

>> OKAY OF, TIME TO GET STARTED 09:30:20:18
AGAIN. 09:30:22:18
AT THIS POINT IN TIME I WOULD 09:30:23:01
LIKE TO ASK DR. SCOTT AUERBACH 09:30:25:12
TO MAKE PRESENTATION ON THE 09:30:27:09
UPDATE OF NTP RESPONSE THE TO 09:30:28:12
THE WEST VIRGINIA CHEMICAL STILL 09:30:30:03
SPILL. 09:30:34:18
09:30:35:01
>> SUPPOSE WE CAN GET STARTED. 09:30:49:01
SO I'M GOING TO GIVE A REPORT ON 09:30:50:12
THE NTP RESPONSE TO THE CHEMICAL 09:30:52:00
SPILL. 09:30:56:18
HERE IS AN OUTLINE FIRST I'M 09:30:57:01
GOING TO GIVE YOU A SHORT 09:31:00:00
BACKGROUND ON THE -- THEN I'LL 09:31:01:00
TALK ABOUT THE STUDY GOALS WE 09:31:03:15
HAVE SET FORTH AT INITIATION OF 09:31:06:27
THESE STUDIES. 09:31:08:28
TALK ABOUT THE RESULTS, AND THEN 09:31:09:19
GO BACK AND READDRESS GOALS TO 09:31:12:21
ANSWER THE QUESTION ASSOCIATED 09:31:18:09
WITH THE GOALS. 09:31:18:25
SO ON JANUARY 9TH 2014 IN THE 09:31:21:10
MORNING, RESIDENTS OF 09:31:25:09
CHARLESTON, WEST VIRGINIA BEGAN 09:31:26:25
TO NOTICE A SWEET SMELL ALONG 09:31:28:27
THE LINES OF LICORICE, REPORTED 09:31:30:27
TO THE WEST VIRGINIA DEPARTMENT 09:31:34:25
OF ENVIRONMENTAL PROTECTION. 09:31:36:00

ALSO IN THE MORNING O JANUARY 9 09:31:37:06
FREE MINISTRY REPORT AD LIQUID 09:31:43:10
CRUDE NCHM USED TO WASH COAL 09:31:45:04
WITH SPELL FROM LEAKING TANK OF 09:31:48:10
THE WEST VIRGINIA RIVER, ONE AND 09:31:49:24
A HALF MILES OFF STREAM OF THE 09:31:54:28
FACILITY ABOUT 300,000 PEOPLE 09:31:56:27
ACROSS NINE COUNTIES IN WEST 09:31:58:21
VIRGINIA ON THE SLIDE HERE 09:32:01:22
COMPONENTS OF CRUDE FCHM WAS THE 09:32:04:24

MAJOR COMPONENT HIGHLIGHTED. 09:32:08:00 46

NOT INITIAL HI REPORTED ON THE 09:32:10:12

9TH BUTT STRIP PBH WAS ALSO 09:32:12:01

ABOUT 7% OF THE MIXTURE AND 09:32:15:12

CONTAINS (INAUDIBLE) CDC 09:32:16:21

RESPONDED AND ISSUED ONE PBM 09:32:28:06

SCREENING LEVEL FOR -- BASED ON 09:32:32:13

LD 50 STUDY ON MS DATA WHICH IS 09:32:34:03

HARD TO DO. 09:32:37:06

OTHERS PROVIDE CHEMICAL MAKER OF 09:32:40:00

CRUDE MCHS. 09:32:42:27

PEAK LEVELS IN THE TREATED WATER 09:32:44:24

MCHM WERE 3.5 CTM BUT WENT 1 CPM 09:32:46:12

WHICH DRINKING WATER ADVISORY 09:32:53:01

LEVEL. 09:32:55:07

IT'S UNKNOWN WHAT CONCENTRATION 09:32:55:15

IN THE TAP WATER WAS, PEAK LEVEL 09:32:59:15

FINISH IN THE RAKE OF 3.5 AND WE 09:33:01:04

ALSO DON'T KNOW THE MIXTURE WAS 09:33:03:12

JANUARY 16th A WEEK LATER A 09:33:11:10

RE-EVALUATION OF RELEASE 09:33:13:06

COLLECTION OF STUDIES A ARE THE 09:33:18:06

OFEN -- LOT OF UNCERTAINTY, THE 09:33:22:06

MAKE OF CRUDE MCHF. 09:33:25:18

PEAK LEVELS IN THE TREATED 09:33:27:18

WATER, THIS IS MCHM WERE 09:33:28:18

APPROXIMATELY 3.5 PPM BUT WENT 09:33:30:24

BELOW 1 PPM WHICH WAS WATER 09:33:33:04

ADVISORY LEVEL. 09:33:37:07

DRINKING WATER ADVISORY LEVEL. 09:33:38:01

UNKNOWN WHAT THE CONCENTRATION 09:33:40:12

IN TAP WATER WAS ON PEAK LEVELS 09:33:41:21
OF FINISHED WATER WITHIN THE 09:33:43:07
RANGE OF 3.5 AND WE DON'T KNOW 09:33:45:15
WHAT THE MIXTURE WAS AT THE 09:33:47:18
TIME. 09:33:49:00
ON JANUARY 16th ABOUT A WEEK 09:33:49:06
LATER, THERE WAS RE-EVALUATION 09:33:54:09
OF DRINKING WATER ADVISORY 09:33:56:00
LEVEL, THIS IS BECAUSE EASTMAN 09:33:57:25
RELEASED COLLECTION OF STUDIES 09:33:59:24
ONE WHICH WAS A 28 DAY STUDY IN 09:34:01:21
RATS. 09:34:05:00
WHICH HAD A (INAUDIBLE) 09:34:07:00
APPROXIMATELY 100 MGs PER KG 09:34:09:21
PER DAY, SMALL KIDNEY AND BLOOD 09:34:13:18
CELL EFFECTS, THAT WAS ABOUT 100 09:34:15:16
MGs PER KG PER DAY USED AS 09:34:17:22
POINT OF DEPARTURE AND NUMBER OF 09:34:20:22
SAFETY FACTORS APPLIED. 09:34:22:15

LIMITED DATABASE, THAT'S ONE OF 09:34:24:12 47

THE REASONS WE'RE HERE TODAY. 09:34:25:24

THAT'S A EXTRAPOLATION FACTOR OF 09:34:27:03

TEN AND SENSITIVE INDIVIDUALS, 09:34:29:15

ON FACTOR OF TEN. 09:34:31:09

MISGAVE A DOSE NOT ANTICIPATED 09:34:32:24

TO CAUSE ADVERSE EFFECTS OF .1 09:34:35:06

MG PER KG PER DAY, DO A 09:34:38:07

DERIVATION DO PENDING WHO TO 09:34:41:04

PROTECT, CKC DECIDE AD TEN 09:34:43:12

KILOGRAM CHILD, THERE'S 09:34:46:18

ASSUMPTION OF CERTAIN AMOUNT OF 09:34:48:09

DRINKING WATER TO CONSUME, THIS 09:34:49:27

GAVE 1 P PM LEVEL TO REACH -- 09:34:51:10

NTP HELPED REVIEW THESE 09:34:54:21

CALCULATIONS. 09:34:56:27

ALSO IN JANUARY, WHEN THESE 09:34:57:27

THINGS HAPPENED THOUGH NCP MAY 09:35:02:28

NOT BE VOCAL WE'RE PAYING 09:35:05:06

ATTENTION AND WE DID SOME 09:35:06:27

INITIAL SA RNA ANALYSIS. 09:35:08:06

JUST TO SEE IF THERE WAS 09:35:10:24

ANYTHING OF REALLY SUBSTANTIAL 09:35:13:06

CONCERN A AT THE OUTSET. 09:35:15:09

AND WE DID NOT FIND ANYTHING 09:35:17:10

AFTER EVALUATING SAR MODELS SO 09:35:23:01

WE THOUGHT IT WAS LIMITED TOX O 09:35:27:09

COLLAGECAL CONCERN AT THE TIME 09:35:28:27

BUT BECAUSE OF LACK OF DATA 09:35:29:27

THERE'S UNCERTAINTY. 09:35:31:09

-- UNCERTAINTY. 09:35:32:09

THIS UNCERTAINTY PERSISTED FOR 09:35:34:06
SOME TIME AND THERE WERE COUPLE 09:35:39:13
OF ISSUES. 09:35:42:07
TWO BIG ONES WERE LIFE STAGE 09:35:43:04
ASSOCIATED UNCERTAIN THEITIES 09:35:47:25
BECAUSE OF NO IN UTERO EXPOSURE 09:35:50:00
OR TOXICITY DATA IN RODENTS FOR 09:35:52:21
NCHM AND THE QUESTION WHETHER OR 09:35:54:24
NOT A POINT OF DEPARTURE WAS 09:35:56:15
ACCURATE OR WAS APPROPRIATE. 09:36:02:07
SO AROUND THAT TIME, CDC 09:36:04:22
REQUESTED THAT THE NTP UNDERTAKE 09:36:08:19
RESEARCH ADDRESSING THESE 09:36:10:28
LINGERING UNCERTAIN THEITIES AND 09:36:12:03
ALSO AT THAT TIME THIS WAS 09:36:14:03
SOMEWHAT A BY-PRODUCT OF A 09:36:15:28
MEETING BETWEEN DR. BUCKER AND 09:36:17:13
DR. FRIEDEN. 09:36:19:19
ONE THING THAT WAS A FOCUS OF 09:36:22:03

THE NOMINATION WAS TO BASICALLY	09:36:24:04	48
CREATE DATA IN A YEAR.	09:36:26:00	
THAT WILL HELP PUBLIC HEALTH	09:36:27:24	
DECISION MAKERS.	09:36:30:21	
SO MOVING ON NOW TO GOALS OF THE	09:36:31:18	
NTP STUDY.	09:36:36:19	
THE FIRST THING THAT WE WANTED	09:36:38:27	
TO ADDRESS WAS TO REDUCE	09:36:40:00	
UNCERTAINTY AROUND POINT OF	09:36:42:09	
DEPARTURE AND SAFETY FACTORS	09:36:44:00	
USED TO DEVELOP SAFETY WATER	09:36:45:27	
ADVISORY LEVEL.	09:36:48:03	
TWO CHEMICALS DRINKING WATER	09:36:49:03	
ADVISORY LEVELS, I MENTIONED	09:36:50:27	
ONE, WERE DEVELOPED AND THEY	09:36:52:13	
USED POINTS OF DEPARTURE MCHM	09:36:53:24	
100 MG PER KG PER DAY CANNEDNY	09:36:57:27	
AND BLOOD EFFECTS AND PPH,	09:37:01:00	
ACTUALLY RATHER WELL STUDIED AND	09:37:03:07	
THE POINT OF DEPARTURE FOR THAT	09:37:05:00	
DEVELOPMENT OF THAT DRINKING WAS	09:37:08:12	
40 MG PER KG PER DAY FROM	09:37:10:03	
MATERNAL TOXICITY STUDY.	09:37:12:06	
FROM THOSE DRINKING WATER	09:37:14:10	
ADVISORY LEVELS WERE DEVELOPED	09:37:16:21	
SO NCHM WAS ONE PMM 0.1 MG PER	09:37:18:13	
KG FOR A TEN MILLIGRAM CHILD AND	09:37:24:07	
0.4 MG PER KG PER DAY FOR A	09:37:28:15	
PREGNANT WOMAN.	09:37:32:12	
THIS WAS THE BACKGROUND REDUCING	09:37:33:16	
UNCERTAINTY, WE WANT TO	09:37:37:12	

DETERMINE IF THERE ARE LIFE 09:37:38:24
STAGE SPECIFIC HAZARDS. 09:37:40:15
AND THAT WAS IN RELATION TO 09:37:42:00
PARTICULARLY IN RELATION TO IN 09:37:43:21
UTERO DEVELOPMENT AND THEN 09:37:45:16
SCREEN COMPONENTS THE MAKE SURE 09:37:48:04
TO DETERMINE SIGNIFICANT 09:37:49:12
DEVIATIONS IN POTENCY OR TOX 09:37:50:04
COLLAGIC PROPS. 09:37:52:06
-- TOXICOLOGIC PROPERTIES. 09:37:53:06
FROM THOSE GOALS EMERGED THESE 09:37:56:16
IS THE STUDIES HERE, WHAT YOU 09:38:00:06
HAVE ARE CHEMICALS FROM THE 09:38:03:15
SPILL ON THE LEFT MCHM AT TOP 09:38:06:00
AND WE ALSO INCLUDED A TECHNICAL 09:38:09:19
PRODUCT OR ACTUAL CRUDE MIXTURE 09:38:13:09
IN OUR SETS. 09:38:14:24
GOING ACROSS THE TOP HERE A 09:38:16:21
NUMBER OF STUDIES THOSE IN GREEN 09:38:18:12

ARE GUIDELINE STUDIES SO 09:38:21:21 49
DEVELOPMENTAL TOXICITY, DERMAL 09:38:24:18
IRRITATION AND HYPERSENSITIVITY, 09:38:26:09
MOST AROUND THE TABLE RECOGNIZE 09:38:29:10
THIS IN IS AN LLA ASSAY AND 09:38:30:07
BACTERIA MUTAGENICITY. 09:38:34:04
WE HAD GUIDELINE STUDIES WORKING 09:38:37:24
TRUE EITHER -- THROUGH AS 09:38:39:18
SCREENING STUDIES IN VIVO 09:38:41:18
SCREENING STUDIES AT NTP OR IN 09:38:43:09
VITRO SCREENING THROUGH THE TOX 09:38:46:04
21 EFFORT. 09:38:48:21
YOU CAN SEE HERE, AS YOU GO FROM 09:38:49:18
LEFT TO RIGHT WHICH IS MOST 09:38:51:28
RESOURCE INTENSIVE TO LEAST YOU 09:38:53:06
GET MORE CHEMICALS EVALUATED IN 09:38:56:27
DIFFERENT STUDIES. 09:38:59:12
NOWLY WORK YOU THROUGH THE 09:39:00:09
RESULTS TO DATE. 09:39:06:27
I SHOULD EMPHASIS -- EMPHASIZE 09:39:07:22
SOME STUDIES ARE NOT COMPLETE AT 09:39:10:21
THIS POINT. 09:39:12:06
I WILL TRY TO MAKE CLEAR WHICH 09:39:12:16
ARE STILL WAITING FOR SOME DATA 09:39:13:27
ON. 09:39:15:09
SO WE'RE GOING TO WORK FROM THE 09:39:15:22
LEAST RESOURCE INTENSIVE TO THE 09:39:21:01
MOST, START WITH STRUCTURE 09:39:22:27
ACTIVITY RELATIONSHIPS, I 09:39:24:12
BELIEVE YOU HER ABOUT THESE 09:39:25:27
STUDY LAST TIME. 09:39:27:06

SO WHAT THESE ARE, WE DID 09:39:29:04
EVALUATED -- USE SIX SOFTWARE 09:39:30:12
PLATFORMS CONTAINING 200 MOLDS 09:39:35:21
COVERING TOX LOGICAL END POINTS 09:39:37:16
MANY WHICH YOU'LL SEE HERE 09:39:42:18
TODAY. 09:39:43:28
TO USE BASICALLY THE CHEMICAL 09:39:44:04
STRUCTURE TO PREDICT TOXICITY OF 09:39:46:18
AGENTS. 09:39:48:12
AND WHAT THIS IS, IS JUST -- 09:39:49:07
IT'S A SET OF SOFTWARE TOOLS 09:39:50:27
THAT ALLOW YOU TO RAPIDRY 09:39:53:00
IDENTIFY POTENTIAL -- RAPIDLY 09:39:54:03
IDENTIFY TOXICOLOGICAL HAZARDS. 09:39:56:19
SO THE LARGE BAR ACROSS THE 09:40:01:06
BOTTOM YOU SAW THE TANKS ABOVE. 09:40:03:09
THE POSITIVE PREDICTIONS 09:40:05:16
MONITORING HIGH CONFIDENCE WERE 09:40:07:04
FOR DEVELOPMENTAL O TOXICITY AND 09:40:08:19

IRRITANCY AND WE ADDRESSED THOSE 09:40:10:21 50

IRRITANCY. 09:40:13:04

AND THE PPH CLASS WE LOOKED IN 09:40:14:12

DEPTH AT THESE DIFFERENT MODELS 09:40:19:07

AND WHAT THE BASES OF THESE CALS 09:40:20:19

WERE AND REALLY DIDN'T FIND 09:40:24:13

ANYTHING THAT WERE WE CONSIDERED 09:40:25:25

MODERATE TO HIGH CONFIDENCE. 09:40:29:15

SO WE DID NOT ANYTHING FOR THE 09:40:30:21

PBH CLASS. 09:40:33:24

NEXT WE MOVE TO EVALUATE HIGH 09:40:35:15

THROUGH PUT SCREENING DATA FROM 09:40:40:03

TOX 21. 09:40:41:21

27 CELL BASED SCREENING STUDIES 09:40:42:10

THAT EVALUATE CHEMICAL EFFECT ON 09:40:48:00

TOXICOLOGICAL -- EXAMPLES 09:40:51:21

INCLUDE STRESS SIGNALING PATH 09:40:53:18

WAYS LIKE HEAT SHOCK AND 09:40:55:09

ANTIOXIDANT RESPONSE AND ALSO 09:40:57:28

HORMONE RELATED ASSAYS ESTROGEN 09:40:59:09

RECEPTOR. 09:41:03:24

ANDROGEN RECEPTOR. 09:41:04:09

09:41:05:19

>> CAN I AM I SPEAKING LOUD 09:41:11:15

ENOUGH? 09:41:14:19

FINDINGS WERE NO SPILLED 09:41:15:06

CHEMICALS INCLUDING MCH WERE 09:41:16:27

ACTIVE UP TO 92 MICROMOLAR, 09:41:18:24

OUR TEST MAKES 10 TO 20 PBM IN ANY 09:41:21:09

ASSAYS TO DATE, THESE INCLUDE 09:41:25:21

COUPLED CYTOTOXICITY ASSAY FOR 09:41:27:24

THE SPECIFIC PATHWAYS WE AT. 09:41:29:24
ONE THINGS WE WILL NOTE IS 09:41:34:01
PROBABLY THE ONLY GROUP IN THE 09:41:35:25
WORLD TO DO CHEMISTRY ON 8,300 09:41:38:10
COMPOUNDS ON THROUGH PUT 09:41:41:10
SCREENING AND WE'RE STILL 09:41:42:18
WORKING ON THAT. 09:41:43:18
SO THE NEGATIVES UNLIKELY, 09:41:44:03
HIGHLY UNLIKELY, THE NEGATIVES 09:41:47:21
MAY TURN INTO NO CALL BECAUSE 09:41:49:18
IT'S POSSIBLE THAT MAYBE 09:41:52:03
CHEMICAL WITH WAS NOT IN THE 09:41:53:10
WELL. 09:41:54:13
AGAIN, HIGHLY UNLIKELY. 09:41:54:21
SO THESE ARE CHEMICALS HERE AT 09:41:56:03
THE BOTTOM INACTIVE ACROSS ALL 09:42:01:07
27 ASSAYS. 09:42:03:09
THE NEXT SET OF STUDY WERE 09:42:04:06
NEMATODE TOXICITY STUDIES AN 09:42:08:03

THESE LOOK AT GROWTH FEEDING AND	09:42:10:24	51
REPRODUCTION IN NEMATODE	09:42:13:09	
FOLLOWING CHEMICAL EXPOSURE.	09:42:14:24	
THIS IS A DIAGRAM OF LIFE PSYCH	09:42:16:10	
OF THE NEMATODE SHOWING YOU	09:42:17:13	
WHERE THESE DIFFERENT END POINTS	09:42:19:09	
ARE EVALUATED.	09:42:20:09	
ALL THESE CHEMICALS WERE	09:42:21:03	
EVALUATED AND ALL WERE INACTIVE.	09:42:26:24	
THIS IS UP TO 200 MICROMOLAR,	09:42:30:03	
20, 40 PPM.	09:42:33:06	
MCHM WAS EVALUATED, THE PPH, DIP	09:42:34:15	
PENSACOLAH AND CRUDE MIXTURE	09:42:41:27	
INACTIVE.	09:42:43:07	
NEXT SET OF STUDIES WERE	09:42:44:00	
ZEBRAFISH DEVELOPMENTAL TOXICITY	09:42:48:13	
STUDIES.	09:42:51:03	
WHAT THESE ARE, WE LOOK AT	09:42:51:28	
DEVELOPMENT AND BEHAVIOR AND	09:42:54:21	
ZEBRAFISH EMBRYOS FOLLOWING	09:42:56:13	
CHEMICAL EXPOSURE.	09:42:59:06	
TAKE A FERTILIZED EMBRYO, TREAT	09:43:00:09	
WITH CHEMICAL 24 HOURS LATER	09:43:03:27	
EVALUATE A NUMBER OF SHORTER	09:43:06:06	
TERM END POINTS INCLUDING	09:43:08:12	
SPONTANEOUS RUE MINUTE OR	09:43:09:22	
RUDIMENTARY BEHAVIOR ASSESSMENT	09:43:11:27	
IN ADDITION TO GROSS END POINTS	09:43:14:00	
FOR STRUCTURAL ABNORMALITIES.	09:43:15:21	
THEN FIVE DAYS AFTER CHEMICAL	09:43:18:13	
TREATMENT LOOK AT MUCH BROADER	09:43:21:06	

SET OF PHENOTYPES IN ADDITION TO 09:43:22:15
TOUCH RESPONSE WHICH IS 09:43:26:03
BEHAVIOR, CONSIDER BEHAVIOR -- 09:43:27:03
THESE ARE MALFORMATION END 09:43:30:04
POINTS. 09:43:31:21
PLOTTINGS WERE THAT ONE CHEMICAL 09:43:32:01
DIMETHYL DECARBOXYLATE OR KNOWN 09:43:38:16
DMCHDC WHICH IS LESS THAN 1% OF 09:43:43:07
SPILLED MATERIAL, WAS TOXIC TO 09:43:46:00
DEVELOPING FISH AT DOSE OF 6.3 09:43:48:13
MICROMOLAR. 09:43:51:13
THIS TRANSLATES INTO 09:43:52:12
APPROXIMATELY 13 PPM. 09:43:53:27
THIS IS RELEASED IN UPDATE 09:43:55:25
RECENTLY. 09:43:57:21
THE SPECIFIC EFFECTS FOUND WERE 09:43:58:07
CURVED OR BENT ACCESS IN THE 09:43:59:25
FISH, PERICARDIAL EDEMA, AND 09:44:01:15
MORTALITY AT THE HIGH DOSE. 09:44:03:24

THE OTHER CHEMICALS INCLUDES 09:44:05:24 52

MCHM CRUDE MCHM AND PPH. 09:44:11:00

NOTICE THE LIST IS SHORT. 09:44:14:22

WE ARE STILL TESTING CHEMICALS, 09:44:17:13

WITH WE'LL HAVE THE DATA SOON. 09:44:20:06

INACTIVE IN WHICH MICRO THESE 09:44:22:06

HAVE BEEN TESTED AND ACTIVE AND 09:44:25:09

THIS IS THE ONE THAT WAS ACTIVE. 09:44:26:18

NEXT WE PERFORM BACTERIAL 09:44:27:24

MUTAGENESIS STUDIES. 09:44:33:27

THESE ARE -- DON'T NEED TO 09:44:36:12

EXPLAIN TO THIS CROWD. 09:44:38:18

THE FINDINGS FOR THOSE NOT 09:44:42:09

FAMILIAR I SHOULD TAKE A MOMENT. 09:44:45:12

WHAT THIS DOES IS EVALUATE IT IS 09:44:47:10

CHEMICAL TO CHANGE DNA. 09:44:49:21

AND IF CHEMICAL HAS ABILITY TO 09:44:50:21

CHANGE DNA HAS INCREASE POTENT 09:44:53:22

TO BELIEVE CAUSE CANCER. 09:44:55:27

SO THAT'S WHY WE EVALUATE -- USE 09:44:56:18

-- IT'S A STANDARD DIED LINE 09:45:00:09

ASSAY USED FOR YEARS THAT IS 09:45:02:00

EXTENSIVELY VALIDATED. 09:45:04:18

NONE OF THE CHEMICALS FROM THE 09:45:06:21

SPELL TESTED TO DATE WE'RE STILL 09:45:10:24

WAITING ON A COUPLE, THIS 09:45:12:21

INCLUDES MCHM AND PAST MUTAGENIC 09:45:14:03

IN THREE STRAINS OF BACTERIA. 09:45:18:07

TESTS CONDUCTED WITH OR WITHOUT 09:45:21:06

METABOLIC ACTIVATION SO SIX 09:45:22:24

DIFFERENT TESTS. 09:45:24:15

ALL IN ACTIVE FOR GENERATING DNA 09:45:25:09
MUTATIONS. 09:45:29:03
THIS NEXT SET OF STUDIES I WILL 09:45:29:24
TAKE A LITTLE MORE TIME ON. 09:45:34:25
TO EXPLAIN HOW WE WORKED THROUGH 09:45:36:04
THE ANALYSIS AND WHAT THEY ARE. 09:45:40:06
THESE IS IN VIVO LEVEL SCREENING 09:45:42:06
STUDY TRYING TO DEVELOP 09:45:47:21
HOPEFULLY NEAR FUTURE IF 09:45:49:04
SOMETHING LIKE THIS HAPPENS 09:45:50:15
AGAIN, HOPE IT DOESN'T, OF 09:45:51:27
COURSE, WE CAN TURN THE 09:45:53:03
INFORMATION AROUND AROUND AND 09:45:58:04
SAY MONTH, MONTH AND A HALF 09:45:59:24
ASSUMING ENOUGH CHEMICAL, THIS 09:46:01:27
IS IN VIVO DATA WHICH WILL GIVE 09:46:03:06
YOU HOPEFULLY IN VIVO VERY 09:46:05:06
SENSITIVE IN VIVO POINT OF 09:46:07:00
DEPARTURE TO WORK OFF OF. 09:46:10:06

WE USE RATS 8 TO 10 WEEKS OLD, 09:46:11:15 53

FIVE PEAK DOSES AND EUTHANIZE 09:46:15:00

THEM 24 HOURS LAST DOSE. 09:46:17:06

IN THIS CASE WE HAVE SIX DOSES 09:46:18:18

AND A VEHICLE CONTROL WIDE DOSE 09:46:22:15

RANGE DOWN TO .1 MG PER KG PER 09:46:25:07

DAY USED TO DEVELOP LEVEL FOR 09:46:28:22

MCHF. 09:46:31:15

THE ONES WE FOCUS ON ARE THE 09:46:33:09

GENE EXPRESSION BUT ALSO 09:46:35:04

INCORPORATED A NUMBER OF 09:46:36:04

OTHER ENPOINTS THAT ARE MORE 09:46:37:06

TRADITIONAL IN NATURE INCLUDING 09:46:39:15

HEMATOLOGY, CHEMISTRY, CLINICAL 09:46:41:12

OBSERVATION ORGAN WEIGHT AND WE 09:46:43:09

ALSO PUT INTO, NUCLEI STUDIES 09:46:45:12

ARE DONE INDEPENDENT ON THE GENE 09:46:49:28

TOX CONTRACT BUT WE INCORPORATED 09:46:52:06

TO THESE STUDY AND VALUED AT THE 09:46:54:06

T TOX LABORATORIES. 09:46:55:24

FUNDAMENTALLY, WHAT THIS IS, SO 09:46:57:18

IMAGINE YOU CAN LOOK EVERY GENE 09:47:02:12

IN THE GENOME AND SEE WHAT 09:47:07:24

MOVES, SCREENING FOR BIOLOGICAL 09:47:08:21

ACTIVITY, USE A WIDE NET THAT'S 09:47:10:13

SENSITIVE. 09:47:11:24

LOOKING FOR ANY CHANGE THAT MAY 09:47:12:12

OCCUR. 09:47:15:06

NOT SAYING THIS IS RELATED 09:47:15:24

TOXICITY AT THIS POINT JUST 09:47:17:28

SAYING THIS IS A BIOLOGICAL 09:47:19:03

EFFECT. 09:47:20:15
WHICH MAY TRANSLATE INTO 09:47:20:27
TOXICITY. 09:47:23:13
SO THIS THAT'S WHAT THESE ARE, 09:47:24:10
MEANT FOR -- TURN OVER EVERY 09:47:25:27
STONE YOU POSSIBLY CAN. 09:47:27:24
SO TO MAKE A STATEMENT, 09:47:28:21
SCREENING LEVEL STUDY BENCHMARK 09:47:33:25
DOSE THAT PRODUCES INTEGRATED 09:47:37:27
BIOLOGIC RESPONSE, NOT TOXICITY 09:47:39:10
MEASURED BY RESPONSE OF GENES AN 09:47:41:21
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CALLED BMD EXPRESS, 09:50:23:27

WE LOAD THE DATA SO YOU HAVE 09:50:25:19

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HAVE A ROBUST SET OF MOLECULAR 09:53:13:07

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TO MAKE SURE EACH ONE PROCESSES 09:53:17:12

HAD AT LEAST 15 GENES IN THEM SO 09:53:21:16

WE'RE NOT DEALING WITH MOLECULAR 09:53:24:10

BIOLOGICAL PROCESS WITH THREE 09:53:26:12

GENES ANNOTATED WITH THREE GENES 09:53:28:13

SO AT LEAST 15. 09:53:30:07

SHORTER END AND THEN WE ASK 09:53:31:15

WHICH ONES OF THOSE MOLECULAR -- 09:53:34:27

AT LEAST 20% POPULATED BY THE 09:53:37:12

APPROPRIATELY FIT GENES. 09:53:39:00

SO THESE ARE NOW HAVE AT LEAST 09:53:40:09

20% GENES IN THE PATHWAY, 09:53:43:27

ACTUALLY HAVE A GOOD FIT P VALUE 09:53:45:12

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THEN YOU REPORT THE MEDIAN 09:53:49:12

MOLECULAR BIOLOGICAL PROCESS AND 09:53:54:09

THAT'S THE MEDIAN GENE, SHOW YOU 09:53:55:24

THIS HERE. 09:53:59:00

THIS IS A MOLECULAR BIOLOGICAL 09:53:59:21

PROCESS. THERE'S 15 GENES IN 09:54:07:04

THIS PATHWAY. 09:54:08:15

THE WAY IT WORKS, THERE'S FIVE 09:54:09:18

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TEN THAT DID NOT. 09:54:12:15

SO THIS IS A -- SOMETHING THAT'S 09:54:13:10

POPULATED BY OUR BEST FIT GENES 09:54:15:07

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WHAT YOU DO TO DETERMINE THE 09:54:20:07

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MEDIAN GENE FROM THOSE GENES IN 09:54:26:10
THAT GROUP. 09:54:28:03
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WOULD YOU LIKE KNOW GO THROUGH 09:54:41:06
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SORRY. 09:54:44:18
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WORKED THROUGH BY RUSTY AND 09:54:53:15
OTHERS USING THIS SOFTWARE. 09:54:54:27
SO LET'S GET TO THE FINDINGS. 09:54:56:21
SO -- SO LET'S GET TO THE 09:54:59:00
FINDINGS. 09:55:01:03
WE DID THREE HERE WITH TWO 09:55:01:18
CHEMICALS AND A MIXTURE MCHM, 09:55:03:16
CRUDE MCHM AND PPH. 09:55:06:09

SO THE DOSE RANGE FOR MCHM 09:55:08:27 58

STUDIES WITH WAS 0.1 TO 500 MG 09:55:11:03

PER KG PER DAY AND WE USE SIX 09:55:14:07

DOSE LEVELS. 09:55:16:12

OVERALL BY TOXICOGENOMICS 09:55:17:03

STANDARDS THESE WERE WEAK 09:55:20:03

EFFECTS ON GENE EXPRESSION LIVER 09:55:21:13

AND THERE WAS NO EFFECT IN 09:55:22:24

KIDNEY. 09:55:25:25

132 MOLECULAR BIOLOGIC PROCESSES 09:55:26:06

CONSIDERED ACTIVE AND HAD 09:55:30:19

REPORTED DMV VALUES SO KEG 09:55:31:24

PATHWAYS ARE BIOLOGICAL PROCESS. 09:55:33:21

THE MINIMUM BIOLOGICAL EFFECT 09:55:35:15

BENCHMARK DOSE WAS 100 MG PER KG 09:55:37:12

PER DAY. 09:55:41:03

REMEMBER BACK THE POINT OF 09:55:42:09

DEPARTURE FOR MCHM WAS 100 MG 09:55:44:00

PER KG PER DAY. 09:55:48:00

WHAT WE FIND IS LARGELY 09:55:49:21

CONSISTENT WHAT WAS IDENTIFIED 09:55:50:18

IN THE 28 DAY STUDY. 09:55:53:00

OTHER FINDINGS INCLUDED INCREASE 09:55:55:00

TRIGLYCERIDES HIGH DOSE, AND 09:55:57:22

THIS WAS NO INCREASE IN MICRO-- 09:56:00:12

IN THE RICH POPULATION SO NOT 09:56:02:27

AND IN VIVO GENE TOX, REDUCE 09:56:05:00

OURS CONCERN FOR CARCINOGENIC 09:56:07:06

PROPERTIES. 09:56:09:21

DON'T TRY TO READ THIS. 09:56:10:06

WHAT THESE ARE, WE'RE TRYING TO 09:56:14:06

SHOW DIFFERENT MOLECULAR 09:56:17:28
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SO WHAT THIS IS, THIS IS COUNTS 09:56:23:09
HERE ON THE -- AN THIS IS THE 09:56:25:16
MEDIAN BMB FOR THAT MOLECULAR 09:56:27:03
BIOLOGICAL PROCESS. 09:56:29:10
THESE GUYS HAVE BEEN WORKING 09:56:30:18
WITH THIS, TRYING TO HELP 09:56:31:15
VISUALIZE THIS APPROPRIATELY TO 09:56:32:24
GIVE A SENSE OF MASS OF THE 09:56:34:15
DATA. 09:56:36:00
AND WHAT YOU CAN SEE HERE IS 09:56:36:10
THAT THIS LINE HERE THAT GOES UP 09:56:37:07
THROUGH THE DATA. 09:56:39:03
AND SO THE LOWEST ONE WAS ABOUT 09:56:39:21
107 MG PER KG PER DAY AN GOES 09:56:43:07
OVER FAR AND STARTS REALLY 09:56:45:15
RAMPING UP, A LOT START SHOWING 09:56:47:00

UP AS ACTIVE. 09:56:49:03 59

SO WHAT YOU LOOK AT AGAIN, IS 09:56:50:10

LOWEST BENCHMARK DOSE FOR MCHM 09:56:54:16

WAS 100 MG PER KG PER DAY. 09:56:57:18

CRUDE MCHM, SIMILAR DOSE RANGE 09:57:01:27

TO MCHM HAT WEAK EFFECT ON GENE 09:57:05:18

EXPRESSION AND LIVER, VERY 09:57:08:27

SIMILAR. 09:57:10:21

VERY SIMILAR. 09:57:11:13

132 MOLECULAR CONSIDERED ACTIVE 09:57:12:04

OR REPORTED BMV VALUE THERE'S A 09:57:16:07

MINIMUM BIOLOGICAL BENCHMARK 09:57:18:18

DOSE OF 60 MG PER KG PER DAY. 09:57:20:16

THE OTHER FINDINGS SIMILAR TO 09:57:23:18

MCHM, INCREASED TRIGLYCERIDES IN 09:57:24:22

TOP TWO DOSE AND NO INCREASE IN 09:57:27:25

MICRONUCLEUS SO CRUDE WAS 09:57:30:09

LOOKING SIMILAR THE TO PURE. 09:57:31:12

FINALLY PBH DOSE RANGES 09:57:33:03

DIFFERENCE. 09:57:41:00

1 TO 2,000, WEAK EFFECT ON GENE 09:57:41:15

EXPRESSION LIVER AND KIDNEY. 09:57:43:12

144 AND 104 MBPs CONSIDERED 09:57:45:03

ACTIVE AND REPORTED BMB VALUE 09:57:48:21

REPORTED IN KIDNEY RESPECTIVELY. 09:57:51:27

THE MINIMUM BIOLOGICAL EFFECT 09:57:53:21

BENCHMARK DOSE WAS 1 MG PER KG 09:57:56:04

PER DAY. 09:57:59:03

THE OTHER FINDINGS, THIS IS 09:57:59:15

ACTUALLY NOT TOO FAR OFF FROM 09:58:01:21

SOME OF THE NOELS IN THE 09:58:03:21

DATABASE LOWEST WAS ABOUT 18 MG 09:58:06:03
PER KG PER DAY. 09:58:09:19
THE OTHER FINDINGS INCLUDE THE 09:58:11:00
2000 MG PER KG DOSE WAS OVERTLY 09:58:14:27
TOXIC. 09:58:18:16
SO THOSE ANIMALS WERE NOT 09:58:18:27
INCLUDED IN THIS ANALYSIS. 09:58:20:12
INCREASE ALT LEVELS 500 AND 09:58:22:03
1,000 AND NO INCREASE IN 09:58:24:06
MICRONUCLEI SO AGAIN, NOT GENE 09:58:25:21
TOXIC AND ACTUALLY THERE WAS 09:58:28:03
SOME INDICATIONS HIGH DOSES THAT 09:58:29:28
PPH MIGHT BE GENE TOXIC FROM 09:58:32:03
PREVIOUS STUDIES BUT FROM WHAT 09:58:35:03
WE SEE HERE WE DO NOT SEE IT. 09:58:36:27
NOW ON TO THE LNA ORDER MALL 09:58:38:21
IRRITANCY HYPERSENSITIVITY 09:58:44:24
STUDY. 09:58:46:09
WHAT WE DO HERE IS LOOK AT 09:58:46:28

PROLIFERATION OF LYMPH NODE 09:58:49:00 60
CELLS, IMMUNE ORGANS IF YOU 09:58:50:18
WOULD. 09:58:52:09
AND LOCALIZE SKIN SWELLING FOUND 09:58:52:28
REPEATED APPLICATION OF MOUSE 09:58:56:03
SKIN TO DETERMINE CHEMICAL CAUSE 09:58:58:03
OF IRRITATION OR ALLERGIC 09:58:59:27
REACTION HYPERSENSITIVITY. 09:59:00:27
FINDING WERE WITH MCHM, I WON'T 09:59:02:18
GO INTO DETAIL BECAUSE THIS IS A 09:59:06:27
GUIDELINE STUDY THE, PRETTY SURE 09:59:08:06
YOU'RE FAMILIAR WITH THIS. 09:59:10:06
CAUSES MILD IRRITATION AT 20% OR 09:59:11:12
200,000 PPM. 09:59:15:15
AND IT DID NOT CAUSE DERMAL 09:59:16:27
SENSITIZATION. 09:59:18:24
MCHM, PURE CHEMICAL, IT'S A 09:59:19:21
MIXTURE OF TWO ISOMERS. AND DID 09:59:23:12
NOT CAUSE SENSITIZATION UP TO 09:59:25:15
500,000 PPM. 09:59:27:21
CRUDE MCHM CAUSE MILD IRRITATION 09:59:29:06
AT 750,000 PPM AND CAUSE DERMAL 09:59:31:15
SENSITIZATION ABOUT 40% SO THIS 09:59:35:18
WAS A SENSITIZER ABOUT WE HAVE 09:59:37:13
NOT FIGURED YET WHAT THE 09:59:39:10
COMPONENT IS IN THE CRUDE 09:59:41:12
MIXTURE THAT MAYBE DRIVING THE 09:59:42:22
SENSITIZATION BECAUSE WE DIDN'T 09:59:43:27
SEE IT IN PURE. 09:59:47:03
FINALLY, WE RAN A PRE-NATAL 09:59:47:27
DEVELOPMENT TOXICITY STUDY MCHS, 09:59:56:03

THIS IS WHERE WE LOOK AT 09:59:59:01
MATERNAL PRE-DEVELOPMENT 09:59:59:28
PARAMETERS FOLLOWING CHEMICAL 10:00:02:06
EXPOSURE DURING GESTATION WHICH 10:00:04:12
IS A TWO WEEK PERIOD FOR RATS. 10:00:06:00
WE RUN STUDIES IN TWO PHASES. 10:00:08:09
UNLESS WE HAVE INFORMATION WE 10:00:12:06
CAN PICK THE DOSE, WE RUN A DOSE 10:00:16:10
RANGE FINDING STUDY TO IDENTIFY 10:00:19:00
A DOSE, THE MAXIMUM DOSE IS NOT 10:00:20:09
PRODUCE MATERNAL TOXICITY. 10:00:22:19
SO TELL YOU ABOUT THAT FIRST. 10:00:24:09
THAT'S THE DOSE RANGE FINDING 10:00:25:21
STUDY HERE. 10:00:26:24
DOSE USED WERE 150 TO 900 MG PER 10:00:27:18
KG PER DAY, GESTATION DAY OF TO 10:00:32:10
1. 10:00:34:09
WE SAW 60 AND 900 MG PER KG PER 10:00:34:21
DAY, INCREASE IN FETAL LOSS, 10:00:40:28

CREASE IN -- STARTING AT 150 MG 10:00:46:18
PER KG PER DAY. 10:00:50:00
SO BASED ON THE FINDINGS, WE 10:00:51:15
DETERMINED 400 MG PER KG WOULD 10:00:55:12
BE THE APPROPRIATE TOP DOSE 10:00:58:00
INCLUDING THE MAIN STUDY, 10:00:59:24
DEVELOPMENTAL TOXICITY STUDY. 10:01:01:21
SO DOSES WENT FROM 50 TO 400, 10:01:03:15
FOUR DOSES AND CONTROL, SIMILAR 10:01:07:22
IDENTICAL DAYS DOSING, WE PICK 10:01:09:04
THE DOSES WELL, NO MATERNAL 10:01:11:21
TOXICITY OBSERVED. 10:01:12:27
I WILL POINT OUT, MATERNAL 10:01:14:09
TOXICITY IS TRADITIONALLY 10:01:16:19
DETERMINED BY CLINICAL SIGNS AND 10:01:19:06
GROSS -- BODY WEIGHT. 10:01:21:18
THOSE PARAMETERS WERE UNCHANGED. 10:01:23:04
WE WENT FARTHER AND THERE SEEMED 10:01:25:06
MINOR CHANGES IN CLINICAL -- I 10:01:34:09
DON'T BELIEVE IT CONSIDERED 10:01:36:27
MATERNAL TOXICITY. 10:01:37:27
SO AT THIS POINT NO MATERNAL 10:01:39:03
TOXICITY OBSERVED BASED UPON 10:01:43:19
CURRENT GUIDELINES. 10:01:45:24
NO EFFECTS ON FETAL SURVIVAL. 10:01:46:24
WEIGHT DECREASE 200 MG PER KG, 10:01:50:09
PER DAY AND WE ALSO SAW 10:01:55:27
INCREASED MALFORMATIONS AT 400 10:01:57:06
MG PER KG PER DAY INCLUDE 10:01:59:03
INCREASE INCIDENCE OF -- 10:02:01:19

CERVICAL WHICH IS I'M IN THE A 10:02:03:03
MOLECULAR BIOLOGIST RELATIVELY 10:02:07:00
RARE. 10:02:08:27
WE HAVE EXPERTS. 10:02:09:01
VERY GOOD ONES ABOUT DECREASE 10:02:13:00
FUSION OF CARTILAGE TO STERNUM. 10:02:14:15
AND THE FINDINGS INDICATE MCHM 10:02:16:13
PRODUCED TOXICITY IN ABSENCE OF 10:02:22:00
MATERNAL TOXICITY AND BY 10:02:23:16
STANDARD DEFINITION CONSIDERED A 10:02:25:06
DEVELOPMENTAL TOXICANT. 10:02:27:09
WE SAW NO EFFECT LEVEL ABOUT 50 10:02:28:28
TO 100 MG PER KG PER DAY. 10:02:31:18
WE HAVE RUN BENCHMARK ANALYSIS 10:02:34:06
JUST ON FETAL WEIGHT AND WITH 1 10:02:36:15
WE CAN MOVE THE L AROUND IN THE 10:02:41:15
30s. 10:02:43:12
SO NOT TOO FAR FROM THE 100 MG 10:02:43:21
PER KG PER DAY DOSE. 10:02:46:24

TO DATE. 10:02:59:00

YELLOW ONES ARE INCLUDED IN MY 10:03:00:12

ORIGINAL PRESENTATION, BUT I 10:03:02:01

THINK FOR PURPOSES OF CLARITY I 10:03:03:12

MOVE THEM SO WHAT THESE WERE 10:03:05:00

BEFORE EXTRA COMPOUNDS NOT IN 10:03:06:12

THE SPILL, WHY WE DIDN'T HAVE 10:03:09:16

THEM THE FIRST SLIDE, STRUCTURAL 10:03:11:09

ANALOGS. 10:03:12:19

ADDED TO INCREASE THE BULK OF 10:03:13:09

DATA ACROSS CHEMICAL CLASS. 10:03:16:16

YOU HAVE THE REST OF THE 10:03:18:15

CHEMICALS, WE DID GET -- ACTUAL 10:03:21:12

DIPPH FROM DOW CHEMICAL AND RAN 10:03:24:24

A COUPLE OF ASSESSMENTS. 10:03:29:06

BUT THESE ARE ALL THE ONES YOU 10:03:30:21

RECOGNIZE FROM PREVIOUS SLIDE. 10:03:33:09

AND THESE ARE STUDIES HERE, X 10:03:35:00

INDICATES THEY WERE DONE AND 10:03:37:15

CHEMICALS WERE EVALUATED AND 10:03:38:24

ACTIVE, THEY WERE POSITIVE, O 10:03:42:19

MEANS GETTING THE DATA SOON. 10:03:44:27

AND THEN THESE ASTERISKS 10:03:46:03

INDICATE THE TWO HERE HAD TO BE 10:03:49:24

SYNTHESIZED. 10:03:52:03

WE RAN THE ZEBRA FISH THE 10:03:52:27

NEMATODE STUDIES EARLY SO WE 10:03:54:24

HAVE SINCE LOST THE CAPABILITY 10:03:57:16

TO RUN THESE STUDIES SO THAT'S 10:03:58:21

WHY THEY'RE NOT GOING TO BE 10:04:00:10

REASON. 10:04:01:10
-- RUN. 10:04:01:24
SO WHAT YOU SEE HERE IS ANIMAL 10:04:03:06
STUDIES, APPEAR ACTIVE FOR 10:04:06:15
CHEMICALS IN MATRIX WE EVALUATED 10:04:09:06
AND SARs, WHICH YOU'LL NOTE 10:04:12:01
HERE AS WE'RE WAITING 10:04:15:09
PHOTOCHEMICALS, BACTERIAL 10:04:16:18
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10:15:53:09

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10:16:28:03

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10:20:22:09

>> DR. CORCORAN. 10:20:26:03

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MMCHC, METHYL CYCLE CARBOXYLATE 10:36:39:01
WAS IDENTIFIED BY THE U.S.GS AS 10:36:43:24
BEING DUCTED IN THE TAP WATER 10:36:47:16
SAMPLES. 10:36:48:27
SO THAT WAS ALSO SOMETHING 10:36:49:18
DR. URBAL SAID THERE WAS ONGOING 10:36:55:21
STUDIES ABOUT THAT SO WE'RE 10:36:58:00
INTERESTED TO SEE WHAT COMES OUT 10:36:59:06
AS A RESULT OF THAT. 10:37:00:21
THAT IS THE BULK OF HIGHLIGHTS 10:37:01:12
OF THE LETTER. 10:37:12:00
HOPE YOU READ IT AND WE WOULD 10:37:13:07
LOVE TO HAVE RESPONSES AND MAYBE 10:37:15:10

THIS WILL BE HELPFUL, I THINK 10:37:16:24 81

THERE'S GOING TO BE A 10:37:18:12

PRESENTATION IN WEST VIRGINIA IF 10:37:19:09

I'M NOT MISTAKEN OR THAT HAS 10:37:20:13

BEEN DISCUSSED AT SOME POINT FOR 10:37:22:16

PEOPLE TO INTERACT WITH THIS 10:37:27:06

INFORMATION AND ASK QUESTIONS, 10:37:28:12

IF NOT, I WOULD HIGHLY SUGGEST 10:37:29:15

THAT IS SOMETHING THAT HAPPENS 10:37:32:12

BECAUSE PEOPLE WANT TO KNOW HOW 10:37:33:18

THIS INFORMATION TRANSLATES TO 10:37:34:28

THEIR EXPERIENCE. THAT IS THE 10:37:36:12

BULK OF WHAT I WANT TO SAY. 10:37:44:27

THANK YOU SO MUCH FOR YOUR WORK 10:37:46:03

AND FOR RESPONDING TO THIS 10:37:47:07

INCIDENT. 10:37:48:12

AND WE HOPE YOU CONSIDER 10:37:48:24

CONDUCTING INHALATION STUDIES. 10:37:52:15

ONE MORE -- INHALATION STUDIES 10:37:54:03

THAT. 10:37:56:10

THE'S ONE THING TALKED ABOUT 10:37:56:12

DISASTER RESPONSE AND ONE MAIN 10:37:57:28

ISSUES WAS THE DATA COLLECTION, 10:37:59:09

AIR SAMPLING WAS NOT TAKEN IN 10:38:05:06

RESPONSE TO THE SPILL WHICH FOR 10:38:08:12

US WAS A MAIN PATHWAY THE TO 10:38:10:13

EXPOSURE AND GREATEST CONCERN. 10:38:12:06

SO IN LOOKING AT DISASTER 10:38:14:03

RESPONSE, AND SCIENTIFIC 10:38:15:10

RESPONSE IN THE FUTURE, THIS WAS 10:38:18:21

A CONVERSATION THE NATIONAL 10:38:19:27

SCIENCE FOUNDATION CONFERENCE	10:38:20:24
COUPLE OF WEEKS AGO WE HOPE	10:38:22:22
THERE'S A WAY TO COLLECT THE	10:38:24:00
DATA NECESSARY, WHEN THESE	10:38:25:18
DISASTERS OCCUR BECAUSE THAT'S	10:38:27:15
WHEN IT'S MOVE IMPORTANT TO	10:38:29:06
COLLECT.	10:38:31:09
SO THANK YOU VERY MUCH.	10:38:31:16
	10:38:36:04
>> THANK YOU.	10:38:36:18
ANY QUESTIONS FOR HER?	10:38:37:07
ARE THERE ANY OTHER PUBLIC	10:38:42:28
COMMENTS FROM THE AUDIENCE?	10:38:48:00
ALL RIGHT.	10:38:49:09
WITH THAT, I'LL ASK	10:38:52:24
DR. MARKOWITZ TO PRESENT HIS	10:38:54:09
COMMENTS.	10:38:56:18
	10:38:57:00
>> THANK YOU, STEPHEN MARKOWITZ,	10:38:59:22

I'M NOT PRESENT, NEXT TIME I'LL 10:39:03:00
TRAVEL WITH DAN CATZ AND SUCCEED 10:39:06:03
IN ARRIVING. 10:39:09:15
FIRST I WANT TO SAY I'M SURE I 10:39:10:09
SPEAK FOR OTHER MEMBERS OF THE 10:39:13:15
BOARD TO EXPRESS ADMIRATION FOR 10:39:15:06
THIS WHOLE PROJECT THE ABILITY 10:39:18:09
TO PLAN IT, TO ACHIEVE 10:39:19:27
CONSENSUS, EXECUTE IT, 10:39:23:15
COMMUNICATE ALONG THE WAY, AND 10:39:24:22
COME UP WITH FINAL RESULTS 10:39:28:12
WITHIN A YEAR. 10:39:29:12
IS REALLY SOMETHING. 10:39:30:00
BOB MENTIONED THIS IN THE 10:39:36:04
DECEMBER MEETING, HERE WE ARE 10:39:37:12
SIX MONTHS LATER AND APPEARS 10:39:39:00
APPEARS TO HAVE THE DEADLINE 10:39:44:06
SUCCESSFULLY SO HATS OFF TO YOU 10:39:45:25
FOR THAT. IT'S ALSO PERSONAL 10:39:47:12
COMMENTARY QUITE A CONTRAST, I 10:39:50:01
THINK S THE SOPHISTICATION OF 10:39:51:25
WHAT YOU DO VERSUS HOW CRUDE THE 10:39:53:27
SYSTEM WE HAVE, THAT ALLOWS USE 10:39:57:27
OF CHEMICALS LARGELY UNTEST AND 10:40:01:19
LARGELY UNMONITORED SUCH AS 10:40:03:15
CHEMICALS INVOLVED WITH THIS 10:40:06:09
SPILL. 10:40:07:27
AND WHICH RESULTED IN -- AT SOME 10:40:09:00
LEVEL SOME HUMAN EXPOSURE. 10:40:12:03
SECONDLY, I THINK THE WRITE UP 10:40:13:21

TO THE UPDATES AND ALSO 10:40:18:07
DR. AUERBACH'S PRESENTATION 10:40:19:22
TODAY WERE EXCEPTIONALLY CLEAR. 10:40:21:09
AND PROVIDING UPDATES ALONG THE 10:40:26:09
WAY I'M SURE IS IMPORTANT NOT 10:40:29:03
JUST TO US BUT PEOPLE AFFECTED 10:40:30:12
BY THIS. 10:40:32:03
AND I THINK AGAIN, THE HISTORY 10:40:32:18
OF THE SPILL THAT RISK 10:40:36:21
COMMUNICATION WAS A MAJOR 10:40:37:18
CHALLENGE. 10:40:38:27
AND I THINK NTP DOING WELL AT 10:40:40:06
LEAST IN YOUR OWN OF OVERCOMING 10:40:45:03
THAT, WHICH RELATES TO THE 10:40:50:09
QUESTION I HAVE, WHAT IS -- I 10:40:51:18
KNOW YOU WILL BE DONE IN A MONTH 10:40:53:06
OR SO, WHAT IS THE PLAN FOR 10:40:54:24
FURTHER COMMUNICATION WITH LOCAL 10:40:58:06
COMMUNITY? 10:40:59:10

>> DR. (INAUDIBLE) LOOKS LIKE HE WANTS TO COMMENT SO LET HIM GO FIRST.

>> THIS IS THE FIRST PUBLIC PRESENTATION OF THE INFORMATION FROM THE SCIENTIFIC LEVEL. I HAVE -- WE WILL BE DOING INTERVIEWS WITH THE OCAL NEWS TODAY. AND WE WILL BE WRITING OVERALL REPORT OF THESE STUDIES THAT WILL BE MADE AVAILABLE TO ANYONE WHO WANTS TO TALK ABOUT IT. SO WE DON'T HAVE ANY OFFICIAL PLANS FOR PRESS CONFERENCES OR THE LIKE. BUT WE ARE OPEN TO OBVIOUSLY ANY -- INTERACTIONS THAT WOULD FURTHER OUR -- GETTING THIS INFORMATION OUT TO THE PEOPLE WHO WOULD LIKE TO HEAR IT.

>> ONE THING I WOULD ALSO NOTE, ANY INTERACTION WITH THE PUBLIC IN WEST VIRGINIA WOULD LIKELY BE COORDINATED WITH CDC, WEST VIRGINIA DEPARTMENT OF BIODEVELOPMENT AND WEST VIRGINIA OFFICIALS.

>> (OVERLAPPING SPEAKERS) 10:42:13:21
>> COUPLE OF QUICK QUESTIONS. 10:42:17:09
IN -- WE MET LAST TIME I THINK 10:42:20:00
THERE WAS MENTION OF USING THE 10:42:21:27
PRE-NATAL -- STUDY TO LOOK AT A 10:42:24:03
LITTLE BIT OF INTERNAL 10:42:27:18
DOSIMETRY. 10:42:29:06
THIS RELATES TO ONE ISSUE THAT 10:42:30:21
PUBLIC COMMENTERS RAISED 10:42:33:03
INHALATION. 10:42:34:24
SO WHAT IS -- DR. AUERBACH YOU 10:42:35:10
MAY HAVE COVERED THIS IN YOUR 10:42:39:21
REPORT, DID YOU LEARN ANYTHING 10:42:40:28
ON THAT STUDY ABOUT INTERNAL 10:42:42:01
DOSES THAT MIGHT BE USEFUL IN 10:42:43:24
MODELING WHAT INHALATION MIGHT 10:42:46:06
HAVE MEANT? 10:42:48:09
10:42:48:27
>> WE HAVE NOT AT THIS POINT 10:42:51:09

AVAILABLE TO US. 10:42:55:24

ONE BIG FOCUS WAS EVALUATING 10:42:56:21

THAT POINT OF DEPARTURE 10:43:01:06

ORIGINALLY USED. 10:43:04:22

IF THE MARGIN WAS QUITE LARGE, I 10:43:06:03

DON'T THINK THERE WAS -- MUCH 10:43:08:25

ENTHUSIASM TO GO ABOUT 10:43:12:24

EVALUATING TOXICOKINETICS 10:43:16:09

BECAUSE IT DIDN'T HAVE THAT 10:43:19:24

SIGNIFICANT OF AN EFFECT. 10:43:21:01

I BELIEVE IT'S A VERY GOOD 10:43:22:00

SUGGESTION AN CERTAINLY 10:43:23:09

SOMETHING WE CAN REVISIT. 10:43:24:06

AND TAKE INTO CONSIDERATION 10:43:26:09

GOING FORWARD. 10:43:28:00

10:43:30:24

>> JUST A FINAL QUESTION, GIVEN 10:43:33:27

WHAT YOU FOUND SO FAR, DO YOU 10:43:37:18

HAVE OR WILL YOU DEVELOP 10:43:39:06

RECOMMENDATIONS FOR ADDITIONAL 10:43:40:16

STUDIES? 10:43:41:13

OR -- WE HAVE LEARNED WHAT WE 10:43:43:28

LEARNED AND TIME TO MOVE ON? 10:43:45:27

10:43:47:03

>> AT THIS POINT I THINK WE -- 10:43:49:06

THE BIGGEST CONCERN THAT WE HAD 10:43:51:04

WAS EVALUATING THE POINT -- 10:43:52:21

NUMBER ONE ON OUR GOALS, WE 10:43:56:13

DON'T BELIEVE WE WOULD 10:44:00:18

SIGNIFICANTLY LOWER THAT NUMBER 10:44:02:00

WITH MORE STUDIES AT THIS POINT. 10:44:04:01
SO WE DON'T KNOW WHAT ADDITIONAL 10:44:07:09
VALUE WE WOULD PROVIDE. 10:44:08:21
IF THERE IS JUSTIFICATION AND 10:44:09:28
POTENTIAL FOR DISCUSSION ON 10:44:14:00
THIS, IT IS POSSIBLE THAT WE CAN 10:44:15:18
DO ADDITIONAL STUDIES BUT THEY 10:44:17:06
WOULD HAVE TO BE A CLEAR 10:44:19:06
JUSTIFICATION TO THAT THAT WE 10:44:20:10
THINK IMPACT PUBLIC DECISION 10:44:22:00
MAKING. 10:44:25:21
10:44:26:09
>> THANK YOU. 10:44:28:06
THAT'S ALL I HAVE. 10:44:28:27
10:44:29:03
>> I WOULD LIKE TO MAKE ONE MORE 10:44:29:25
COMMENT. 10:44:31:15
ONE THING THAT IS IMPORTANT 10:44:32:06
TRYING TO DESIGN A SERIES OF 10:44:34:12

STUDIES THAT ADDRESSES A	10:44:36:00	85
PARTICULAR PUBLIC HEALTH ISSUE	10:44:37:18	
IS THAT YOU HAVE AFTER	10:44:39:09	
PARTICULAR TARGET.	10:44:40:27	
THE TARGET WAS THE ONE PPM	10:44:42:07	
DRINKING WATER ADVISORY LEVEL TO	10:44:45:27	
SEE IF IT WAS SUPPORTED BY	10:44:48:00	
INFORMATION WE GENERATE IN	10:44:49:24	
DECREASING THE UNCERTAINTY	10:44:51:15	
AROUND THAT ESTIMATE.	10:44:53:00	
IT WOULD BE GREAT TO HAVE HAD	10:44:54:28	
INHALATION MEASUREMENTS AT THE	10:44:58:18	
TIME OF THIS BILL OR TIME OF	10:45:00:13	
EXPOSURE OR FLUSHING OF THE	10:45:03:22	
PIPES IN THE HOUSES, THAT WOULD	10:45:06:18	
HAVE GIVEN US A TARGET TO FOCUS	10:45:08:06	
ON.	10:45:09:21	
BUT IN THE ABSENCE OF THOSE	10:45:10:01	
MEASUREMENTS IT'S REALLY	10:45:11:27	
DIFFICULT TO TRY TO DECIDE WHAT	10:45:13:09	
KIND OF A STUDY YOU WOULD PUT	10:45:15:16	
TOGETHER TO SEE IF WHATEVER	10:45:16:27	
LEVELS ARE ACHIEVED OR	10:45:20:27	
POTENTIALLY HARMFUL.	10:45:22:21	
SO IT'S THE FOCUS ON THE POINT	10:45:24:06	
OF DEPARTURE I THINK WAS	10:45:28:00	
SOMETHING THAT WAS CRITICAL AND	10:45:29:18	
SOMETHING WE TALKED ABOUT AT THE	10:45:31:09	
VERY BEGINNING DESIGNING THESE	10:45:32:12	
STUDIES.	10:45:33:27	
	10:45:34:16	

>> PAUL HOWARD. 10:45:39:06
TWO QUICK QUESTIONS. 10:45:40:03
ONE, ONE OF THE HALLMARKS OF THE 10:45:43:04
NTP PROGRAM IS KEEPING OTHER 10:45:44:22
FEDERAL AGENCIES INVOLVED AND 10:45:46:15
UPDATED AS THINGS MOVE ALONG. 10:45:48:09
SO THERE'S NO SURPRISES IN FRONT 10:45:49:15
OF THE CAMERAS. 10:45:51:04
WOULD YOU CLARIFY WHAT YOU SAID 10:45:53:00
ABOUT THE CDC, SCOTT? 10:45:54:09
THEY HAVE BEEN INVOLVED OR GOING 10:45:56:10
TO BE INVOLVED IN. 10:45:58:00
>> WE HAVE EVERY SINGLE UPDATE 10:45:58:24
HAS BEEN COMMUNICATED THROUGH 10:46:00:25
OUR STAKEHOLDERRERS BEFORE THEY 10:46:01:22
WERE RELEASED. 10:46:03:18
AND THEY WERE GIVEN THE 10:46:04:15
OPPORTUNITY TO REVIEW THEM. 10:46:05:18
THERE'S BEEN AN OPEN LINE 10:46:06:15

COMMUNICATION WITH CENTER FOR 10:46:12:00 86
 DISEASE CONTROL SPECIFICALLY ON 10:46:13:15
 WHAT WE HAVE BEEN DOING AND WHAT 10:46:15:06
 WE HAVE BEEN FINDING AND WHAT WE 10:46:16:22
 WERE RELEASED TO THE PUBLIC. 10:46:18:13
 10:46:19:27
 >> THAT IS OUTSTANDING. 10:46:20:10
 IN LIGHT OF RAPID RESPONSE YOU 10:46:21:28
 DON'T WANT TO LEAVE THAT 10:46:23:27
 COMMUNICATION OFF THE TABLE 10:46:24:27
 BECAUSE SURPRISES NEVER A GOOD 10:46:26:12
 THING IN THE FEDERAL GOVERNMENT. 10:46:29:00
 THE SECOND THING IS, JUST A 10:46:30:21
 QUESTION ABOUT WHY 10:46:31:28
 TOXICOKINETICS OR 10:46:33:09
 PHARMACOKINETICS, WHY 10:46:34:24
 PHARMACOKINETICS WASN'T DONE 10:46:37:06
 SINCE IT'S THE BENCHMARK TO 10:46:39:25
 UNDERSTAND THE DOSE DIFFERENCE 10:46:41:07
 BETWEEN ANIMALS AND SEXES, ET 10:46:42:04
 CETERA, IS IT BECAUSE JUST THE 10:46:44:24
 TIMING, TO PUT TOGETHER TO 10:46:46:18
 VALIDATE AN LCMS METHOD FOR 10:46:50:09
 LOOKING AT METABOLITES OR WAS IT 10:46:53:28
 A DIFFERENT REASON? 10:46:55:19
 10:46:56:22
 >> SO WE -- A LOT OF WHAT IT IS, 10:46:59:21
 IT'S RESEARCH CAPABILITY AND I 10:47:02:27
 HAVE GUMMED UP THE WORK 10:47:06:19
 SIGNIFICANTLY AND EVERYONE IS 10:47:08:22
 VERY PATIENT WITH ME. 10:47:10:24

AGAIN, IT'S A QUESTION OF IF YOU 10:47:11:21
HAVE VERY LARGE MARGINS OF 10:47:18:15
EXPANSION, WHAT'S THE -- THERE 10:47:20:00
ARE SCIENTIFIC JUSTIFICATION. 10:47:22:21
BUT FROM INFORMING THE PUBLIC 10:47:26:06
HEALTH OFFICIALS TO MAKE 10:47:29:24
DECISIONS IS A QUESTION OF THE 10:47:30:24
VALUE OF THE INFORMATION. 10:47:32:15
ONCE YOU HAVE THE POINT OF 10:47:34:03
DEPARTURE A THOUSAND FOLD 10:47:35:13
HIGHER. 10:47:37:19
ADDITIONAL TOXICOKINETIC 10:47:38:09
INFORMATION YES MAYBE 10:47:40:12
INTERESTING, MAY CHANGE NUMBERS 10:47:41:09
SLIGHTLY BUT WHAT ADDED VALUE, 10:47:43:24
DO YOU GET AT THAT POINT? 10:47:46:09
THAT'S WHERE THE BALANCES COME 10:47:48:18
FROM. 10:47:50:09
CERTAIN PEOPLE MAKE ARGUMENTS 10:47:50:28

ONE WAY OR ANOTHER WAY. 10:47:52:09 87

I AGREE. 10:47:53:18

FINE AN ACCURATE NUMBER REDUCES 10:47:56:25

UNCERTAINTY. 10:47:58:09

YOU HAVE A LOT OF ROOM TO WORK 10:47:59:06

WITH MARGIN EXPOSURE. 10:48:01:12

10:48:02:25

>> THAT'S A VERY WELL THOUGHT 10:48:04:10

OUT WAY OF LOOKING AT THAT 10:48:06:06

BECAUSE YOU THINK IF IT WAS A 10:48:09:00

SERIOUS ISSUE EPA RAISED IT. 10:48:10:15

THEY BEAR THE BRUNT OF THIS. 10:48:13:03

10:48:18:10

>> YES, THE (INAUDIBLE) GROUP AT 10:48:20:28

EPA. 10:48:23:09

CORRECT? 10:48:24:01

WOULD BE THE ONE DEALING WITH 10:48:24:15

IT. 10:48:26:09

10:48:26:21

>> OKAY. 10:48:30:06

ANY OTHER COMMENTS FROM THE 10:48:30:21

BOARD? 10:48:31:22

DR. CHAPIN? 10:48:32:00

10:48:34:00

>> SO GLAD YOU ASKED. 10:48:36:10

SO LET'S SEE. 10:48:38:16

MY -- SO AS I LOOK AT THAT LIST 10:48:39:24

OF END POINTS AND SYSTEMS 10:48:43:18

PRESENTED AND EVALUATED, AND I 10:48:49:12

THINK ABOUT DOSING THE RATS AND 10:48:51:07

SO YOU HAVE THE DOSE RATS TO GET 10:48:55:00

LIVERS, SO YOU FOCUS FOR THE 10:48:59:00
TOXICOGENOMICS ON GENOMIC 10:49:01:21
RESPONSES IN THE LIVER. 10:49:04:21
THAT'S OKAY. 10:49:05:19
THEN THERE WERE OTHER VARIOUS IF 10:49:06:09
YOU WILL TISSUE SURROGATES OR 10:49:10:15
SYSTEM SURROGATES UP THERE, 10:49:12:24
ZEBRAFISH FOR DEVELOPMENT AND 10:49:16:24
FOR ALL CONTENT, ET CETERA. 10:49:19:22
I'M WONDERING DOSING RATS FOR 10:49:21:15
FIVE DAYS WOULD THERE BE VALUE 10:49:25:00
IN EVENTUALLY WORKING TOWARDS 10:49:28:24
HAVING A FIST FULL OF GENOMIC 10:49:32:27
MARKERS IN DIFFERENCE TISSUES, 10:49:37:03
THYMUS, GONAD, WHATEVER, MAYBE 10:49:40:01
BONE MARROW FOR LOOKING MORE IN 10:49:45:09
DEPTH, IF YOU WILL, AT ACTUALLY 10:49:50:12
DOSED MAMMAL RATHER THAN A 10:49:54:03
REMOVED SURROGATE. 10:49:56:22

I HAVE MORE QUESTIONS. 10:49:59:00

I'LL POSE THAT TO JOHN OR NIGEL. 10:50:00:06

10:50:02:06

>> THAT'S A LARGER SYSTEMIC 10:50:02:13

APPROACH KIND OF QUESTION. 10:50:04:25

10:50:06:00

>> WE HAVE BEEN DISCUSSING THAT 10:50:07:09

QUITE A BIT AS A RESULT OF THIS 10:50:08:15

BUT THAT WAS ONE OF THE HOLES IN 10:50:09:24

ONE OF THE ONLY LIVER AND 10:50:12:12

KIDNEY, IT WAS DRIVEN BY KNOWN 10:50:16:03

INFORMATION KNOWN PREDICTIONS SO 10:50:18:21

THAT'S KIND OF WHY WE CHOSE THE 10:50:21:06

LIVER IS SENTINEL AND FIRST PASS 10:50:23:10

MAKES SENSE BUT WHAT WAS -- 10:50:25:07

WOULD BE SOME OF THE OTHER 10:50:26:18

SIGNALS IN? 10:50:29:03

EXACTLY WHAT WE'RE TALKING 10:50:32:12

ABOUT, SO ONE THING THAT SCOTT 10:50:33:21

MENTIONED IS WE'LL HAVE AN 10:50:34:19

DIRECTION RE-EVALUATION OF WHAT 10:50:36:24

WAS GOOD, WHAT WAS BAD, WHAT 10:50:38:01

WORKED, WHAT DIDN'T, LEARN FROM 10:50:40:06

IT, WE LEARNED AS SCOTT POINTED 10:50:41:21

OUT WE LEARNED PROCESS 10:50:43:21

INTERNALLY. 10:50:45:00

BOTH FOR THE CONDUCT, REPORTING 10:50:45:13

THE ANALYSIS, COMMUNICATION, 10:50:47:22

THIS IS A LEARNING PROCESS THIS 10:50:51:06

PAST YEAR. 10:50:52:16

SO WE TAKE ALL THAT UNDER 10:50:53:00
CONSIDERATION AS WE MOVE 10:50:56:24
FORWARD. 10:50:58:12
BUT WE HAVE BEEN THINKING THE 10:50:58:25
SAME KIND OF THING. 10:51:00:06
10:51:00:21
>> I WOULD LAST -- MY LAST TWO 10:51:01:10
COMMENTS IS I WOULD THINK THAT 10:51:04:19
AS YOU THINK ABOUT HOW THAT 10:51:07:27
RAPID RESPONSE PANEL IS 10:51:09:16
COMPOSED, OR WHAT IT IS COMPOSED 10:51:11:00
OF, YOU HAVE AN INTERESTED 10:51:14:12
POPULATION AND FOLKS ON THE 10:51:17:24
GROUND IN WEST VIRGINIA. 10:51:19:18
SO BOTH CDC BUT ALSO A LAY 10:51:21:10
PUBLIC WHO ARE CONSUMING YOUR 10:51:24:09
REPORT, THEY'RE GOING TO READ 10:51:26:07
YOUR REPORT AND THINK I HAVE 10:51:28:03
STILL GOT QUESTIONS ABOUT THIS, 10:51:29:24

THIS, THIS OR THIS. 10:51:31:00 89

AND WHILE THAT SHOULDN'T 10:51:31:27

NECESSARILY DICTATE HAVING THAT 10:51:33:01

AS INPUT OR THOUGHTS ABOUT WHAT 10:51:36:09

THEY THINK IS IMPORTANT, WILL BE 10:51:38:24

USEFUL FOR GOING FORWARD BECAUSE 10:51:41:00

THAT MIGHT BE A SENTINEL FOR 10:51:42:19

WHAT OTHER EXPOSED POPULATIONS 10:51:44:19

ARE GOING TO BE CONCERNED ABOUT. 10:51:46:09

DID YOU RESPOND TO THAT? 10:51:47:25

10:51:53:03

>> A REASON WE FOCUSED ON LIVER 10:51:53:09

AND KIDNEY, SCOTT CAN JUMP IN, 10:51:54:27

WE HAVE THE PUB METRICS DATABASE 10:51:57:07

AND WE HAVE DATABASES ABOUT 10:51:58:19

SIGNALING PATHWAYS. 10:51:59:27

IN THOSE TISSUES. 10:52:01:00

ONE THING WE WERE CONCERNED 10:52:05:22

ABOUT IS GENERATING -- TO 10:52:07:28

INTERPRET OTHER TISSUES LIKE NO 10:52:11:12

CONTEXT TO IT, NO HISTORICAL 10:52:13:25

EXPERIENCE, MIGHT BE A GENE IN 10:52:16:00

THE MIDST AND THAT WOULDN'T BE 10:52:18:09

VERY HELPFUL SO THIS IS ONE WAY 10:52:20:27

WE CAN ANSWER A QUESTION IN THAT 10:52:22:25

TISSUE WITH COMPARATORS TO PUT 10:52:24:09

INTO CONTEXT. 10:52:27:09

WITH CHALLENGES FOR MANY YEARS 10:52:28:03

NOW THAT PROVIDE CONTEXT FOR THE 10:52:29:06

INFORMATION TO GENERATE THAT WAS 10:52:30:27

ANOTHER QUESTION. 10:52:35:03

THAT ANSWER IT IS FIRST SECOND, 10:52:35:21
WHAT DO YOU PROVIDE THIS USEFUL, 10:52:37:15
PROVIDE SOMETHING WITH CONTEXT 10:52:38:27
FOR THE COMPARATOR TO -- SO 10:52:40:06
YOU'RE NOT JUST ALARMING PEOPLE 10:52:43:09
WITH UNKNOWN INFORMATION. 10:52:44:19
THAT IS WISE. 10:52:46:18
I APPROVE AND AGREE WITH THAT, 10:52:50:21
BUT AT THE SAME TIME, TO THE 10:52:52:06
DEGREE THAT IT LEAVES OUT PARTS 10:52:54:12
OF THE BODY OR PARTS OF 10:52:58:18
PHYSIOLOGY THAT ARE NOT TESTED 10:52:59:18
THAT PEOPLE ARE CONCERNED ABOUT, 10:53:01:09
THEN THAT'S A SIGNAL THAT OUR 10:53:02:22
ALL RIGHT, WE HAVE THAT -- NOW 10:53:05:12
WE NEED TO TURN OUR ATTENTION TO 10:53:06:15
THE OTHER STUFF. 10:53:07:27
SO I'M JUST SAYING THAT'S THE -- 10:53:09:00
YOU HAVE AN INTERESTING GROUP 10:53:11:24

THERE THAT MIGHT BE ABLE TO 10:53:12:22 90
 CONTRIBUTE TO SOMETHING AND YOU 10:53:14:07
 SHOULD -- MIGHT BE WORTHYING 10:53:15:12
 ABOUT INVOLVING THEM. 10:53:16:28
 FOR THE COMMUNICATIONS PIECE IT 10:53:17:27
 OCCURS TO ME THAT AS GOOD A 10:53:23:09
 COMMUNICATOR AS DR. AUERBACH IS, 10:53:26:07
 THERE ARE ALMOST CERTAINLY, 10:53:32:01
 THERE'S GOING TO BE QUESTIONS 10:53:32:28
 AND CONCERNS HAD BY THE AUDIENCE 10:53:36:03
 ON THE GROUND THAT -- WHERE 10:53:38:24
 THEIR TRAINING AND BACKGROUND 10:53:43:09
 MAY NOT BE THE SAME AS THOSE OF 10:53:44:09
 US IN THE ROOM. 10:53:46:07
 SO MAKING SURE THAT THE 10:53:48:09
 COMMUNICATION PIECE IS 10:53:50:21
 TRANSLATED APPROPRIATELY WOULD 10:53:52:24
 BE GOOD. 10:53:53:24
 10:53:54:15
 >> SO THAT POINT WE LOADED ON 10:53:58:12
 THE WEB A VERSION OF THE TALKS 10:53:59:21
 THAT GOES THROUGH THE RESULTS AT 10:54:03:18
 A LAY LEVEL IF YOU WILL. 10:54:04:21
 SO HOPEFULLY THAT WILL BE PART 10:54:07:00
 OF COMMUNICATIONS. 10:54:11:12
 10:54:11:27
 >> ANY PLAN ON FLYING A DRAFT OF 10:54:12:06
 THAT PAST OUR SPEAKER EARLIER 10:54:14:10
 TODAY OR SOMEONE ELSE FROM JUST 10:54:18:19
 THIS SORT OF GET SOME INPUT? 10:54:20:09
 DOES THIS MEET YOUR NEEDS, DOES 10:54:25:03

THIS ANSWER YOUR QUESTIONS? 10:54:26:21
10:54:27:21
>> THERE OOH'S NO REASON WE 10:54:28:28
COULDN'T DO THAT. 10:54:30:15
SHOW IT TO SOMEONE OBVIOUSLY 10:54:32:18
SHOW COMMUNICATION PIECES THERE 10:54:34:06
DEVELOP IN CLOSE CONCERT WITH 10:54:35:15
OUR COMMUNICATIONS EXPERTS. 10:54:36:27
TO MAKE SURE THAT IN FACT WE 10:54:38:15
WILL BE GETTING ACROSS THE 10:54:42:12
MESSAGE THAT WE WANT AND NOT 10:54:43:19
SOMETHING ELSE SO THERE'S A LOT 10:54:48:01
OF WORK THAT'S GONE ON TO 10:54:51:00
DEVELOPING THE PRESS RELEASE FOR 10:54:52:03
EXAMPLE, AND DEPARTMENT WOULD 10:54:53:18
APPROVE, WEST VIRGINIA ISSUED. 10:54:56:07
AND WHAT'S GONE ON THE WEB. 10:55:00:12
10:55:01:13
>> I'M SURE THERE'S BEEN A HUGE 10:55:01:27

AMOUNT OF WORK, (INAUDIBLE) WAS	10:55:03:18	91
STANDING HEAR SAYING WE WOULD	10:55:06:00	
LIKE TO BE INVOLVED SO GIVE HER	10:55:07:10	
THIS STACK OF STUFF AND SAY READ	10:55:09:04	
THIS AND TELL WHAT WE HAVE NOT	10:55:10:27	
YET ANSWERED FOR YOU.	10:55:12:00	
	10:55:13:06	
>> ANY OTHER COMMENTS FROM THE	10:55:18:00	
BOARD?	10:55:19:03	
I WANT TO SAY THAT WE WANT TO	10:55:22:06	
KEEP ON SCHEDULE, WE'RE A LITTLE	10:55:24:09	
BIT BEHIND.	10:55:25:19	
	10:55:26:15	
>> I'M NOT YELLING AT ANYBODY	10:55:27:06	
BUT -- --	10:55:28:25	
>> CAN I MAKE A QUICK POINT?	10:55:34:24	
SORRY, GO AHEAD.	10:55:36:00	
	10:55:37:10	
>> GO AHEAD.	10:55:37:18	
	10:55:38:07	
>> I JUST WANT TO SAY --	10:55:38:15	
>> IDENTIFY YOURSELF.	10:55:39:27	
	10:55:40:12	
>> DALE HADDES CLARK UNIVERSITY.	10:55:40:19	
I NEVER EXPECTED TO MAKE A HUMAN	10:55:48:18	
HEALTH RISK ASSESSMENT ON THE	10:55:50:00	
BASIS OF C ELEGANS OR ZEBRAFISH	10:55:51:18	
TOXICITY INFORMATION.	10:55:57:15	
BECAUSE I DON'T HAVE THE	10:55:59:27	
DATABASE OF RELATIONSHIPS	10:56:00:27	
BETWEEN PRODUCTIVITY BETWEEN	10:56:02:09	

THOSE SYSTEMS AND IN VIVO 10:56:06:18
MAMMALIAN TOXICITY, I DO HAVE A 10:56:08:19
DATABASE FOR RODENT TO HUMAN 10:56:11:18
WHERE THEY'RE TESTED FOR 10:56:17:07
COMPARABLE END POINTS. 10:56:18:04
SO IF YOU WANT SUCH DATA TO BE 10:56:20:18
USABLE, THEN YOU NEED TO BUILD 10:56:22:19
THE DATABASE OF TO BE ABLE TO 10:56:25:09
MAKE THOSE QUANTITATIVE DOSE 10:56:29:21
RELATED COMPARISONS. 10:56:35:04
10:56:36:24
>> ONE POINT I WANT TO MAKE, 10:56:39:15
THAT IS PART OF WHAT'S BEING 10:56:42:25
DONE WITH THE CHILDREN'S FUND 10:56:44:21
MONEY. 10:56:45:19
10:56:45:19
>> THANKS, SCOTT, FOR THE PUMP 10:56:46:03
THERE. 10:56:48:04
SO THAT'S EXACTLY ONE THING AS 10:56:48:18

WE WERE GOING THROUGH THIS AND 10:56:51:00 92

WHEN THE NCS CAME OUT IT WAS 10:56:51:19

ASKING THOSE QUESTIONS ABOUT 10:56:54:18

ZEBRAFISH SO INTERNALLY WE LOOK 10:56:56:00

AT DEVELOPING BETWEEN TOX BRANCH 10:56:57:21

OF COMPOUNDS THAT HAVE BEEN WELL 10:57:02:06

STUDIED IN TRADITIONAL 10:57:03:12

DEVELOPMENTAL REPRODUCTIVE 10:57:05:13

STUDIES AND OTHERS NOT JUST 10:57:06:21

DEVELOPMENTAL BUT IMMUNOTOX, A 10:57:09:27

SERIES OF DIFFERENT TEST 10:57:11:18

COMPOUNDS WE CAN VALIDATE, NOT 10:57:12:21

JUST VALIDATE BUT GET COMPARISON 10:57:15:06

STUDIES IN ROBUST SYSTEMS. 10:57:21:24

WHY WE'RE JUMPING ON THAT. 10:57:24:27

10:57:26:03

>> I WANT TO SEE WHAT THE ED 50 10:57:26:09

IS FOR END POINT X FOR THIS 10:57:28:00

SYSTEM. 10:57:31:28

GIVEN THAT, I CAN MAKE MY 10:57:32:12

QUANTITATIVE ASSESSMENTS. 10:57:36:06

DO EVALUATION OF QUANTITATIVE 10:57:38:07

UNCERTAINTY. 10:57:45:07

10:57:45:27

>> ONE POINT. 10:57:48:28

THAT'S FINE. 10:57:59:24

WE HAVE TIME. 10:58:00:24

10:58:01:01

>> QUICKLY. 10:58:01:18

SO THE (INAUDIBLE) YOU HEARD 10:58:02:01

ABOUT EARLIER, DR. BUCHER IS THE 10:58:03:06

NEXT GENERATION GENE EXPRESSION 10:58:08:06
PLATFORM WILL ALLOW US TO 10:58:10:10
EVALUATE A SUBSET OF GENES THAT 10:58:11:15
ARE -- THERE'S A REPRESENTATIVE 10:58:13:15
OF THE WHOLE GENOME. 10:58:15:06
IT'S NEXT GENERATION SEQUENCING 10:58:15:27
BASED TECHNOLOGY THAT BELIEVE 10:58:20:28
WE'RE USING AND YOU SHOULD BE 10:58:22:28
ABLE TO TAKE HUNDREDS OF ANIMALS 10:58:24:12
IN MULTIPLEX THEM FOR GENE 10:58:27:09
EXPRESSION ACROSS DOZENS OF 10:58:29:00
TISSUES. 10:58:31:09
IN THE FUTURE. 10:58:32:00
BIGGEST CONSTRAINT NOW IS COST 10:58:33:10
OF MICROARRAYS IS A -- IS 10:58:36:04
BALANCING THAT WITH THE SIZE OF 10:58:39:06
THE STUDY AND POWER AND USE OF 10:58:40:06
THE STUDY. 10:58:41:25
SO ONCE WE GET THE S 1500 10:58:42:22

TISSUES. 10:58:47:16

EASILY. 10:58:48:00

>> ANY OTHER COMMENTS? 10:58:53:00

SO WE DON'T TAKE A VOTE ON THIS 10:58:54:04

BUT I'M -- TO SUMMARIZE THE 10:58:57:27

OVERALL, I THINK GENERAL FEELING 10:58:59:21

IS THAT YOU SHOULD BE STRONGLY 10:59:02:06

-- YOU AND TEAM SHOULD BE 10:59:03:27

STRONGLY COMMEND FORD THIS RAPID 10:59:05:00

RESPONSE THAT USING THE 10:59:06:24

AVAILABLE SCIENCE AND 10:59:09:00

INFORMATION THAT YOU HAD ABOUT 10:59:11:09

EXPOSURE YOU CAME TO REASONABLE 10:59:12:12

AND SOLIDLY SCIENTIFICALLY 10:59:15:18

RATIONALIZED DECISIONS BUT 10:59:17:27

USEFUL MOVING FORWARD. 10:59:20:27

I THINK YOU WILL LEARN A LOT BY 10:59:22:04

YOUR POST SCHEME ASSESSMENT AND 10:59:23:22

KNOWING HOW TO DESIGN THESE 10:59:27:22

RAPID RESPONSE THINGS GOING 10:59:32:12

FORWARD. 10:59:34:06

SO I THINK IT WAS A REAL GOOD -- 10:59:34:22

A VERY WELL JOB DONE. 10:59:37:00

I GUESS IT'S TIME FOR LUNCH. 10:59:39:15

JOB WELL DONE. 10:59:43:12

SO WE'LL TAKE 45 MINUTE BREAK 10:59:44:15

FOR LUNCH, WE'LL START BACK AT 10:59:47:18

12:45. 10:59:49:21

10:59:50:12