Alberta **MEMORANDUM**

TRANSPORTATION
AND UTILITIES

FROM Aggregates Information Technologist
Aggregate Section
Materials Engineering Branch
4th Floor, Twin Atria

OUR FILE REFERENCE NW23-78-24-5

YOUR FILE REFERENCE

TO J. Sawchuk, R.D.
Alberta Transportation & Utilties
Peace River, Alberta

DATE Jan. 17, 1990

TELEPHONE 427-3101

SUBJECT AGGREGATES AGREEMENT
S.17(1)

Please forward the attached agreement to the person/company named above.
Make copies for your files and Districts as required.

Bruce Blue

BB/tm

Attach.

FOIP Request TR000-2021-G-29
Page No.001

Alberta
TRANSPORTATION
AND UTILITIES

Office of The Regional Director

Provincial Building, Bag 900, Box 25, Peace River, Alberta, Canada T8S 1T4 403/624-6280

January 22, 1990

File 004-89

S.17(1)

Dear S.17(1)

RE: NW 1/4 Sec. 23 Twp. 78 Rge. 24 W5M

Enclosed is your approved copy of an Agreement made recently between you and Alberta Transportation and Utilities for the supply of gravel.

Please contact me if you have any questions concerning this Agreement.

For the actual operation of the pit area, questions should be directed to Clarence Dewald, District Transportation Engineer in Grande Prairie, telephone number 538-5310.

Thank you for your cooperation in this matter.

Yours truly,

P.J. Sawchuk
Regional Director

LMM/lb

Encl.

c.c. C. Dewald

FOIP Request TR000-2021-G-29
Page No.002

S.17(1)

Alberta

TRANSPORTATION AND UTILITIES

AGGREGATES ROYALTY AGREEMENT

This NON-EXCLUSIVE AGREEMENT is made as of the 28 day of AUGUST, A.D. 19 89

BETWEEN

HER MAJESTY THE QUEEN in right of the Province of Alberta, herein represented by the Minister of Transportation and Utilities (hereinafter referred to as "the Minister")

and

S.17(1)

(Full Names or Full and Complete Names of Company)

S.17(1)

(Full Postal Address)

(hereinafter referred to as "the Vendor")

WHEREAS the Vendor is the REGISTERED OWNER (POWER OF ATTORNEY) of:
(Registered Owner, Purchaser, Lessee or otherwise)

NW-23-70-24-5
(Legal Land Description: Part Quarter Section, Township, Range & West of Meridian)

(hereinafter referred to as "the Lands") shown outlined on the plan contained herein and said to contain _____ Hectares (192 Acres) more or less,

AND WHEREAS the Minister requires Aggregates for the construction and maintenance of public works,

NOW THEREFORE THIS AGREEMENT WITNESSETH that, in consideration of the mutual terms and conditions hereinafter contained, the Minister and the Vendor agree as follows:

ARTICLE 1 DEFINITIONS

In this Agreement:

1. "Aggregates" means, with respect to naturally occurring unprocessed materials considered in bulk as mixtures of particles of different sizes, those materials commonly referred to as boulders, cobbles, gravel, sand and silt and all other granular materials of little or no plasticity such as are commonly used in the surfacing of roads and the construction of drainage works.
2. "Gravel" means that type of Aggregate such that, on average, half or less by weight of the constituent particles will pass an opening 1.6 mm (about one sixteenth of an inch) square.
3. "Sand" means that type of Aggregate such that, on average, more than half by weight of the constituent particles will pass an opening 1.6 mm (about one sixteenth of an inch) square.
4. "Machinery" means excavation equipment, crushers, screening equipment, mobile asphalt and soil-cement mixing plants, portable testing laboratories, weigh scales and storage tanks and shall include such other machinery, trucks, temporary structures and conveniences the Minister deems necessary for the prospecting, testing, getting, processing and hauling out of Aggregates, but shall exclude any structures whose primary purpose is residential in nature.

MAT-2-10/85

FOIP Request TR000-2021-G-29
Page No.003

ARTICLE II ACCESS TO AGGREGATES

The Vendor agrees to allow the Minister, his agents, servants and workmen full and free access at all times to and from the Lands, and agrees that the Minister may, at his own expense:

1. Do all such acts as may be necessary for the purposes of effectually exploring, prospecting for, testing, getting, processing and disposing of Aggregates contained in the Lands.

2. Take upon the Lands and use without hindrance such Machinery as the Minister deems necessary, and

3. Place or pile upon the Lands without further charge any excavated or processed Aggregates, rejected or reclaimed material, topsoil or overburden necessary for the duration of this Agreement.

ARTICLE III TEMPORARY FENCING, CATTLEGUARDS AND WEED CONTROL

The Minister will erect and maintain such temporary fences located near the perimeter of the area of operations as may be required to prevent livestock from straying into or escaping from the area of operations.

The Minister may also, at his discretion, install and maintain a temporary cattleguard at the entrance to the area of operations when the scale of operations warrants such an installation in lieu of a gate.

Any temporary fences erected and any temporary cattleguard installed may be removed by the Minister at the completion of individual projects or at expiry of this Agreement.

Overburden and waste material will be disposed of or piled in such a manner as to facilitate weed control wherever such disposal or piling is practicable.

ARTICLE IV ROYALTY RATES ESTABLISHED

1. The Minister shall pay to the Vendor 40 cents per TONNE of accepted Gravel removed from the Lands.

2. The Minister shall pay to the Vendor _____ cents per TONNE of accepted Sand removed from the Lands up to 10 000 tonnes per project.

3. The Minister shall pay to the Vendor _____ cents per TONNE of accepted Sand removed from the Lands beyond 10 000 tonnes per project.

Such payments shall in all cases be compensation in full for Aggregates removed from the Lands.

ARTICLE V MEASUREMENT OF AGGREGATES

Aggregates will normally be measured by weight for the purposes of Royalty Payment unless, in the Minister's opinion, to do so would be impractical, in which case measurement shall be by volumes determined by cross-section or truck-box methods. Where necessary, conversions from volume to weight, and vice versa, shall be made using a factor of 1.632 tonnes per cubic metre for gravel and a factor of 1.365 tonnes per cubic metre for sand.

ARTICLE VI ADDITIONAL COMPENSATION

1. The Minister shall pay the Vendor for losses to seeded agricultural crops actually destroyed on the Lands by the activities of the Minister or his agents while operating as generally described in Article II of this Agreement.

2. The Minister will, if the Vendor so wishes, pay the Vendor, at the rate for Gravel shown on Article IV.1. of this Agreement, for material rejected as part of the crushing process for SEAL COAT CHIPS ONLY, up to a maximum of 2 1/3 times the volume of SEAL COAT CHIPS produced. Such rejected material shall become the property of the Minister.

ARTICLE VII ITEMS NOT TO BE PAID FOR SEPARATELY

The Vendor agrees that there shall be NO COMPENSATION for:

1. Unaccepted materials stripped from the Lands or rejected during processing, except as provided for in Article VI.2.

2. Materials such as silt, sand, gravel, oil, lime, cement or other additives brought to the Lands by the Minister or his agents.

3. The right of access to and from the Lands.

4. Any other damages or injuries that may be done to the Lands or improvements, if any, during the term of this Agreement.

FOIP Request TR000-2021-G-29
Page No.004

ARTICLE VIII DEVELOPMENT AND RECLAMATION APPROVAL

1. The Minister undertakes to make any necessary application for Development and Reclamation Approval to Alberta Environment and Local Authorities insofar as the Minister's operations ONLY are concerned. Use of the Lands for aggregate supply or other purposes by any party other than the Minister or his agents is the Vendor's responsibility.

2. The Minister shall carry out reclamation of the Lands as may be directed by the Minister of the Environment or his Agents under such Acts and Regulations as may from time to time be in effect. Such reclamation shall be limited to that occasioned by land disturbances resulting from the Minister's operations ONLY.

ARTICLE IX ADDITIONAL CONDITIONS

(If none, write 'none'). NONE S.17(1)

ARTICLE X REMAINING STOCKPILES

Notwithstanding the expiry date described in Article XI of this Agreement, the Vendor shall grant to the Minister the right to leave material that has been produced in connection with this Agreement in stockpiles on the Lands for a period of two years beyond the said expiry date without further charge, together with the right of access to such stockpiles for the purpose of removing them. Royalty on such material will be paid within sixty days after expiry of this Agreement.

ARTICLE XI TERM OF THIS AGREEMENT

The term of this Agreement shall be for a period commencing on the date hereof and ending at 24.00 hrs on the 31st day of December, A.D. 19 92, at which time this Agreement shall expire.

IN WITNESS WHEREOF this Agreement has been executed by the parties hereto:

SIGNED, SEALED AND DELIVERED
by the MINISTER in the
presence of:

L. Miller

Approved as to Form
Solicitor

Executed on behalf of the
MINISTER OF TRANSPORTATION
AND UTILITIES
by:

Director, Materials Engineering Branch
C. Nichols, Director
Materials Engineering Branch

SIGNED, SEALED AND DELIVERED
by the VENDOR in the
presence of:

S.17(1)
(Signature of Witness)

S.17(1)
(Full Names of Witness)

Executed by the
VENDOR:

S.17(1)

FOIP Request TR000-2021-G-29
Page No.005

DOWER AFFIDAVIT

I, S.17(1) (Full Name of Vendor)

of S.17(1) (Address of Vendor) in the Province of Alberta,

S.17(1) (Occupation of Vendor), MAKE OATH AND SAY:

1. That I am the Vendor named in the within instrument.
2. ~~That I am NOT married.~~ OR That neither myself nor my spouse have resided on the within mentioned Lands at any time since our marriage. S.17(1)

Sworn before me at Peace River.
in the Province of Alberta

this 20 day of August, 19 89.

S.17(1)
(Signature of Vendor)

Earl A. Webb
(A Commissioner for Oaths for the Province of Alberta)

Earl Allen Webb Aug. 30, 1990
(Name of Commissioner and Expiry Date of Commission)

CONSENT OF SPOUSE

I, _____ (Full Name of Spouse), being married to the above named

_____ (Full Name of Vendor), do hereby give my consent to the

disposition of our homestead made in this instrument, and I have executed this document for the purpose of giving up my life estate and other dower rights in the property given to me by the Dower Act, to the extent necessary to give effect to the disposition.

_____
(Signature of Spouse)

CERTIFICATE OF ACKNOWLEDGEMENT BY SPOUSE

1. This document was acknowledged before me by _____ (Full Name of Spouse) apart from her husband (or his wife)
2. She (or he) acknowledged to me that she (or he):
   (a) is aware of the nature of the Agreement,
   (b) is aware that the Dower Act gives her (or him) a life estate in the homestead and the right to prevent disposition of the homestead by withholding consent,
   (c) consents to the Agreement for the purpose of giving up the life estate and other dower rights in the homestead given to her (or him) by the Dower Act, to the extent necessary to give effect to the said Agreement,
   (d) is executing the document freely and voluntarily without any compulsion on the part of her husband (or his wife).

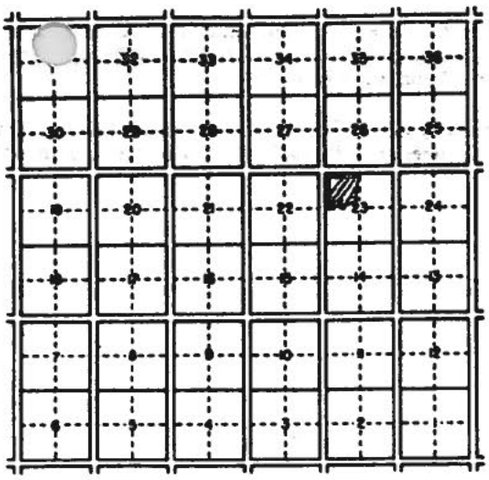
Dated at _____
in the Province of Alberta

this _____ day of _____, 19 _____

_____
(A Commissioner For Oaths for the Province of Alberta)

_____
(Name of Commissioner and Expiry Date of Commission)

FOIP Request TR000-2021-G-29
Page No.006



NW 1/4 SEC. 23 TP. 78 RGE. 24 W. 5 M.

IMPERIAL SCALE

0 200' 400' 600' 800' 1000'

METRIC SCALE

0" 50" 100" 200" 300"

N

W E

S

Ls 13

Ls 14

Ls 12

Ls 11

APPROXIMATE AREA OF AGREEMENT.

RECEIVED
JAN 19 1989
PETROLEUM TRANSPORTATION

FOIP Request TR000-2021-G-29
Page No.007

CONTACT.

S.17(1)

AGGREGATES ROYALTY AGREEMENT

TRANSPORTATION AND UTILITIES

This NON-EXCLUSIVE AGREEMENT is made as of the 28 day of AUGUST, A.D. 19 89

BETWEEN

HER MAJESTY THE QUEEN in right of the Province of Alberta, herein represented by the Minister of Transportation and Utilities (hereinafter referred to as "the Minister")

and

S.17(1)

(Full Names or Full and Complete Names of Company)

S.17(1)

(Full Postal Address)

(hereinafter referred to as "the Vendor")

WHEREAS the Vendor is the REGISTERED OWNER. of:
(Registered Owner, Purchaser, Lessee or otherwise)

NW-23-79-24-5
(Legal Land Description: Part Quarter Section, Township, Range & West of Meridian)

(hereinafter referred to as "the Lands") shown outlined on the plan contained herein and said to contain _____ Hectares (19.2 Acres) more or less,

AND WHEREAS the Minister requires Aggregates for the construction and maintenance of public works,

NOW THEREFORE THIS AGREEMENT WITNESSETH that, in consideration of the mutual terms and conditions hereinafter contained, the Minister and the Vendor agree as follows:

ARTICLE 1 DEFINITIONS

In this Agreement:

1. "Aggregates" means, with respect to naturally occurring unprocessed materials considered in bulk as mixtures of particles of different sizes, those materials commonly referred to as boulders, cobbles, gravel, sand and silt and all other granular materials of little or no plasticity such as are commonly used in the surfacing of roads and the construction of drainage works.
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MAT-2-10/85

FOIP Request TR000-2021-G-29

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3. The right of access to and from the Lands.

4. Any other damages or injuries that may be done to the Lands or improvements, if any, during the term of this Agreement.

FOIP Request TR000-2021-G-29

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ARTICLE IX ADDITIONAL CONDITIONS

(If none, write 'none'). None S.17(1)

ARTICLE X REMAINING STOCKPILES

Notwithstanding the expiry date described in Article XI of this Agreement, the Vendor shall grant to the Minister the right to leave material that has been produced in connection with this Agreement in stockpiles on the Lands for a period of two years beyond the said expiry date without further charge, together with the right of access to such stockpiles for the purpose of removing them. Royalty on such material will be paid within sixty days after expiry of this Agreement.

ARTICLE XI TERM OF THIS AGREEMENT

The term of this Agreement shall be for a period commencing on the date hereof and ending at 24.00 hrs on the 31st day of December, A.D. 19 92, at which time this Agreement shall expire.

IN WITNESS WHEREOF this Agreement has been executed by the parties hereto:

SIGNED, SEALED AND DELIVERED
by the MINISTER in the
presence of:

_____

Executed on behalf of the
MINISTER OF TRANSPORTATION
AND UTILITIES
by:

_____
Director, Materials Engineering Branch

SIGNED, SEALED AND DELIVERED
by the VENDOR in the
presence of:

S.17(1)
(Signature of Witness)

S.17(1)
(Full Names of Witness)

Executed by the
VENDOR:

S.17(1)

FOIP Request TR000-2021-G-29
Page No.0010

DOWER AFFIDAVIT

I, S.17(1) _____
(Full Name of Vendor)

of S.17(1) _____ in the Province of Alberta,
(Address of Vendor)

S.17(1) _____, MAKE OATH AND SAY:
(Occupation of Vendor)

1. That I am the Vendor named in the within instrument.
2. ~~That I am NOT married.~~ OR That neither myself nor my spouse have resided on the within mentioned Lands at any time since our marriage. S.17(1)

Sworn before me at PEACE RIVER.
in the Province of Alberta

this 20 day of AUGUST, 19 89

S.17(1)
(Signature of Vendor)

Earl A. Webb
(A Commissioner for Oaths for the Province of Alberta)

EARL ALLEN WEBB AUG. 30, 1990
(Name of Commissioner and Expiry Date of Commission)

CONSENT OF SPOUSE

I, _____, being married to the above named
(Full Name of Spouse)

_____, do hereby give my consent to the
(Full Name of Vendor)

disposition of our homestead made in this instrument, and I have executed this document for the purpose of giving up my life estate and other dower rights in the property given to me by the Dower Act, to the extent necessary to give effect to the disposition.

_____
(Signature of Spouse)

CERTIFICATE OF ACKNOWLEDGEMENT BY SPOUSE

1. This document was acknowledged before me by _____ apart from her husband (or his wife)
(Full Name of Spouse)

2. She (or he) acknowledged to me that she (or he):
   (a) is aware of the nature of the Agreement,
   (b) is aware that the Dower Act gives her (or him) a life estate in the homestead and the right to prevent disposition of the homestead by withholding consent,
   (c) consents to the Agreement for the purpose of giving up the life estate and other dower rights in the homestead given to her (or him) by the Dower Act, to the extent necessary to give effect to the said Agreement,
   (d) is executing the document freely and voluntarily without any compulsion on the part of her husband (or his wife).

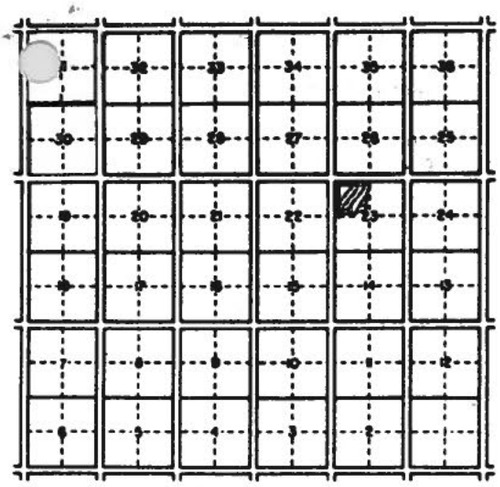
Dated at _____
in the Province of Alberta

this _____ day of _____, 19 _____

_____
(A Commissioner For Oaths for the Province of Alberta)

_____
(Name of Commissioner and Expiry Date of Commission)

FOIP Request TR000-2021-G-29
Page No.0011



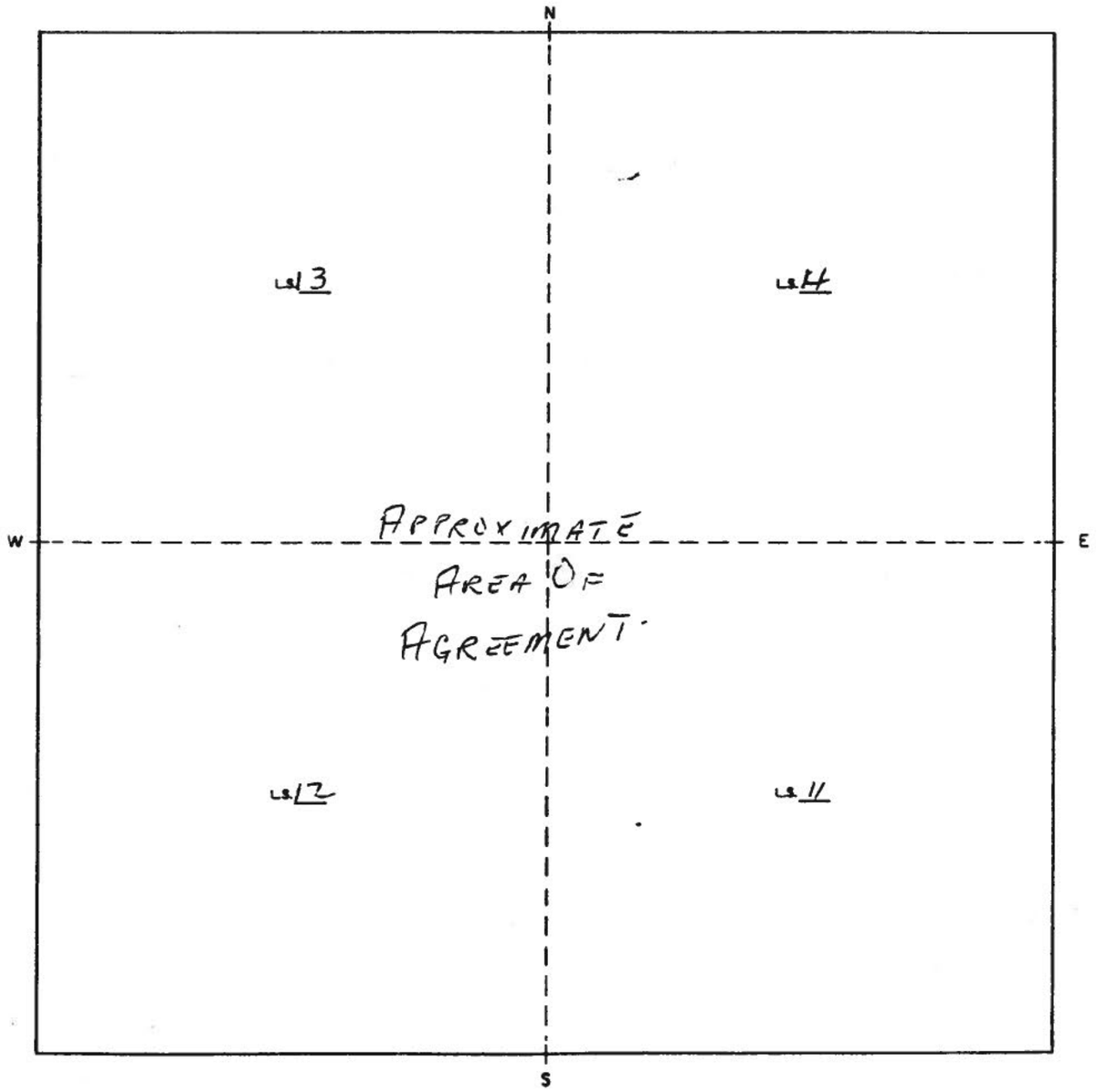
NW 1/4 SEC. 23 TP. 78 RGE. 24 W. 5 M.

IMPERIAL SCALE

0 200' 400' 600' 800' 1000'

METRIC SCALE

0 m 50 m 100 m 200 m 300 m



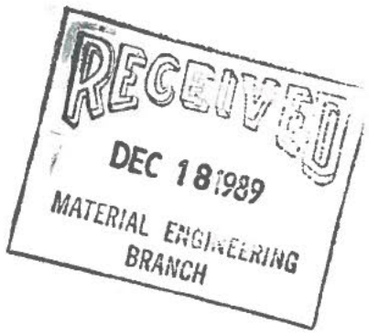
FOIP Request TR000-2021-G-29
Page No.0012

ALBERTA TRANSPORTATION
MATERIALS ENGINEERING BRANCH
TESTING SERVICES SECTION

TACS100C
DATE PRINTED: 1989/12/15

SUMMARY OF AGGREGATE SIEVE ANALYSIS

GRAVEL PROSPECT



PIT NAME : S.17(1)

PIT LOCATION : NW-23-078-24-05

DESIGNATION & CLASS: PIT RUN
1-16

REPORT TO :K. MAH, K. ~~YAU~~ Karl (MEB)

CC :C. DEWALD (DIST 13)

REPORT DATE :891215

SAMPLED BY :E. WEBB

DATE SAMPLED :891100

NUMBER OF SAMPLES : 7

LAB SAMPLE NUMBER(S):

FIRST(PIT RUN) :451028
LAST (PIT RUN) :451034

FIRST(LAB CRUSH):451028
LAST (LAB CRUSH):451034

DESIGN NUMBER :

PROJECT :HW49 / ID19

FROM :

TO :

JOB ACCOUNT :

SUMMARY :

FOIP Request TR000-2021-G-29
Page No.0013

ALBERTA TRANSPORTATION
MATERIALS ENGINEERING BRANCH
TESTING SERVICES SECTION

SUMMARY OF AGGREGATE SIEVE ANALYSIS
GRAVEL PROSPECT

TACS110C

PIT NAME : S.17(1)
PIT LOCATION : NW-23-078-24-05
DESIGNATION CLASS : PIT RUN
DATE SAMPLED : 891100

LAB. SAMPLE NUMBER	TEST PIT NO.	DEPTH (M)	SAMPLE REMARK	LL	PL	PI	DRY STRENGTH	SIEVE ANALYSIS - % PASSING										
								80000	40000	16000	10000	5000	2500	1250	630	315	160	80
451028	7	0.2-6.2		-	-	-	-	100	67	35	29	25	23	21	17	10	5.6	3.9
451029	10	0.2-6.2		-	-	-	-	100	65	33	26	20	17	16	14	9	5.7	4.2
451030	12	0.2-6.2		-	-	-	-	100	68	39	31	24	21	19	16	11	7.2	5.4
451031	14	1.0-6.0		-	-	-	-	100	70	46	41	36	32	29	26	21	15.5	10.6
451032	16	0.2-6.2		-	-	-	-	100	79	41	36	33	32	30	28	23	16.2	12.4
451033	18	0.2-6.2		-	-	-	-	100	73	34	24	17	15	13	12	9	6.7	5.4
451034	19	0.2-6.2		-	-	-	-	100	78	51	45	39	36	32	27	16	9.3	6.9
AVERAGE OF 7 TESTS								100.0	71.4	39.9	33.1	27.7	25.1	22.9	20.0	14.1	9.5	7.0
STANDARD DEVIATION								.0	5.4	6.7	7.8	8.4	8.2	7.5	6.8	5.9	4.5	3.3
AGGREGATE SPECIFICATION			PIT RUN			N/A												

LEGEND :

* - SAMPLE OMITTED FROM AVERAGE
DRY STRENGTH - ALBERTA TRANSPORTATION METHOD OF TEST FOR COHESIVENESS OF NONPLASTIC SOILS(HIGH,MEDIUM,LOW,FRIABLE)

FOIP Request TR000-2021-G-29
Page No.0014

ALBERTA TRANSPORTATION
MATERIALS ENGINEERING BRANCH
TESTING SERVICES SECTION

SUMMARY OF AGGREGATE SIEVE ANALYSIS
LAB CRUSHED GRAVEL
PIT NAME : S.17(1)
PIT LOCATION : NW-23-078-24-05
DESIGNATION CLASS : 1-16
DATE SAMPLED : 891100

TACS120C

PAGE 1

LAB. SAMPLE NUMBER	TEST PIT NO.	DEPTH (M)	SAMPLE REMARK	LL	PL	PI	DRY S	LA ABRASION 100	LA ABRASION 500	% FRACT +5000	SIEVE ANALYSIS - % PASSING 16000	12500	10000	5000	2500	1250	630	315	160	80
451028	7	0.2-6.2		-	-	NP	M	-	-	-	98	92	78	46	37	32	26	16	8.8	5.9
451029	10	0.2-6.2		-	-	NP	M	-	-	-	98	92	78	41	31	25	21	14	9.2	6.8
451030	12	0.2-6.2		-	-	NP	H	-	-	-	97	91	78	44	35	30	25	17	10.5	7.1
451031	14	1.0-6.0		-	-	NP	H	-	-	-	98	94	82	53	43	36	31	25	17.3	11.4
451032	16	0.2-6.2		-	-	NP	H	-	-	-	98	92	80	51	44	40	36	29	19.1	13.2
451033	18	0.2-6.2		-	-	NP	H	-	-	-	97	91	76	38	26	21	17	13	8.8	6.4
451034	19	0.2-6.2		-	-	NP	M	-	-	-	97	92	81	54	44	38	31	19	11.3	8.1
AVERAGE OF 7 TESTS											97.6	92.0	79.0	46.7	37.1	31.7	26.7	19.0	12.1	8.4
STANDARD DEVIATION											.5	1.0	2.1	6.2	7.0	6.9	6.5	5.9	4.3	2.8
AGGREGATE SPECIFICATION			1-16			0-4			40	60+	100	80-92	70-84	50-65		26-45	18-38	12-30	8-20	4-10

LEGEND :

* - SAMPLE OMITTED FROM AVERAGE
DRY S - ALBERTA TRANSPORTATION METHOD OF TEST FOR COHESIVENESS OF NONPLASTIC SOILS (H - HIGH, M - MEDIUM, L - LOW, F - FRIABLE)

FOIP Request TR000-2021-G-29
Page No.0015

IDENTIFICATION AND DESCRIPTION OF GRAVEL PROSPECT

PIT NAME : S.17(1)
PIT LOCATION : NW-23-078-24-05
DESIGNATION CLASS : PIT RUN
DATE SAMPLED : 89/11/00

LAB SAMPLE NO	BAG NO	TEST PIT NO	SAMPLE DEPTH	TOP SIZE	% 80-150 MM	% 150-300 MM	OVER 300 MM	MC	LAB REMARKS	WG	EPG	ECS	EFS	SCS	SFS	P **	ANG	SUB ANG	SUB ROUND	R	S	ER *	SOFT SHALE *	IRON NOD *	SOFT SAND *	CLAY SILT *	CLAY COAT *	COAL *
451028	88-4279	7	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)					X	X	NP		X	X		X	T		T	T			
451029	88-1521	10	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)					X	X	NP		X	X		X	T		T	T			
451030	88-7055	12	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)					X	X	L		X	X		X	T		T				
451031	88-7173	14	1.0-6.0	400	20.00	5.00	.		ODD (% OVER 300 MM)	X			X			L		X	X		X	T		T	T			T
451032	88-5610	16	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)				X			L		X	X		X	T		T				
451033	88-2385	18	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)					X	X	L		X	X		X	T		T			T	
451034	88-7000	19	0.2-6.2	400	20.00	5.00	.		ODD (% OVER 300 MM)	X						NP		X	X		X	T		T			T	

RESULTS LEGEND:
* H HIGH, M MEDIUM, L LOW, T TRACE ** H HIGH, M MEDIUM, L LOW, NP NON-PLASTIC

REPORT COLUMN HEADING LEGEND:

MC - MOISTURE CONTENTS	WG - WELL GRADED	EPG - EXCESSIVE PEA GRAVEL	ECS - EXCESSIVE COARSE SAND	EFS - EXCESSIVE FINE SAND
SCS - SHORT OF COARSE SAND	SFS - SHORT OF FINE SAND	P - PLASTICITY(ASTM D2488)	ANG - ANGULAR	R - ROUGH
S - SMOOTH	ER - ENCRUSTED	NOD - NODULES	SAND - SANDSTONE	

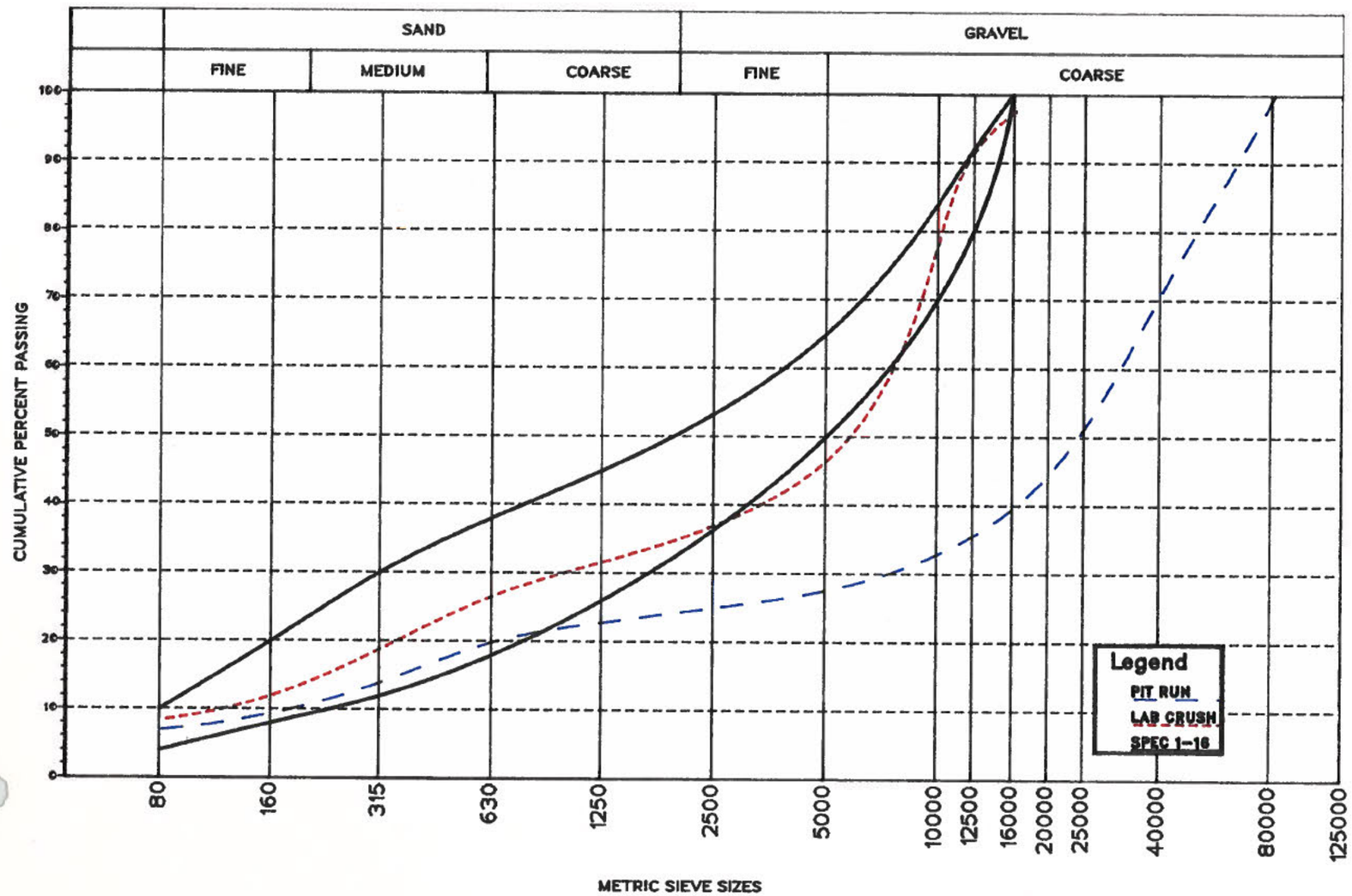
FOIP Request TR000-2021-G-29
Page No.0016

AGGREGATE GRADATION CHART

GRAVEL PROSPECT

PROJECT : HW49 / ID19

DESIGNATION AND CLASS : PIT RUN
PIT NAME: S.17(1)
LOCATION: NW-23-078-24-05
DATE SAMPLED: 89/11/00
FIRST SAMPLE: 451028 LAST SAMPLE: 451034



FOIP Request TR000-2021-G-29
Page No.0017

Alberta TRANSPORTATION MATERIALS ENGINEERING BRANCH

METRIC

AGGREGATES TESTING SUMMARY

DATE: JAN 4 1990 LOCATION: NW ¼ SEC. 23 TP. 78 RGE. 24 W. 5 M.

TESTER: WEBB PIT NAME: S.17(1)

OWNERSHIP:

☐ A.T. PIT

☑ PRIVATE: VENDOR S.17(1) ROYALTY 40¢/T. EXPIRES 1992

☐ CROWN PIT: RESERVATION: ☐ D.R.S. # ☐ P.N.T. # ☐ C.N.T. #

LESSEE: LEASE TYPE & No.

AGGREGATE SUITABLLITY: ☑ 1st. COURSE ☐ ASBC ☑ GBC ☑ A.C.P. ☐ C.S.B.C.
☐ BLEND SAND ☐ WINTER SAND ☐ SILT

QUANTITY: GRAVEL 56,400 m³ SAND m³

DEPTH OF OVERBURDEN 0.2 m to 3.2 m 0.6 AV. DEPTH OF DEPOSIT 0.2 m to 6.2 m 5.3 AV.

☑ CLEARING REQUIRED ACRES 9.9 HECTARES 4.0

☐ TIMBER SALVAGE ☐ WINTER HAUL ONLY

FENCING: ☐ TEMPORARY ☐ PERMANENT ☐ GATE ☐ CATTLE GUARD

PIPELINES: ☐ PIT AREA ☐ HAUL ROAD

RAIL ROAD: ☐ CROSSING ☐ TEMPORARY CROSSING REQUIRED

BEST AREA TO WORK PIT: AREA "A"

AGGREGATE DESCRIPTION

TOP SIZE 400 mm +300 mm 5 %

GRADING

☐ WELL GRADED
☐ EXCESSIVE GRAVEL
☐ EXCESSIVE PEA GRAVEL
☐ EXCESSIVE COARSE SAND
☐ EXCESSIVE FINE SAND
☐ EXCESSIVE FINES
☐ SHORT GRAVEL
☑ SHORT COARSE SAND
☐ SHORT FINE SAND
☐ CLEAN

DELETERIOUS MATERIAL

☑ COAL
☑ SOFT SHALE
☑ SOFT IRON NODULES
☑ SOFT SANDSTONE
☑ LUMPS, CLAY, SILTY CLAY
☐ ROCK COATED, CLAY

GRAINSHAPE

ROCK	SAND
☐ ANGULAR	☑ SHARP
☐ SUBANGULAR	☐ ROUND
☑ SUBROUND	
☐ ROUND	

PLASTICITY

☐ HIGH
☐ MEDIUM
☐ LOW
☑ TRACE OR NIL

SURFACE TEXTURE

☐ ROUGH ☑ SMOOTH
☐ ENCRUSTED

BULL CRUSHER

☑ YES ☐ NO

☐ SAND AVAILABLE W. M.
☐ SILT AVAILABLE W. M.

TYPE OF DEPOSIT

☑ STREAM TERRACE ☐ DUNES BARCHANE
☐ STREAM ISLAND ☐ DUNES FINGER
☐ GLACIAL TERRACE ☐ DUNES SHEET
☐ GLACIAL DELTA ☐ BEACH RIDGE
☐ GLACIAL KAME ☐ GRAVEL BAR
☐ GLACIAL ESKER ☐ OTHER

TESTED FOR: ☐ ACRE PURCHASE ☐ FUTURE ☐ R.O.W. ☑ PROJECT # HWY 49:08
☑ DISTRICT # 13 ☑ I.D. # 19 ☐ M.D. #

SPECIAL PROVISIONS:

COMMENTS LAND OWNER OF NEXT QUARTER TO THE NORTH MAY SELL AGGREGATE IF PIT IS DEVELOPED

SIGNED Earl G. Webb

FOIP Request TR000-2021-G-29
Page No.0018

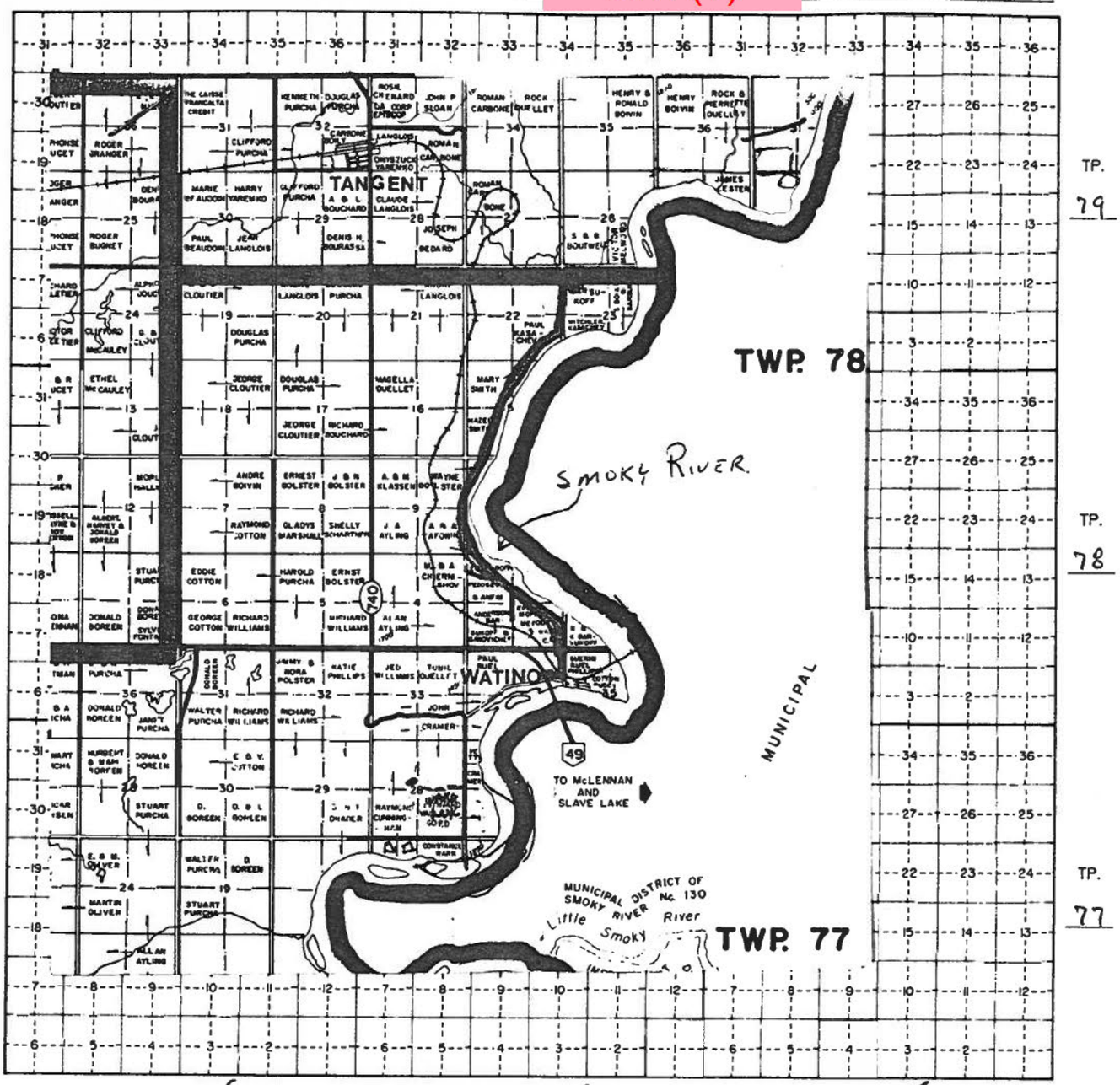
Alberta TRANSPORTATION MATERIALS ENGINEERING BRANCH

METRIC

AGGREGATES DEADHAUL REPORT

LOCATION: NW ¼ SEC. 23 TP. 78 RGE. 24 W. 5 M.

PIT NAME: S.17(1)



DEADHAUL	Km TO Km	HWY C.S.	
# 1	10 KM.	TO	HWY 49:08 AT WATINO
# 2			
# 3			

Y	N			Y	N		
☐	☑	PIPELINE CROSSING @	Km	☐	☑	STEEPGRADE	Km
☐	☑	RAIL ROAD CROSSING @	Km	☐	☑	CLEARING	Km AREA
☐	☑	CATTLEGUARD @	Km	☐	☑	WINTER HAUL ONLY	Km
☐	☑	SIDEHILL CUTS @	Km	☑	☐	MAJOR DRAINAGE @	Km

ESTIMATED COST OF CONSTRUCTION

☐ ☐ OTHER GOVERNMENT AGENCY RESTRICTIONS:

☐ ☐ SPECIAL PROVISIONS:

COMMENTS: APPROXIMATLY 300 M. OF ROAD OVER A NATURAL RUNOFF DITCH ON SOUTH SIDE OF DEPOSIT WOULD HAVE TO BE BUILT.

DATE: JAN. 4 1990 SIGNED: [signature]

FOIP Request TR000-2021-G-29
Page No.0019

NW 1/4 Sec. 23 Tp. 78 Rge. 24 W. 5 M.

METRIC

Pit Name S.17(1)

Tested By WEBB Date Nov 1989

Calculated by WEBB Date Nov 1989

GRAVEL & SAND TESTING

AVG OVERBURDEN 0.6 m AVG AGGREGATE 5.3 m

QUANTITY CALCULATIONS

AREA	LENGTH (m)		WIDTH (m)		DEPTH (m)	CUBIC METRES
A	200	x	50	x	5.7 ✓ ok	57,000 ✓
B	½(50+100)	x	50	x	4.9 ✓ ok	~~3,800~~ 18,400
C	½(25)	x	25 ✓	x	~~6.0~~ 5.7 ✓	~~1,900~~ 1,800
D		x		x		,00
E		x		x		,00
F		x		x		,00
G		x		x		,00
H		x		x		,00
I		x		x		,00
J		x		x		,00
K		x		x		,00
L		x		x		,00
M		x		x		,00
N		x		x		,00
O		x		x		,00
P		x		x		,00
Q		x		x		,00
R		x		x		,00
S		x		x		,00
T		x		x		,00
U		x		x		,00
V		x		x		,00
W		x		x		,00
X		x		x		,00
Y		x		x		,00
Z		x		x		,00

Bruce Blum: Pl. check Calc. [illegible] & replace it with new one

CALCULATE DEPTHS TO 0.1 m

TOTAL ~~62,700~~ 77,200

LESS 10% 6,300 7,700

ESTIMATED QUANTITY AVAILABLE 56,400 69,500

NW 1/4 Sec. 23 Tp. 78 Rge. 24 W. 5 M.

METRIC

Pit Name _____ S.17(1) _____

Tested By Webb Date Nov. 1989

Re Calculated by J. T. Date Aug 1990

GRAVEL & SAND TESTING

AVG. OVERBURDEN ..... 0.6 ..... m AVG. AGGREGATE ..... 5.4 ..... m

QUANTITY CALCULATIONS

AREA	LENGTH (m)		WIDTH (m)		DEPTH (m)	CUBIC METRES
A	200	x	50	x	5.7	57,000
B	0.5(50+100)	x	50	x	4.9	18,400
C	0.5(25)	x	25	x	57	1,800
D		x		x		,00
E		x		x		,00
F		x		x		,00
G		x		x		,00
H		x		x		,00
I		x		x		,00
J		x		x		,00
K		x		x		,00
L		x		x		,00
M		x		x		,00
N		x		x		,00
O		x		x		,00
P		x		x		,00
Q		x		x		,00
R		x		x		,00
S		x		x		,00
T		x		x		,00
U		x		x		,00
V		x		x		,00
W		x		x		,00
X		x		x		,00
Y		x		x		,00
Z		x		x		,00

CALCULATE DEPTHS TO 0.1 m

TOTAL 77,200

LESS 10% 7,700

ESTIMATED QUANTITY AVAILABLE 69,500

1.632 = (113,400 T.

MAT. 2-7/81

FOIP Request TR000-2021-G-29
Page No.0021

LOCATION NW SEC. 23 TP. 78 RGE. 24 W. 5 M.

NAME S.17(1)

TESTED BY WEBB DATE NOV. 19 89

BY DATE 19

AGGREGATES TESTING

METRIC

AMENDMENTS:

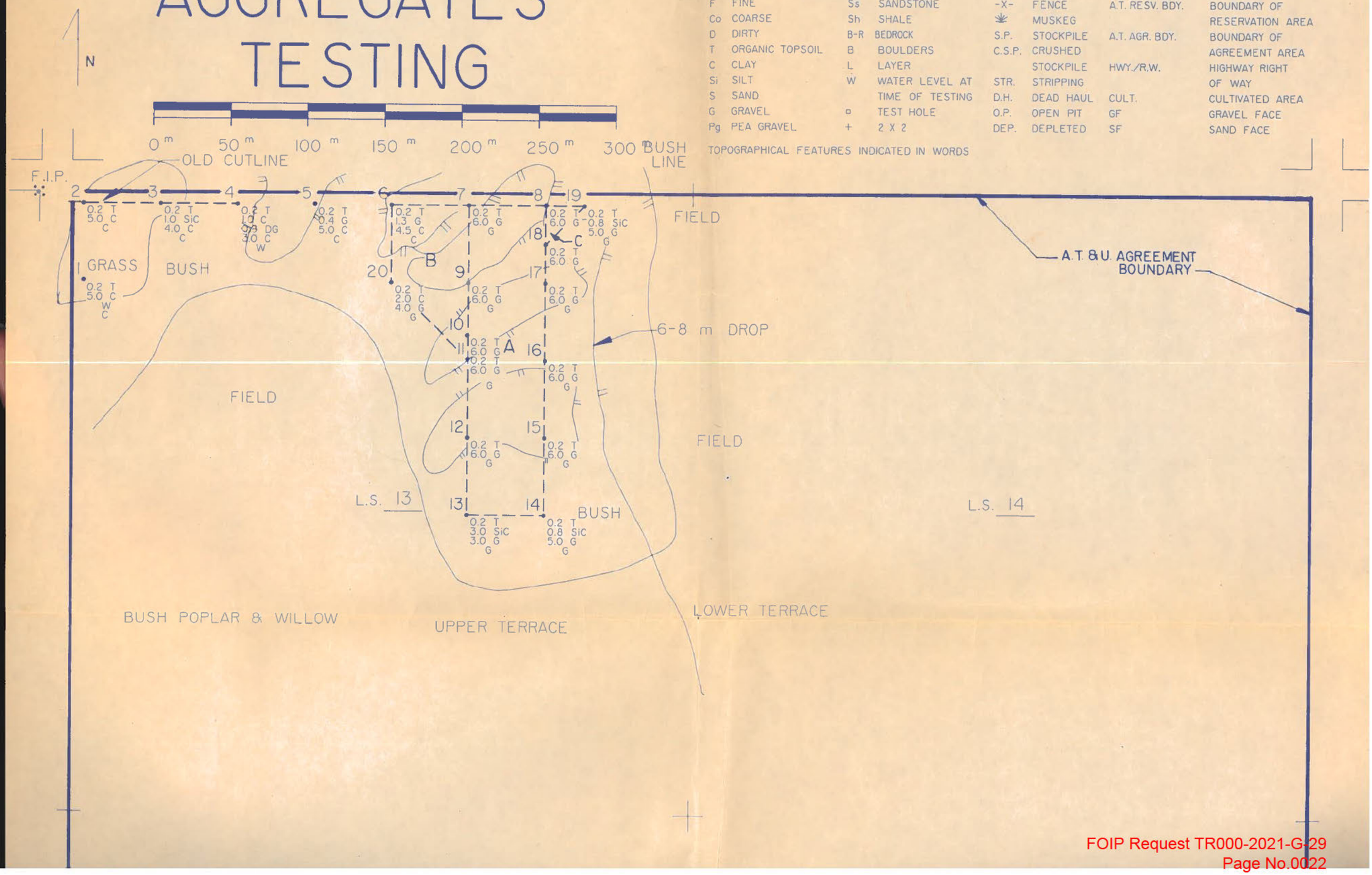
DATE	INITIALS	NATURE
26/6/90	I.T.	DRAFTING

DATE	INITIALS	NATURE

LEGEND

F	FINE	Ss	SANDSTONE	-X-	FENCE	A.T. RESV. BDY.	BOUNDARY OF RESERVATION AREA
Co	COARSE	Sh	SHALE		MUSKEG		
D	DIRTY	B-R	BEDROCK	S.P.	STOCKPILE	A.T. AGR. BDY.	BOUNDARY OF AGREEMENT AREA
T	ORGANIC TOPSOIL	B	BOULDERS	C.S.P.	CRUSHED STOCKPILE	HWY./R.W.	HIGHWAY RIGHT OF WAY
C	CLAY	L	LAYER	STR.	STRIPPING		
Si	SILT	W	WATER LEVEL AT TIME OF TESTING	D.H.	DEAD HAUL	CULT.	CULTIVATED AREA
S	SAND	▫	TEST HOLE	O.P.	OPEN PIT	GF	GRAVEL FACE
G	GRAVEL	+	2 X 2	DEP.	DEPLETED	SF	SAND FACE
Pg	PEA GRAVEL						

TOPOGRAPHICAL FEATURES INDICATED IN WORDS



FOIP Request TR000-2021-G-29
Page No.0022