EXHIBIT "DD"

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

DEPARTMENT NO. 316 HON. JACK KOMAR, JUDGE

COORDINATION PROCEEDING SPECIAL TITLE (RULE 1550B) ANTELOPE VALLEY GROUNDWATER CASES	JUDICIAL COUNCIL COORDINATION NO. JCCP4408
PALMDALE WATER DISTRICT AND QUARTZ HILL WATER DISTRICT, CROSS-COMPLAINANTS, VS. LOS ANGELES COUNTY WATERWORKS, DISTRICT NO. 40, ET AL, CROSS-DEFENDANTS.	SANTA CLARA CASE NO. 1-05-CV-049053

REPORTER'S TRANSCRIPT OF PROCEEDINGS

TUESDAY, MARCH 22, 2011

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(SEE APPEARANCE PAGES)

GINGER WELKER, CSR #5585
OFFICIAL REPORTER

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* * *

I N D E X

W I T N E S S E S

BOLTHOUSE PROPERTIES

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS
N. THOMAS SHEAHAN				
BY MR. ZIMMER	2			

E X H I B I T S

BOLTHOUSE PROPERTIES	FOR I.D.	IN EVIDENCE
C7-CURRICULUM VITAE	2	
C8-MOUNTAIN FRONT RECHARGE (SLIDE)	3	
C9-SERIES OF SLIDES (1-320 IN BOOK BINDER)	3	

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(MOTION FOR ATTORNEY FEES

(PAGES 35 THROUGH 83)

THE NEXT PERIOD, REDUCED EXTENSIVELY THE CALCULATED NATURAL RECHARGE FOR THE 1971 TO THE '76 PERIOD AND 1979 TO '64. AND 19 -- I GUESS THAT IS '65 TO '91 AND 1992 TO '97. THAT ASSUMED VALUE OF LAG TIME HAS CAUSED ALL OF THESE PERIODS TO BE SIGNIFICANTLY REDUCED IN TERMS OF THE CALCULATED NATURAL RECHARGE. SO ANY OF THOSE PERIODS THAT YOU MIGHT CHOOSE AS A BASE PERIOD IF YOU COMBINE THEM, THE RESULTING CALCULATED NATURAL RECHARGE WOULD BE ERRONEOUSLY LOW SIMPLY BECAUSE THEY CHOSE A HIGH VALUE FOR NATURAL RECHARGE -- I'M SORRY -- A HIGH VALUE FOR LAG TIME. LET ME BE CLEAR ON THAT.

THE -- NOW, IN FACT, THERE HAS BEEN A STUDY DONE OF THE LAG TIME FOR THIS AREA, AND LET ME GO TO SLIDE 280. THIS IS A TABLE, TABLE FOUR FROM A STUDY DONE BY MR. GRISMER WHO I BELIEVE HAS ALREADY TESTIFIED TO THIS. I WOULD LIKE TO POINT OUT PERIPHERALLY IN HIS STUDY HE DID A NUMBER OF THINGS, CAME UP WITH A NUMBER OF VALUES FOR LAG TIME.

TO ME THE CRITICAL POINT IS THAT THE HIGHEST NUMBER THAT HE SHOWED IN TERMS OF YEARS OF LAG TIME UNDER ANY OF THE ALTERNATIVES THAT HE LOOKED AT WAS FIVE YEARS. FIVE-YEAR LAG TIME -- BY THAT BEING THE HIGHEST NUMBER INDICATES TO ME THAT THE LAG TIME WAS ACTUALLY FIVE YEARS OR LESS IS PROBABLY MORE THAN ZERO BUT LESS THAN FIVE YEARS.

AND SO IN ORDER TO CALCULATE A CONSERVATIVELY LOW VALUE OF NATIVE RECHARGE, IT WOULD BE APPROPRIATE TO USE A LAG TIME OF FIVE YEARS OR LESS OR

JUST A LAG OF FIVE YEARS.

Q YOU ARE SAYING YOU USED HIS ABSOLUTELY GREATEST LONGEST LAG TIME FROM HIS ACTUAL STUDY, AND YOU USED THAT TO GIVE A CONSERVATIVELY LOW NUMBER IN TERMS OF NATURAL RECHARGE?

A THAT'S RIGHT. I'LL GET INTO THAT LATER, BUT THE FACT IS THAT WE DO HAVE DATA THAT SHOWS THAT. SO I'M GOING TO GO TO SLIDE 281 WHICH IS REALLY A SUMMARY OF WHAT I HAVE JUST SAID; THAT THE VALUES USED ARE ASSUMED. THEY TEND TO OBSCURE INCORRECT DATA, AND THE ASSUMPTION OF THE 15-YEAR LAG TIME RESULTS IN AN ERRONEOUSLY LOW CALCULATED VALUE FOR NATURAL RECHARGE.

LET ME JUST SHOW YOU ONE OTHER SLIDE THAT IS 282 NEXT. JUST TO MAKE SURE THAT WE ALL UNDERSTAND WHAT WE ARE TALKING ABOUT BY LAG TIME. FOR EXAMPLE, UNDER THE URBAN AREA "OUTDOOR GROSS IRRIGATION RETURN FLOW," THIS IS TABLE 4.8-1 FROM THE PURVEYORS' SUMMARY EXPERT REPORT, THEY HAVE DATA FOR THE -- THEY HAVE CALCULATED FOR RETURN FLOW FROM "OUTDOOR IRRIGATION" FOR VARIOUS YEARS.

BY APPLYING A LAG TIME, THEY ESSENTIALLY HAVE SAID IN THIS CASE THEN -- THAT THE RETURN FLOW FOR, I BELIEVE, THAT IS 1936, THEY ARE GOING TO MOVE THAT NUMBER, 15 YEARS DOWN, AND MAKE THAT 1951.

THEY HAVE MOVED ALL THESE NUMBERS DOWN BY 15 YEARS SO ESSENTIALLY TAKEN THE OUTDOOR GROSS COLUMN AND SHIFTED IT DOWNWARD BY 15 YEARS IN ORDER TO COME UP WITH THIS CORRECTION THAT AGAIN WAS BASED ON OBSCURING

SOME -- OR RESULTED IN OBSCURING SOME ERRONEOUS DATA.

Q SO WHAT IF THEY MOVED THE THING DOWN 15 YEARS, WHAT EFFECT DOES THAT HAVE? WHY DOES IT MAKE DIFFERENCE?

A THE EFFECT THAT I WAS SHOWING BACK ON PAGE 279 BY DOING THAT SEQUENTIALLY EITHER ONE YEAR, THREE YEAR, FIVE YEARS, THE MORE YOU DO THAT THE LOWER THE VALUE THAT THE -- FOR NATURAL RECHARGE THAT YOU GET. IT RESULTS IN A CONTINUOUSLY LOWER AND LOWER VALUES FOR NATURAL RECHARGE.

AND SO BY PUSHING IT TO 15 YEARS, THEY HAVE CAUSED THE CALCULATED NATURAL RECHARGE TO BE CONSIDERABLY LOWER THAN IT WOULD BE OTHERWISE USING A MORE APPROPRIATE LAG TIME.

NOW, WE HAVE THE GRISMER STUDY, BUT IT TURNS OUT THAT THE PURVEYORS' EXPERTS ACTUALLY DID DO A STUDY OF THEIR OWN. IT'S IN THEIR REPORT. IT'S CALLED THE "HYDRUS II ANALYSIS." THAT ANALYSIS SHOWS LAG TIMES OF LESS THAN FIVE YEARS, ALSO. THEY CHOSE NOT TO USE THAT. I ALREADY MENTIONED THAT MR. GRISMER'S STUDY SHOWED A LAG TIME OF LESS THAN FIVE YEARS.

AND IN ADDITION, I BELIEVE YOU HAVE HEARD TESTIMONY ABOUT THAT. I'LL DO IT QUICKLY. THE USGS HAS DONE A FIELD STUDY OVER IN THE ORO GRANDE AREA JUST TO THE EAST OF OUR VALLEY IN A SIMILAR GEOLOGIC ENVIRONMENT. AND AT THAT LOCATION, THEY FOUND THAT THE LAG TIME WAS ABOUT THREE YEARS INITIALLY AND AFTERWARDS WENT DOWN TO ABOUT ONE YEAR.

STORAGE CALCULATIONS PRIOR TO 1970, BUT THIS PARTICULAR PERIOD OF TIME, IT -- WE CAN COMPARE IT BASED ON THE OUTFLOW DATA.

WE HAVE GOOD OUTFLOW DATA FOR THIS PERIOD; WHEREAS FOR THE 1951 TO 1970, WE DON'T HAVE NECESSARILY GOOD OUTFLOW DATA. HERE WE HAVE REASONABLE GOOD OUTFLOW DATA. WE CAN COMPARE THIS, AND OBVIOUSLY THE CHANGE IN STORAGE DATA ARE WRONG.

WHAT CAUSES -- WHAT RESULTS IS AGAIN CALCULATIONS THAT IS A LOWER VALUE FOR NATURAL RECHARGE IF YOU USE THE PERIOD 1998 TO 2008 AS PART OF THAT CALCULATION OF NATURAL RECHARGE.

Q SO IF YOU DIDN'T -- SO THAT PERIOD WITH BAD DATA ON CHANGE IN STORAGE RESULTS IN A LOWER NATURAL RECHARGE FIGURE IF YOU WERE TRYING TO USE THAT?

A THAT'S RIGHT -- OR REALLY IN ANY PORTION OF IT. IF YOU USE THE FIRST HALF OF IT IN YOUR CALCULATIONS, YOU'RE STILL GOING TO GET SOME ERROR BECAUSE IT WILL STILL CAUSE A REDUCTION IN THE CALCULATED VALUE FOR NATURAL RECHARGE.

Q OKAY. WHERE DID YOU WANT TO GO FROM THERE?

A I'M THROUGH WITH MY COMMENTS ON OTHER EXPERTS. AND I'M READY TO TALK ABOUT SOME WORK THAT I DID COUPLED WITH THAT. SO I WOULD LIKE TO GO TO MY SLIDE FOUR -- WELL, LET ME GO TO SLIDE TWO, AGAIN, JUST TO SHOW YOU WHERE WE ARE. BEAR WITH ME FOR A MOMENT.

IN THE OVERVIEW THAT WE PRESENTED -- OR I PRESENTED TO YOU EARLIER, THE FIRST THING WAS "COMMENTS

AND OTHER EXPERTS' TESTIMONY." THAT IS WHAT I HAVE JUST CONCLUDED.

WHAT I'M GOING TO TALK ABOUT NOW IS THE RESULTS OF AN ANALYSIS THAT I DID ON MOUNTAIN FRONT RECHARGE TO COME UP WITH NATURAL RECHARGE, AN ANALYSIS I DID USING A WATER BALANCE APPROACH FOR NATURAL RECHARGE AND THEN SOME OTHER ITEMS DEALING WITH THAT LEADING UP TO AN ANALYSIS OF SAFE YIELD AND AN ASSESSMENT OF WHETHER OR NOT THERE IS OVERDRAFT IN THE BASIN, AND THEN THERE ARE SOME OTHER ITEMS.

THE POINT I WOULD LIKE TO ADDRESS NEXT WOULD BE MY ANALYSIS OF MOUNTAIN FRONT RECHARGE AND CALCULATION OF NATURAL RECHARGE THAT CAME FROM THAT.

Q NOW YOUR ANALYSIS IS DIFFERENT THAN WHAT MR. WILSON DID?

A YES. MUCH DIFFERENT, YES.

Q IT IS A DIFFERENT APPROACH, SAME QUESTIONS TRYING FIGURE OUT WHAT NATURAL RECHARGE IS?

A WHAT NATURAL RECHARGE FROM THE MOUNTAIN FRONT IS MORE SPECIFICALLY, YES.

Q THANK YOU. GO AHEAD.

A SO MY SLIDE 4 IS JUST THE INTRODUCTION SLIDE, AND SLIDE 5 -- AGAIN, I THINK IT IS ALWAYS IMPORTANT TO KEEP IN MIND WHEN LOOKING TO FIND THE SAFE YIELD OF THE ANTELOPE VALLEY GROUNDWATER BASIN.

SAFE YIELD IS ESSENTIALLY THE AVERAGE ANNUAL INFLOW INTO THE BASIN. INFLOW INCLUDES BASICALLY THREE THINGS: RETURN FLOWS, ARTIFICIAL RECHARGE, AND NATURAL

RECHARGE. AND OF THOSE, NATURAL RECHARGE IS THE MOST SIGNIFICANT NUMBER, AND I BELIEVE THE LARGEST NUMBER. SO IT IS AN IMPORTANT PART AND ELEMENT OF DETERMINING THE SAFE YIELD OF A BASIN.

JUST TO LET YOU KNOW QUICKLY WHAT I DID AND THE RESULTS I GOT UPFRONT, AND THEN I'LL GO THROUGH IN A LITTLE MORE DETAIL. I MADE AN INDEPENDENT STUDY OF MOUNTAIN FRONT RECHARGE WITHIN -- INDEPENDENT FROM ANY OTHER CONSULTANTS' WORK.

IT IS IN A REPORT AND MY REPORT DATED 10-12-2010 WHICH I BELIEVE IS EXHIBIT C-8. MY ANALYSIS IS CONSERVATIVE IN THAT -- WELL, FIRST OF ALL, IT CONSIDERS ONLY RECHARGE FROM THE MOUNTAIN FRONT AREA. THERE'S CONSIDERABLE AMOUNT OF RECHARGING FROM PRECIPITATION ON THE VALLEY FLOOR.

I HAVEN'T ANALYZED THAT. SO TO BE CONSERVATIVE, I HAVE ASSUMED THAT TO BE ZERO. AND THAT ENDS UP MY CALCULATING NATURAL RECHARGE VALUE THAT IS SMALL. WHEN I SAY "CONSERVATIVE," I'M MEANING A NATURAL RECHARGE VALUE THAT IS SMALLER.

AND MY METHOD USES AN ESTABLISHED METHODOLOGY BY THE UNITED STATES GEOLOGICAL SURVEY FOR DETERMINING RUNOFF. IT USES THE UNITED STATES GEOLOGICAL SURVEY STREAMFLOW DATA FOR THE ANTELOPE VALLEY, THE WATERSHED AREA. IT USES THE UNITED STATES GEOLOGICAL SURVEY PRECIPITATION DATA FOR THE ANTELOPE VALLEY.

IN OTHER WORDS, CONTRARY TO WHAT MR. DURBIN

DEFINITION, THAT'S NO CHANGE IN STORAGE. SO IF WE COULD PICK A TIME WHEN THERE WAS NO CHANGE IN STORAGE -- OR NO CHANGE IN WATER LEVEL, WE COULD SAY TO OURSELVES "THERE IS NO CHANGE OF STORAGE IN THAT AREA," WE WOULD HAVE NO ERROR AT ALL FROM THE CHANGE IN STORAGE FUNCTION. I DON'T CARE WHAT THE FUNCTION IS YOU WOULD HAVE NO ERROR --

Q NO ERROR AS TO WHAT?

A IN YOUR CALCULATIONS USING THAT. CHANGE OF STORAGE IS USED IN THE CALCULATION FOR NATIVE RECHARGE IN A WATER BALANCE. SO IT -- IT AFFECTS THE CALCULATIONS FOR NATIVE RECHARGE.

AND I CAN'T SAY WHETHER IT WOULD MAKE IT HIGHER OR LOWER. I'M JUST SAYING THAT IF YOU -- IF YOU INCLUDE ERRONEOUS DATA, YOU GET AN ERRONEOUS ANSWER BY PICKING A TIME PERIOD WHERE THE CHANGE IN STORAGE IS MINIMUM, YOU ARE MINIMIZING THE ERROR FROM THE CHANGE IN STORAGE.

Q OKAY. GO AHEAD.

A OKAY. SO JUST AT THE BOTTOM LINE WHERE I WILL BE GOING IS SHOWING THAT I CALCULATE A VALUE OF NATURAL RECHARGE OF 105,300, BUT I HAVEN'T GOTTEN THERE YET.

Q USE THE WATER BALANCE APPROACH?

A THAT IS RIGHT. NOW, GROUNDWATER BALANCE EQUATION -- AND, YOUR HONOR, I APOLOGIZE. I KNOW YOU HAVE SEEN THESE AGAIN IN THE PAST AT LEAST ONCE, MAYBE A DOZEN TIMES, BUT I'M GOING TO TELL YOU ONE MORE TIME.

THE COURT: MAKE NO ASSUMPTIONS ABOUT WHAT I HAVE SEEN AND WHAT I KNOW, PLEASE.

THE WITNESS: TOTAL INFLOW INTO A GROUNDWATER BASIN IS EQUAL TO THE TOTAL OUTFLOW PLUS THE CHANGE IN STORAGE. AND THE TOTAL INFLOW IS ALSO EQUAL TO THE NATURAL RECHARGE PLUS THE RETURN FLOW INCLUDING RETURN FLOW FOR RECLAIMED WATER PLUS ARTIFICIAL RECHARGE OF IMPORTED WATER.

SO THOSE ARE IMPORTANT CONCEPTS. WE WILL BE COMING BACK TO SOME OF THOSE. AND THIS IS BREAKING DOWN THEN -- YOU KNOW, TOTAL INFLOW IS TOTAL OUTFLOW PLUS CHANGE IN STORAGE, BUT THE TOTAL OUTFLOW INCLUDES THE URBAN PUMPING, THE AGRICULTURAL PUMPING, AND ANY PUMPING DONE FOR EXPORT AND ANY OTHER PUMPING. THAT IS DONE -- IT IS ALL THE PUMPING FROM THE GROUNDWATER BASIN. THAT IS THE TOTAL OUTFLOW.

WE GO TO SLIDE 76 (SIC) "NATURAL RECHARGE IS THE TOTAL OUTFLOW PLUS THE CHANGE IN STORAGE, MINUS RETURN FLOWS, AND MINUS ARTIFICIAL RECHARGE.

Q THAT IS SLIDE 77.

A YES, 77. AND 78 IS THE INTRODUCTION SLIDE. WE WILL TALK ABOUT THOSE ITEMS: INFLOW, OUTFLOW, AND CHANGE IN STORAGE DATA.

I SHOULD SAY I'M FAMILIAR WITH THE DATA THAT THE PURVEYORS' EXPERTS HAVE USED. I'VE USED THE DATA. I UNDERSTAND IT, AND I KNOW IT WELL ENOUGH TO KNOW THAT IT PRODUCES A CONSERVATIVE VALUE. AND I'M THINKING NOW ABOUT THE INFLOW/OUTFLOW DATA, NOT THE CHANGE IN STORAGE

DATA. THE INFLOW AND OUTFLOW DATA THAT THEY HAVE PRODUCED -- AND FOR A CERTAIN PORTIONS OF IT, I'M COMFORTABLE USING THAT, AND I FEEL THAT IT'S APPROPRIATE FOR MAKING WATER BALANCE ANALYSIS.

Q IF -- ONLY IF IT'S BASED ON THE CORRECT LAG TIMES AND BASE PERIOD?

A THAT'S CORRECT, YES. I'M TALKING ABOUT THE DATA, NOT THOSE ITEMS.

THEIR DATA IS SUMMARIZED IN THAT TABLE 4.8-1. THAT IS FROM THE SUMMARY EXPERTS' REPORT. I HAVE SHOWN ON SLIDE 82 THE TITLE OF THE TABLE. BUT THERE ARE A FEW PROBLEMS WITH SOME OF THE DATA. THE TABLE CONTAINS INFLOW DATA AND OUTFLOW DATA -- OR CLAIMS INFLOW DATE FROM 1929 TO 2008.

BUT IN THE ANALYSIS THAT THOSE EXPERTS DID, THEY IGNORED THE OUTFLOW DATA FOR 1929 THROUGH 1950. THEY DON'T SHOW OUTFLOW DATA AT ALL. AND THEY IGNORE ALL OF THE DATA FOR THE PERIOD 2006 TO 2008 IN THEIR ANALYSIS. THEY STOP THEIR ANALYSIS AT 2005.

WE ARE NOT GOING TO BE ABLE TO SEE THE NUMBERS, BUT SLIDE 83 IS A SLIDE SHOWING THEIR TABLE 4.8-1. THE MAGENTA HIGHLIGHTED AREA SHOWS THE BLANK AREA PRIOR TO 1950, I BELIEVE IT IS, THAT WHERE THERE IS NO OUTFLOW DATA AT ALL.

AND THE MAGENTA AREA TOWARDS THE BOTTOM SHOWS THE FACT THAT THERE IS NO -- THAT THEY DON'T USE THE DATA FROM 2005. AT THE VERY BOTTOM OF THIS IS HIGHLIGHTED THEIR CONCLUSIONS WHICH I'M SORRY I CAN'T

QUITE READ HERE. LET ME SEE IF I CAN FIND THE RIGHT ONE. YEAH, THAT'S WHERE THEY COME UP WITH THAT LINE SAYS 1951 TO 2005 ON THE LEFT SIDE.

AND THE VALUE FOR NATURAL RECHARGE THAT THEY CALCULATED OF 56,000 BASED ON THEIR ANALYSIS USING THOSE DATA. NOW, BEFORE I GET INTO THOSE DATA, LET ME GO BACK TO THE LAG TIME ISSUE. THEY USE AGAIN A LAG TIME OF 15 YEARS. I HAVE ALREADY MENTIONED WHY I THINK THAT IS INCORRECT.

Q WE ARE NOW ON SLIDE 85?

A 85 SHOWS THAT, AND 86 I HAVE SHOWN IN A PREVIOUS SLIDE. IT SHOWS HOW THEY ADJUSTED THE TWO COLUMNS BY 15 YEARS, AND WE GO QUICKLY BEYOND THAT.

AND, AGAIN, AS I MENTIONED EARLIER IN SOME OF MY COMMENTS ABOUT THEIR WORK, THERE IS AN INDEPENDENT STUDY DONE BY MR. GRISMER, MAYBE DR. GRISMER, I'M NOT SURE OF THAT. THERE WAS A STUDY DONE BY WILDERMUTH ENVIRONMENTAL ENGINEERING ON THE HYDRUS II ANALYSIS; AND THE ORO GRANDE STUDY. SO THERE ARE THREE -- PROFESSIONAL SCIENTIFIC STUDIES DEALING WITH LAG TIME IN THE AREA BASED ON THE --

Q THOSE ALL SHOWED THREE YEARS APPROXIMATELY. HYDRUS WAS THREE ANYWHERE FROM -- WHAT WAS HYDRUS?

A HYDRUS WAS APPROXIMATELY THREE YEARS. IT WAS A RANGE, BUT IT WAS LESS THAN FIVE YEARS. ORO GRANDE WAS THREE YEARS WHICH AGAIN IS LESS THAN FIVE YEARS. AND GRISMER WAS A STUDY THAT SHOWED THE MAXIMUM NUMBER OF FIVE YEARS. AND SO TO USE A CONSERVATIVE

NUMBER, I HAVE PICKED FIVE YEARS AS THE NUMBER TO USE IN THIS ANALYSIS.

IF I USED A LOWER NUMBER, I WOULD HAVE CALCULATED A HIGHER VALUE FOR NATURAL RECHARGE. SO WHEN I SAY "CONSERVATIVE ANALYSIS," WHAT I MEAN BY PICKING FIVE YEARS I'M DOING A CONSERVATIVE ANALYSIS AND ENDING UP WITH A SMALLER NUMBER FOR NATURAL RECHARGE, BUT I BELIEVE ONE THAT IS MUCH MORE REASONABLE BASED ON SELECTING THE APPROPRIATE LAG TIME AND SELECTING THE APPROPRIATE BASE PERIOD WHICH I WILL TALK ABOUT IN A MOMENT.

SO SLIDE 89 AGAIN IS SHOWING GRISMER'S TABLE WITH THE MAXIMUM VALUE OF 5.04 WHICH I'M ROUNDING TO FIVE. SO SLIDE 90 SHOWS A RECONSTRUCTION OF THE DATA TABLE FROM THEIR TABLE 4.8-1 WHERE I HAVE APPLIED A FIVE-YEAR LAG TIME. THE MAGENTA SHOWS THE ADJUSTED COLUMNS, THE THREE COLUMNS THAT I'M APPLYING TO HAVE -- THE FIVE-YEAR LAG TIME TO.

INCIDENTALLY, I'M NOT APPLYING A LAG TIME TO ANY OF THE OTHER RETURN FLOWS AND NEITHER DID THE PURVEYORS' EXPERTS. THEY ALL ASSUMED THERE WAS NO LAG TIME FOR SEPTIC TANKS AND NO LAGS TIME FOR THE ARTIFICIAL RECHARGE. SO THEY ONLY APPLY TO LAG TIME TO THE IRRIGATION RETURN FLOWS, AND I HAVE DONE THE SAME THING JUST TO BE CONSISTENT.

Q JUST TO EVALUATE WHAT THE EFFECT OF USING THEIR NUMBERS IS USING THIS FIVE-YEAR LAG TIME WOULD BE?

A THAT'S CORRECT. AGAIN, ALL THE OTHER DATA

LEAVING -- JUST AS IT IS AND ALL THESE DATA I'M LEAVING THE SAME, BUT APPLYING A FIVE-YEAR LAG TIME.

NOW, WE HAVE ALREADY TALKED ABOUT CHANGE IN STORAGE. I'LL GO TO SLIDE 91. AND CHANGE IN STORAGE IS A REALLY IMPORTANT PIECE OF THE ANALYSIS FOR NATURAL RECHARGE; AND THEN BECAUSE OF NATURAL RECHARGE THE ANALYSIS OF SAFE YIELD.

MY REVIEW OF THE DATA HAS SHOWN THAT THE PERIOD 1951 THROUGH 1970 AS A VERY LARGE VALUES FOR CHANGE IN STORAGE. "SMALL ERRORS IN LARGE NUMBERS PRODUCE LARGE ERRORS IN RESULTS." SO IT IS BEST TO SELECT A BASE PERIOD WITH A MINIMUM CHANGE IN STORAGE BECAUSE THAT MINIMIZES THE ERROR. ON SLIDE 92.

NOW GOING TO THE SLIDE 93 TO SHOW YOU THE PLOT OF "CUMULATIVE CHANGE IN STORAGE" WITH TIME. THIS IS MY PLOT FROM THE DATA FROM THE PURVEYORS' ANALYSIS OF -- AND AS YOU CAN SEE FOR THE PERIODS UP TO ABOUT 1971, THE CUMULATIVE CHANGE IN STORAGE IS INCREASING GREATLY. AND THE TOTAL CHANGE IN STORAGE UP TO THAT TIME IS -- ALMOST 5 MILLION ACRE-FEET. TO INCLUDE THOSE KINDS OF CHANGE IN STORAGE VALUES IN A CALCULATIONS OF WATER BALANCE CALCULATION FOR NATURAL RECHARGE PRODUCES A LOT OF ERROR.

Q YOU GAVE ME A SWIMMING POOL ANALOGY, I THINK, IN TERMS OF CHANGE OF STORAGE; DO YOU RECALL THAT?

A YEAH, I DID, AND I THINK I KIND OF COVERED THAT HERE. BUT ESSENTIALLY I WAS SAYING THAT IF YOU'RE

TRYING TO DETERMINE THE INFLOW TO A SWIMMING POOL, AND YOU KNOW THE AMOUNT OF WATER FLOWING OUT OF THE SWIMMING POOL, YOU COULD SAY THAT THE INFLOW IS EQUAL TO THE OUTFLOW, PLUS THE CHANGE IN STORAGE.

SO IF YOUR SWIMMING POOL WATER LEVEL STAYS THE SAME, THE INFLOW WOULD BE EXACTLY EQUAL TO OUTFLOW, THE FLOW. THAT WOULD BE OBVIOUS. NOW IF YOUR SWIMMING POOL WATER LEVEL CHANGES BY AN INCH -- LET'S SAY IT GOES DOWN AN INCH -- YOU COULD SAY, "OH, WELL, WE HAVE SOME CHANGE IN STORAGE." NOW, IF I THINK MY SWIMMING POOL IS A 100-SQUARE FEET AN AREA, I COULD MULTIPLE 100 TIMES THAT INCH, AND I COULD CALCULATE THE CHANGE OF STORAGE.

BUT IF MY WIFE THINKS THAT MY SWIMMING POOL IS 20,000 ACRE-FEET IN AREA, SO SHE IS GOING TO CALCULATE 20,000 TIMES THAT 1 INCH. AND THERE IS A POTENTIAL FOR A GREAT DEAL OF ERROR EVEN THOUGH WE KNOW EXACTLY WHAT THE 1 INCH IS, IT IS THE CALCULATIONS OF THE QUANTITIES OF CHANGE IN STORAGE THAT IS THE PROBLEM.

SO WE CAN LOOK AT THAT AND SAY, "BOY, IF WE COULD FIND A TIME WHEN THE WATER LEVEL DIDN'T CHANGE IN THE SWIMMING POOL, THEN WE CAN DO A MUCH BETTER JOB OF ANALYSIS."

Q WE HAVE HAD IN THIS CASE A LOT OF DISCUSSION ABOUT GRIDS, CONTOURS LINES, CONFINED VERSUS UNCONFINED AQUIFERS, SPECIFIC YIELD, MEASUREMENTS OF WATER LEVELS. DOES REMOVING THE LARGE CHANGE IN STORAGE PERIOD AT LEAST MINIMIZE THOSE ERRORS?

A YES, IT DOES. THAT IS THE INTENT OF

AND SLIDE 120 IS SAYING THIS IS THE NEXT SECTION OF MY TESTIMONY.

SO GOING ON TO SLIDE 121. I'M AVOIDING THE POOR QUALITY AND UNRELIABLE DATA AND SELECTING 1971 TO 1997. IT GIVES ME THE LOWEST AVERAGE CHANGE IN STORAGE WHICH MINIMIZES THAT ERROR AND GIVES ME THE BEST -- I'M NOT SAYING IT IS PERFECT -- BUT THE BEST HISTORICAL AGRICULTURAL WATER REQUIREMENTS AND THE BEST INFLOW AND OUTFLOW DATA. AND THEN CONSIDERING THAT IT IS A 27-YEAR PERIOD JUST BY COMPARISON, THE SAN FERNANDO CASE HAD A SIMILAR LENGTH OF PERIOD. THEIRS WAS 29 YEARS.

SO THAT WOULD SUGGEST THAT IT IS -- IT IS NOT EXTREMELY DIFFERENT THAN WHAT HAS BEEN USED BY OTHER EVALUATIONS FOR NATURAL RECHARGE.

AND THIS SLIDE 122 SHOWS THE TABLE 4.8-1. AGAIN, PURVEYORS' DATA TABLE AND SHOWING THE DATA I'M USING AND SHOWING WHY I'M USING WHAT I'M USING AND WHY I'M NOT USING THE OTHERS. SO I'M USING THAT SEGMENT OF DATA FROM 1971 TO 1997 THAT IS SHOWN IN YELLOW ON THIS TABLE.

SO THE FIRST THING I DID WITH THOSE DATA WAS TO APPLY A FIVE-YEAR LAG TIME AS I HAVE DISCUSSED BEFORE. I THINK FIVE YEARS IS THE CONSERVATIVE AND MOST CONSERVATIVE VALUE OF ALL OF THE ACTUAL STUDIES OF THAT THAT HAS BEEN DONE. AND SO SLIDE 124 SHOWS THE -- THE SAME DATA WITH THE LAG TIME OF FIVE YEARS APPLIED.

THE PROCEDURE THAT I USED FOR CALCULATING THE NATURAL RECHARGE WILL BE TO MAKE THE CALCULATION FOR

VARIOUS PERIODS, BUT TO ALSO THEN SEE WHICH IS THE MOST -- WHICH HAS THE LEAST CHANGE IN STORAGE AND SEE WHAT THE NATURAL RECHARGE FOR THAT PERIOD IS.

Q COULD YOU GO BACK TO 124 QUICKLY?

A YES.

Q SO WHEN YOU SAY YOU USED FIVE-YEAR LAG TIME, WHAT THAT DID IN TERMS OF THE FIGURES IS MOVE THE FIGURES DOWN FIVE YEARS. THAT'S WHAT THOSE ARROWS ARE INTENDED TO MEAN THERE?

A YES, THAT IS RIGHT. THE ARROWS ARE POINTING TO THE PORTION WHERE I MOVED DATA DOWN BY FIVE YEARS IN EACH OF THOSE COLUMNS. I SHIFTED THE ENTIRE COLUMN DOWN FIVE YEARS.

Q THAT CONTRASTED WITH WHAT YOU SHOWED US EARLIER WITH THE MAGENTA BLOCKS THAT SHOWED WHERE THE PURVEYORS MOVE IT DOWN TO BASED ON THE 15 YEAR?

A THAT'S RIGHT, THAT WAS A 15-YEAR ADJUSTMENT. I'M SHOWING THIS TABLE BECAUSE THIS IS THE TABLE THAT PRESENTS THAT THE RESULTS ARE SHOWN IN THE BOTTOM TABLE. I'M ON 126, BUT I HAVE SLIDE 127 WHICH IS THE BOTTOM OF TABLE SO WE CAN SEE IT. SO WE CAN ALWAYS GO BACK TO THAT OTHER TO LOOK AT INDIVIDUAL NUMBERS.

Q SO 126 AND 127 IS BELOW THAT, THAT BOTTOM RECTANGLE OF 126?

A THAT'S RIGHT. ON THIS TABLE ON THE LEFT-HAND SIDE, I HAVE DIFFERENT PERIODS, PERIOD LENGTH; AND IN THE SECOND COLUMN, THE TOTAL OUTFLOW SAYS LAG TIME FIVE YEARS. THAT IS TOTAL OUTFLOW.

THE TOTAL PERIOD CHANGE IN STORAGE, TOTAL ARTIFICIAL RECHARGE, AND THEN THE RETURN FLOWS WITH A FIVE-YEAR LAG TIME AND THE NATURAL RECHARGE -- TOTAL NATURAL RECHARGE FOR THAT WHOLE PERIOD.

AND THEN THE SECOND TO THE RIGHT COLUMN IS THE NATURAL RECHARGE AND ACRE-FEET PER YEAR FOR THE PERIOD. BUT THE COLUMN I WOULD LIKE TO FOCUS ON IS THE COLUMN ON THE RIGHT-HAND SIDE. THAT IS THE "AVERAGE ANNUAL CHANGE IN STORAGE."

Q WHY ARE WE FOCUSING ON THAT?

A I WANT TO START AND SHOW THAT IF WE USED A 1951 TO 1962 PERIOD, THAT VERY EARLY PORTION WHERE I HAD THE PROBLEM WITH THE CHANGE IN STORAGE, THE TOTAL CHANGE IN STORAGE OVER THAT PERIOD IS 278 -- ALMOST 279,000 ACRE-FEET THAT -- THAT THROWS A HUGE MARGIN OF ERROR INTO A CALCULATION FOR NATURAL RECHARGE.

WITH THE FIVE-YEAR LAG TIME, THE NATURAL RECHARGE CALCULATION FOR THAT PERIOD IS SHOWN ON THIS -- ON THE SECOND COLUMN FROM THE RIGHT AS MINUS 20,000. THAT IS MY -- WHEN I MENTIONED THE NEGATIVE VALUE FOR NATURAL RECHARGE. I HIGHLIGHTED THAT IN RED. I'M SHOWING THAT THAT'S WHAT YOU GET AT FIVE YEARS, AND THAT IS ONE OF THE REASONS WHY THE OTHER EXPERT HAD ASSUMED 15 YEARS.

Q THAT'S THE IMPOSSIBLE RESULT. IF YOU HAD A FIVE-YEAR LAG TIME MINUS 20,379 ACRE-FEET PER YEAR?

A THAT IS RIGHT. LET'S GO TO THE SECOND HALF OF THIS TABLE, A LOWER HALF. WHAT I HAVE DONE THERE IS

I STARTED OFF WITH DIFFERENT PERIODS. I STARTED OFF WITH THE 1963 TO 1970 PERIOD WHICH IS EIGHT YEARS, AND THEN I INCREASED THAT IN THE NEXT LINE TO '63 TO '78, AND I KEPT ADDING PERIODS.

AND EVERY TIME I INCREASED THE PERIOD, I GOT THE TOTAL CHANGE IN STORAGE VALUE ON THE FAR RIGHT SIDE TO GO DOWN LOWER AND LOWER.

Q WHY ARE YOU DOING THIS? WHY ARE YOU DOING THAT ANALYSIS?

A I'M DOING THAT JUST TO SHOW HOW I PICKED THE PERIOD THAT HAS THE LOWEST CHANGE IN STORAGE. THAT IS -- AGAIN, IT IS THE SAME POINT THAT I MADE EARLIER, BUT THIS SHOWS HOW BY SELECTING THE 1971 TO 1997 PERIOD WHICH IS THE GREEN ROW GOING ACROSS WHICH IS THE 27-YEAR PERIOD, THAT IS A PERIOD THAT HAS A NEGATIVE ABOUT 9,400 WHICH IS THE SMALLEST NUMBER, THE SMALLEST VALUE.

AND SO THE CALCULATED NATURAL RECHARGE FOR THAT PERIOD IS 105,308 IS THE NUMBER, 105,000. THAT IS THE BASE PERIOD THAT I HAVE SELECTED AS -- THEREFORE, THAT IS THE CALCULATION OF NATURAL RECHARGE THAT I HAVE SELECTED AS THE APPROPRIATE CALCULATED VALUE.

Q LET ME ASK YOU A QUESTION: THERE ARE SOME OTHER PERIODS HERE THAT HAVE A HIGHER NATURAL RECHARGE. FOR EXAMPLE, IN '63 TO '64, GOT A 109,556.

WHY DIDN'T YOU USE THAT PERIOD, FOR EXAMPLE, WITH A HIGHER NATURAL RECHARGE THAN THE ONE THAT YOU SELECTED?

A LET'S LOOK AT THAT DATE: THE 108,000 UP

LONG-TERM VALUE APPLIED TO EACH.

OUTFLOWS ITEMS ARE THE URBAN PUMPING, AGRICULTURAL PUMPING, PUMPING TO THE AQUEDUCT AND OTHER PUMPING AS LISTED IN THE PURVEYORS' DATA TABLE.

Q THAT WAS 167?

A ON SLIDE 167 THAT WAS -- THANK YOU.

AGAIN MY, 27-YEAR PERIOD IS, I THINK, A REASONABLE LENGTH OF PERIOD. MY 169 EXPLAINS THAT I'M USING THE FIVE-YEAR LAG TIME THAT I OBTAINED FROM GRISMER'S TABLE.

AND ONLY FOR THOSE THREE ITEMS I HAVE ... LEEFING (PHONETIC) ALL THE OTHER DATA WITH THE SAME LAG TIMES USED BY THE PURVEYORS' EXPERTS WHICH IS ESSENTIALLY ZERO LAG TIME FOR THOSE.

Q SO DOES TAKE MEAN ONCE AGAIN IF YOU ARE USING THE FIVE-YEAR LAG TIME THAT THIS IS A CONSERVATIVE NUMBER? IN OTHER WORDS INDICATING THAT THIS SAFE YIELD NUMBER WOULD BE ON THE LOW SIDE?

A YES, THAT IS CORRECT. ON THIS -- FROM THE EARLIER ANALYSIS I DID THE -- IT WAS STARTING AT ONE YEAR. WE INCREASED LAG TIME -- EACH INCREASE PRODUCES A REDUCTION IN THE CALCULATED VALUE FOR NEGATIVE RECHARGE AND THEREFORE FOR SAFE YIELD.

SO USING FIVE YEARS WHICH IS THE UPPER RANGE OF THE DATA FOR WHICH WE HAVE SCIENTIFIC ANALYSIS IS A CONSERVATIVE LAG TIME.

I HAVE ALREADY EXPLAINED THE UNDESIRABLE RESULT IN 170, ESSENTIALLY MAKES THE SAME STATEMENT

UNDESIRABLE RESULT. 171 ARE THE "ELEMENTS OF SAFE YIELD," THE AG. RETURN FLOW, THE M & I RETURN FLOW, RETURN WATER RETURN FLOW, ARTIFICIAL RECHARGE, AND NATURAL RECHARGE. THE SAFE YIELD IS THE TOTAL OF ALL THOSE IF THERE'S NO CHANGE IN STORAGE.

AND 172 IS A DIAGRAM THAT ESSENTIALLY SHOWS THAT IT IS THE SAME DIAGRAM THAT I USED SHOWING THE MOUNTAIN FRONT IN THE EARLIER TESTIMONY, BUT IT SHOWS THE ELEMENTS OF INFLOW INCLUDING RUNOFF AND BEDROCK INFILTRATION. AND THEN IT SHOWS PUMPING OF THE SAFE YIELD ASSUMING NO CHANGE IN STORAGE. SO THAT IS ESSENTIALLY A PICTURE OF WHAT THE EQUATION IS SHOWING.

NOW, THE DATA IN THE PURVEYORS' EXPERT 4.8-1 INCLUDES INFLOWS AND OUTFLOW DATA, AND CHANGE IN STORAGE ESTIMATES. SO THOSE DATA CAN BE USED TO CALCULATE THE SAFE YIELD. AND I HAVE APPLIED THE 27-YEAR BASE PERIOD TO CALCULATE THE LONG-TERM SAFE YIELD OVER THAT PERIOD, BUT I HAVE ALSO CALCULATED INCREMENTAL SAFE YIELD FOR FIVE-YEAR PERIODS ENDING IN 1985 THROUGH 2009.

AND I'LL SHOW YOU IN A MINUTE THAT -- THAT I FIND THE SURPLUS IS AVAILABLE IN ALL FIVE-YEAR PERIODS FROM 1985 TO 2008. AND I DON'T SEE OVERDRAFT IN ANY OF THOSE PERIODS, SO I CONSIDER THAT TO BE ESSENTIALLY CURRENT DATA. BUT LET ME GO THROUGH WHAT I DID TO PRODUCE THAT.

Q LET ME BACK YOU UP FOR JUST A SECOND HERE. ON -- YOU SAID YOU COULD USE A SLIGHT MODIFICATION, USE THAT DATA WITH SLIGHT MODIFICATIONS. AM I CORRECT THAT

THE ONLY MODIFICATION YOU'VE MADE FOR THE SAFE YIELD ANALYSIS ARE THE LAG TIME AT THE CONSERVATIVE FIVE YEARS AND THE 27-YEAR BASE PERIOD?

A THAT IS EXACTLY RIGHT. I HAVE USED ALL OF THE PURVEYORS' DATA FROM THAT BASE PERIOD, AND I HAVE APPLIED A FIVE-YEAR LAG TIME. THOSE ARE THE ONLY DIFFERENCES. THE ONLY THINGS THAT I HAVE DONE, AND I THINK I EXPLAINED WHY I NEEDED TO DO THOSE TWO CHANGES.

AGAIN, I'M NOT SAYING THAT THOSE DATA ARE PERFECT; I BELIEVE THOSE DATA CAN GIVE US A CONSERVATIVE LOW VALUE, BUT I THINK THEY ARE REASONABLE AND SUITABLE ENOUGH FOR OUR PURPOSE OF DOING THIS WATER BALANCE ANALYSIS.

SO WE -- THE EQUATION THAT I'VE SEEN A NUMBER OF TIMES, SAFE YIELD IS RETURN FLOW PLUS ARTIFICIAL RECHARGE, PLUS NATURAL RECHARGE. I PUT THAT UP ON 175.

AND WE KNOW THAT THE NATURAL RECHARGE IS THE TOTAL OUTFLOW MINUS TOTAL INFLOW, CHANGE OF STORAGE. SO WHAT I CAN DO IS USE THOSE DATA TO CALCULATE THE TOTAL INFLOW, AND THIS IS -- 177 IS A PORTION OF THAT TABLE SHOWING THE INFLOWS OTHER THAN NATURAL RECHARGE. AND THE FAR RIGHT-HAND COLUMN, THOSE ARE THE TOTAL INFLOWS FOR EACH YEAR OF -- BASED ON THE DATA OTHER THAN NATURAL RECHARGE.

OF 178 -- AND THEN SAYS I CAN NOW CALCULATE OUTFLOW IN A SIMILAR WAY, AND 179 ARE THE DATA FROM THEIR TABLE FROM 1971 TO 1997 AND SHOWING THE TOTAL

SAW GRAPHICALLY EARLIER?

A YES, GENERALLY. IT'S NOT EXACTLY THE SAME, BUT IT IS CONSISTENT WITH IT.

Q WHAT WAS THE NEXT SLIDE THAT YOU WANTED TO DISCUSS?

A LET'S GO TO 185 BECAUSE THIS IN MY MIND IS THE RIGHT-HAND SIDE, BUT THE NEXT TABLE WHERE WE CAN LOOK AT THE SAFE YIELD AND COMPARE IT -- LET ME SEE IF I CAN SEE EXACTLY WHAT WE ARE DOING -- OH, OKAY. THIS IS SHOWING -- LET ME WALK THROUGH THIS. THE LEFT COLUMN AGAIN IS THE YEAR -- THE YEAR GREEN HIGHLIGHTED PORTION IS THE BASE PERIOD 1991 (SIC) TO 1997.

Q YOU MEAN 1971?

A TO 1971 TO 1997. THANK YOU. AND I'M SHOWING THE TOTAL RETURN FLOW, THE TOTAL ARTIFICIAL RECHARGE, AND THE AVERAGE NATURAL RECHARGE IN THOSE THREE COLUMNS. SO THE SECOND, THIRD AND -- SECOND AND THIRD COLUMNS ARE THE ACTUAL VALUES FOR EACH YEAR OF TOTAL RETURN FLOW AND TOTAL ARTIFICIAL RECHARGE.

THE THIRD WHITE COLUMN THERE IS MY APPLICATION OF THE NATURAL RECHARGE OF 105,000 FOR EACH OF THE YEARS, ALL THE WAY DOWN. SO I'M ASSUMING THAT THE NATURAL RECHARGE AVERAGE FOR EACH OF THOSE YEARS. AND THEN BASED ON THAT, I CAN CALCULATE A TOTAL INFLOW FOR EACH OF THE YEARS.

AND IT IS THAT TOTAL INFLOW WHICH IS EQUIVALENT TO THE SAFE YIELD OF THE BASIN. SO THE AVERAGE OF THE TOTAL INFLOW FOR ALL 27 YEARS IS THE

171,000 SAFE YIELD. NOW CONTINUING I CAN NOW LOOK AT THE TOTAL OUTFLOW FOR EACH OF THOSE YEARS TO SEE WHETHER OR NOT THE TOTAL OUTFLOW WAS LESS THAN, EQUAL TO, OR GREATER THAN THE TOTAL INFLOW.

AND I -- THE SECOND COLUMN FROM THE RIGHT IS THE TOTAL OUTFLOW FROM THE BASIN IN EACH OF THOSE YEARS, AND THE COLUMN ON THE RIGHT IS THE DIFFERENCE. SO IT IS SHOWING THAT FOR 1971 THE TOTAL OUTFLOW IS IN PARENTHESIS MEANING IT IS A NEGATIVE NUMBER. THERE WAS MORE OUTFLOW THAN THE SAFE YIELD AT -- OR THAN INFLOW DURING THAT YEAR.

AND STARTING IN 1982, I BELIEVE IT IS, IF I'M READING THIS CORRECTLY, FROM THEN ON EXCEPT FOR ONE YEAR, THE TOTAL OUTFLOW WAS LESS THAN THE SAFE YIELD FOR THOSE YEARS.

Q SO YOU WERE COMPARING HERE JUST ON AN AVERAGE ANNUAL BASIS -- YOU INCLUDED THE AVERAGE NATURAL RECHARGE, AND YOU DETERMINED THE TOTAL SAFE YIELD BASED ON THOSE NUMBERS; AND THEN YOU JUST COMPARED IT TO OUTFLOW TO SEE WHETHER OUTFLOW EXCEEDED THE SAFE YIELD?

A YES, THAT IS WHAT I'M DOING. SO IF IT SHOWS AS A NEGATIVE NUMBER, THAT IS INFLOW MINUS OUTFLOW. SO THE OUTFLOW IS GREATER, AND IT PRODUCES A NEGATIVE NUMBER IN THAT COLUMN.

Q NEGATIVE NUMBER BEING WITH THE PARENTHESIS?

A RIGHT, YES. AND MAY I POINT OUT ONE OTHER THING. I THINK IT IS IMPORTANT TO KEEP IN MIND. AT THIS POINT WE ARE NOT WORRIED ABOUT CHANGE IN STORAGE

SUPERIOR COURT FOR THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES

DEPARTMENT NO. 316 HON. JACK KOMAR,

COORDINATION PROCEEDING SPECIAL TITLE (RULE 1550B)	
ANTELOPE VALLEY GROUNDWATER CASES	JUDICIAL COUNCIL COORDINATION NO. JCCP4408
PALMDALE WATER DISTRICT AND QUARTZ HILL WATER DISTRICT, CROSS-COMPLAINANTS, VS. LOS ANGELES COUNTY WATERWORKS, DISTRICT NO. 40, ET AL, CROSS-DEFENDANTS.	SANTA CLARA CASE NO. 1-05-CV-049053

STATE OF CALIFORNIA)
) SS.
COUNTY OF LOS ANGELES)

I, GINGER WELKER, OFFICIAL REPORTER OF THE SUPERIOR COURT OF THE STATE OF CALIFORNIA, FOR THE COUNTY OF LOS ANGELES, DO HEREBY CERTIFY THAT THE TRANSCRIPT DATED MARCH 22, 2011 COMPRISES A FULL, TRUE, AND CORRECT TRANSCRIPT OF THE PROCEEDINGS HELD IN THE ABOVE ENTITLED CAUSE.

DATED THIS 23RD DAY OF MARCH, 2011.

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OFFICIAL REPORTER, CSR #5585