

Appendix F2

Geotechnical Rippability Report



October 2, 2017

Mr. Greg L. Waite
Project Manager
Integral Communities
2235 Encinitas Boulevard, Suite 216
Encinitas, California 92024

**Subject: Supplemental Geotechnical Evaluation - Results of Air-Track Exploration
Proposed "Sunrise" Development
Assessor's Parcel Numbers (APNs) 228-312-05, -09 and -10
San Marcos, San Diego County, California
EEI Project IPF-72446.4**

**References: Geotechnical Evaluation, Proposed "Sunrise" Development Assessor's
Parcel Numbers (APNs) 228-312-05, -09 and -10, San Marcos, California
EEI Project IPF-72446.4, Dated August 3, 2017
Excel Engineering, 2017, Sunrise Conceptual Model, San Marcos, CA,
dated June 27, 2017**

Dear Mr. Waite:

We understand that the subject property is being proposed for residential development. The subject property is located in the San Marcos area of San Diego County, California. More specifically, the site is located southwest of the intersection between Barham Drive and Meyers Avenue. The property is an irregular-shaped parcel that encompasses approximately 19.3 acres. Vegetation was observed to be sparse and generally limited to the upper, southern portion of the site. The exploration area is characterized by a knob or roughly northeast-southwest trending ridge with relatively steep to moderate slopes.

Submitted herewith are the drill rates for air-track exploratory borings performed by Tom C. Dyke Drilling and Blasting Co. on September 18, 2017 at the subject site. Below are our interpretations of the drill rates as they pertain to rock rippability within the depths explored.

Appendix A - Summary of Air Track Drill Rates is attached and includes a summary of test drill rates and graphical representation of the drill rates reported in the field. The locations of the drill holes are shown on **Figure 3** attached.

The air-track exploratory borings were drilled using an Ingersoll Rand, ECM 370 type rock drill rig to depths ranging from approximately 21 to 30 feet below existing site grades, to approximately the proposed cut depth or roughly 5 feet below the proposed cut depth. Rock materials with air-track drill rates between 18 sec/ft and 28 sec/ft are considered marginally rippable and drill rates over 28 sec/ft reflect materials with difficult rippability or non rippable and likely to require blasting. Based on our experience, drill rates of less than 18 sec/ft reflect generally rippable materials for a properly equipped and well-operated Caterpillar ripper (D-9L or D-10 with a single barrel ripper). However, much of these materials are anticipated to excavate with lighter weight equipment (e.g. dual shank D-9). The drill rates were generally found to be 18 sec/ft or less with localized zones of marginally rippable rock to depths of 29 feet below existing grades in Air Track location AT-1. The drill rates indicate that marginally rippable to non rippable rock with isolated hard "floaters" are expected at depths generally greater than 10 to 15 feet below existing site grades at Air Tack locations AT-2, AT-3, AT-4 and AT-7. The drill rates indicate that marginally rippable to non rippable rock is expected at depths of 4 feet to 8 feet below existing site grades at Air Track locations AT-5, AT-6, AT-8 and AT-9. These "floaters" and hard zones are likely to require rock breaking equipment or blasting.

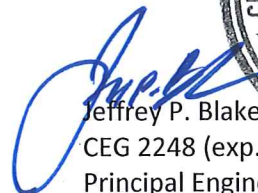
The above is our evaluation of rock rippability based on the air-track drill rates recorded in the field. It should be realized that the ability of any particular contractor to excavate the materials encountered would vary based on factors that may or may not be considered in our evaluation. All methods available to evaluate rock hardness and associated rippability are interpretive to some extent. As such, experience and judgment are primary factors in such evaluations. In addition, based on our experience with this type of geology, the granitic material can be highly variable with both horizontal and vertical changes and blasting should be anticipated for localized zones at fairly shallow depths.

The above are our professional opinions that have been derived in accordance with current standards of practice and no warranty is expressed or implied herein. If there are any questions regarding this report please do not hesitate to contact the undersigned.

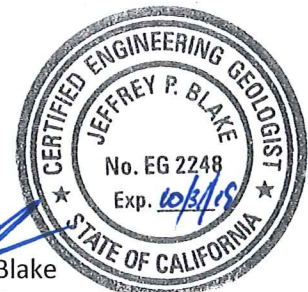
Sincerely,
EEI



Jerry L. Michal
GE 2515 (exp. 3/31/18)
Senior Engineer



Jeffrey P. Blake
CEG 2248 (exp. 10/31/19)
Principal Engineering Geologist



Attachments:

- Figure 1** – Site Vicinity Map
- Figure 2** – Aerial Site Map
- Figure 3** – Field Exploration Plan
- Appendix A** – Summary of Air Track Drill Rates

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FIGURES

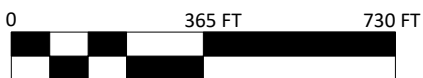


Map Source: Google Earth®, Image Date: November 8, 2016

LEGEND



Scale: 1" = 365'



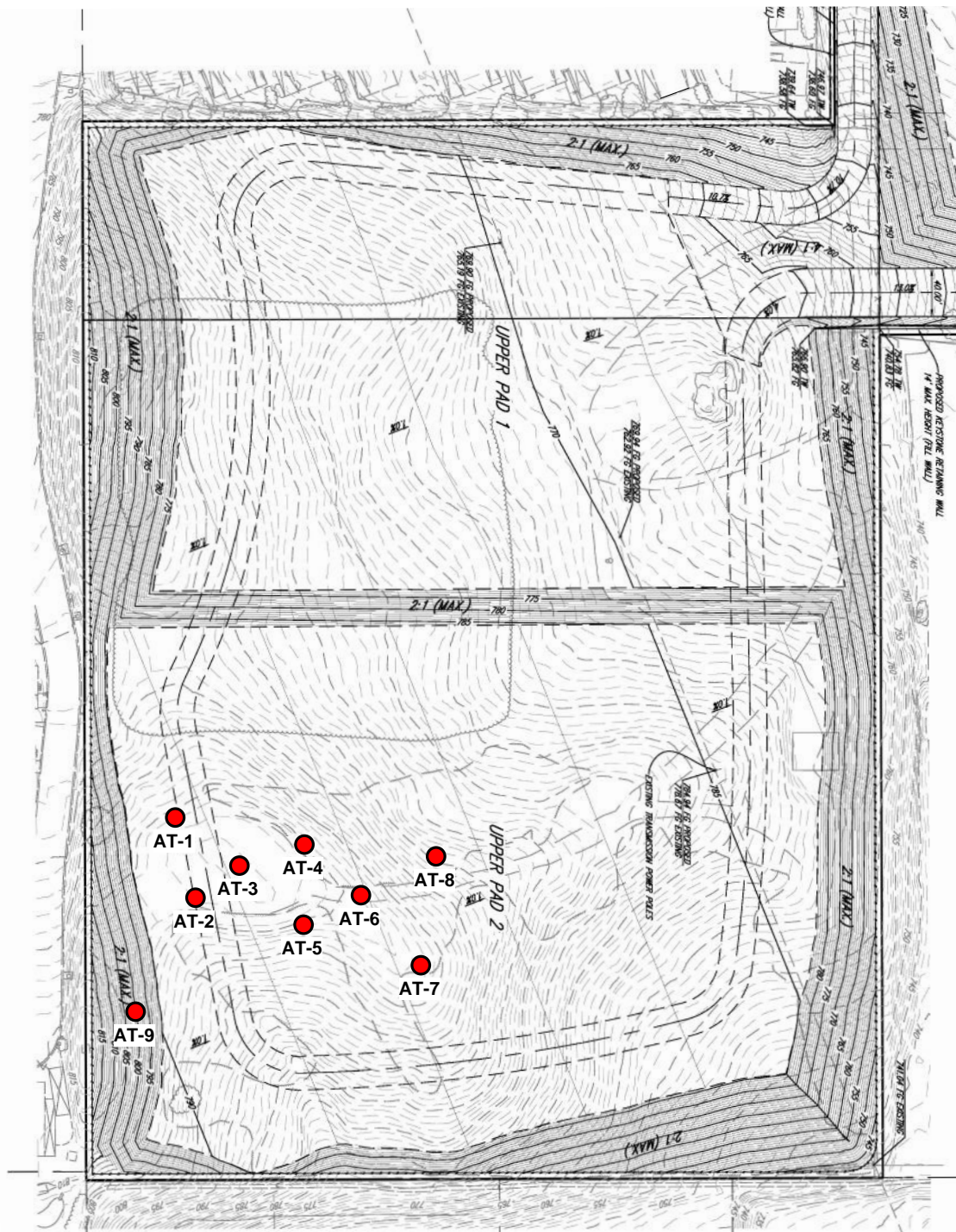
Note All Locations Are Approximate

AERIAL SITE MAP

INTEGRAL PARTNERS FUNDING, LLC
 Cities of San Marcos and Escondido
 County of San Diego, California 92078/92029
 EEI Project IPF-72446.4
 Created July 2017



FIGURE 2



Map Source: Excel Engineering; Sunrise Conceptual Model

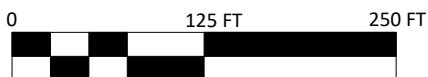
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Approximate Airtrack Test Location

AT-1

Scale: 1" = 125'



Note All Locations Are Approximate



FIELD EXPLORATION PLAN

INTEGRAL PARTNERS FUNDING, LLC

Cities of San Marcos and Escondido

County of San Diego, California 92078/92029

EI Project IPF-72446.4

Created September 2017



FIGURE 3

**APPENDIX A
Summary of Air Track Drill Rates**

DRILL RATES OF AIR-TRACK TEST HOLES

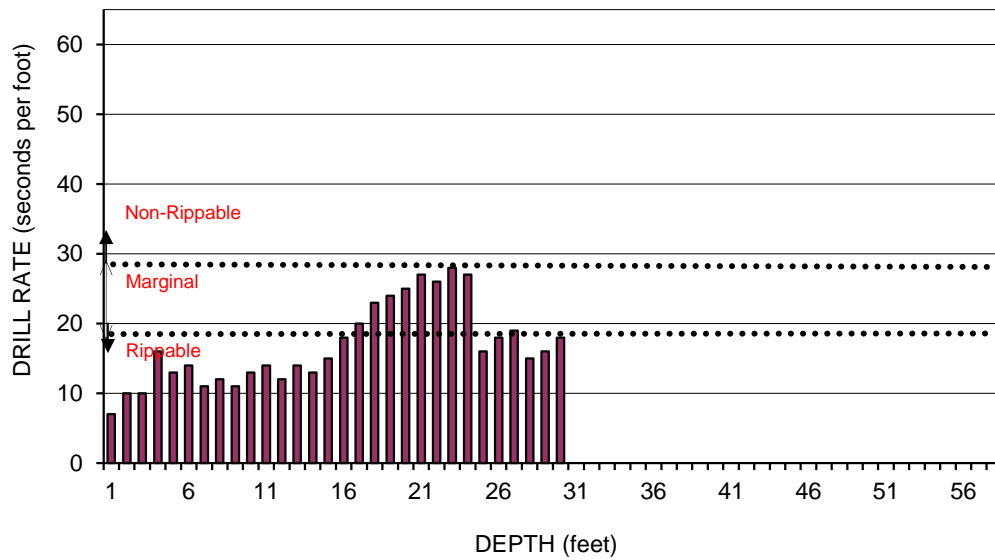
Integral Communities

PROPOSED "SUNRISE" RESIDENTIAL DEVELOPMENT

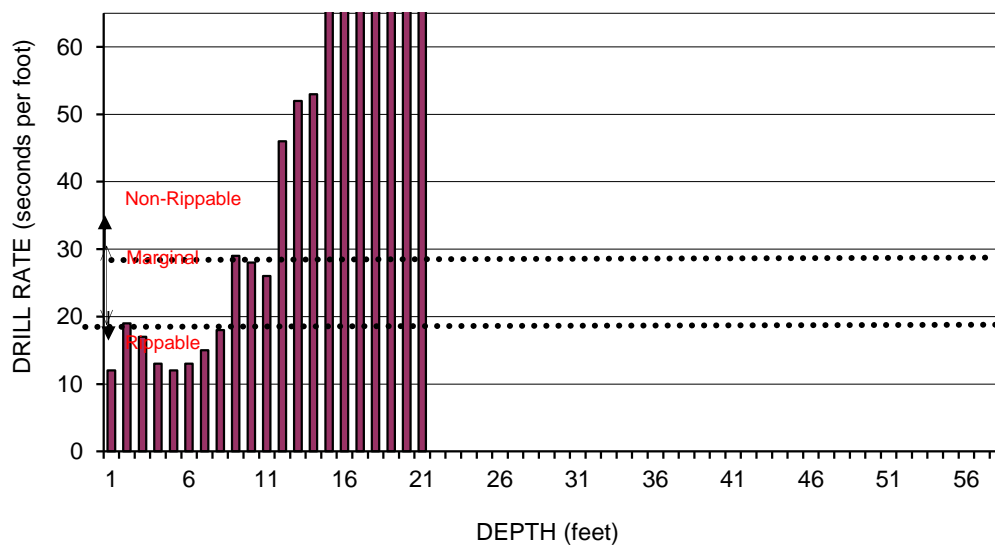
Project No.: IPF-72446.4

29-Sep-17

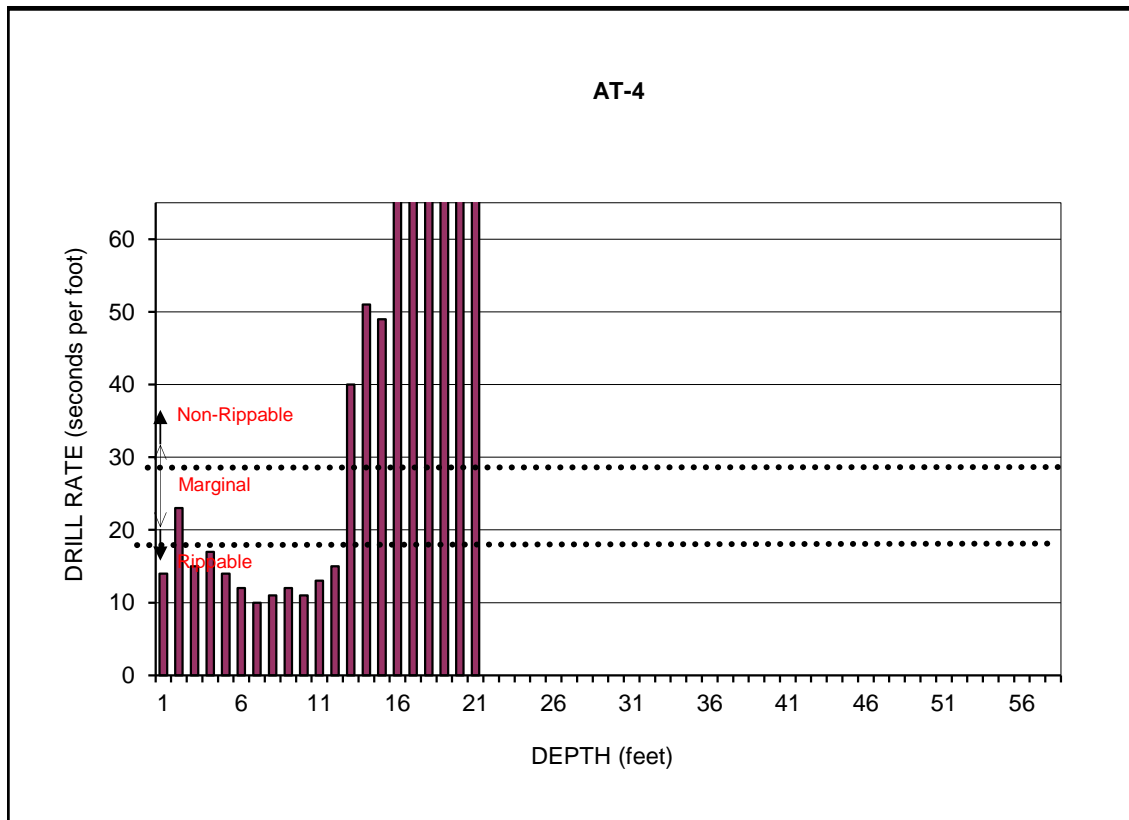
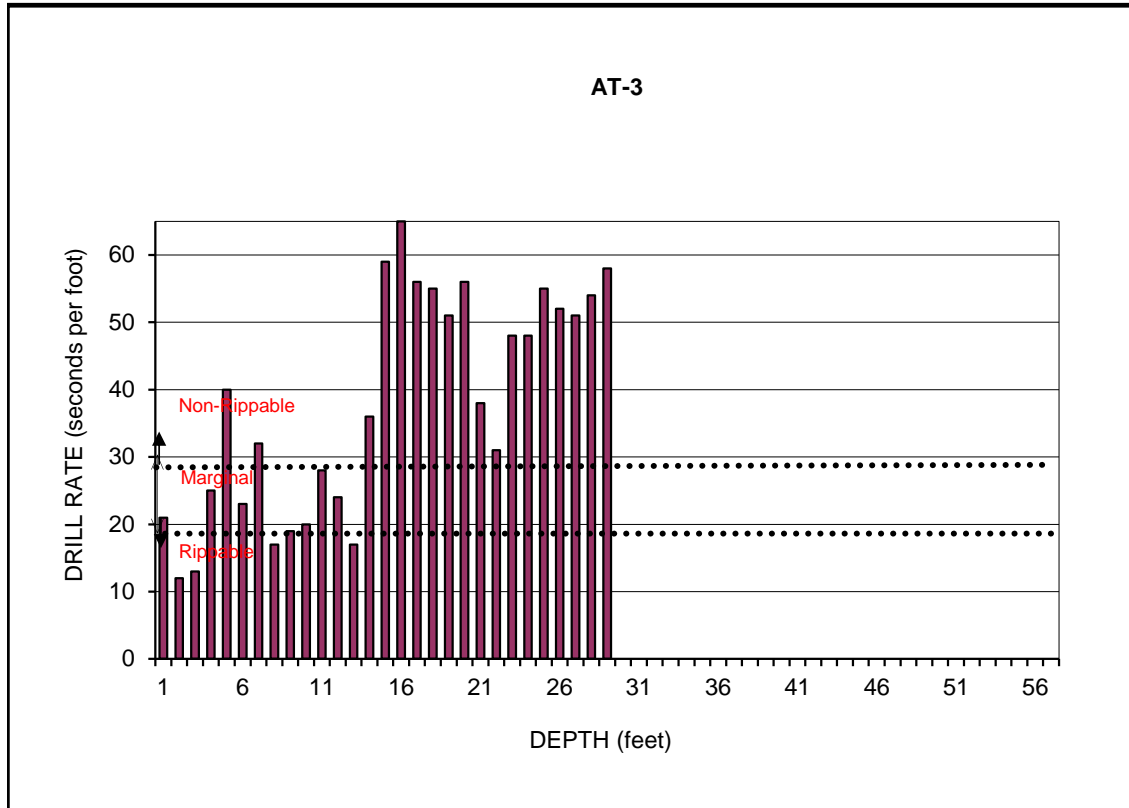
AT-1



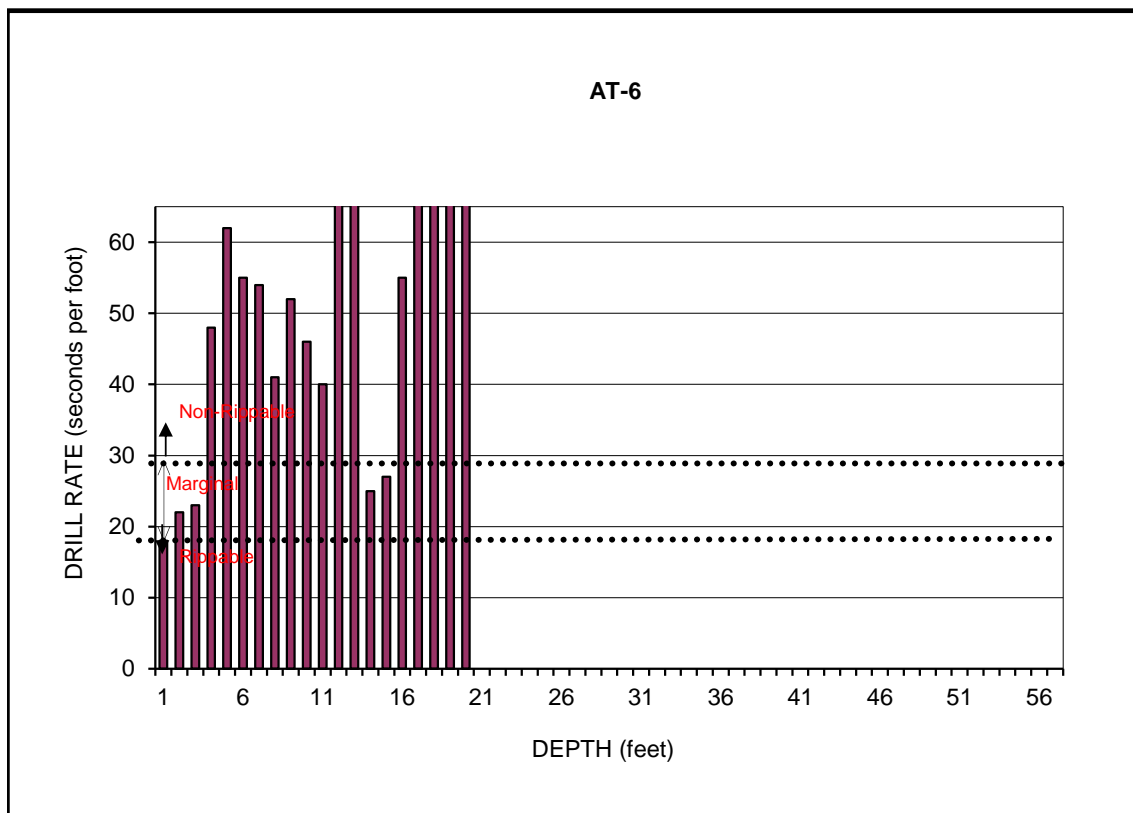
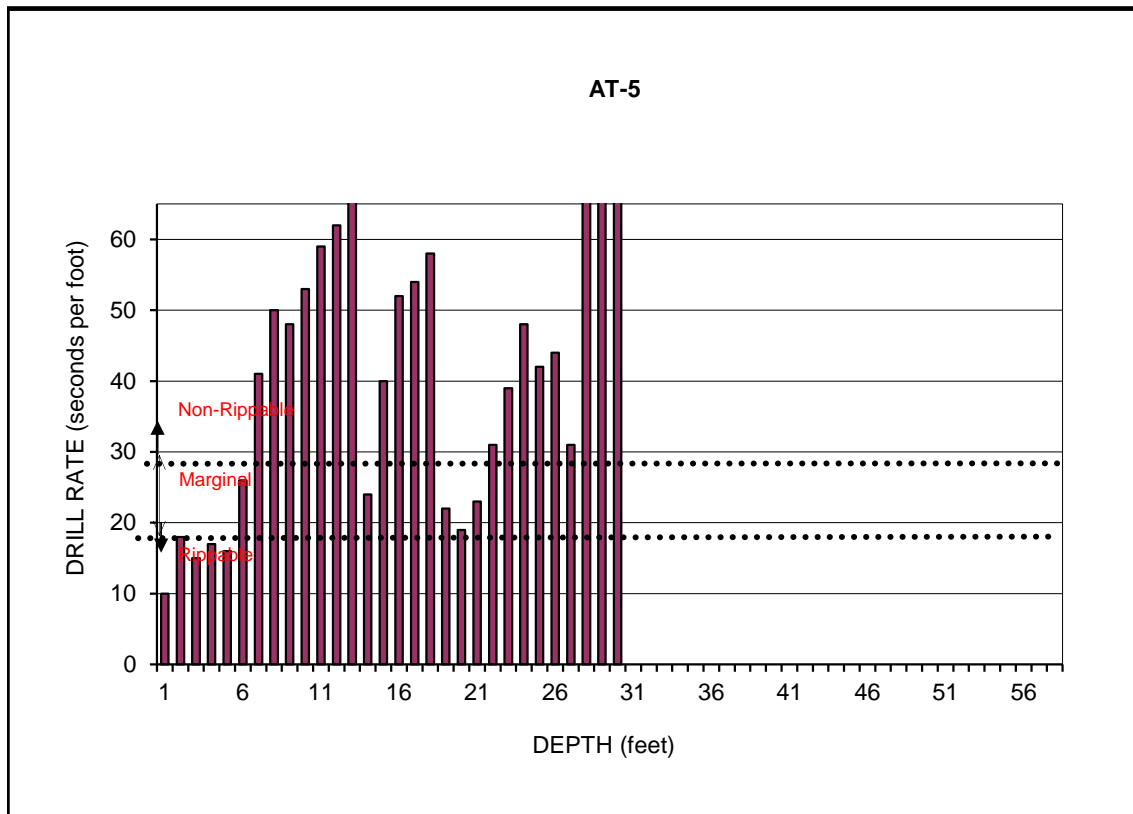
AT-2



DRILL RATES OF AIR-TRACK TEST HOLES

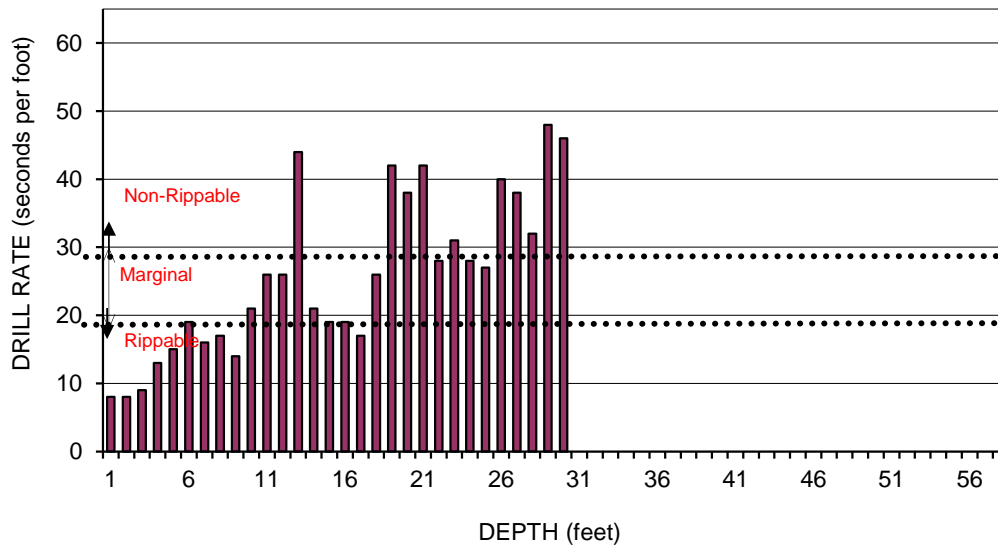


DRILL RATES OF AIR-TRACK TEST HOLES

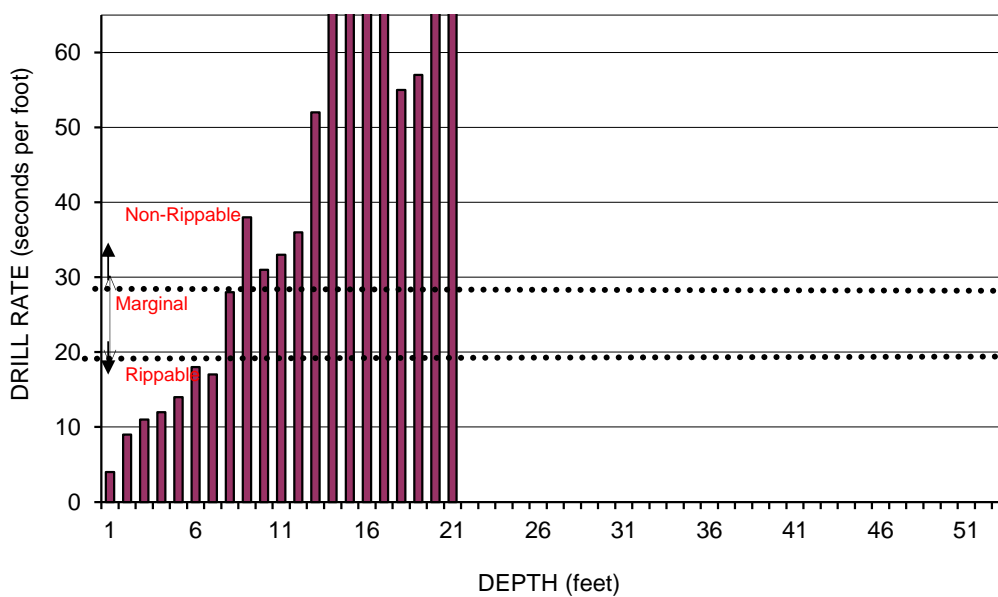


DRILL RATES OF AIR-TRACK TEST HOLES

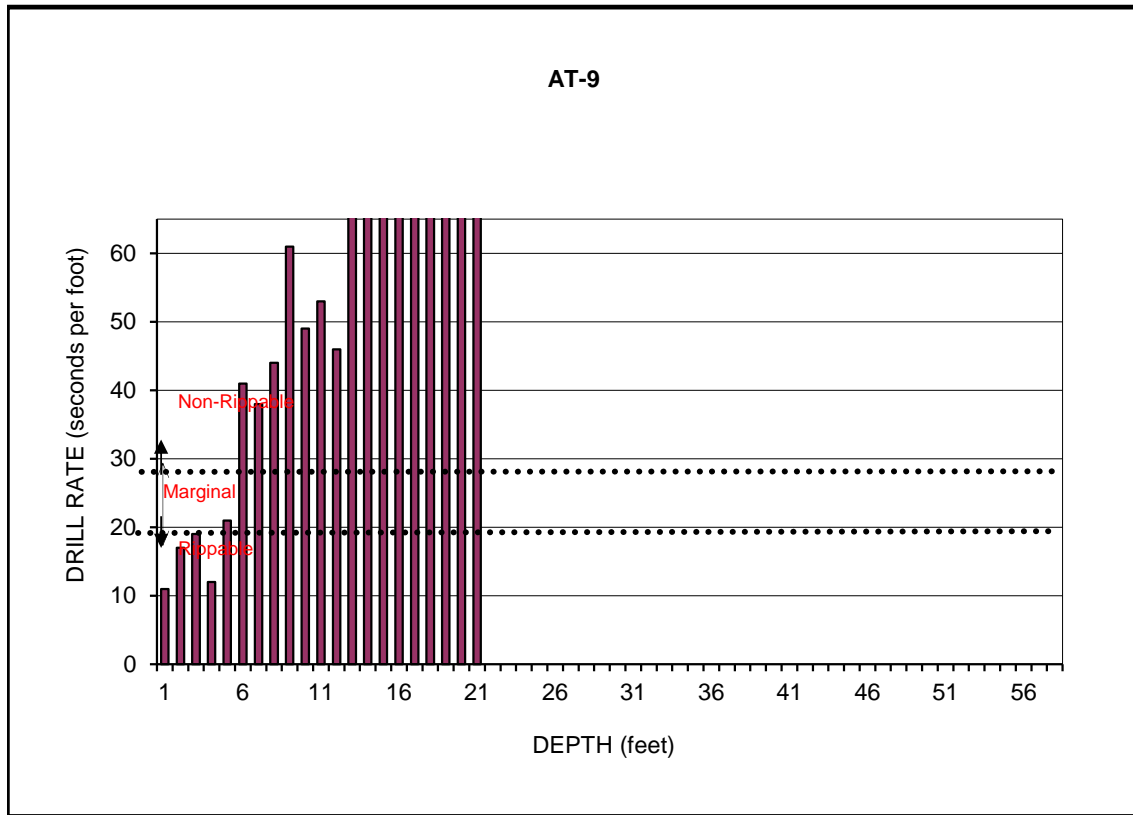
AT-7



AT-8



DRILL RATES OF AIR-TRACK TEST HOLES



AIR TRACK TEST RESULTS**IPF-72446.4**

AIR TRACK **AT-1**
APPROX. ELEVATION 811 (FEET)

DEPTH	RATE
Feet	Seconds
1.0	7
2.0	10
3.0	10
4.0	16
5.0	13
6.0	14
7.0	11
8.0	12
9.0	11
10.0	13
11.0	14
12.0	12
13.0	14
14.0	13
15.0	15
16.0	18
17.0	20
18.0	23
19.0	24
20.0	25
21.0	27
22.0	26
23.0	28
24.0	27
25.0	16
26.0	18
27.0	19
28.0	15
29.0	16
30.0	18

AIR TRACK TEST RESULTS**IPF-72446.4**

AIR TRACK AT-2
APPROX. ELEVATION 812 (FEET)

DEPTH	RATE
Feet	Seconds
1.0	12
2.0	19
3.0	17
4.0	13
5.0	12
6.0	13
7.0	15
8.0	18
9.0	29
10.0	28
11.0	26
12.0	46
13.0	52
14.0	53
15.0	73
16.0	90
17.0	97
18.0	104
19.0	82
20.0	86
21.0	132

AIR TRACK **AT-3**
APPROX. ELEVATION 813 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	12
2.0	21
3.0	12
4.0	13
5.0	25
6.0	40
7.0	23
8.0	32
9.0	17
10.0	19
11.0	20
12.0	28
13.0	24
14.0	17
15.0	36
16.0	59
17.0	65
18.0	56
19.0	55
20.0	51
21.0	56
22.0	38
23.0	31
24.0	48
25.0	48
26.0	55
27.0	52
28.0	51
29.0	54
30.0	58

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-4****APPROX. ELEVATION 810 (FEET)**

DEPTH	RATE
FEET	SECONDS
1.0	14
2.0	23
3.0	15
4.0	17
5.0	14
6.0	12
7.0	10
8.0	11
9.0	12
10.0	11
11.0	13
12.0	15
13.0	40
14.0	51
15.0	49
16.0	79
17.0	92
18.0	95
19.0	75
20.0	104
21.0	121

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-5**

APPROX. ELEVATION 808 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	10
2.0	18
3.0	15
4.0	17
5.0	16
6.0	26
7.0	41
8.0	50
9.0	48
10.0	53
11.0	59
12.0	62
13.0	69
14.0	24
15.0	40
16.0	52
17.0	54
18.0	58
19.0	22
20.0	19
21.0	23
22.0	31
23.0	39
24.0	48
25.0	42
26.0	44
27.0	31
28.0	72
29.0	99
30.0	123

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-6**

APPROX. ELEVATION 808 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	11
2.0	18
3.0	22
4.0	23
5.0	48
6.0	62
7.0	55
8.0	54
9.0	41
10.0	52
11.0	46
12.0	40
13.0	72
14.0	77
15.0	25
16.0	27
17.0	55
18.0	119
19.0	108
20.0	134
21.0	176

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-7**

APPROX. ELEVATION 807 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	8
2.0	8
3.0	9
4.0	13
5.0	15
6.0	19
7.0	16
8.0	17
9.0	14
10.0	21
11.0	26
12.0	26
13.0	44
14.0	21
15.0	19
16.0	19
17.0	17
18.0	26
19.0	42
20.0	38
21.0	42
22.0	28
23.0	31
24.0	28
25.0	27
26.0	40
27.0	38
28.0	32
29.0	48
30.0	46

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-8**

APPROX. ELEVATION 795 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	4
2.0	9
3.0	11
4.0	12
5.0	14
6.0	18
7.0	17
8.0	28
9.0	38
10.0	31
11.0	33
12.0	36
13.0	52
14.0	72
15.0	66
16.0	94
17.0	92
18.0	55
19.0	57
20.0	108
21.0	138

AIR TRACK TEST RESULTS**IPF-72446.4****AIR TRACK AT-9**

APPROX. ELEVATION 812 (FEET)

DEPTH	RATE
FEET	SECONDS
1.0	11
2.0	17
3.0	19
4.0	12
5.0	21
6.0	41
7.0	38
8.0	44
9.0	61
10.0	49
11.0	53
12.0	46
13.0	66
14.0	68
15.0	72
16.0	91
17.0	108
18.0	133
19.0	99
20.0	71
21.0	104