

Date Remediation Started: _____ Date Completed: 7/8/98
 Remediation Method: Excavation ☒ Approx. cubic yards 1000
 Check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
 Other _____

Remediation Location: Onsite ☒ Offsite _____
 (i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation. EXCAVATION MOSTLY BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents
 Closure Sampling: _____
 (if multiple samples, attach sample results and diagram of sample locations and depths) Sample depth 11' (PIT BOTTOM)
 Sample date 7/8/98 Sample time 1015

Sample Results

Soil: Benzene (ppm)	_____	Water: Benzene (ppb)	_____
Total BTEX (ppm)	_____	Toluene (ppb)	_____
Field Headspace (ppm)	<u>0.0</u>	Ethylbenzene (ppb)	_____
TPH (ppm)	<u>NA</u>	Total Xylenes (ppb)	_____

Groundwater Sample: Yes _____ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 7/8/98 PRINTED NAME Buddy D. Shaw
 SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO _____ (REASON) _____

SIGNED: Kenn C Marshall DATE: 7-27-98

3003923171

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>85585</u> C.O.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>JICA. AP. TRIBAL 151</u> WELL #: <u>1E</u> PIT: <u>BLW</u>	DATE STARTED: <u>7/8/98</u> DATE FINISHED: _____
QUAD/UNIT: <u>P</u> SEC: <u>10</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>
CTR/FOOTAGE: <u>830' FSL</u> <u>1120' FEL</u> CONTRACTOR: <u>P+S</u>	

EXCAVATION APPROX. <u>50</u> FT. x <u>46</u> FT. x <u>11</u> FT. DEEP. CUBIC YARDAGE: <u>1,000</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u> LEASE: <u>JICA 151</u> FORMATION: <u>DR</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>108</u> FT <u>DUE EAST</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u>
NMOOD RANKING SCORE <u>0</u> NMOOD TPH CLOSURE STD: <u>5000</u> PPM
SOIL AND EXCAVATION DESCRIPTION:

CHECK ONE:
<input checked="" type="checkbox"/> PIT ABANDONED
<input type="checkbox"/> STEEL TANK INSTALLED
<input type="checkbox"/> FIBERGLASS TANK INSTALLED

EXCAVATION CONSISTED OF MOSTLY BEDROCK (SHALE/SANDSTONE), DUSKY RED TO MED GRAY IN COLOR, FRIABLE TO VERY HARD (NEAR + E' PIT BOTTOM). ALL OVM SAMPLES CONSISTED OF BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

EXCAVATION
MOSTLY
BEDROCK

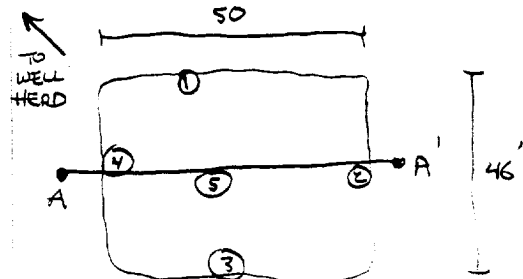
CLOSED

FIELD 4181 CALCULATIONS

TIME	SAMPLE I.D.	LAB No.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm
1015							

SCALE
0 FT

PIT PERIMETER

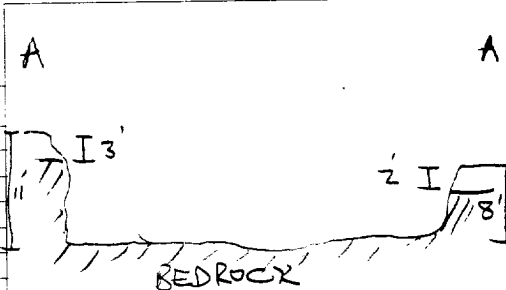


OVM RESULTS

SAMPLE I.D.	FIELD HEADSPACE P.D. (oom)
1 E 8'	0.0
2 E 8'	0.0
3 E 5'	0.0
4 E 4'	0.0
5 C 11'	0.0

SAMPLE I.D.	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES:	CALLOUT: <u>7/7/98 - AFTER.</u>	ONSITE: <u>7/8/98 - MORN.</u>
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**JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528**

BJ585

SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

PIT REMEDIATION AND CLOSURE REPORT

Operator: AMOCO PRODUCTION COMPANY **Telephone:** (505) 326-9200
Address: 200 Amoco Court, Farmington, NM 87401
Facility or Well Name: JICARILLA APACHE TRIBAL #151-1E
Location: Unit or Qtr/Qtr Sec P Sec 10 T 26N R 5W County RIO ARIZONA
Pit Type: Separator ☒ Dehydrator ☐ Other ☐
Land Type: RANGE

Pit Location: Pit dimensions: length 24', width 26', depth 6'
(Attach diagram) Reference: wellhead ☒, other ☐
Footage from reference: 153'
Direction from reference: 47 Degrees ☒ East of North ☐
West South ☒

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width)	Less than 100 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
Distance to Nearest Lake, Playa, or Watering Pond (Downgradient lakes, playas and livestock or wildlife watering ponds)	Less than 100 feet (10 points) Greater than 100 feet (0 points)	<u>0</u>
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or: less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	<u>0</u>
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet (20 points) 100 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	<u>0</u>

RANKING SCORE (TOTAL POINTS): 0

BS85

SEP. PIT

Date Remediation Started: _____ Date Completed: 7/8/98
 Remediation Method: Excavation ☒ Approx. cubic yards 100
 (check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
 Other _____

Remediation Location: Onsite ☒ Offsite _____
 (i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation, EXCAVATION MOSTLY BEDROCK,
THEREFORE NO TPH ANALYSIS WAS CONDUCTED, RISK ASSESSED.

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents
 Closure Sampling: _____
 (if multiple samples, attach sample results and diagram of sample locations and depths)
 Sample depth 3' (North)
 Sample date 7/8/98 Sample time 1115

Sample Results

Soil: Benzene	(ppm)	_____	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	_____	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>401</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>NA</u>	Total Xylenes	(ppb)	_____

Groundwater Sample: Yes _____ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 7/8/98 PRINTED NAME Buddy D. Shaw
 SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO _____ (REASON) _____

SIGNED: Kelli C. Mann Risk Assessed
 DATE: 7-27-98

CLIENT: <u>AMOCO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>8J585</u> C.O.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME <u>JICA. AP. TRIBAL 151</u> WELL #: <u>1E</u> PIT: <u>SEP</u>	DATE STARTED: <u>7/8/98</u> DATE FINISHED: _____
QUAD/UNIT: <u>P</u> SEC: <u>10</u> TWP: <u>26N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>
DTR/FOOTAGE: <u>830' FSL / 1120' FEL</u> CONTRACTOR: <u>P & S</u>	

EXCAVATION APPROX. <u>24</u> FT. x <u>26</u> FT. x <u>6</u> FT. DEEP. CUBIC YARDAGE: <u>100</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFARM</u>
LAND USE: <u>RANGE</u> LEASE: <u>JICA 151</u> FORMATION: <u>DK</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>153</u> FT. <u>S47E</u> FROM WELLHEAD DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u> NMDDI RANKING SCOPE: <u>0</u> NMDDI TPH CLOSURE STD: <u>5000</u> PPM SOIL AND EXCAVATION DESCRIPTION:	CHECK ONE: <input checked="" type="checkbox"/> PIT ABANDONED <input type="checkbox"/> STEEL TANK INSTALLED <input type="checkbox"/> FIBERGLASS TANK INSTALLED
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EXCAVATION CONSISTED OF MOSTLY BEDROCK, DUSKY RED/LT. GRAY-EAST SIDEWALL, LT. TO DK. GRAY REMAINING PERIMETER & PIT BOTTOM, STRONG HC ODOR IN NORTH & SOUTH SIDEWALL OUM SAMPLES, ALL OUM SAMPLES COLLECTED FROM BEDROCK, THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

EXCAVATION
MOSTLY
BEDROCK

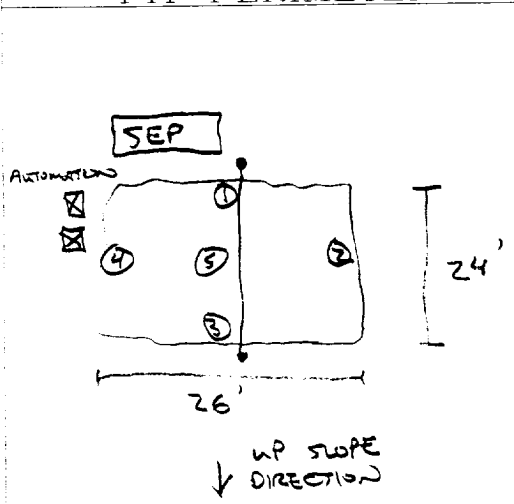
RISK ASSESSED



FIELD 418.1 CALCULATIONS

TIME	SAMPLE ID	LAB No	WEIGHT (g)	IML FREON	DILUTION	READING	CALC. ppm
1115							

PIT PERIMETER



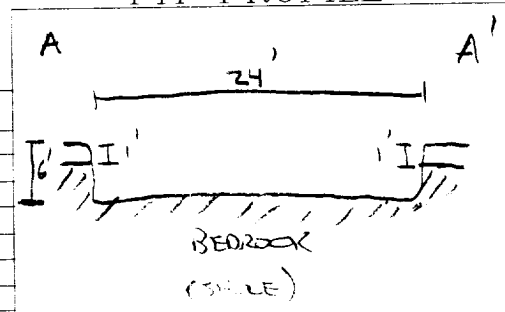
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE P/C (ppm)
1 e 3'	40.1
2 e 3'	60.1
3 e 3'	30.7
4 e 3'	6.6
5 e 6'	19.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE



TRAVEL NOTES: CALLOUT: <u>7/2/98 - AFTER.</u> ONSITE: <u>7/8/98 - MORN.</u>

Well Name:	Jicarilla Apache Tribal 151 #1E
Well Site location:	Unit P, Sec. 10, T26N, R5W
Pit Type:	Separator Pit
Producing Formation:	Basin Dakota
Pit Category:	Non Vulnerable
Horizontal Distance to Surface Water:	> 1000 ft.
Vicinity Groundwater Depth:	> 100 ft.

RISK ASSESSMENT (non-vulnerable area)

Pit remediation activities were terminated when trackhoe encountered shale bedrock at 6 feet below grade.

No past or future threat to surface water or groundwater is likely based on the following considerations:

1. Past production fluids were contained locally by a relatively shallow shale bedrock located 6 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below shale bedrock.
2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
3. Daily discharge into the earthen pit has been terminated (pit abandoned). Prior discharge into the pit is believed to be under 5 barrels per day.
4. Well site located within the **non-vulnerable area** and is approximately 1.70 miles northeast of the nearest vulnerable area boundary (Tapacito Creek).

(Refer to Lapis Point Quadrangle, New Mexico - Rio Arriba County, 7.5 Minute Series (Topographic), 1963, (vulnerable area boundary developed by Mr. William C. Olson, Hydrogeologist, Environmental Bureau, New Mexico Oil Conservation Division).

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the shale bottom creates enough of an impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995", with cover letter dated November 30, 1995). AMOCO requests pit closure approval on this location.

B5585

**JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528**

SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: <u>AMOCO PRODUCTION COMPANY</u>		Telephone: <u>(505) 326-9200</u>	
Address: <u>200 Amoco Court, Farmington, NM 87401</u>			
Facility or Well Name: <u>JICARILLA APACHE TRIBAL IS-1-E</u>			
Location: Unit or Qtr/Qtr Sec <u>F</u> Sec <u>10</u> T <u>26N</u> R <u>5W</u> County <u>RIO ARriba</u>			
Land Type: <u>RANGE</u>			
Date Remediation Started: <u>7-8-98</u>		Date Completed: <u>2/2/99</u>	
Remediation Method: Landfarmed <input checked="" type="checkbox"/>		Approx. cubic yards <u>1,100</u>	
Composted <input type="checkbox"/>			
Other <input type="checkbox"/>			
Depth To Groundwater: (pts.) <u>0</u>		Final Closure Sampling:	
Distance to an Ephemeral Stream (pts.) <u>0</u>		Sampling Date: <u>2-1-99</u> Time: <u>1310</u>	
Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u>		Sample Results:	
Wellhead Protection Area: (pts.) <u>0</u>		Field Headspace (ppm) <u>0.0</u>	
Distance To Surface Water: (pts.) <u>0</u>		TPH (ppm) <u>0.8</u> Method <u>8015</u>	
RANKING SCORE (TOTAL POINTS): <u>0</u>		Other <input type="checkbox"/>	
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF			
DATE <u>2/2/99</u>		PRINTED NAME <u>Buddy D. Shaw</u>	
SIGNATURE <u>Buddy D. Shaw</u>		AND TITLE <u>Environmental Coordinator</u>	
AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.			
APPROVED: YES <input type="checkbox"/> NO <input type="checkbox"/> (REASON) _____			
SIGNED: _____ DATE: _____			

CLIENT: AMOCOBLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199LOCATION NO: 855BSC.D.C. NO: 4543

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA APACHE TRIBAL 151 WELL #: 1E PITS: SEP, BLOW
QUAD/UNIT: P SEC: 10 TWP: 26N RNG: 5W PM: NM CNTY: RA ST: NM
QIP/FOOTAGE: SE 1/4 SE 1/4 CONTRACTOR: P+SDATE STARTED: 2.1.99
DATE FINISHED: _____ENVIRONMENTAL
SPECIALIST: REP

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARMAPPROX. CUBIC YARDAGE: 1,100LAND USE: RANGELIFT DEPTH (ft): 1-2'

FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'NMOED RANKING SCORE: 0 NMOED TPH CLOSURE STD: 5000 PPM

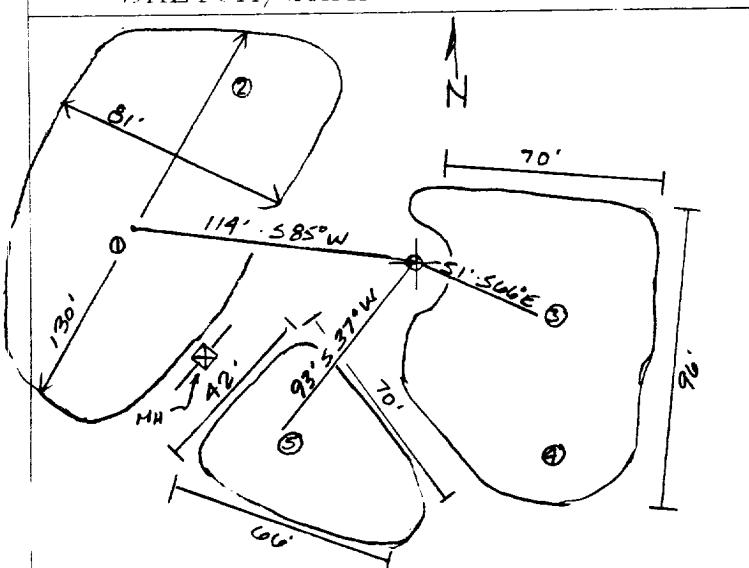
DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM.
NO VISIBLE STAINING OBSERVED, NO HC ODOR DETECTED. SAMPLING DEPTHS
RANGE FROM 6" - 18". TOOK A SPT. COMPOSITE SAMPLE FOR LAB ANALYSIS

CLOSED

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No.	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SKETCH/SAMPLE LOCATIONS




OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE FID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF 1	0.0	LF 1	TPH (8015)	1310	0.8

SCALE

0  FT

TRAVEL NOTES:

CALLOUT: N/AONSITE: 2.1.99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

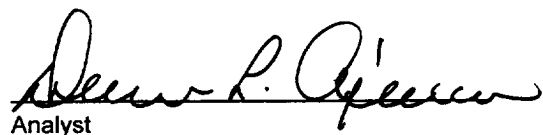
Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	02-02-99
Laboratory Number:	E595	Date Sampled:	02-01-99
Chain of Custody No:	6563	Date Received:	02-02-99
Sample Matrix:	Soil	Date Extracted:	02-02-99
Preservative:	Cool	Date Analyzed:	02-02-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.6	0.2
Diesel Range (C10 - C28)	0.2	0.1
Total Petroleum Hydrocarbons	0.8	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla Apache Tribal 151 - 1E landfarm. 5 Pt. Composite.


Analyst


Review

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