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1 A. YES, SIR.

2 Q. AND IN THAT SALE, UNOCAL DIDN'T GET ANY OF THE
3 INTER-REFINERY PIPELINES, DID IT?

4 A. NO, THEY DIDN'T.

5 Q. I MEAN, SHELL KEPT ALL OF THOSE?

6 A. THAT'S CORRECT.

7 Q. SO DOCUMENTS RELATING TO THE INTER-REFINERY
8 PIPELINE WOULDNT HAVE BEEN TRANSFERRED TO UNOCAL BECAUSE
9 UNOCAL DIDN'T BUY THEM, RIGHT?

10 A. NO, SIR. THAT'S CORRECT.

11 Q. AND AT THE TIME OF THE SALE, 1993, THE
12 INTER-REFINERY PIPELINES THAT WERE IN THE DWP PIPELINE
13 CORRIDOR WERE OVER 20 YEARS OLD?

14 A. THAT'S CORRECT.

15 Q. AND THEY WERE USED EVEN AFTER THE SALE BECAUSE
16 AFTER THE SALE, YOU TURNED THE DOMINGUEZ PORTION OF THE
17 FACILITY WHAT THEY CALL THE CARSON DISTRIBUTION PLANT?

18 A. YES, SIR.

19 Q. AND THEN YOU MOVED PRODUCT FROM MORMON ISLAND
20 ALL THE WAY UP TO THE CARSON DISTRIBUTION PLANT THROUGH A
21 NUMBER OF WHAT WERE THE OLD INTER-REFINERY PIPELINES?

22 A. WELL, NOT ACTUALLY.

23 THE PRODUCT FROM THE CARSON OR FROM MORMON
24 ISLAND MAINLY COME UP THROUGH THE NEW LINES, THE BIG LINES
25 THAT WERE BUILT IN '93.

26 Q. THE FOUR THAT YOU PUT IN UTILITY WAY IN '93?

27 A. YES, SIR.

28 THE OTHER LINES WERE USED FOR VARIOUS

1 INTERCOMPANY CONNECTION AND THINGS LIKE THAT.

2 Q. AND THEY WERE USED EVEN UP TO THE TIME YOU
3 RETIRED JUST A COUPLE OF MONTHS AGO?

4 A. YES, SIR.

5 Q. SO -- AND THAT DOESN'T SURPRISE YOU THAT IF THE
6 LINES ARE WELL MAINTAINED, THAT THEY'D BE ABLE TO LAST QUITE
7 A WHILE?

8 A. THAT'S CORRECT.

9 AND UNDER THE CONVERSION PROCESS, WE HAD NEED
10 FOR THESE LINES AND SO THEY WOULD REMAIN ACTIVE.

11 Q. AND THE PIPELINE THAT'S, YOU KNOW, LET'S SAY,
12 IT'S VERY CAREFULLY MAINTAINED, THE KIND OF ATTENTION THAT
13 YOU WOULD WANT YOUR PEOPLE TO GIVE TO IT, COULD IT BE IN
14 SERVICE 40 YEARS?

15 A. OR MORE.

16 Q. 50?

17 A. MY EXPERIENCE HAS BEEN THAT, YOU KNOW, IF
18 IT'S -- IF IT'S INSTALLED PROPERLY AND THE CORRECT TECHNOLOGY
19 DEPENDING ON THE USE ON THE LINE, IT HAS PRETTY MUCH
20 UNLIMITED LIFETIME.

21 Q. A PRODUCT OF CAREFUL MAINTENANCE BY AND LARGE,
22 AND I GUESS LUCK THAT SOMEBODY DOESN'T COME IN AND TEAR INTO
23 YOUR PIPELINES AS YOU'VE DESCRIBED.

24 A. YES.

25 Q. OKAY. DO YOU REMEMBER YESTERDAY YOU WERE
26 TALKING TO US ABOUT SOME PROJECTS THAT YOU WERE INVOLVED IN
27 PERSONALLY IN THE EARLY '70'S REPLACING SOME PIPELINES?

28 A. YES, SIR.

1 EASILY, IF AT ALL.

2 Q. WOULD THAT BE THE TYPE OF -- AND THE YELLOW IS
3 THE MORE PERMEABLE SAND?

4 A. SAND OR SILTY SAND.

5 Q. AND WOULD THIS BE THE TYPE OF LOW PERMEABILITY
6 LAYER THAT THE PERCHED ZONE WOULD SIT ON IF THERE WAS
7 GROUNDWATER ON IT -- NOT GROUNDWATER -- IF THERE WAS WATER OR
8 FLUID?

9 A. IT WOULD BE A TYPICAL SCENARIO FOR A PERCHED
10 CONDITION.

11 THE COURT: THIS WOULD BE A GOOD STOPPING POINT FOR
12 THIS EVENING.

13 MR. LESLIE: I THINK EVERYBODY IS JUST WAITING FOR
14 THAT MOMENT TO ARRIVE, YOUR HONOR. SO

15 THE COURT: OKAY. DO WE HAVE TO WAIT MUCH LONGER?

16 MR. LESLIE: THE ANSWER'S YES.

17 THE COURT: OKAY. WE'LL SEE YOU AT 9 O'CLOCK TOMORROW
18 MORNING.

19 HAVE A GOOD EVENING.

20

21 (AT 4:00 P.M. AN ADJOURNMENT WAS TAKEN

22 UNTIL THURSDAY, JUNE 21, 2001, AT 9:00 A.M.)

23

24

25

26

27

28



COURT OF APPEAL OF THE STATE OF CALIFORNIA

SECOND APPELLATE DISTRICT

WATSON LAND COMPANY,)

PLAINTIFF-RESPONDENT,)

VS.)

ATLANTIC RICHFIELD COMPANY,)
ETC., ET AL.,)

DEFENDANTS-APPELLANTS,)

SUPERIOR COURT
CASE NO. BC 150161

APPEAL FROM THE SUPERIOR COURT OF LOS ANGELES COUNTY

HONORABLE WENDELL MORTIMER, JR., JUDGE PRESIDING

REPORTER'S TRANSCRIPT ON APPEAL

JUNE 26, 2001

APPEARANCES:
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VOLUME 24 OF 37 VOLUMES
PAGES 3865 THROUGH 4063, INCLUSIVE

COPY

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OFFICIAL REPORTER

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

DEPARTMENT 307

HON. WENDELL MORTIMER, JR., JUDGE

WATSON LAND COMPANY, A CALIFORNIA)
CORPORATION,)

PLAINTIFF,)

VS.)

ATLANTIC RICHFIELD COMPANY, ETC.,)
ET AL.,)

DEFENDANTS.)

) SUPERIOR COURT
) CASE NO. BC 150161

REPORTER'S DAILY TRANSCRIPT OF PROCEEDINGS

TUESDAY, JUNE 26, 2001

VOLUME 24

PAGES 3865 THROUGH 4063, INCLUSIVE

APPEARANCES:

(AS NOTED ON THE FOLLOWING PAGE.)

LINDA STALEY, CSR NO. 3359, RMR, CRR
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I N D E X

TUESDAY, JUNE 26, 2001.....	3865:3
9:00 A.M.....	3865:7
1:30 P.M.....	3965:7

WITNESSES

GERALD WEEKS

REDIRECT EXAMINATION BY MR. LESLIE.....	3869:9
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ILEANA RHODES

DIRECT EXAMINATION BY MR. LESLIE.....	3874:3
DIRECT EXAMINATION (RESUMED) BY MR. LESLIE.....	3989:25
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1 A. IN GENERAL TERMS, THAT DESCRIPTION IS NOT
2 INCORRECT.

3 Q. OKAY. ON THE NEXT PAGE, FRIEDMAN & BRUYA TALK
4 ABOUT AN ANALYSIS OF WELL 543.

5 A. YES.

6 Q. DO YOU SEE THAT?

7 AND WELL 543 ON THIS MAP NEXT TO YOU IS RIGHT
8 OVER BY THE TOP OF BUILDING 165 IN WHAT WATSON HAS
9 CHARACTERIZED AS THEIR B2 PLUME?

10 A. YEAH. IT'S WITHIN A STONE'S THROW, I BELIEVE,
11 OF MONITORING WELL 1.

12 Q. AND THIS IS A FREE PRODUCT SAMPLE, ISN'T IT, SO
13 THIS WOULD GIVE YOU THE MOST COMPLETE RANGE?

14 A. YES.

15 Q. AND THE CONCLUSION BY WATSON'S CONSULTANT IS
16 THAT THE FREE PRODUCT IN WELL 543 OVER BY THE B2 PLUME ARE
17 "INDICATIVE OF A MIX OF NAPHTHA, WEATHERED LEADED GASOLINE
18 AND DIESEL OR REFINERY SLOPS."

19 DO YOU SEE THAT?

20 A. YES.

21 Q. AND IS THAT CONSISTENT WITH YOUR GENERALIZED
22 READING OF THEIR CHROMATOGRAMS?

23 A. YEAH.

24 BASED ON THEIR ED READING OF THEIR
25 CHROMATOGRAM, IT ENCOMPASSES PRODUCTS THAT ARE FOUND IN 543
26 AND 535.

27 Q. OKAY. AND HAVE YOU SEEN THESE RESULTS RIGHT
28 BELOW THIS FOR LEVINE-FRICKE MONITORING WELL 1?

1 A. YES.

2 Q. AND THAT, IF I'M CORRECT, IS RIGHT ABOUT IN
3 THIS AREA, ISN'T IT?

4 A. CORRECT.

5 Q. AND WHAT WATSON'S CONSULTANTS SAID ON THAT ONE
6 WAS THE FREE PRODUCT WAS "NAPHTHA MIXED WITH GASOLINE OR A
7 REFINERY INTERMEDIATE SUCH AS A REFORMATE."

8 DO YOU SEE THAT?

9 A. YES.

10 Q. AND DID YOU SUBSEQUENTLY AGREE WITH THAT
11 OVERALL?

12 A. OVERALL, YES.

13 IT'S HARD TO TELL WHETHER REFORMATE'S THERE OR
14 NOT WITHOUT LOOKING AT THE INDIVIDUAL CHEMICALS, BUT OVERALL,
15 IT'S CONCEIVABLE THAT THAT MIXTURE IS PRESENT THERE.

16 Q. OKAY. TELL ME THIS: ARE NAPHTHA, GASOLINE AND
17 REFINERY INTERMEDIATE, SUCH AS REFORMATE, ARE THOSE GASOLINE
18 RANGE PRODUCTS?

19 A. YES. THEY COULD BE. SOME OF THEM ARE NAPHTHA
20 REFORMATE AND SOME OF THE REFINERY
21 INTERMEDIATES -- INTERMEDIATES -- SOME OF THE HEAVIER ARE
22 SMACK IN THE GASOLINE RANGE. THEY'RE ALL CONCEIVABLE AND
23 THEY ARE ALL WITHIN THE ACTUAL TYPE OF MATERIALS PRESENT IN
24 THESE WELLS.

25 Q. AND HAVE YOU SEEN SOME OTHER SAMPLE RESULTS?

26 HERE WE GO. LET'S TRY 537. 537, WATSON'S
27 CONSULTANTS REFER TO -- THIS IS A FREE PRODUCT SAMPLE AGAIN,
28 ISN'T IT?

1 A. ALL THESE ARE FREE PRODUCTS THAT WE'RE
2 REFERRING TO IN THIS SECTION.

3 Q. OKAY. SO THIS IS ALL FREE PRODUCT. THAT'S ON
4 THE WATSON SIDE OF WILMINGTON, CORRECT?

5 A. CORRECT.

6 Q. OKAY. THE FRIEDMAN & BRUYA RESULTS DONE FOR
7 WATSON SAY THAT THE SAMPLE IN WELL 537 IS "INDICATIVE OF A
8 MIX OF NAPHTHA AND DIESEL OR REFINERY SLOPS."

9 DO YOU SEE THAT?

10 A. YES.

11 Q. AND THAT'S A FAIRLY COMMON FINDING WHERE
12 ANALYSIS WERE DONE AT DIFFERENT PLACES AT WILMINGTON, ISN'T
13 IT?

14 A. THAT'S CORRECT.

15 IT'S A GENERIC TERM, ENCOMPASSES ALL THESE
16 PARTICULAR SAMPLES THAT YOU JUST DESCRIBED.

17 Q. OKAY. AND WOULD THAT BE CHARACTERISTIC OF A
18 MIX OF DIFFERENT PRODUCTS?

19 A. YES. IT'S SPELLED RIGHT THERE IN THE REPORT.

20 Q. OKAY. SO IF I CAN COME UP NEXT TO YOU WITH
21 THESE. I JUST WANT TO -- IT'S HARD FOR ME TO, OBVIOUSLY, SEE
22 FROM -- SEE FROM THE DISTANCE.

23 OKAY. THIS MIGHT BE --

24 A. THEY'RE ON THIS.

25 Q. THIS MIGHT BE HELPFUL TO USE WATSON'S PLUME
26 MAP; BECAUSE THEN WE CAN SEE HOW THEY COMPARE TO THEIR
27 CONTENTIONS AS TO THE PRODUCTS.

28 OKAY. MAY I STAND RIGHT HERE, YOUR HONOR?

1 THE COURT: YOU MAY.

2 MR. LESLIE: IS THAT GOING TO INTERFERE WITH YOU?

3 Q. OKAY. YEAH, YOU CAN USE THE POINTER.

4 COULD YOU PLEASE FIND FOR ME WELL 535.

5 A. ~~I HAVE TO TAKE MY GLASSES OFF.~~

6 Q. I THINK IT'S AT 230TH STREET AND WILMINGTON.

7 A. 535 IS RIGHT OVER HERE.

8 Q. AND THAT'S THE ONE WHERE WATSON'S CONSULTANT

9 ANALYZED THE FREE SAMPLE AND SAID THAT THEY'RE "INDICATIVE OF

10 A MIX OF NAPHTHA AND DIESEL OR REFINERY SLOPS"; IS THAT

11 RIGHT?

12 A. CORRECT.

13 Q. COULD YOU GO UP TO SHOW US AGAIN WHERE WELL

14 WSB-27 IS BY THE A PLUME?

15 A. I BELIEVE IT'S WAY UP HERE SOMEWHERE.

16 Q. IT'S RIGHT DOWN WHERE YOUR POINTER IS.

17 RIGHT.

18 IT'S HARD FOR YOU TO SEE.

19 A. IT'S RIGHT THERE. IT'S RIGHT THERE.

20 Q. DO YOU SEE THAT?

21 A. YES.

22 Q. AND THAT'S WHERE THE SOIL MATRIX ANALYSIS DONE

23 BY WATSON'S CONSULTANT SAID SOMETHING TO THE EFFECT OF

24 DEGRADED DIESEL FUELS AND --

25 A. REFINERY SLOPS.

26 Q. -- AND REFINERY SLOPS AGAIN?

27 A. UH-HUH.

28 Q. OKAY. WILL YOU SHOW ME WHERE WELL 537 IS, AND

1 I THINK IT'S --

2 A. IT'S DOWN HERE SOMEWHERE.

3 Q. I THINK IT'S DOWN BY 236TH STREET.

4 A. IT'S DOWN HERE, YEAH. IT'S WAY DOWN HERE.

5 THERE IT IS, RIGHT THERE.

6 Q. THERE IT IS. RIGHT THERE.

7 OKAY. AND THAT'S WHERE WATSON'S CONSULTANTS

8 FOUND A MIX OF FREE PRODUCT -- IT SAYS, "NAPHTHA AND DIESEL

9 OR REFINERY SLOPS," RIGHT?

10 A. YES.

11 Q. OKAY. AND THEN COULD YOU SHOW US WHERE

12 LEVINE-FRICKE MONITORING WELL 1R IS?

13 A. RIGHT THERE. IT'S RIGHT SOUTH -- I DON'T KNOW

14 IF IT'S SOUTHWEST. IT'S 535 LEVINE-FRICKE WELL 1R AND L-5,

15 37 IS DOWN HERE.

16 Q. OKAY. AND COULD YOU POINT OUT AGAIN

17 LEVINE-FRICKE MONITORING WELL 1R.

18 OKAY. AND THAT'S RIGHT ACROSS FROM SOME TANKS

19 ON THE ARCO REFINERY RIGHT IN THIS AREA?

20 A. I BELIEVE SO. BASED ON THIS PICTURE.

21 Q. OKAY. AND WHAT WATSON'S CONSULTANT THERE SAID

22 WAS THAT, "THE FREE PRODUCT WAS INDICATIVE NAPHTHA MIXED WITH

23 GASOLINE OR REFINERY INTERMEDIATE SUCH AS REFORMATE IN THE

24 GASOLINE RANGE."

25 DO YOU SEE THAT?

26 A. YES. RIGHT HERE.

27 Q. NOW, COULD YOU POINT OUT FOR US WHERE WELL 543

28 IS?

1 A. IT'S RIGHT HERE.

2 Q. RIGHT IN THE CONTOURS OF THE B2 PLUME?

3 A. CORRECT.

4 Q. OKAY. AND THAT'S WHERE WATSON'S CONSULTANTS

5 ~~ANALYZED THE PRODUCT THERE AND SAID, "IT'S INDICATIVE OF A~~

6 MIX OF NAPTHA, WEATHERED LEADED GASOLINE OR DIESEL OR

7 REFINERY SLOPS"?

8 A. THAT'S CORRECT. THAT'S WHAT THE REPORT

9 INDICATES.

10 Q. OKAY. NOW, BASED UPON YOUR REVIEW OF THAT DATA

11 AND YOUR LOOKING AT THE UNDERLYING GAS CHROMATOGRAPHS, DOES

12 THAT INDICATE TO YOU THAT THERE'S SOME SIMILARITIES IN THE

13 PRODUCTS THAT WERE DESCRIBED?

14 A. VERY DEFINITELY SO, YES.

15 Q. OKAY. LET ME ASK YOU THIS.

16 DID YOU ALSO TAKE A LOOK AT THE INFORMATION

17 GENERATED BY WATSON'S CONSULTANTS WITH RESPECT TO THE FREE

18 PRODUCT IN MONITORING WELL 1, IN MONITORING WELL 3?

19 A. YES.

20 Q. OKAY. AND WHAT DID YOU FIND WHEN YOU LOOKED AT

21 THAT DATA?

22 A. THE PARTICULAR REPORT INDICATED THAT THOSE

23 SAMPLES CONTAINED FREE PRODUCT AND FREE PRODUCT WAS PRIMARILY

24 A GASOLINE RANGE MATERIAL.

25 Q. OKAY. AND FROM THE -- DID YOU LOOK AT THE

26 CHROMATOGRAMS FOR THOSE AS WELL?

27 A. THE ONES THAT WERE AVAILABLE, YES.

28 Q. OKAY. AND FROM THOSE CHROMATOGRAMS, WAS THAT

1 JUST A XEROX OF A CHROMATOGRAM OR WERE YOU ABLE TO LOOK AT
2 THE FINE DETAIL OF THE SCALE BY EXPANDING IT OR ZOOMING IN AS
3 YOU DESCRIBED EARLIER?

4 A. NO. I JUST LOOK AT THE PIECES OF PAPER LIKE
5 THE ONES WE GET FROM THE OTHER REPORTS.

6 Q. OKAY. BASED UPON WHAT YOU SAW -- AND LET'S
7 TAKE MONITORING WELL 1 FIRST, THE CHROMATOGRAM FOR THAT.

8 DID YOU REACH ANY CONCLUSIONS AS TO YOUR
9 OVERALL IMPRESSIONS AS TO WHETHER YOU AGREE GENERALLY
10 SPEAKING WITH THE CHARACTERIZATION OF THE WATSON CONSULTANTS
11 OF THE FREE PRODUCT IN MW-1?

12 A. I THINK IT'S PROBABLY A PROPER CHARACTERIZATION
13 THAT MONITORING WELL 1 CONTAINS A GASOLINE MATERIAL.

14 Q. OKAY.

15 A. IF THERE'S SOMETHING ELSE IN THERE, IT'S NOT
16 DETAILED ENOUGH FOR ME TO SEE.

17 Q. THERE MAY BE SOMETHING ELSE IN THE HEAVIER
18 RANGE AS WELL?

19 A. IF IT IS, I CAN'T SEE IT FROM THE CHROMATOGRAM.

20 Q. OKAY. AND WOULD YOU HAVE TO TAKE A LOOK AND
21 EXPAND THE SCALE AND THAT SORT OF THING TO FIND OUT WHAT
22 REALLY ELSE MIGHT BE THERE?

23 A. YES.

24 Q. YOU DON'T DISAGREE WITH THAT, THAT ONE OF THE
25 COMPONENTS OF MW-1 IS A GASOLINE?

26 A. I DO NOT DISAGREE, NO.

27 Q. NOW, CAN YOU TELL IF THE DATA THAT YOU SAW,
28 WHETHER THAT WAS A RECENT GASOLINE OR AN OLD GASOLINE?

1 A. BASED ON THE PARTICULAR ANALYSIS THAT WE
2 RECEIVED; IF THE CONSULTANT THAT DID THE WORK -- AGAIN, I
3 DIDN'T DO THIS WORK MYSELF -- THE SAMPLE CONTAINS LEAD ALKYL
4 OR A MIXTURE OF LEAD COMPOUNDS AND THE PARTICULAR MIXTURE
5 ~~THAT IS IN THAT SAMPLE IN MONITORING WELL 1, THAT IS,~~
6 INDICATES THAT IT WAS PRODUCED, PERHAPS, BETWEEN THE MID
7 '60'S AND THE MID '80'S BECAUSE THAT'S THE TIME WHERE THAT
8 PARTICULAR MIXTURE OF LEAD ALKYL WERE IN USE. SO THAT GIVES
9 YOU A LITTLE BIT OF INDICATION OF TIMING JUST BECAUSE OF THE
10 MIXTURE.

11 THAT DOES NOT MEAN IT'S THE ONLY THING IN
12 THERE, BUT AT LEAST A PORTION OF THAT PLUME CONTAINS THAT
13 KIND OF MATERIAL.

14 Q. OKAY. AND DID YOU SEE SOME REFERENCES IN SOME
15 OF THE OTHER DESCRIPTIONS OF SOME OF THE OTHER SAMPLES TO A
16 WEATHER -- EXCUSE ME -- WEATHERED LEADED GASOLINE COMPONENT,
17 I THINK, IN 543?

18 A. YEAH, 543, ACCORDING TO THE REPORT BY
19 FRIEDMAN & BRUYA, WHICH IS DESCRIBED EARLIER, IT DOES CONTAIN
20 LEADED COMPONENTS ALONG WITH THE REFINERY SLOPS AND THE
21 NAPTHAS AND THE OTHER STUFF.

22 Q. OKAY. NOW, LET ME ASK YOU THIS.

23 CAN YOU TELL FROM THE LEAD THAT WAS REPORTED TO
24 BE FOUND IN THAT AREA OF MONITORING WELL 1, DOES THAT HELP
25 YOU GAUGE GENERALLY THE GASOLINE?

26 A. IT NARROWS IT DOWN TO A PORTION IN TIME THAT IT
27 MAY HAVE BEEN PRODUCED.

28 IT DOESN'T REALLY TELL YOU THE EXACT YEAR BY

1 LOOKED BACK AT THE CHROMATOGRAPHS?

2 A. RIGHT.

3 THE QUESTION IS -- IT'S HARD TO KNOW WHETHER HE
4 MEANT THEY'RE DIFFERENT BECAUSE THEY'RE DIFFERENT POTENTIAL
5 SOURCES OR THEY'RE DIFFERENT BECAUSE THE WEATHERING IS
6 DIFFERENT. THIS IS JUST A STATEMENT THAT MAKES AN
7 OBSERVATION THAT THE TWO PRODUCTS ARE NOT IDENTICAL BECAUSE
8 AT LEAST ONE PORTION IS NOT THE SAME.

9 Q. OKAY. IF THERE WAS A RELEASE OF LEADED
10 GASOLINE WITH MIXED LEAD ALKYL FROM -- I GUESS, THAT WOULD
11 TYPE IT, WHEN, MID '60'S TO MID '80'S?

12 A. YES. THAT'S WHEN THEY WERE PRODUCED AND
13 THERE'S PLENTY OF LITERATURE, DATA THAT'S WHEN -- THE TIME
14 WHEN THOSE COMPOUNDS -- THEY'RE CALLED REACTED -- REACTED
15 MIXTURES WERE AVAILABLE.

16 Q. OKAY. WE'LL GO INTO THAT IN A MINUTE. BUT IF
17 YOU HAD SOME RELEASE OF THE SAME PRODUCT AND FROM A PIPELINE
18 IN THE SAME AREA, WOULD YOU EXPECT THEY'RE AT THE SAME DEPTH,
19 SAME GENERAL AREA OF GROUNDWATER?

20 WOULD YOU EXPECT THERE TO BE SIGNIFICANT
21 WEATHERING DIFFERENCES BETWEEN THE FREE PRODUCT?

22 A. I REALLY CAN'T RESPOND TO THAT VERY WELL. YOU
23 NEED TO TALK TO THE FATE AND TRANSPORT FOLKS, BUT I WOULD
24 EXPECT IT DEPENDS ON THE THICKNESS OF THE LAYER AND THINGS
25 LIKE THAT.

26 YOU CAN HAVE WEATHERING DIFFERENCES, BUT THAT'S
27 NOT THE AREA -- NOT THE AREA OF MY EXPERTISE.

28 Q. THERE IS A DISTINCTION OF THE TWO PRODUCTS,

1 SOMEHOW RULES OUT THAT ARCO COULD BE A SOURCE OF THIS
2 CONTAMINATION?

3 A. NO. IT DOESN'T RULE OUT ARCO. IT DOESN'T RULE
4 OUT ANYBODY.

5 Q. OKAY. LET ME ASK YOU ABOUT ANOTHER SET OF
6 CHEMICALS THAT WATSON'S EXPERTS WERE TALKING ABOUT. WE
7 TALKED ABOUT THEM A LITTLE BIT BEFORE AND THAT IS THE LEAD
8 COMPOUNDS.

9 WHAT TYPES OF LEAD COMPOUNDS ARE THERE?

10 A. LET'S SEE.

11 Q. LET ME REPHRASE THAT.

12 WHAT TYPES OF LEAD COMPOUNDS WERE USED IN
13 LEADED GASOLINE?

14 A. FROM THE INCEPTION OF GASOLINE, THE LEADED
15 GASOLINE INTO THE INDUSTRY, WHICH I BELIEVE IT WAS THE FIRST
16 USERS WERE IN '21, BUT IT BECAME WHOLESALERS USED IN '23,
17 1923.

18 THE ORIGINAL LEAD USE WAS JUST TETRAETHYLLEAD.
19 THAT WAS THE ORIGINAL DEVELOPMENT. SO FROM THE VERY
20 BEGINNING OR TO THE END OF THE LEAD ERA FOR GASOLINE, WHICH
21 WAS AROUND '92 OR SOMETHING LIKE THAT, MORE OR LESS, TEL BY
22 ITSELF, IN ADDITION TO THE EDB AND EDC WAS IN USE.

23 NOW, AROUND, I BELIEVE, MID '60'S OR EARLY
24 '60'S, THERE WERE SOME DEVELOPMENTS AND ANOTHER LEAD ALKYL
25 WAS INTRODUCED WHICH WAS TETRAMETHYLLEAD.

26 INSTEAD OF HAVING FOUR CARBON CHAINS AROUND THE
27 LEAD WITH TWO CARBONS EACH, TETRAETHYLLEAD, THEY CAME OUT
28 WITH TETRAMETHYLLEAD, WHICH IS ONLY ONE SINGLE CARBON. FOUR

1 AROUND THE LEAD GROUP. THAT'S A LITTLE LIGHTER. SO THAT WAS
2 AVAILABLE, TOO.

3 AND ALSO, IT WAS IN THE EARLY '60'S, THEY CAME
4 OUT WITH THE REACTED MIXTURES. AND IT WAS PRIMARILY DUPONT
5 AND ETHYL THAT PRODUCED THIS. AND WHAT THEY DID IS THEY
6 REACTED TOGETHER, TETRAETHYLLEAD, TETRAMETHYLLEAD, AND THEY
7 GOT -- MIXED LEAD ALKYLs THAT WE HAVE FROM TETRAETHYLLEAD,
8 AND THEN SOME SPACES IN BETWEEN THAT HAVE ONE ETHYL AND THREE
9 METHYLs -- TWO ETHYLs -- REMEMBER, YOU HAVE FOUR AROUND THE
10 LEAD; TWO ETHYLs AND TWO METHYLs, AND THEN THREE METHYLs AND
11 ONE ETHYL. SO YOU'VE GOT ALL THESE MIXTURES.

12 THEY'RE ALL REACTED MIXTURES. AND THOSE WERE
13 AVAILABLE TO ANYBODY, ALONG WITH TETRAETHYLLEAD BY ITSELF
14 FROM THE 1960'S TO THE 1980'S.

15 IN THE 1980'S, WHEN THE LEAD LEVELS WERE BEING
16 PRODUCED BECAUSE OF ENVIRONMENTAL CONCERNS, IT IS MY
17 UNDERSTANDING, BASED ON THE REPORTS THAT I'VE SEEN IN THE
18 INDUSTRY, REPORTS THAT IT WAS NOT ECONOMIC ANYMORE TO MAKE
19 THE MIXTURES.

20 SO TEL BY ITSELF BECAME THE ONLY AVAILABLE LEAD
21 ALKYL UNTIL THE END OF THE LEAD ERA. SO THROUGH THE WHOLE
22 HISTORY OF LEAD, TEL WAS AVAILABLE FROM THE 1960'S TO THE
23 1980'S. IN ADDITION, TEL BY ITSELF, THE MIXTURES WERE ALSO
24 AVAILABLE. AND THEY WERE USED BY EVERYBODY. NOBODY -- THERE
25 WAS NO PARTICULAR COMPANY THAT PICKED AND CHOSE. IT WAS JUST
26 USED BY EVERYBODY.

27 Q. LET ME ASK A COUPLE OF FOLLOW-UP QUESTIONS
28 ABOUT THAT JUST TO SORT OF BREAK THAT DOWN.

1 REFINERIES PRIOR TO THAT TIME, CORRECT?

2 A. YES.

3 Q. AND YOU'VE NEVER ANALYZED OR AT LEAST YOU HAD
4 NO RECOLLECTION OF EVER ANALYZING ANY SAMPLES FROM EITHER END
5 OF THE SHELL REFINERY, CORRECT?

6 A. THAT IS CORRECT.

7 Q. NOW, YOU DID KNOW THAT A CHEMICAL CALLED
8 ISOPROPYL ALCOHOL WAS MANUFACTURED AT THE SHELL REFINERY,
9 CORRECT?

10 A. IT WAS MANUFACTURED AT THE DOMINGUEZ PART OF
11 THE REFINERY IN A CHEMICAL PLANT. IT WAS NOT PART OF THE
12 REFINERY, PER SE. IT WAS A SEPARATE BUSINESS BY SHELL
13 CHEMICAL.

14 Q. WHEN YOU SAY THE DOMINGUEZ PORTION, THAT WAS
15 THE NORTHERN CHUNK OF THE PLANT?

16 A. THAT IS CORRECT.

17 Q. AND DO YOU RECALL WHERE THE CHEMICAL PLANT WAS
18 ON THE NORTHERN PORTION OF THE SHELL REFINERY?

19 A. I THINK IT'S SOMEHOW -- AND I DIDN'T GET MY
20 DEGREE IN GEOGRAPHY. SOMEWHERE TO THE WEST OF THE EXISTING
21 CARSON PLANT AND THAT THING WAS SHUT DOWN, I BELIEVE, IN THE
22 EARLY '80'S.

23 Q. IN THE EARLY '80'S.

24 THE NORTHERN PORTION, THE CHEMICAL PLANT?

25 A. THE CHEMICAL PLANT WAS.

26 Q. I'M WITH YOU.

27 NOW, I THINK YOU ALSO TOLD ME THAT AS PART OF
28 THE MANUFACTURE OF ISOPROPYL ALCOHOL, DIPE IS MADE AS A

1 CO-PRODUCT, IS THAT THE RIGHT PHRASE FOR IT?

2 A. THAT IS CORRECT.

3 Q. WHY DOES THAT HAPPEN?

4 A. WHEN YOU REACT CHEMICALS TOGETHER, YOU DON'T --
5 ALL THE MOLECULES DON'T MAKE WHAT YOU WANT THEM TO MAKE. YOU
6 FORM A VARIETY OF CHEMICALS. AND WHEN YOU START WITH A FEED
7 STOCK TO MAKE ISOPROPYL ALCOHOL, SOMETIMES YOU MAKE ALSO
8 OTHER CHEMICALS, AND DIISOPROPYL ETHER IS ONE OF THEM. IT'S
9 THE WAY THE MOLECULES BIND. YOU DON'T GET 100 PERCENT YIELD
10 ON ONE PARTICULAR PRODUCT.

11 Q. THE SHELL CHEMICAL PLANT UP ON THE NORTH PART
12 OF THE REFINERY STARTED MANUFACTURING ISOPROPYL ALCOHOL
13 DECADES AGO, DID IT NOT?

14 A. THAT WAS BEFORE MY TIME. I THINK YOU MEAN --
15 WHAT YOU'RE SAYING IS CORRECT.

16 Q. AND THE DIPE THAT WAS PRODUCED AS PART OF THAT
17 MANUFACTURING IS AN OXYGENATE. IT'S A CHEMICAL THAT HAS THE
18 OXYGEN IN IT?

19 A. SO IS THE IPA. BOTH OF THEM ARE OXYGENATES.
20 THEY DON'T CALL THEM THAT WAY. THEY'RE CALLED ALCOHOLS AND
21 ETHERS.

22 Q. AND OXYGENATES, I BELIEVE YOU EXPLAINED, IS
23 SOMETHING THAT YOU CONSIDER TO BE A BLENDING COMPONENT; IS
24 THAT RIGHT?

25 A. YEAH. WHEN THINGS ARE ADDED IN LARGER AMOUNT
26 LIKE PERCENT LEVELS, THEN WE DON'T TEND TO CALL THEM
27 ADDITIVES. WE TEND TO CALL THEM BLENDING COMPONENTS BECAUSE
28 THE AMOUNTS ARE LARGER, I MEAN, THAN MTBE, FOR EXAMPLE.

1 AND THEN WHAT YOU DO AFTERWARDS, IF YOU CHOOSE
2 THAT, YOU ALREADY KNOW MTBE IS THERE, THEN YOU GO BACK WITH
3 THE 8021, WHICH IS THE CHEAPER METHOD THEREAFTER.

4 BUT IT DIDN'T TELL YOU NOT TO CONTINUE LOOKING
5 FOR IT. YOU WILL CONTINUE LOOKING FOR THAT CHEMICAL. YOU
6 MAY JUST CHOOSE A LESS EXPENSIVE METHOD. AND THIS IS NOT A
7 CHANGE; THIS IS AN EVOLUTION.

8 Q. SO ARE YOU SAYING, THEN, PRIOR TO THE BOARD'S
9 CHANGE IN ATTITUDE, IT WAS THE PRACTICE TO LOOK FOR MTBE IN
10 ALL OF THESE STATIONS?

11 A. NOT ALL THE TIME. IT DEPENDS ON WHERE YOU ARE
12 IN THE COUNTRY.

13 AGAIN, LIKE IN THE CENTER PART OF THE COUNTRY,
14 YOU DON'T HAVE TO LOOK FOR IT AT ALL. BUT MOST COMPANIES
15 HAVE BEEN LOOKING FOR IT.

16 JUST BECAUSE IT COMES ALONG WITH BTEX, IT'S A
17 VERY -- YOU CAN'T MAKE A GENERALIZATION LIKE THAT BECAUSE
18 IT'S A NEW DEVELOPMENT IN THE LAST FEW YEARS.

19 SO SOME PEOPLE LOOK FOR IT ALL THE TIME. SOME
20 PEOPLE DON'T LOOK FOR IT ALL THE TIME, MORE THAN ONE
21 OXYGENATE.

22 NOW, THERE'S BEEN SOME NEW IMPETUS FROM THE
23 REGULATORY AGENCY TO ASK FOR THEM, BUT IT HASN'T BEEN KIND OF
24 LIKE A NATIONAL POLICY TO LOOK OR NOT LOOK OR REGIONAL. IT'S
25 BEEN EVOLVING.

26 Q. NOW, FOR PURPOSES OF THE OPINION THAT YOU GAVE
27 IN THIS CASE, YOU TOLD ME IN YOUR DEPOSITION THAT YOU -- YOU
28 HAD ASSUMED THAT DIPE WAS NOT ADDED TO SHELL GASOLINE PRIOR

1 TO THE MID 1980'S, CORRECT?

2 A. AND THAT IS -- THAT IS -- THAT IS -- WHEN I
3 GAVE YOU THAT TESTIMONY, I WASN'T AWARE THAT SHELL OR ANYBODY
4 WAS USING OXYGENATES WITH THE LEADED GASOLINE BECAUSE THAT
5 PARTICULAR TIME FRAME PREDATES MY EMPLOYMENT. I DIDN'T

6 REALLY KNOW THAT IT WAS USED WHEN THE LEAD WAS STARTING TO BE
7 PHASED DOWN AND THE LOWER LEVELS OF LEAD WERE BEING REQUIRED.

8 IT IS MY UNDERSTANDING, SINCE MY DEPOSITION,
9 THAT OXYGENATES, NOT JUST SHELL, ANYBODY MAY HAVE USED
10 OXYGENATES TO SUPPLEMENT THE LOWER LEAD LEVELS, BUT I WASN'T
11 AWARE OF THAT AT THE TIME OF MY DEPOSITION.

12 Q. OKAY. IN FACT, THERE'S EVEN RECORDS THAT DATE
13 BACK TO THE 1970'S THAT SHOW THAT SHELL WAS REGISTERING DIPE
14 AS A COMPONENT FOR GASOLINE, CORRECT?

15 A. MY UNDERSTANDING -- I SAW THOSE AFTER I GAVE MY
16 DEPOSITION AND THEN I LOOKED INTO THEM AND I SAID, OXYGENATES
17 ARE BEING USED BEFORE, BUT I DIDN'T HAVE THAT KNOWLEDGE AT
18 THE TIME.

19 Q. AND SINCE DIPE IS ONE OF THOSE OXYGENATES THAT
20 YOU COULD ADD TO GASOLINE IN ORDER TO BOOST OCTANE, CORRECT?

21 A. IT APPEARS THAT'S THE CASE. I'M NOT A
22 COMBUSTION CHEMIST BY ANY MEANS.

23 Q. WELL -- AND TO THE EXTENT YOU CAN ADD, SAY,
24 MTBE OR DIPE TO GASOLINE, YOU COULD INCREASE THE VOLUME OF
25 GASOLINE THAT YOU HAVE TO SELL, CORRECT?

26 A. I ASSUME THAT'S A FAIR ASSUMPTION.

27 AND SO MAYBE BACK IN THE OLD DAYS, LET'S MOVE
28 PRE-OXYGENATED BY LAW -- MANDATED BY LAW ERA.

1 Q. SO PRIOR TO 1980, IF YOU WERE PRODUCING
2 GASOLINE AND YOU HAD AVAILABLE DIPE AS AN EXAMPLE, ADDING
3 THAT DIPE TO YOUR GASOLINE WOULD ALLOW YOU TO BOOST THE
4 OCTANE AND INCREASE THE AMOUNT OF GASOLINE THAT YOU HAD
5 AVAILABLE TO SELL, WOULDN'T IT?

6 A. I HAVE NO KNOWLEDGE OF WHETHER OR NOT THAT WAS
7 THE CASE. PERSONAL KNOWLEDGE, I DON'T HAVE THAT.

8 Q. I UNDERSTAND THAT, THAT YOU DON'T HAVE ANY
9 PERSONAL KNOWLEDGE.

10 BUT SINCE YOU CAN ADD DIPE TO GASOLINE,
11 CORRECT?

12 A. IT'S POTENTIAL. YOU CAN ADD ANY OXYGENATE TO
13 GASOLINE. YOU CAN ADD ALL KINDS OF THINGS TO GASOLINE.

14 Q. ADDING THAT OXYGENATE BOOSTS THE OCTANE LEVEL,
15 CORRECT?

16 A. IT MAY.

17 Q. SO IF I PUT THE DIPE IN MY GASOLINE, I CAN
18 BOOST THE OCTANE LEVEL AND INCREASE THE VOLUME OF THE GAS
19 THAT I HAVE TO SELL, CORRECT?

20 A. BY A VERY SMALL PERCENTAGE, YES.

21 Q. WELL, LET'S SEE.

22 I THINK YOU SAID YOU COULD PUT MORE THAN
23 5 PERCENT OXYGENATES IN GASOLINE, CORRECT?

24 A. IF YOU LOOK AT THOSE REGISTERS, THE PERCENTAGES
25 REGISTERED WERE VERY SMALL, I THINK.

26 I DON'T REMEMBER. IT WAS LOW. I THINK THOSE
27 REGISTERS YOU'RE REFERRING TO.

28 Q. UH-HUH.

1 A. I BELIEVE -- I BELIEVE THAT THE LARGE VOLUMES
2 OF OXYGENATES HAVE BEEN RECENT, BASED ON THE REGULATIONS,
3 LARGE VOLUMES, THAT IS.

4 Q. BUT NOW, WE DON'T HAVE ANY DOCUMENTS THAT GO
5 BACK TO THE 1960'S, DO WE?

6 A. NO, WE DON'T.

7 Q. AND ALL WE KNOW IS THAT WE COULD ADD OXYGENATES
8 TO BOOST OCTANE, AND TO THE EXTENT WE DID, IT WOULD INCREASE
9 THE VOLUME OF THE GASOLINE WE HAVE TO SELL, CORRECT?

10 A. AND THAT KNOWLEDGE IS FOR EVERY -- EVERY OIL
11 COMPANY IN THE COUNTRY.

12 Q. YES. INCLUDING SHELL, CORRECT?

13 A. INCLUDING SHELL, INCLUDING ARCO, CHEVRON,
14 TEXACO, EVERYBODY.

15 Q. AND WE DO KNOW THAT SHELL WAS MANUFACTURING
16 DIPE AS A CO-PRODUCT OF THE PRODUCTION OF ISOPROPYL ALCOHOL
17 AT THE CHEMICAL PLANT ON THE NORTH SHELL REFINERY, CORRECT?

18 A. THEY HAVE A PLANT THAT MADE IPA. I HAVE NO
19 KNOWLEDGE OF WHAT THEY DID WITH THE PRODUCTS.

20 Q. BUT THEY DID MANUFACTURE DIPE AS A CO-PRODUCT.
21 YOU TOLD ME THAT AT YOUR DEPOSITION.

22 A. THAT IS CORRECT.

23 Q. NOW, WE HEARD A LOT OF TESTIMONY, TOO, ABOUT
24 THE FRIEDMAN & BRUYA LABORATORIES.

25 AND ONE OF THE THINGS FRIEDMAN & BRUYA DID WAS
26 IT GOT THESE SAMPLES LIKE ALL THE LABS DO, YOU JUST MAIL THE
27 SAMPLE OFF TO THE LAB AND IT'S GOT LABELS ON IT AND IT COMES
28 WITH A CHAIN OF CUSTODY AND YOU SAY, RUN THESE TESTS, RIGHT?

1 WAS IMPOSSIBLE TO SAY WHETHER THE GASOLINE FOUND WITH THE JET
2 FUEL IN THE AREA OF THE DWP PIPELINE CORRIDOR AT B1 CAME FROM
3 SHELL, CORRECT?

4 A. THAT IS CORRECT.

5 Q. NOW, WE WERE TALKING A LITTLE BIT BEFORE ABOUT
6 EDC AND EDB. AND ARE THOSE THINGS THAT ARE ASSOCIATED WITH
7 LEADED PRODUCT?

8 A. IN- GASOLINE, YES.

9 THEY CAN HAVE OTHER USES, BUT IN GASOLINE AND
10 FUELS, THEY'RE THE ONLY PLACES WHERE THEY WERE USED. AND IN
11 THE VARIATION GASOLINE WAS JUST EDB.

12 Q. AND THERE'S ALSO ANOTHER CHEMICAL NAME THAT WE
13 USED DURING THE DEPOSITION, 1.2 DCA.

14 CAN YOU TELL ME WHAT THAT IS?

15 A. 1.2 DCA IS THE SAME THING AS EDC.

16 Q. OKAY.

17 A. 1.2-DICHLOROETHANE.

18 Q. SO 1.2 DCA IS THE SAME THING AS EDC, AND EDC
19 AND EDB WERE BOTH SUBSTANCES THAT ARE ASSOCIATED WITH LEADED
20 GASOLINE, CORRECT?

21 A. IN THE FUELS, YES.

22 Q. AND AS FAR AS FUELS GO, THAT'S THE ONLY PLACE
23 THEY WERE USED IS LEADED GASOLINE, CORRECT?

24 A. CORRECT.

25 Q. SO IT'S FAIR TO SAY THAT EDB AND EDC WERE NOT
26 USED IN JET FUEL, RIGHT?

27 A. THAT IS CORRECT.

28 Q. AND NOT USED IN DIESEL?

1 PETROLEUM HYDROCARBON OR PRODUCTS.

2 IF I SAID FUELS ALONE, THAT, PERHAPS, WAS NOT
3 THE RIGHT WAY TO SAY IT.

4 Q. OKAY. SO IT COULD BE ANY KIND OF A PETROLEUM
5 PRODUCT?

6 THE COURT: COUNSEL, WOULD THIS BE A GOOD PLACE TO
7 BREAK FOR THE DAY?

8 MS. BRIGHT: CERTAINLY.

9 THE COURT: ALL RIGHT. LADIES AND GENTLEMEN, I WANT
10 TO REMIND YOU, WE WILL NOT BE IN SESSION TOMORROW MORNING.
11 WE'LL RESUME 2 O'CLOCK TOMORROW AFTERNOON, AND WE WILL BE IN
12 SESSION UNTIL 4:30 TOMORROW.

13 SEE YOU THEN.

14

15

(AT 4:00 P.M. AN ADJOURNMENT WAS TAKEN

16

UNTIL WEDNESDAY, JULY 27, 2001, 2:00 P.M.)

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