```
*** 10g Example.

*** Again, create and populate a table with the ID column initially set to allow nulls

*** But no index is created for the ID column ...


SQL> CREATE TABLE no_nulls (id NUMBER);

Table created.

SQL> INSERT INTO no_nulls SELECT rownum FROM dual CONNECT BY level <=10000;

10000 rows created.

SQL> COMMIT;

Commit complete.

SQL> exec dbms_stats.gather_table_stats(ownname=>NULL, tabname=>'NO_NULLS', estimate_percent=>
NULL, method_opt=> 'FOR ALL COLUMNS SIZE 1');

PL/SQL procedure successfully completed.

SQL> set autotrace on


*** A search for nulls (even though none exist) must perform a full table scan as the CBO
can't know there are no nulls


SQL> SELECT * FROM no_nulls WHERE id IS NULL;

no rows selected


Execution Plan
----------------------------------------------------------
Plan hash value: 1719438963

--------------------------------------------------------------------------------
| Id  | Operation         | Name     | Rows  | Bytes | Cost (%CPU)| Time     |
--------------------------------------------------------------------------------
|   0 | SELECT STATEMENT  |          |     1 |     3 |     6   (0)| 00:00:01 |
|*  1 |  TABLE ACCESS FULL| NO_NULLS |     1 |     3 |     6   (0)| 00:00:01 |
--------------------------------------------------------------------------------

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("ID" IS NULL)


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
         22  consistent gets
          0  physical reads
          0  redo size
        271  bytes sent via SQL*Net to client
        385  bytes received via SQL*Net from client
          1  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          0  rows processed


*** Set the ID column to NOT NULL and things change ...


SQL> ALTER TABLE no_nulls MODIFY id NOT NULL;

Table altered.
```

*** Looking at the generated execution plan doesn't look very promising It says a FTS is performed !!

*** Note that the are no indexes on the ID column, so the CBO must perform a FTS right ?

```
SQL> SELECT * FROM no_nulls WHERE id IS NULL;

no rows selected


Execution Plan
----------------------------------------------------------
Plan hash value: 2184202546

--------------------------------------------------------------------------------
| Id  | Operation          | Name     | Rows  | Bytes | Cost (%CPU)| Time     |
--------------------------------------------------------------------------------
|   0 | SELECT STATEMENT   |          |     1 |     3 |     0   (0)|          |
|*  1 |  FILTER            |          |       |       |            |          |
|   2 |   TABLE ACCESS FULL| NO_NULLS | 10000 | 30000 |     6   (0)| 00:00:01 |
--------------------------------------------------------------------------------

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter(NULL IS NOT NULL)


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
          0  consistent gets
          0  physical reads
          0  redo size
        271  bytes sent via SQL*Net to client
        385  bytes received via SQL*Net from client
          1  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          0  rows processed
```

*** WRONG !! Look at the number of consistent gets. The number is ZERO, 0 !!

*** The CBO didn't perform a FTS at all, it simply returned an empty row set immediately.

*** Note if we reset the constraint to novalidate (or deferrable), it all breaks down ...

```
SQL> ALTER TABLE no_nulls MODIFY id NULL;

Table altered.

SQL> ALTER TABLE no_nulls MODIFY id NOT NULL NOVALIDATE;

Table altered.
```

*** A search now on nulls must perform a FTS as Oracle can no longer guarantee there are no nulls.

```
SQL> SELECT * FROM no_nulls WHERE id IS NULL;

no rows selected


Execution Plan
----------------------------------------------------------
Plan hash value: 1719438963
```

```
-------------------------------------------------------------------------------
| Id  | Operation         | Name     | Rows  | Bytes | Cost (%CPU)| Time     |
-------------------------------------------------------------------------------
|   0 | SELECT STATEMENT  |          |     1 |     3 |     6   (0)| 00:00:01 |
|*  1 |  TABLE ACCESS FULL| NO_NULLS |     1 |     3 |     6   (0)| 00:00:01 |
-------------------------------------------------------------------------------

Predicate Information (identified by operation id):
---------------------------------------------------

   1 - filter("ID" IS NULL)


Statistics
----------------------------------------------------------
          0  recursive calls
          0  db block gets
         22  consistent gets
          0  physical reads
          0  redo size
        271  bytes sent via SQL*Net to client
        385  bytes received via SQL*Net from client
          1  SQL*Net roundtrips to/from client
          0  sorts (memory)
          0  sorts (disk)
          0  rows processed


*** 22 consistent gets confirms a FTS was indeed performed ...
```