

DORR PROJECT  
DOWN HOLE EM SURVEYS  
KOKOWEEF - 386 FEET  
CARBONATE KING - 500 FEET  
WEST MILLSITE - 300 FEET

SEPTEMBER, 2001  
BY GEO-WESTERN

## INTRODUCTION

THREE DRILL HOLES AT VARIOUS LOCATIONS AT THE DORR SITE WERE SURVEYED WITH IN-HOLE ELECTROMAGNETICS IN LATE SEPTEMBER, 2001. THEY INCLUDE THE 386 FOOT DRILL HOLE THAT EXITS THE SURFACE A SHORT DISTANCE SOUTH OF THE KOKOWEEF PORTAL AND DIPS APPROXIMATELY -60 DEGREES IN A NORTHERLY DIRECTION AND BOTTOMS IN THE DECLINE. THE SECOND HOLE SURVEYED BEGINS 70 FEET WEST OF STATION G70 ON THE RESISTIVITY GRID AND BEARS IN A NORTHERLY DIRECTION AT -53 DEGREES AND BOTTOMS AT 500 FEET IN THE DECLINE. THE THIRD HOLE IS LOCATED NEAR THE ROAD JUNCTION AT THE WEST MILL SITE. THIS HOLE WAS DRILLED VERTICALLY TO 300 FEET, MOSTLY IN SAND, BUT WAS OPEN TO ONLY 240 FEET.

THE KOKOWEEF AND WEST MILL SITE HOLES WERE SURVEYED WITH THE TRANSMITTER FIXED 400 FEET FROM THE DRILL HOLE, AT NORTH, EAST, SOUTH, AND WEST LOCATIONS. ALL COMPASS BEARINGS FOR TRANSMITTER LOCATIONS WERE MAGNETIC. THE G70 HOLE WAS SURVEYED WITH THE TRANSMITTER TO THE SOUTH ONLY, DUE TO PROBLEMS ENCOUNTERED AT THE 100 FOOT LEVEL.

DATA WERE TAKEN AT 10 FOOT INTERVALS IN THE KOKOWEEF AND WEST MILL SITE HOLES WHILE THE G70 INTERVAL WAS 20 FEET.

THE SURVEYS WERE COMPLETED WITH THE GEO-WESTERN EM-83 PULSE INDUCTION INSTRUMENT. A PULSE RATE OF 200 HZ WAS USED WITH A DELAY PERIOD, PRIOR TO SAMPLING OF THE SECONDARY RESPONSE, OF .4 MILLISECOND. THE INSTRUMENT WAS GROUND BALANCED TO ZERO, WITH THE RECEIVER 10 FEET BELOW THE COLLAR. IT IS THEN ASSUMED THAT POSITIVE VALUES ENCOUNTERED DURING THE RUN WOULD BE THE RESULT OF GREATER THAN NORMAL CONDUCTIVITY, WHILE NEGATIVE RESPONSES INDICATE HIGHER THAN NORMAL RESISTANCE, WHICH COULD SUGGEST POTENTIAL CAVITIES.

## SURVEY RESULTS - KOKOWEEF DRILL HOLE

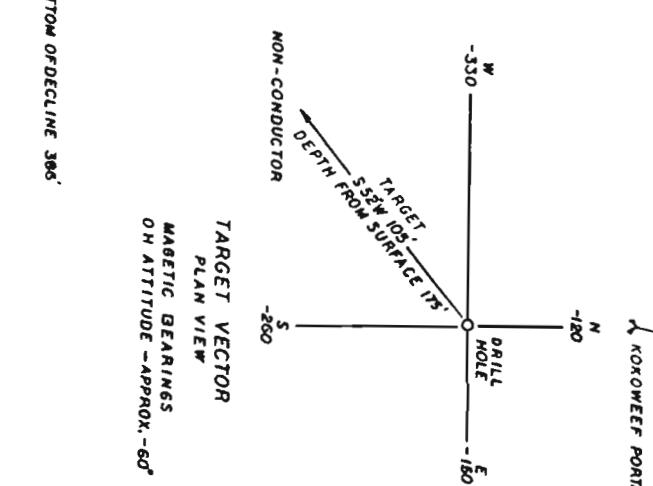
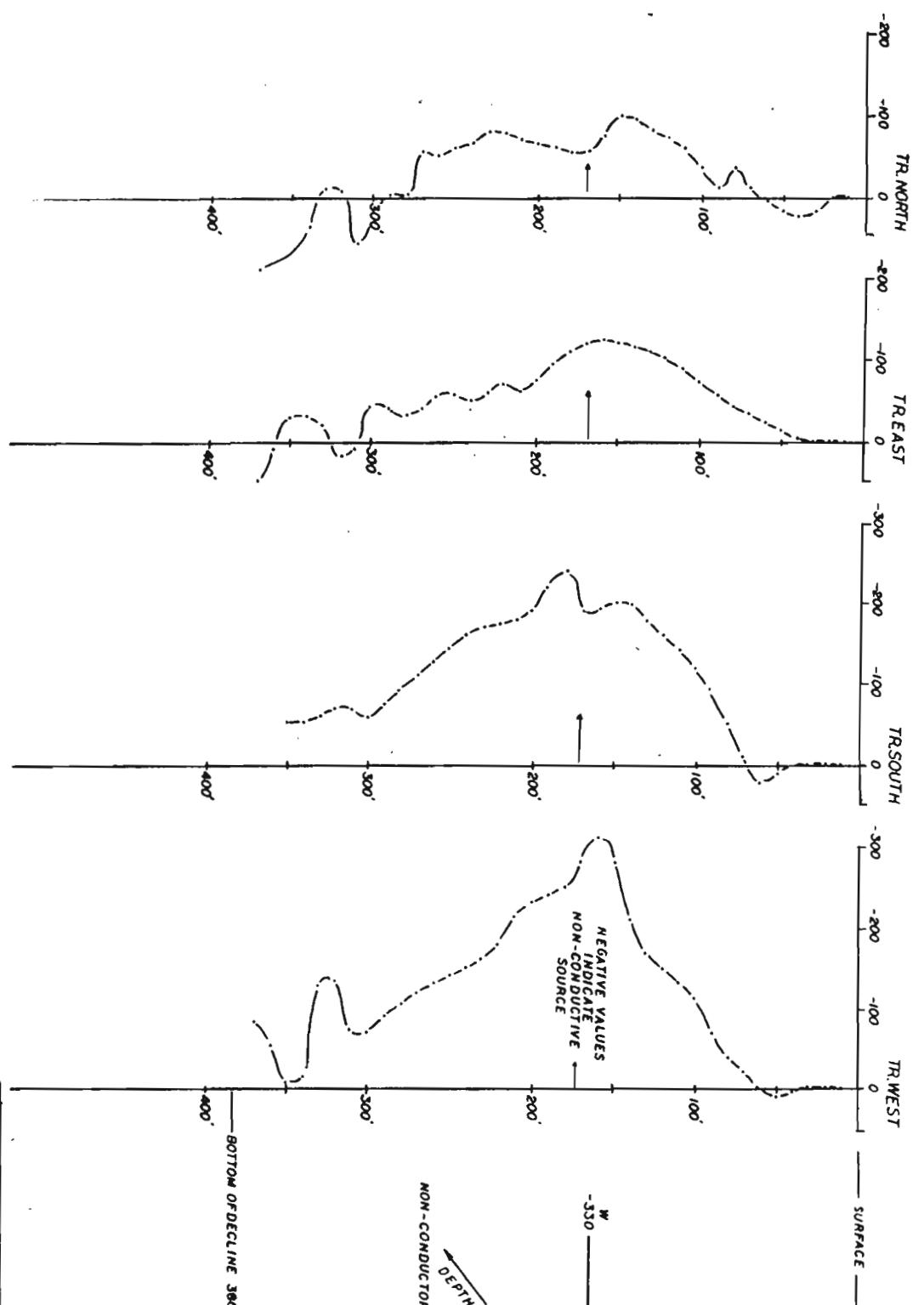
VERY STRONG NEGATIVE EM RESPONSES WERE ENCOUNTERED IN THIS HOLE, SUGGESTING THE POSSIBILITY OF AN OPEN CAVITY, 175 FEET BELOW THE SURFACE. THIS LOCATION WOULD BE ABOUT 110 FEET UP-HOLE FROM THE DECLINE. THE STRONGEST NEGATIVE RESPONSE WAS WITH THE TRANSMITTER TO THE WEST WHERE VALUES IN EXCESS OF -300 DIVISIONS WERE ENCOUNTERED. A SLIGHTLY WEAKER RESPONSE WAS NOTED WITH THE TRANSMITTER IN THE SOUTH LOCATION WITH A MAXIMUM VALUE OF -240 DIVISIONS. VALUES WERE MUCH WEAKER AT THE NORTH AND EAST LOCATIONS WITH VALUES OF -120 AND -160. WHEN THE VECTOR PLOT WAS COMPLETED THE SOURCE OF THE NEGATIVE ANOMALY WAS INDICATED TO BE ABOUT 175 FEET BELOW THE SURFACE AND ABOUT 105 FEET FROM THE HOLE ON A MAGNETIC BEARING OF SOUTH 52 DEGREES WEST (MAGNETIC).

## SURVEY RESULTS - G70 DRILL HOLE

SURVEY DATA TAKEN FROM THE SURFACE TO 460 FEET ENCOUNTERED A BROAD NEGATIVE **EM** RESPONSES CENTERED 300 FEET BELOW THE SURFACE WITH THE TRANSMITTER LOCATED 400 FEET SOUTH OF THE HOLE. MAXIMUM RESPONSE WAS -60 DIVISIONS. UNFORTUNATELY, SINCE NO DATA COULD BE TAKEN AT THE OTHER TRANSMITTER LOCATIONS, A VECTOR LOCATION AND DIRECTION COULD NOT BE DETERMINED. THE PLASTIC PIPE WAS WITHDRAWN FROM THE HOLE JUST PRIOR TO THE FIRST DATA PASS WHICH WAS COMPLETED IN LATE EVENING. THE FOLLOWING MORNING DRYING OF THE HOLE CREATED TOO MUCH DRAG FOR THE RECEIVER COIL TO SLIDE AT THE -53 DEGREE ANGLE. WITH DIFFICULTY THE COIL WAS LOWERED TO 100 FEET WHERE AN OBSTRUCTION WAS ENCOUNTERED MAKING FURTHER ADVANCEMENT IMPOSSIBLE.

## SURVEY RESULTS - WEST MILL SITE DRILL HOLE

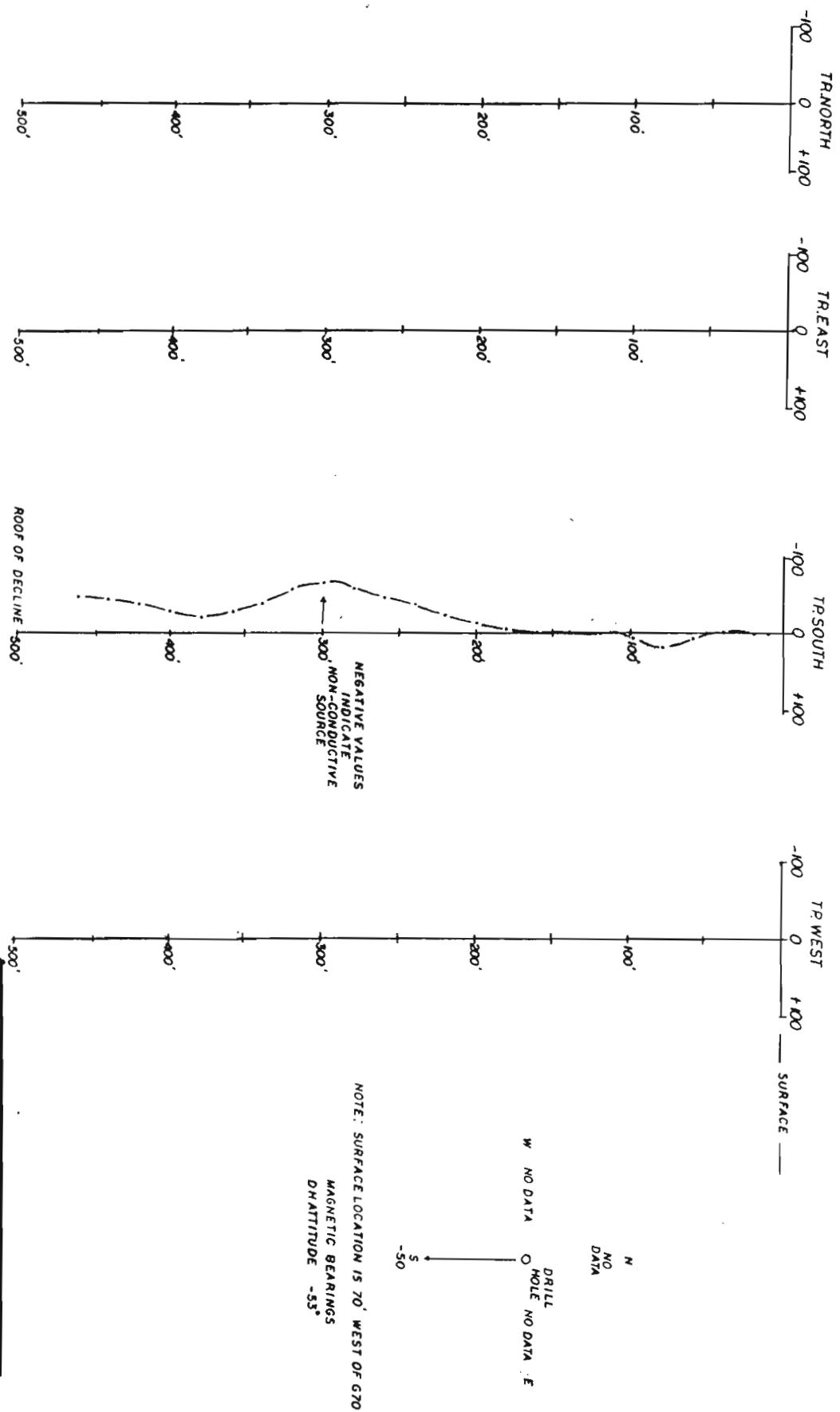
DUE TO CAVING OF THE HOLE, THE 300 FOOT VERTICAL HOLE COULD BE ACCESSED TO ONLY 240 FEET. NO SIGNIFICANT NEGATIVE **EM** RESPONSES WERE ENCOUNTERED IN THIS HOLE. A MODERATE POSITIVE ANOMALY WAS ENCOUNTERED BELOW THE 100 FOOT LEVEL, WITH THE TRANSMITTER AT BOTH NORTH AND WEST LOCATIONS, INDICATING A MORE CONDUCTIVE ZONE IN THE NORTHWEST QUADRANT.



DORR PROJECT  
DOWN HOLE EM SURVEY  
SF DRILL HOLE FROM SURFACE LOCATION  
SOUTHWEST OF KOKOWEEF ADIT TO  
CARBONATE KING DECLINE

SEPTEMBER 31, 2001  
BY GEO-WESTERN

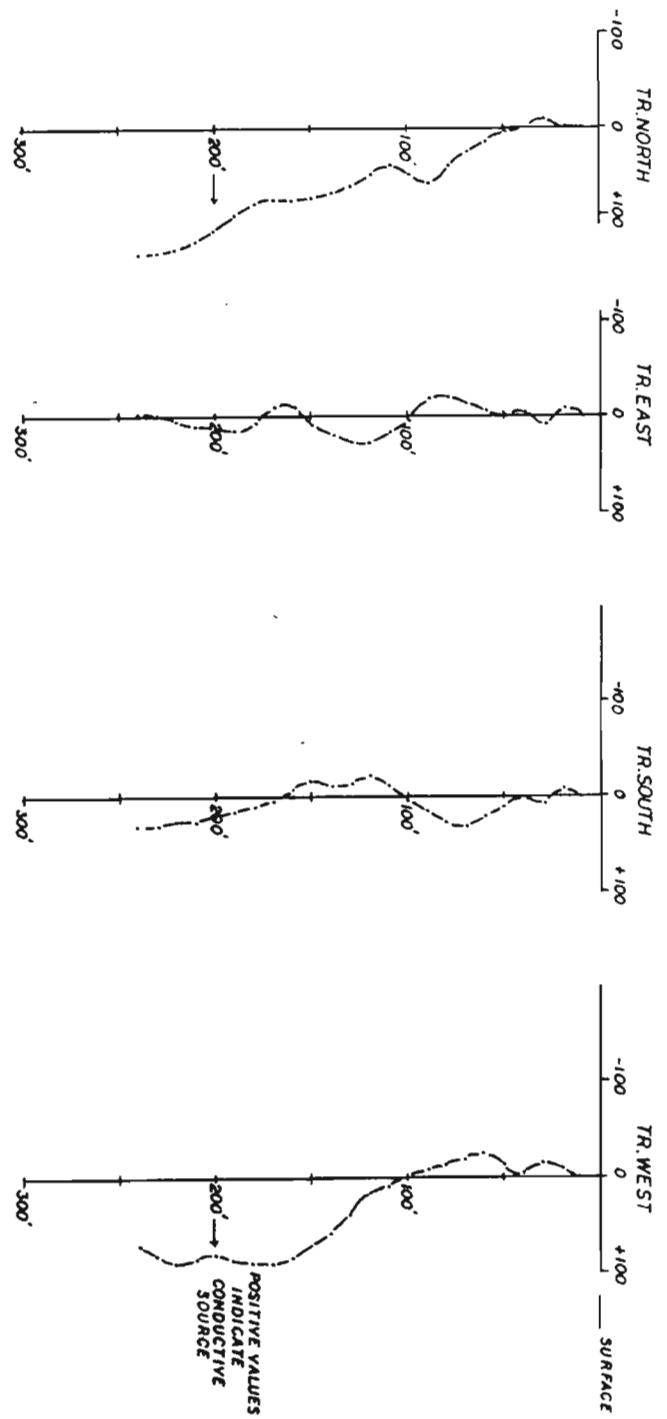
TRANSMITTER IS 400' FROM SURFACE EXIT  
(MAGNETIC BEARING)



DORR PROJECT  
DOWN HOLE EM SURVEY  
DRILL HOLE FROM SURFACE G70 LOCATION  
TO ROOF OF CARBONATE KING DECLINE

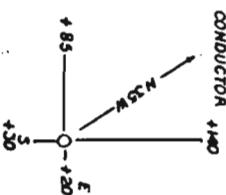
SEPTEMBER 30, 2001

TRANSMITTER IS 400' FROM COLLAR  
(BEARING IS MAGNETIC)



POSITIVE VALUES  
INDICATE  
CONDUCTIVE  
SOURCE

CONDUCTOR  
PLAN VIEW  
MAGNETIC BEARINGS  
ON ATTITUDE - VERTICAL



DORR PROJECT  
DOWN HOLE EM SURVEY  
WEST MILL SITE  
300 FOOT HOLE NORTH OF  
MILLSITE ROAD  
NOVEMBER 1, 2001  
BY GEO-WESTERN