

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-108
Revised 1-1-65

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Continental Oil Company		ADDRESS 200 North Wolcott, Casper, Wyoming 82601	
LEASE NAME Table Mesa	WELL NO. 28	FIELD Table Mesa	COUNTY San Juan
LOCATION UNIT LETTER <u>N</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>West</u> LINE, SECTION <u>33</u> TOWNSHIP <u>28N</u> RANGE <u>17W</u> NMPM.			

CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13-3/8"	504'	450 sacks	Surface	Circulated
	9-5/8"	5224	(500 sacks-shoe)	3630'	Calc.
INTERMEDIATE		Top @ 5094'	(125 sacks-collar)	1340'	Calc.
Liner	7"	Btm @ 7075'	525 sacks	5094'	Circ. Cement
LONG STRING		Top @ 6676'			
Liner	4-1/2"	Btm @ 7325'	50 sacks	6750'	Temp. Log
TUBING	2-7/8"	4850'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker "AD" Tension Packer @ 4850'		
NAME OF PROPOSED INJECTION FORMATION Organ Rock			TOP OF FORMATION 4890'		BOTTOM OF FORMATION 5248'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations		PROPOSED INTERVAL(S) OF INJECTION 4904-5182'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Penn Gas Producer		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 7142-56' (40 sacks); 7275-86' (50 sacks); Open-hole 7325' to 7370' TSI (No productive porosity -)					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Carmel 3410'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA Dakota 1680'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Paradox (Penn) 7142'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 250	MINIMUM 1500	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Pressure	IS INJECTION TO BE BY GRAVITY OR PRESSURE? 1500 psi	APPROX. PRESSURE (PSI) 1500 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF Yes*		NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? Organ Rock Salinity* Yes Calculated From "E"
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Navajo 1-89-Ind-57 Navajo Tribe, Window Rock, Arizona					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Continental Oil Company, 200 North Wolcott, Casper, Wyoming 82601					
Continental Oil Company is the only operator within 1/2 mile of disposal well.					
**Salinity of Organ Rock 50,000 ppm NaCl - Calculated from "E" Log.					
*Injected water will be from #29 Miss & Penn and #18 Penn wells - Water analyses are attached.					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Continental Oil Co. (only operator) Yes	
RE THE FOLLOWING ITEMS ATTACHED TO HIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

(Signature)

Admin. Section Chief

(Title)

11/12/68

(Date)

Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

CC(3) NAVAJO TRIBE BEA FILE

OCC CHIEF ENGINEER. BOX 1148. SANTA FE. N.M.



CONTINENTAL OIL COMPANY

PRODUCTION RESEARCH DIVISION

Ponca City, Oklahoma WATER ANALYSIS REPORT

IST. UFT.	NOTE
11 ENG.	
DIST. COOR.	
ENGINEERS	
STAFF ASS.	
STENOGR.	

Company Continental Oil Company
 Well Table Mesa No. 24
 Field Table Mesa
 State Utah County San Juan
 Sample Source DST

Date 2-27-62
 Formation Miss. Limestone
 Depth 7787'
 Date Collected 1-28-62
 Requested By H. D. Haley

Specific Gravity at 60° F. 1.061
 Resistivity at 73 °F. .094 Ohm-Meters
 pH 6.2

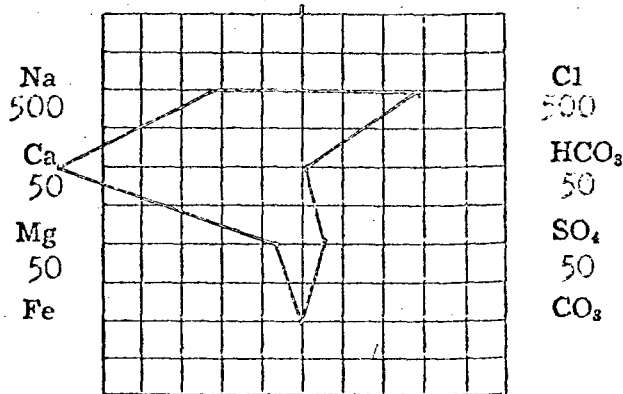
PPM

Sodium 25,200
 Potassium _____
 Magnesium 366
 Calcium 6,400
 Iron (Total) 32.0 (Dissolved) 3.6
 Suspended Solids (est.) >150

PPM

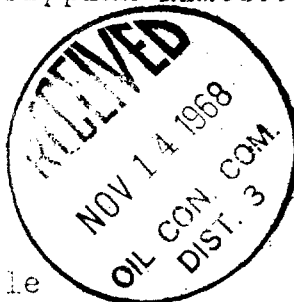
Total Dissolved Salts 83,700
 Hydrogen Sulfide 1.4
 Chlorides 50,400
 Sulfates 1,150
 Carbonates 0
 Bicarbonates 161
 Free Hydroxyl _____
 Langelier Index _____ Indicates _____

WATER ANALYSIS PATTERN
SCALE MEQ/UNIT



Remarks:

Analysis of the first Mississippian limestone water obtained in the Table Mesa field.



B. M. Casad
 B. M. Casad

BLG-KB
 Copies to:
 MHD-HDH-EAA-REW-MAM-JRS-GHG-JCA-File

Analysis by EE



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS
WATER ANALYSIS

MAK

Place in
Water Analysis
File

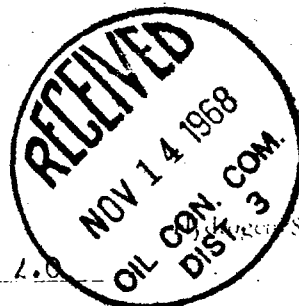
File RP-3-WA-520

Company CONTINENTAL OIL CO. Well Name TABLE MESA # 28 Sample No. 1
Formation COBACK Depth _____ Sampled From SHAB
Location SEC 33 T28N R17W Field TABLE MESA County SAN JUAN State NEW MEXICO
Date Sampled _____ Date Analyzed 11-11-63 Engineer McCOMAS

Total Dissolved Solids 115,091 mg/L calc.

Resistivity 0.037 ohm-meters @ 66 °F. meas.

pH 4.0

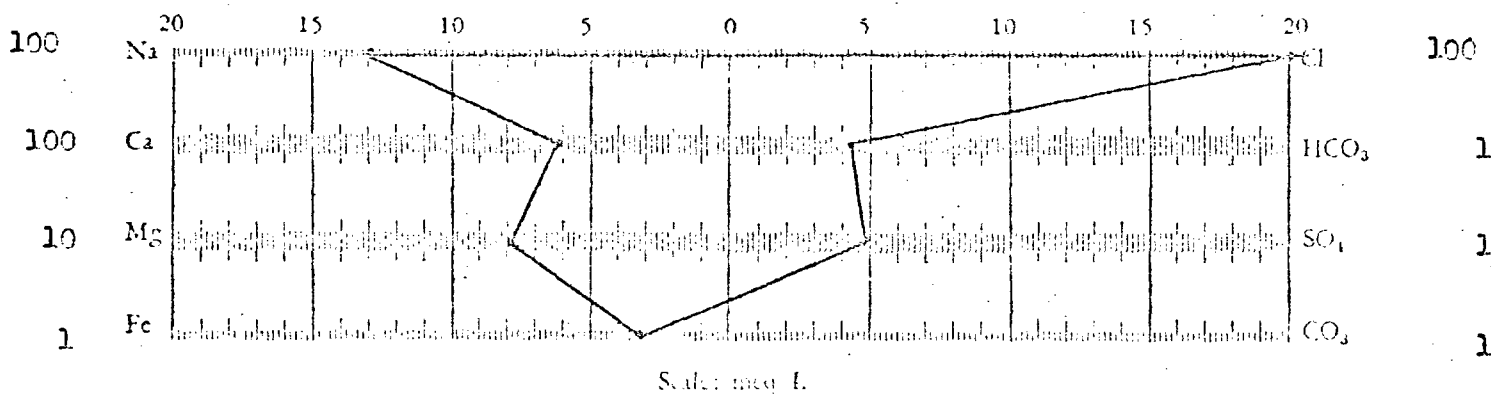


Sp. Gr. 1.075 @ 66 °F.

Hydrogen Sulfide ABSENT

Constituents	meq/L	mg/L
Sodium	1309.8	30,125
Calcium	618.7	12,400
Magnesium	79.8	972
Iron	3.1	89
Barium	ABSENT	

Constituents	meq/L	mg/L
Chloride	2002.2	71,000
Bicarbonate	4.3	268
Sulfate	4.9	210
Carbonate	ABSENT	
Hydroxide	ABSENT	



All analyses except iron determined on percolated and filtered sample

2740 So. PLATTE RIVER DRIVE, ENGLEWOOD, COLORADO 80110
P. O. BOX 1067 • AREA CODE 303 • TELEPHONE 789-9130

Note - Permitted #s ARE Analysis
of DST water from T.M. #24
well in the Miss.

TO: Mr. William K. Dietrich
Continental Oil Company
Post Office Box 1621
Durango, Colorado

Results Reported (date) December 2, 1966 by W. H. Kilpatrick
Laboratory Number D 2703 - Job Order No. 111166
Sample Taken (date) November 17, 1966 by Conoco
Sample Received (date) November 28, 1966 by R. T. Manson

LOCATION WHERE SAMPLE WAS TAKEN

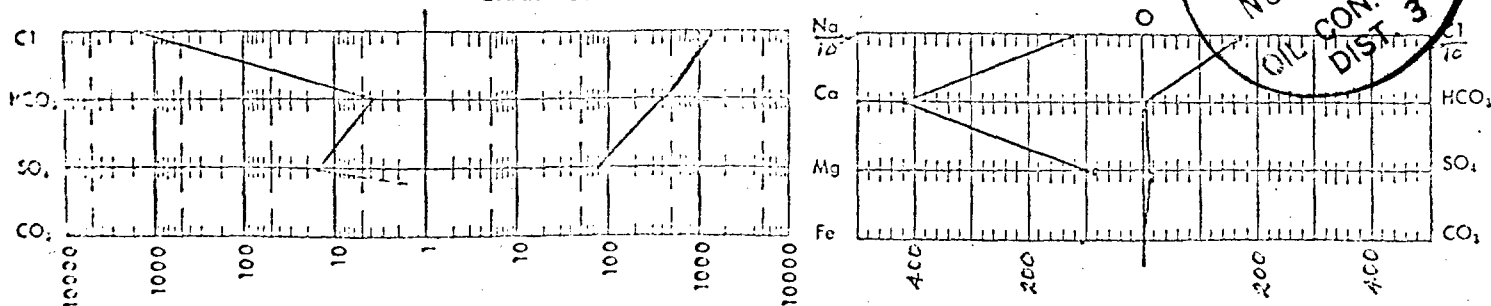
Company Continental Oil Company Lease _____ Well # 29
Sec _____ TWP _____ Range _____ Survey _____
District _____ Field Table Mesa County _____ State _____
Producing Formation _____ Top _____
Remarks: (State type of sample and where in system it was taken) Separator water sample

CHEMICAL AND PHYSICAL PROPERTIES

pH 5.9 Resistivity 0.19 (ohm meters) @ 72 °F Temp. _____ °F Sp. Gr. _____
H₂S _____ O₂ _____ CO₂ (Free) _____ p-Alk _____ (CaCO₃) m-Alk _____ (CaCO₃)
Iron (dissolved) _____ (total) 110 mg/l Total Alk 215 mg/l (CaCO₃) Total Hardness 25000 mg/l (CaCO₃)
Calcium (Ca) 8100 6400 420 Chloride (Cl) 61700 50400 1740
Magnesium (Mg) 960 366 79 Sulfate (SO₄) 650 1150 14
Sodium (Na) (Calc.) 29000 25210 1260 Bicarbonate (HCO₃) 260 161 4
Potassium (K) _____ Carbonate (CO₃) 0 0
Barium (Ba) _____ Hydroxide (OH) _____
Total Dissolved Solids (By Evaporation) 100,300 mg/l 83700 (By Calculation) 100,800 mg/l
Total Suspended Solids _____ Remarks: _____

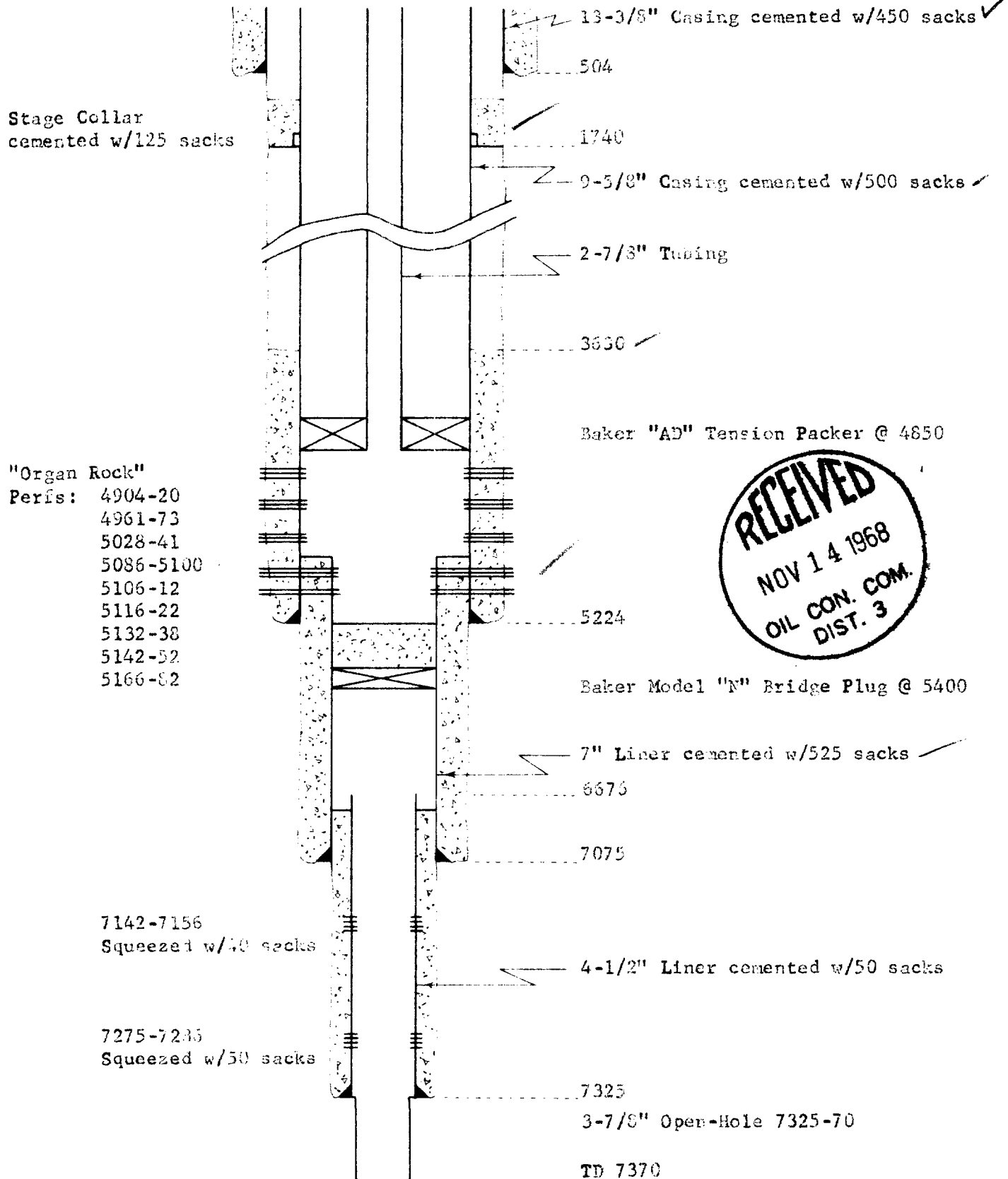
Note: All results are reported as the constituent named unless otherwise noted.

CHART OF WATER CHARACTER—MEQ PER LITER



LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE

SALT WATER DISPOSAL WELL



SCHLUMBERGER**ELECTRICAL LOG**

SCHLUMBERGER WELL SURVEYING CORPORATION

Houston, Texas

COUNTY FIELD or LOCATION WELL COMPANY	SAN JUAN, NEW MEX.	COMPANY	CONTINENTAL OIL	Other Sur. GRN & S. Location of 660' F. 1980' F. Elevation: D.F. K.B. or G.L. FILING No.
	TABLE MESA	COMPANY		
	TABLE MESA #28	WELL	TABLE MESA #28	
	CONTINENTAL OIL	FIELD	TABLE MESA	
	COMPANY	LOCATION	SEC. 33-28N-17W	
		COUNTY	SAN JUAN	
		STATE	NEW MEXICO	

RUN No.	ONE				
Date	9-27-63				
First Reading	5220				
Last Reading	507				
Feet Measured	4713				
Csg. Schlum.	507				
Csg. Driller	504				
Depth Reached	5221				
Bottom Driller	5224				
Depth Datum	K. B.				
Mud Nat.	GEL				
Dens. Visc. 1	2	48			
Mud Resist.	- @ - °F	@ °F	@ °F	@ °F	@ °F
Res. BHT	.15 @ 124 °F	@ °F	@ °F	@ °F	@ °F
Rmf	.44 @ 80 °F	@ °F	@ °F	@ °F	@ °F
Rmc	2.40 @ 80 °F	@ °F	@ °F	@ °F	@ °F
pH	8.0 @ 12.0 °F	@ °F	@ °F	@ °F	@ °F
Wtr. Loss	- CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	12 1/4"				
Spcgs.—AM	16"				
A	64"				
AO	13'8"				
Opr. Rig Time	1 3/4 HOURS				
Truck No.	4542 FARM				
Recorded By	GIFFORD				
Witness	MR. VOORHEES				

RECEIVED
NOV 14 1968
OIL CON. COM.
DIST. 2