clay &
							gravel
	Nole #	15	· .			123	125 red clay
	0	2	surface				
	8	21	calicha	Mal	•	# 21	
	21	60	sandstone with sand lav	era 0	•	ື <u>ສ</u>	surface soil
	60	96	sand with sand gravel	3		ĩg	aliche & gendatone
	96	108	grev clay with stringer	ຮຸດເປັງ	Q	A	eard, candetano.
			hard sandatone.		•	<b>V</b>	a and a lav
	108	110	Tad elsy	G	Ġ	84	Banuy Cray
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-	Kala #	16			U I	<b>*</b> U	ord othingene
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	6V 61	2 0 T	HENG, BRIGGIONG, BRIGY	arsh 11	9 <b>y</b>	et8.	
	<b>61</b>	104	sand with sand gravel d	x sange	τÜ	20	
	3.0.4		stringere	1	18	14	4 VATIOUS COLORS OF
	104	103	sanay clay & sandstone	-	• -	<b>.</b> .	sanay cisy
	104	110	red clay	<b>1</b>	44	14	o red clay

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Section 6. LOG OF HOLE							
Depth	in Feet	Thickness	Color and Type of Material Encountered				
From	To	in Feet					
0	1		Surface				
1_	18		Caliche				
18	61		Sand and sandstone				
61	70		Loose sand				
70	120		Sand and sandstone				
120	122		Sand and gravel				
122	125		Sandy clay				
125	140		Red clay and white clay				
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Section 7. REMARKS AND ADDITIONAL INFORMATION

Elevation: 4343.0

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Location: 11.32.14.444411 Owner: Paul Hamilton -- Test Hole #14 Date Drilled: May 18, 1973 Depth of Hole: 140'

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Sumruld Drilling Service Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Section 6. LOG OF HOLE						
Depth	in Feet	Thickness				
From	To	in Feet	Color and Type of Material Encountered			
0	1		Surface			
_						
1	23		Caliche			
23	106		Sand and candetone with conduction			
	100		Cand and Bandstone with Bandy Cray			
106	110		Sandy clay			
110	115		Sand and gravel			
115	117		Sandy alar			
117	120		Red clay			
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Section 7. REMARKS AND ADDITIONAL INFORMATION

Elevation: 4341.4

Location: 11.32.23.222141 Owner: Pail Hamilton -- Test Well #15 Date Drilled: March 22, 1978 Depth of Hole: 120'

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Sumruld Drilling Service

Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Section 6. LOG OF HOLE			
Depth in Feet		Thickness	Color and Turn of Mataial Encountered
From	То	in Feet	Color and Type of Material Encountered
0	1		Surface
1	19		Caliche
19	55		Sand and sandstone
55	95		Sand with stringers of sandstone
95	. 99		Yellow clay
99	103		Brown sandy clay
103	106	• •	Red clay, white clay, sandstone
<u></u>			
<u> </u>			

Section 7. REMARKS AND ADDITIONAL INFORMATION

Location: 11.32.24.1143412 Owner: Paul Hamilton -- Test Hole #16 Date Drilled: May 22, 1978 Depth of Hole: 106' Elevation: 4332.3

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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Sumruld Drilling Service

Driller

**INSTRUCTIONS:** This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office  $\cdot$  of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.





# PAUL HAMILTON WATER CONTAMINATION STUDY

MOORE DEVONIAN POOL

ALTITUDE AND CONFIGURATION OF WATER TABLE IN VICINITY OF SECTION 24, TOWNSHIP II SOUTH, RANGE 32 EAST, N.M.P.M.

MAP SCALE: | Inch = 500 feet



