

040WM048910E

WM-48

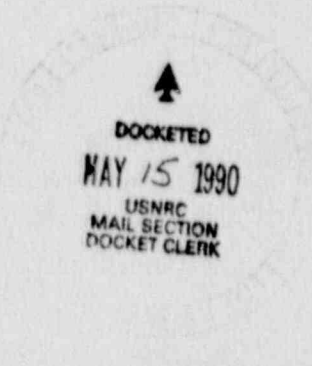


Department of Energy
Albuquerque Operations Office
P.O. Box 5400
Albuquerque, New Mexico 87115

RETURN ORIGINAL TO PDR, HQ.

MAY 07 1990

Mr. Ramon E. Hall
Director, Uranium Recovery
Field Office
Region IV
U.S. Nuclear Regulatory Commission
P.O. Box 25325
Denver, CO 80225



Dear Mr. Hall:

Enclosed is information in response to Dawn Jacoby's informal questions on the Durango, Colorado Uranium Mill Tailings Remedial Action Project cover design.

Should you have any questions, please contact Elizabeth Damler of my staff at FTS 845-5654.

Sincerely,

Mark L. Matthews
Project Manager
Uranium Mill Tailings Remedial Action
Project Office

Enclosure

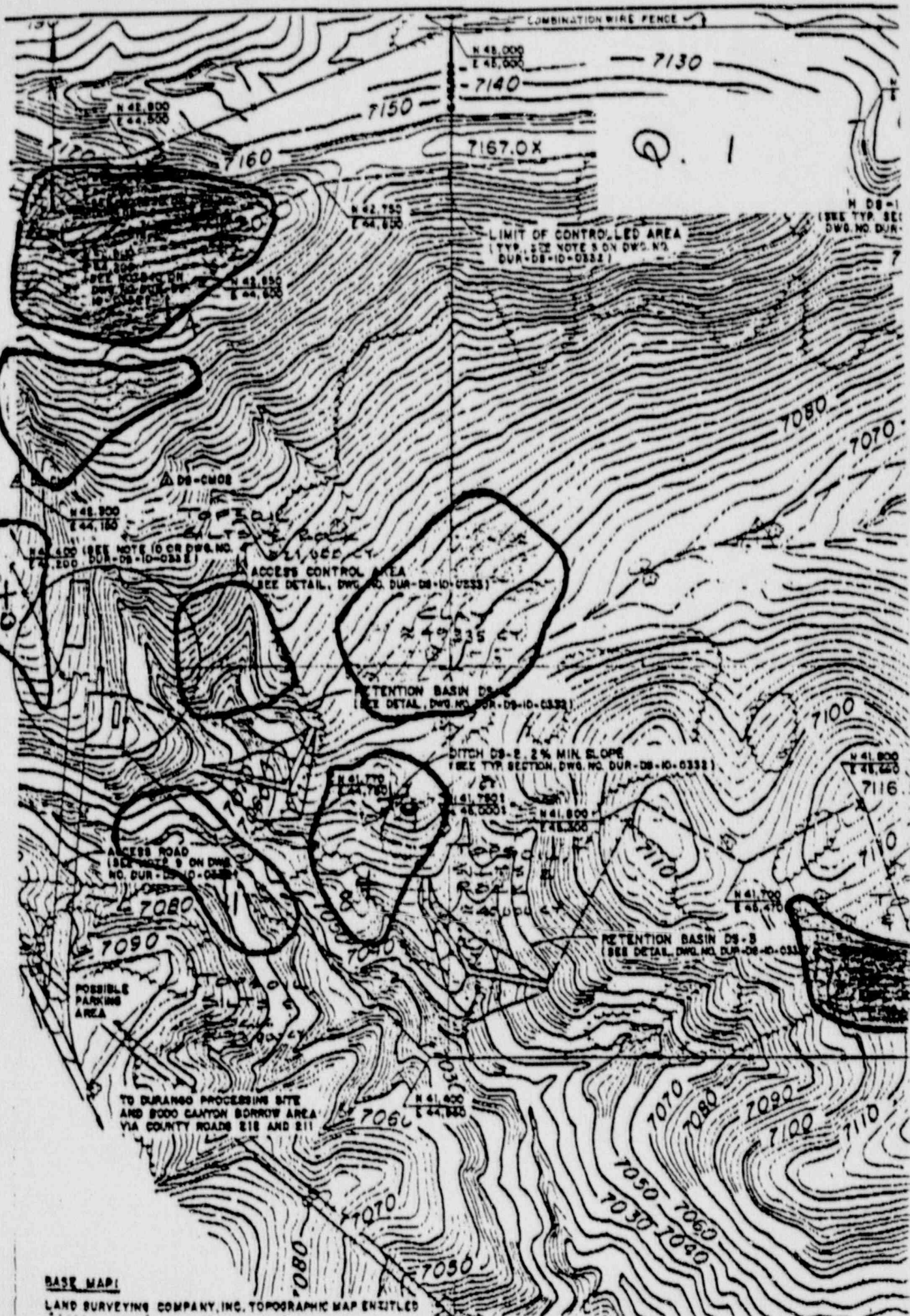
cc w/o enclosure:
M. Abrams, UMTRA
R. Edge, JEG
M. Kearney, JEG
J. Oldham, RAC

DESIGNATED ORIGINAL

Certified By Manly C. Good

9006180155 900050
PDR WASTE
WM-48 PDC

Add Info
90-0556



BASE MAP:

LAND SURVEYING COMPANY, INC. TOPOGRAPHIC MAP ENTITLED



MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

INTER-OFFICE CORRESPONDENCE

ALBUQUERQUE

DATE July 31, 1987

AUG 05 1987

TO Mark Thomson

FROM Robert Steele *dr*

LOCATION Albuquerque

LOCATION Durango

RECEIVED

SUBJECT Radon Barrier Sampling List

Per your request in an IOC dated 7/23/87, following is a list of the acquired soil samples from the radon barrier clay material:

<u>Sample #</u>	<u>Location</u>	<u>Type</u>
DUR-RB-1, 2, 3, 4	E 45, 950 N 42,125 Elev 7060	Yellow-gray clay
DUR-RB-5, 6, 7, 8	E 45,920 N 42,095 Elev 7060	orange-brown silty clay
DUR-RB-9, 10, 11, 12	E 45,300 N 42,150 Elev 7075	Low PI - silty clay
- DUR-RB-13	Stockpile #1 5' from top	Random
- DUR-RB-14	Stockpile #1 on top	Random
DUR-RB-15, 16	Stockpile #1 10' from top	Random
- DUR-RB-17	Stockpile #1 5' from top	Random
- DUR-RB-18	Stockpile #1 on top	Random
DUR-RB-19, 20	Stockpile #2 6' from top	Random
DUR-RB-21, 22, 23, 24	Stockpile #2 on top	Random

RS/kw
File: 5.11

5

low permeability

RECEIVED-MKE
AUG 6 1987
UMTRA-S.F.

SUMMARY

Job No 400.5-15

Project Name UNITRA - IDU

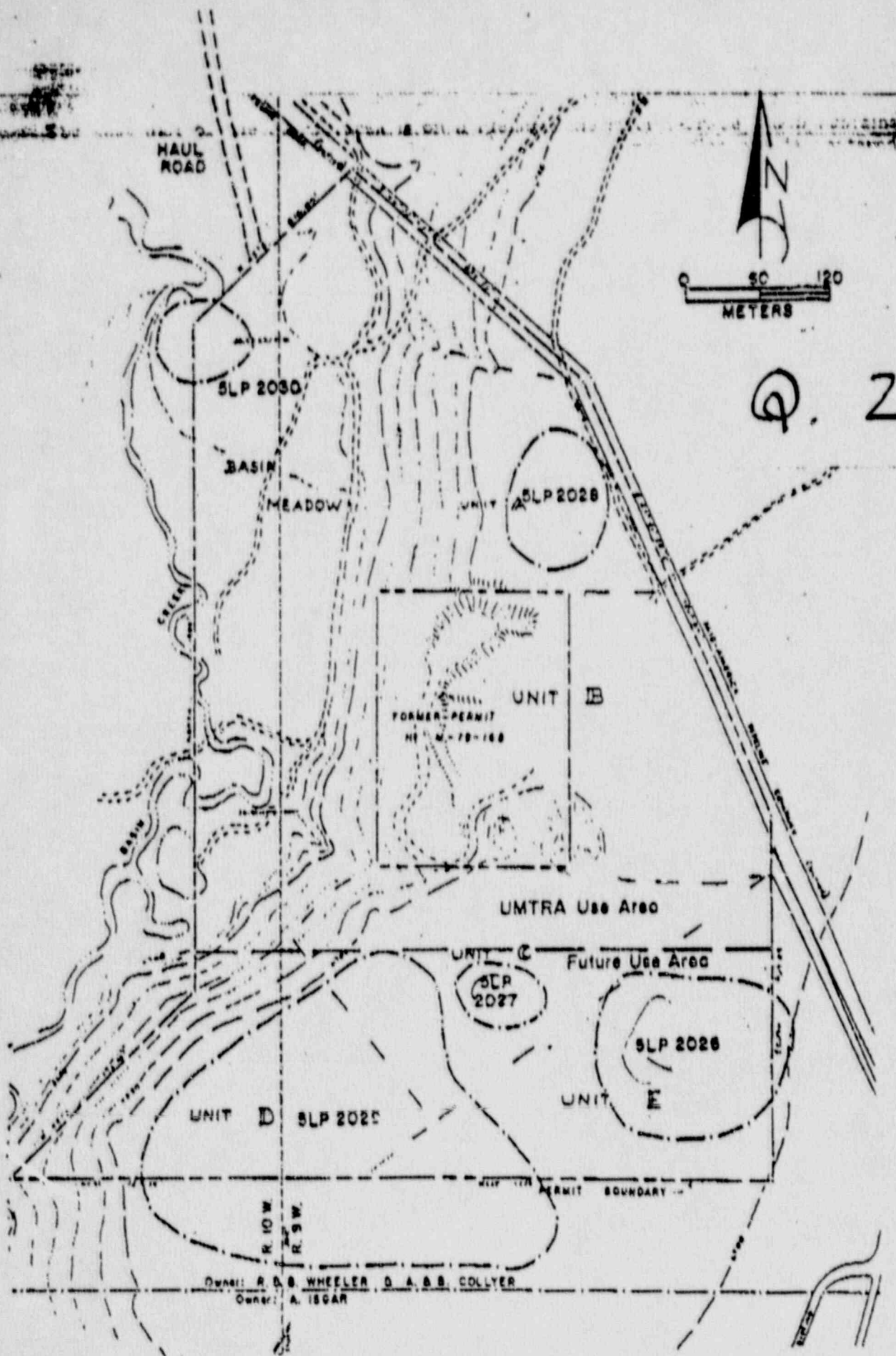
[illegible]

- Visual Classification

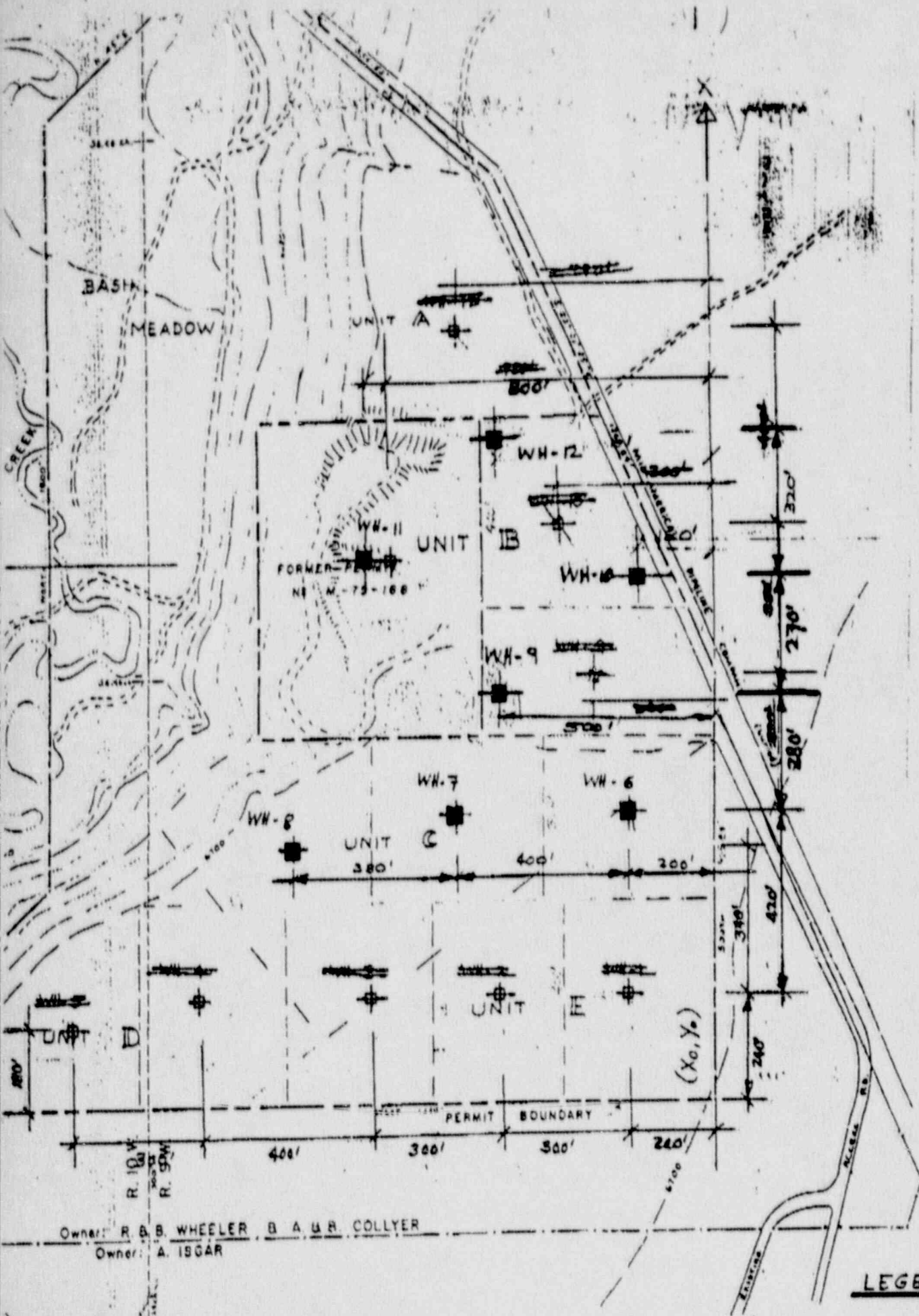
BP = Standard Project
WP = Modified Project
S = Special - see Text

TC = Triaxial Compression
UC = Unconfined Compression
DS = Direct Shear

UU = Unconsolidated Undrained
CU = Consolidated Undrained
CD = Consolidated Drained



~~Wheeler Materials Pit~~ boundaries with archaeological sites located.



12U 7U

T. 34 N

0 200 400 600

Boundary Line
MK Test Point
WU-1

$\begin{array}{r} 12.110.58 \\ 207.2 \\ \hline 669 \end{array}$
 $\begin{array}{r} 11.6 \\ 211.5 \\ \hline 229.00 \end{array}$

MS A.21 11.603-

Item	Value
1. 1000	1000
2. 2000	2000
3. 3000	3000
4. 4000	4000
5. 5000	5000
6. 6000	6000
7. 7000	7000
8. 8000	8000
9. 9000	9000
10. 10000	10000
11. 11000	11000
12. 12000	12000
13. 13000	13000
14. 14000	14000
15. 15000	15000
16. 16000	16000
17. 17000	17000
18. 18000	18000
19. 19000	19000
20. 20000	20000
21. 21000	21000
22. 22000	22000
23. 23000	23000
24. 24000	24000
25. 25000	25000
26. 26000	26000
27. 27000	27000
28. 28000	28000
29. 29000	29000
30. 30000	30000
31. 31000	31000
32. 32000	32000
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34. 34000	34000
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52. 52000	52000
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82. 82000	82000
83. 83000	83000
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91. 91000	91000
92. 92000	92000
93. 93000	93000
94. 94000	94000
95. 95000	95000
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99. 99000	99000
100. 100000	100000

CP

CH

5

1999

10

100

205,1203/3093423

26 265-502

20468435/20859725

1453335/3003105

204485-49 / 304545-76

20453301/30429405

20471869 / 30943047

20199043/30054324

TEST 097 1003

4005-15

TEST PAY DATE :

9:10

9001 1 25 3 7 3 0000 0419

LOGGED BY: A J L

Cone 125B (1cy)

LOGGED BY: A J L

[illegible]

REVIEWS

251

—

59

Long
has day
to night

310

761

stiff red brick slab

have income volatility

91
v. ishuff

gravel bed.

000 110 1631

TEST PIT LOG

JOB NO.: 4005-15		TEST PIT NO.:	
TEST PIT SIZE: 5' x 30' pm.		COMPLETED:	
GROUND WATER ELEVATION:		LOGGED BY:	
PROJECT: UMTRA-DUR		SITE LOCATION: WH-7A	
COORDINATES LOCATION:		GROUND ELEVATION: 6715	
EXCAVATION METHOD: Lane 125 B (Dave Dufus)		BEGUN: 4:30 pm	
DEPTH IN FEET	SAMPLE NO.	UNIFIED SOIL CLASSIFICATION	SOIL LOG
23'			
11'			
6'0			
10.5			
11.5			
REMARKS		TEST PIT NO.	

2.01 6.3
gr. brn. & silt
tr. water

red brn silty clay
sm. f. sand.
tr. caliche nodules.

6'0 

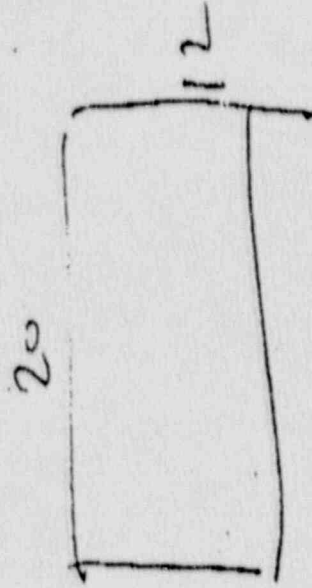
10.5

11.5 ditto see gravel

TEST PIT LOG

JOB NO.: 4005-15		TEST PIT NO.:	
TEST PIT SIZE:			
COMPLETED: 4:30 pm		GROUND WATER ELEVATION:	
PROJECT: UMTRA-DUR		REGION: 3:15 pm	
SITE LOCATION: WH-8A (30' N 20° E) AS		GROUND ELEVATION: 6714.6715	
COORDINATES LOCATION:		LOGGED BY:	
EXCAVATION METHOD:			
DEPTH IN FEET	SAMPLE NO.	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG
MATERIAL CLASSIFICATION PHYSICAL DESCRIPTION		REMARKS	

visited by Steve Etkin



20' 6.5
bry. discol.

50' 12
red brn si clay
su fine sand

60' of caliche filling

8'0' red brn si clay
10' 3,4 compact, fissured
with fr. organic

1 db to ground

TEST PIT NO.

TEST PIT LOG

PROJECT:

UMTRA-DUR

SITE LOCATION:

WH-10

COORDINATES LOCATION:

BEGUN: 10:40 am.

GROUND ELEVATION:

6707

EXCAVATION METHOD:

Case 125B. (Dug)

LOGGED BY:

ABH Ray

COMPLETED:

11:40 am

GROUND WATER ELEVATION:

NONE

TEST PIT NO.:

4005-15

TEST PIT SIZE:

MATERIAL CLASSIFICATION
PHYSICAL DESCRIPTION

REMARKS

DEPTH IN FEET

SAMPLE NO.

UNIFIED SOIL CLASSIFICATION

GRAPHIC LOG

12'-15'

3'-4 1/2'

31-0' CS
Δ DK grey
↓ sa clay (SC)
Δ
Red brown (CL)
#1 1/2" Z
6'03" ⊗ silty clay

9'-2'

gravel
 Red brn
 & gravel
 sm cobbles

TEST PIT NO.

PROJECT: UMTRA-DUR		TEST PIT NO.:	
SITE LOCATION: WH-11A		COMPLETED: 12:30	
COORDINATES LOCATION:		GROUND WATER ELEVATION:	
EXCAVATION METHOD:		LOGGED BY: A. Htay visitors Bill Zebick & Ernie Do	
DEPTH IN FEET	SAMPLE NO.	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG
			
18'		6.0	
10'		6.0	
3.0		6.0	
G.S.		top of gravel bed	
brown silty clay fr. roots of gabbles sun f. sand		red brown silty clay, sun f. sand	
REMARKS		TEST PIT NO.	

TEST PIT LOG

PROJECT: UMTRA-DNR		JOB NO: 4005-15		TEST PIT NO.:
SITE LOCATION: WH-12		TEST PIT SIZE:		
COORDINATES LOCATION:		COMPLETED: 12-30-80		
EXCAVATION METHOD:		GROUND WATER ELEVATION:		
BEGUN: 11:40 am		LOGGED BY:		
GROUND ELEVATION: 6705				

DEPTH IN FEET	SAMPLE NO.	UNIFIED SOIL CLASSIFICATION	GRAPHIC LOG	MATERIAL CLASSIFICATION PHYSICAL DESCRIPTION	REMARKS
0' - 3.5'				20'	CS dk gray cl. silt
3.5' - 6.0'					Red brn silty clay
6.0' - 11.7'					
11.7' - 14'					Red brn gravelly silty clay

TEST PIT NO.

TEST PIT LOG

PROJECY :

UMTRA-DUR

SITE LOCATION: WH-13 (new loc.)

COORDINATES LOCATION:

EXCUSE ME IF I MOOD :

LOGGED BY :

A. H. Hay visions Randy White.

08 PM IN PST

SAMPLE
 NO.

UNIFIED SOIL
CLASSIFICATION

MATERIAL CLASSIFICATION

PHYSICAL DESCRIPTION

50000000

55

leave any bar of salt
if needed

3.

line red of bar si clay
+ roots caliche
cave holes nodules

med. 54.

11, 12,

tt capiche non lo

12.01 caliche lyn

top of cable

VE97 017 00

Q. 6

SUMMARY OF SOIL

Job No 4005-15

Project Name

UMTRA-DURANGO

Hole or Trench Number	Sample Class. *	Depth feet		Laboratory Classification	Mechanical Analysis			Atterberg Limits		Specific Gravity G	Natural		Compaction		
		From	To		Gravel	Sand	Fines	LL	PI		w %	γ _p pcf	Test	Optimum w	γ _{max} pcf
TP-1	FI	0	4	GC	31	29	40	28	9	2.44			SP	14.0	117.
	SL	6	8	ML	1	2	97	NP	NP	2.25			SP	28.5	90.
PB 2	SA	15	16.5	SM	0	73	27			2.22	14.8				
	SS	35	46.5	ML	0	2	98	NP	NP	2.29	10.6 37.3 23.3		SP	20.8	101
PB 3	SS	0	21	SM	0	63	37			2.32	8.8		SP	14.1	105.
	SL	10	12.5	ML(?)				NP	NP	2.36	11.9	N.T.			
	FI	21	23.5	CL	3	41	56	30	8	2.22	18.3	N.T.			
	FI	30	50	CL	1	30	69	26	13	2.29			SP	14.4	113.
PB 4	SA	2	25	SM	0	80	20			2.45	11.1		SP	15.7	104
	SS	15	16.5	SM	0	83	17			2.42	14.2				
	SA	45	46.5	SP-SM	0	88	12				10.2				
	FI	50	52.2	CL				42	25	2.32	20.5	N.T.			
	FI	50	65	CL	0	46	54	28	9	2.19			SP	11.5	117.
PB 6	SS(?)	5	56.5	SM	0	72	28			2.26	14.5		SP	19.4	98.
	SA	35	36.5	SM	0	84	16				8.7				
	SS(?)	65	116.4	SM	0	87	13			2.35	7.8 8.2		SP	15.5	105
	SS	105	106.4	SP-SM	0	93	7			2.52	7.0				
	FI	140	141	CL				27	16		13.6				

* Visual Classification

SP • Standard Proctor
MP • Modified Proctor
S • Special • See Text

TC • Triaxial Compression
UC • Unconfined Compression
DS • Direct Shear

UU • Unconsolidated Undrained / See notes
CU • Consolidated Undrained
CD • Consolidated Drained

SA = Tailings S
SL = Tailings S
SS = Sand - Blin

NT • Not Tested, either due to insufficient sample size

SUMMARY OF SOIL

Job No 4005-15

Project Name UMTRA - DURANGO

Hole or Trench Number	Sample Class. *	Depth feet		Laboratory Classification	Mechanical Analysis			Atterberg Limits		Specific Gravity G	Natural		Test	Optimum	
		From	To		Gravel	Sand	Fines	LL	PI		w %	γ _p pcf		w	γ ₂₅
PB-7	SS(?)	5	46.5	SM	0	70	30			2.13	13.3 8.9		SP	18.6	95.
	SA	55	56.5	ML	0	26	74				37.3				
PB-8		5	66.5	ML	0	26	74	NP	NP	2.27	39.2				
	SL	10	12.5	SM	0	61	39	NP	NP	2.01	20.1	NT	SP	23.9	93.
	SA	15	16.5	SM	0	86	14				9.6				
	SA	45	46.5							2.22	10.3				
	F1	74	75.5	CL				29	14		16.7				
PB-9	SL	15	16.5	ML	0	3	97	NP	NP	2.27	34.2				
	SL	25	26.5	ML	0	2	98	NP	NP	2.58	48.9				
	F1	30	32.5	ML	0	7	93	NP	NP	2.27	28.8		SP	32.0	87.
PB-11	F2	0	15	GC	57	20	23	33	18	2.49					
PB-15	F2	0	15	ML				37	9	2.38	11.0				
PB-16	F2	0	9	SC	15	47	38	26	5	2.69	18.2		SP	12.7	119.
PB-20	F2	0	7.5	CL	1	31	68	28	8	2.46	16.7		SP	14.4	115.
PB-23	F2	0	8	CL				35	16	2.69	10.5		SP	16.0	112.
PB-27	F2	2	10	SC	15	48	37	24	3	2.48					

Visual Classification

SP • Standard Proctor
MP • Modified Proctor
S • Special • See Test

TC • Triaxial Compression
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DS • Direct Shear

UU • Unconsolidated Undrained
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CD • Consolidated Drained

SA = Tailings Sand
SL = Tailings Silt