

Appendix V
X-Ray Diffraction Results

Ricerca, Inc.
Analytical Services Report

TO: Scott Vozza - CH 2M Hill
FROM: A. C. Gallacher
DATE: June 5, 1992
SUBJECT: XRD ANALYSIS OF BLUE SOLID

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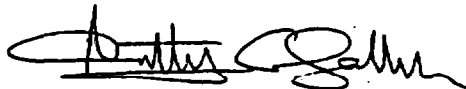
A specimen of the supplied sample was prepared by drying at -100°C overnight and reducing the specimen to a fine blue powder. The specimen was mounted on an aluminum window holder and analyzed by x-ray diffraction, XRD, to determine what crystalline phase(s) may be present. The results were as follows:

XRD RESULTS

<u>Sample ID</u>	<u>Crystalline Phases Identified</u>
DS-65-BM-2 65 (50)	$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (gypsum) and $\text{CaSO}_4 \cdot 0.5\text{H}_2\text{O}$ (bassinite)

NOTE: It is highly probable that in the drying process, water was lost and bassinite was formed from gypsum. It was observed that upon baking (high temperature) a specimen of the sample, the blue color disappears and colorless CaSO_4 (anhydrite) remains.

A copy of the XRD pattern and data are enclosed. If I can be of any further assistance, please do not hesitate to contact me at 216/357-3307.

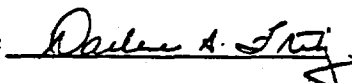


Anthony C. Gallacher

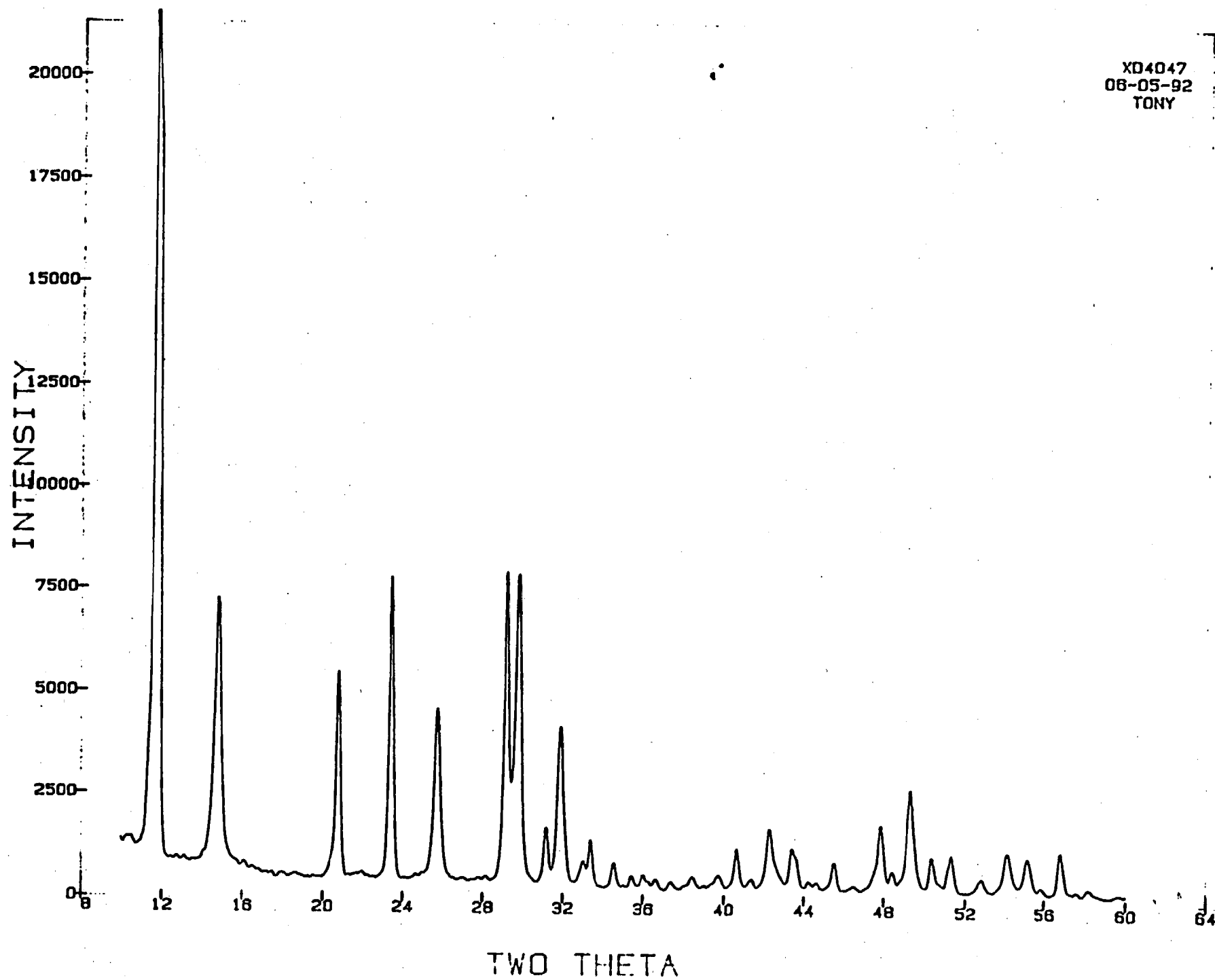
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File No.: 9200487X
Notebook Ref.: 20860-86

Reviewed By:



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11.15	1113.4	1.133	12
11.65	1142.5	1.132	13
12.40	1154.5	1.132	14
12.80	1159.5	1.131	15
13.15	1163.1	1.131	16
13.75	1168.6	1.131	17
14.15	1173.1	1.131	18
14.30	1174.3	1.131	19
14.15	1168.2	1.131	20
14.50	1163.1	1.131	21
14.60	1161.5	1.131	22
14.40	1155.4	1.131	23
14.55	1150.4	1.131	24
15.45	1122.5	1.132	25
15.05	1117.9	1.132	26
15.45	1117.7	1.132	27
15.75	1113.9	1.132	28
16.70	1101.0	1.133	29
17.40	1074.1	1.133	30
18.30	1053.7	1.133	31
18.70	1042.6	1.133	32
18.85	1033.5	1.133	33
19.40	1022.3	1.133	34
19.65	768.6	1.072	35
20.25	228.7	1.045	36
20.55	699.9	1.050	37
21.55	454.4	1.011	38
21.90	1609.7	1.057	39
22.40	459.0	1.075	40
22.60	276.6	1.065	41
23.35	2483.4	1.845	42
24.35	853.1	1.611	43
24.75	214.6	1.757	44
25.15	545.6	1.764	45
25.35	918.9	1.776	46
25.90	315.0	1.729	47
26.15	999.5	1.632	48
26.15	881.6	1.664	49
26.30	649.9	1.650	50
26.80	1050.3	1.619	51
26.95	651.5	1.616	52